

The Basic Education Core Curriculum

B.E. 2551 (A.D. 2008)

The Ministry of Education

Thailand

Preface

As far back as 2002, the Ministry of Education announced experimental application of the Basic Education Curriculum 2001 in its pilot and network schools. Mandatory implementation was subsequently effected in all schools providing basic education from academic year 2003 to the present time. Various agencies with direct responsibilities, as well as those concerned, have continuously followed up and evaluated the application. Different strengths identified have proved to be quite gratifying. In fact, the application has been found to facilitate decentralization of educational authority, enabling local communities and educational institutions to participate and make significant contributions to preparation of curriculums that met their real needs. Clear concepts and principles for promoting learners' holistic development were quite apparent. Nonetheless, the outcomes of the studies revealed several problems and issues of concern arising from shortcomings of the 2001 Curriculum.

Problems and issues of concern included the Curriculum's its provisions, application process and results. Among the problems identified were confusion and uncertainty faced by practitioners in educational institutions in preparing school curriculums; the majority of schools were ambitious in prescribing learning contents and expected outcomes; measurement and evaluation did not correlate with the standards set, with negative effects on certification and transfer of learning achievements. Furthermore, issues of learners' quality resulting from acquisition of essential knowledge, skills, capacity and desirable characteristics and attributes were quite disconcerting.

Consequently, the Office of the Basic Education Commission (OBEC), under close supervision and wise guidance of the Basic Education Commission, took necessary measures to revise the Basic Education Curriculum 2001 in order to prepare the subsequent Basic Education Core Curriculum 2008. In so doing, OBEC availed of the outcomes of the studies undertaken and benefited from the data and information provided in the Tenth National Economic and Social Development Plan (2007-2011). Pertinent research results and projections led to greater clarity regarding the goals of improving learners' quality and curriculum application at school and educational service area levels. Succinct information is presented regarding the vision, goals, learners' significant capacities, desirable characteristics and attributes, learning standards and relevant indicators, allotted time to each subject area for each grade level, and evaluation criteria that correlate with learning standards and consequently facilitate curriculum implementation. All these measures were aimed at providing schools with desirable orientation and guidance for preparation of the curriculum required for each level of education. The Basic Education Core Curriculum 2008 also allows opportunities for further amplification in accord with the schools' priorities and readiness.

The Basic Education Core Curriculum 2008 thus prepared will undoubtedly provide all educational service area offices, local offices and basic education institutions under jurisdiction of various agencies with an appropriate framework and guidance for preparing the pertinent curriculum. The basic education to be provided to all Thai children and youths will be of higher quality in regard to acquisition of essential knowledge and skills required for learners' lives in the constantly changing society. Learners will also be able to acquire knowledge for continuous lifelong self-development.

On behalf of the Basic Education Commission, may I express my thanks and appreciation for the active participation and contributions of all agencies concerned of both the Ministry of Education and other state offices, the private sector, people of all walks of life and parents and students. Their concerted efforts have led to successful completion of this policy document, which, I trust, will henceforth be most beneficial to educational provision for the Thai people.

> Chai-anan Samudvanijja (Mr. Chai-anan Samudvanijja) Chairman of the Basic Education Commission



Directive of the Ministry of Education No. OBEC 293/2551 (2008) Subject: Implementation of the Basic Education Core Curriculum B.E. 2551 (A.D. 2008)

Rapid economic and social change together with scientific and technological advancement have made it imperative for adaptation of basic education provision, which must be harmonized with such change and progress. Innovative strategies must be identified to improve the quality of education, which necessarily serves the needs of individuals as well as those of Thai society. Learners' capacities for competitiveness and creative cooperation will strengthen Thailand's international competitive position. There are also urgent needs for inculcation of awareness of Thai-ness, self-discipline, concern for public interest and adherence to a democratic form of government under constitutional monarchy as stipulated in Section 80 of the Constitution of the Kingdom of Thailand 2007 and the National Education Act 1999 and Amendments 2002 (Second National Education Act).

By virtue of Sections 12 and 15 of the Administrative Organization of the Ministry of Education Act 2003 as well as approval of the Basic Education Commission for application of the Basic Education Core Curriculum 2008, the Ministry of Education hereby authorizes implementation of the Curriculum, the provisions of which are appended to this directive. The Basic Education Core Curriculum 2008 shall replace the Basic Education Curriculum 2001. Conditions and time frame for application of the Basic Education Core Curriculum 2008 shall be as follow: 1. For model schools for curriculum implementation and those ready for such implementation, the names of which have been announced by the Ministry of Education:

(1) For academic year 2009, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6 and Grades 7 and 10;

(2) For academic year 2010, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6, and Grades 7, 8, 10 and 11; and

(3) As of academic year 2011, the Basic Education Core Curriculum 2008 shall be applied for all grades.

2. For schools in general:

(1) For academic year 2010, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6 and Grades 7 and 10;

(2) For academic year 2011, the Basic Education Curriculum 2008 shall be applied for Grades 1-6 and Grades 7, 8, 10 and 11; and

(3) As of academic year 2012, the Basic Education Core Curriculum 2008 shall be applied for all grades.

With prior approval of the Basic Education Commission, the Secretary-General of the Basic Education Commission is hereby authorized to make annulment, augmentation and change to the Basic Education Core Curriculum 2008 in accord with exigencies of the target groups and methods of educational provision.

Given on July 11, 2008.

Somchai Wongsawat (Mr. Somchai Wongsawat) Minister of Education

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Background

The Ministry of Education announced implementation of the Basic Education Curriculum 2001, which served as the core curriculum for national education at the basic level. The curriculum prescribed goals and learning standards. It also provided a framework and orientation for enhancing quality of life of learners, who would attain virtue, wisdom, as well as capacity to maintain Thailand's competitive position in the world community (Ministry of Education, 2001). At the same time, the curriculum was duly adjusted for harmonisation with the objectives of the National Education Act 1999 and amendments made in 2002 (Second National Education Act). These laws have placed emphasis on decentralisation of educational authority to local communities and schools, which are to play significant roles and actively participate in preparing curriculums suitable to actual situations and serving their real needs (Office of the Prime Minister, 1999).

Based on relevant studies and monitoring as well as evaluation of the curriculum in application during the past six years (Bureau of Academic Affairs and Educational Standards, 2003 a, 2003b, 2005a; 2005b; Office of the Education Council, 2004; Bureau of Inspection and Evaluation, 2005; Suvimol Wongvanich and Nonglak Wiratchai, 2004; Nutravong, 2002; Kittisunthorn 2003), strengths of the Basic Education Curriculum 2001 were identified. For example, it facilitated decentralisation of educational authority, enabling local communities and schools to participate and play important roles in preparing curriculums which met their real needs. Clear concepts and principles for promoting learners' holistic development were quite apparent. Nonetheless, the outcomes of these studies revealed several problems arising from lack of clarity. Shortcomings were found in provisions of the curriculum itself, its application and emerging unsatisfactory outcomes, resulting in confusion and uncertainty of practitioners at school level in preparing their own curriculums. Most schools were ambitious in prescribing the learning contents, leading to overcrowded curriculums. Excessively high expectations were also set. Measurement and evaluation did not correlate with the standards set, with negative effects on preparation of certifying documents and transfer of learning outcomes. Moreover, problems regarding learners' ability to acquire essential knowledge, skills, capacities and desirable characteristics were quite disconcerting.

In addition, the Tenth National Economic and Social Development Plan (2007-2011) emphasises the need to shift the focus of human development. It has become imperative for the Thai people to be endowed with desirable moral values, intelligence and sagacity. They should be able to enjoy full development in all respects—physical, intellectual, emotional and spiritual. They would thus be able to adjust themselves to unavoidable change, leading to a transformation to a firmly-founded knowledge-based society. The direction of such human capacity development would focus on providing children and youths with a firm foundation for attaining morality and public-mindedness, together with capacities, skills and basic knowledge essential to their future lives, leading to sustainability in national development (Office of the National Economic and Social Development Board, 2006). Such priorities are consistent with the policy of the Ministry of Education in guiding Thai children and youths towards the 21st century. Emphases have been placed on morality, preference for Thai-ness, skills in analytical and creative thinking, technological know-how, capacity for teamwork and ability to live in peace and harmony in the world community (Ministry of Education, 2008).

Studies, monitoring and evaluation of application of the Basic Education Curriculum 2001, together with guiding principles of the Tenth National Economic and Social Development Plan for human capacity development, as well as priorities advocated by the Ministry of Education for youth development for the 21st century led to revision of this curriculum. Consequently, the Basic Education Core Curriculum 2008 was formulated for greater clarity and appropriateness. Improvement was made for presentation of objectives and process of implementing the curriculum at educational service area and school levels. Succinct vision, objectives, learners' significant capacities and desirable characteristics, and learning standards and indicators have been presented, providing guidance for preparation of

curriculum for teaching-learning activities at each educational level. Furthermore, the new curriculum has prescribed a structure of minimum time to be allotted to each subject area for each grade level. Schools are given opportunities to increase learning time allotment, depending on their readiness and priorities. Improvement has been made to the process of measuring and evaluating learners' performance as well as criteria for graduation at each educational level. Adjustment has also been made for streamlining certification which correlates with learning standards, thus facilitating application of certifying documents.

The Basic Education Core Curriculum 2008 thus formulated will provide local communities and schools with a framework and orientation for preparing school curriculums. Teaching-learning activities organised for all Thai children and youths at basic education level are aimed at enhancing learners' quality regarding essential knowledge and skills required for their lives in an ever-changing society. They will thus be empowered to seek further knowledge for continuous lifelong self-development.

The learning standards and indicators prescribed in this document will enable agencies concerned at all levels to clearly visualise expected learning outcomes throughout the entire course of study. It will provide relevant local agencies and schools with confidence in their collaborative efforts to prepare school curriculums of higher quality and harmony. Learning measurement and evaluation will have greater clarity, thus eliminating the problem of inter-school transfer of learning outcomes. Therefore, curriculum development at all levels—from national to school levels—must exhibit the quality as prescribed in the learning standards and indicators. The core curriculum will provide a framework and direction for provision of education of all types, covering all target groups of learners receiving basic education.

Success in implementing the core curriculum to achieve the established goals will depend on the concerted efforts of the parties concerned at all levels—national, community, family and individual. They need to work on a systematic and continuous basis on planning,

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functioning, promotion and support, inspection, and amendment as well as improvement, so that development of our youths will attain the learning standards and quality required.

Vision

The Basic Education Core Curriculum is aimed at enhancing capacity of all learners, who constitute the major force of the country, so as to attain balanced development in all respects—physical strength, knowledge and morality. They will fully realise their commitment and responsibilities as Thai citizens as well as members of the world community. Adhering to a democratic form of government under constitutional monarchy, they will be endowed with basic knowledge and essential skills and favourable attitude towards further education, livelihood and lifelong learning. The learner-centred approach is therefore strongly advocated, based on the conviction that all are capable of learning and self-development to their highest potentiality.

Principles

Notable principles underlying the Basic Education Core Curriculum are as follow.

1. The ultimate aim is attainment of national unity; learning standards and goals are therefore set with a view to enabling the children and youths to acquire knowledge, skills, attitude and morality to serve as a foundation for Thai-ness and universal values.

2. The curriculum facilitates education for all, who have equal access to education of high quality.

3. The curriculum facilitates decentralisation of authority by allowing society to participate in educational provision, which suits prevailing situations and serves local needs.

4. Structure of the curriculum enjoys flexibility regarding learning contents, time allotment and learning management.

5. The learner-centred approach is strongly advocated.

6. The curriculum is intended for education of all types—formal, non-formal and informal, covering all target groups and facilitating transfer of learning outcomes and experiences.

Goals

The Basic Education Core Curriculum is aimed at the full development of learners in all respects—morality, wisdom, happiness, and potentiality for further education and livelihood. The following goals have consequently been set for achievement upon completing basic education:

1. Morality, ethics, desirable values, self-esteem, self-discipline, observance of Buddhist teachings or those of one's faith, and guiding principles of Sufficiency Economy;

2. Knowledge and skills for communication, thinking, problem-solving, technological know-how, and life skills;

3. Good physical and mental health, hygiene, and preference for physical exercise;

4. Patriotism, awareness of responsibilities and commitment as Thai citizens and members of the world community, and adherence to a democratic way of life and form of government under constitutional monarchy; and

5. Awareness of the need to preserve all aspects of Thai culture and Thai wisdom, protection and conservation of the environment, and public-mindedness with dedication to public service for peaceful and harmonious co-existence.

Learners' Key Competencies

The Basic Education Core Curriculum is aimed at inculcating among learners the following five key competencies:

1. Communication Capacity

Capacity to receive and transmit information; linguistic ability and skills in expressing one's thoughts, knowledge and understanding, feelings and opinions for exchanging information and experience, which will be beneficial to oneself and society; negotiation for solving or reducing problems and conflicts; ability to distinguish and choose whether to receive or avoid information through proper reasoning and sound judgement; and ability to choose efficient methods of communication, bearing in mind possible negative effects on oneself and society.

2. Thinking Capacity

Capacity for analytical, synthetic, constructive, critical and systematic thinking, leading to creation of bodies of knowledge or information for judicious decision-making regarding oneself and society.

3. Problem–Solving Capacity

Capacity to properly eliminate problems and obstacles, based on sound reasoning, moral principles and accurate information; appreciation of relationships and changes in various social situations; ability to seek and apply knowledge to prevent and solve problems; and ability for judicious decision-making, bearing in mind possible negative effects on oneself, society and the environment.

4. Capacity for Applying Life Skills

Capacity for applying various processes in daily life; self-learning; continuous learning; working; and social harmony through strengthening of happy interpersonal relationships; elimination of problems and conflicts through proper means; ability for self-adjustment to keep pace with social and environmental changes; and capacity for avoiding undesirable behaviour with adverse effects on oneself and others.

5. Capacity for Technological Application

Ability to choose and apply different technologies; skills in application of technological processes for development of oneself and society in regard to learning, communication, working, and problem-solving through constructive, proper, appropriate and ethical means.

Desirable Characteristics

The Basic Education Core Curriculum focuses on learners' development for attainment of the following desirable characteristics, enabling learners to enjoy a life of harmony among others as Thai citizens and global citizens:

- 1. Love of nation, religion and king
- 2. Honesty and integrity
- 3. Self-discipline
- 4. Avidity for learning
- 5. Observance of principles of Sufficiency Economy Philosophy in one's way of life
- 6. Dedication and commitment to work
- 7. Cherishing Thai-ness
- 8. Public-mindedness

Learning Standards

Observance of the principles of development of the brain and multiple intelligence is required to achieve learners' balanced development. The Basic Education Core Curriculum has therefore prescribed the following eight learning areas:

- 1. Thai Language
- 2. Mathematics
- 3. Science
- 4. Social Studies, Religion and Culture
- 5. Health and Physical Education

- 6. Arts
- 7. Occupations and Technology
- 8. Foreign Languages.

For each learning area, the standards serve as the goals to be achieved in developing learners' quality. These standards prescribe what the learners should know and should be able to perform. They also indicate moral and ethical values as well as desirable characteristics upon completing education at basic level. Besides, the learning standards serve as essential mechanisms in advancing the whole education system, as they inform us of the contents and teaching and evaluation methods. They also serve as instruments for quality assurance and are adopted for both internal quality assurance and external evaluation, practised at both educational service area and national levels. Monitoring for internal quality assurance is essential, as it indicates the extent of success in achieving the quality as prescribed in the pertinent standards.

Indicators

Indicators specify what learners should know and be able to practise as well as their characteristics for each level. Indicators reflect the standard of learning. Being specific and concrete, they can be utilised for prescribing contents, determining learning units and organising teaching-learning activities. They serve as essential criteria for evaluation in order to verify the learners' quality.

1. Grade Level Indicators specify the goals to be achieved in developing learners for each level of compulsory education (Primary Education Grade 1-Secondary Education Grade 3, i.e., Grades 1-9).

2. Key Stage Indicators specify the goals to be achieved for upper secondary education (Secondary Education Grades 4-6, i.e., Grades 10-12).

For common understanding and correct interpretation, the curriculum prescribes various codes for learning standards and indicators, examples of which are shown below.

Sc 1.1 Gr 1/2						
Sc Subject area of Science						
1.1	First subject area, Standard 1					
Gr1/2	Indicator 2 for Grade 1					

F 2.2 Gr 10-12/3				
F	Subject area of Foreign Languages			
2.2	Second subject area, Standard 2			
Gr 10-12/3	Indicator 3 for upper secondary education			
	(Upper Secondary Education Grades 4-6,			
	i.e., Grades 10-12)			

Learning Areas

Learning areas comprise bodies of knowledge, skills or learning processes and desirable characteristics, attainment of which is required of all basic education learners. The contents are divided into eight learning areas:

Thai Language: knowledge skills and culture in language application for communication; delight in and appreciation of Thai wisdom; and pride in national language

Foreign Languages: knowledge, skills, attitude and culture in foreign language application for communication, seeking further knowledge and livelihood

Occupations and Technology:

knowledge, skills and attitude

towards work; management;

way of life; livelihood and

application of technology

Mathematics: application of knowledge, skills and scientific process for problem-solving, way of life and further education; reasonableness; favourable attitude toward mathematics; development of systematic and constructive thinking

Bodies of knowledge, significant skills and characteristics in the Basic Education Core Curriculum

Arts: knowledge and skills for initiative; inspiration and imagination in creating works of art; aesthetics and art appreciation Science: application of knowledge and scientific process for study and search for knowledge and systematic problem-solving; logical, analytical and constructive thinking; and scientificmindedness

Social Studies, Religion and Culture: peaceful coexistence in Thai society and the world community; good citizenship; faith in religious teachings; appreciation of resources and the environment; and patriotism and pride in Thai-ness

Health and Physical Education: knowledge, skills and favourable attitude towards strengthening one's own health and that of others; prevention and proper treatment of various things affecting one's health; and life skills

Relationships in the Development of Learners' Quality According to the Basic

Education Core Curriculum

Vision

The Basic Education Core Curriculum is aimed at enhancing capacity of all learners, who constitute the major force of the country, so as to attain a balanced development in all respects – physical strength, knowledge and morality. They will fully realize their commitment and responsibilities as Thai citizens and members of the world community. Adhering to a democratic form of government under constitutional monarchy, they will be endowed with basic knowledge and essential skills and favourable attitude towards further education, livelihood and lifelong learning. The learner-centred approach is therefore strongly advocated, based on the conviction that all are capable of learning and self-development to their highest potentiality.

Goals

1. Morality, ethics, desirable values, self-esteem, self-discipline, observance of Buddhist teachings or those of one's faith, and guiding principles of Sufficiency Economy Philosophy;

2. Knowledge and skills for communication, thinking, problem-solving, technological knowhow, and life skills;

3. Good physical and mental health, hygiene, and preference for physical exercise;

4. Patriotism, awareness of responsibilities and commitment as Thai citizens and members of the world community, and adherence to a democratic way of life and form of government under constitutional monarchy; and

5. Awareness of the need to preserve all aspects of Thai culture and Thai wisdom, protection and conservation of the environment, and public-mindedness with dedication to public service for peaceful and harmonious coexistence.

Learners' Key Competencies

- 1. Communication capacity
- 2. Thinking capacity
- 3. Problem-solving capacity
- 4. Capacity for applying life skills
- 5. Capacity for technological application

Desirable Characteristics

- 1. Love of nation, religion and king
- 2. Honesty and integrity
- 3. Self-discipline
- 4. Avidity for learning
- 5. Observance of principles of Sufficiency Economy Philosophy in one's way of life
- 6. Dedication and commitment to work
- 7. Cherishing Thai-ness
- 8. Public-mindedness

Learning Standards and Indicators for Eight Learning Areas

- 1. Thai Language 2. Mathematics 3. Science
 - 4. Social Studies, Religion and Culture
 - 5. Physical and Health Education 6. Arts
- 7. Occupations and Technology 8. Foreign Languages

Learners' quality at basic education level

Learner Development Activities

- 1. Counselling activities
- 2. Student activities
- 3. Activities for social and public interest

Strands and Learning Standards

The Basic Education Core Curriculum prescribes a total of 67 standards for the eight learning areas as follows:

Thai Language

Strand 1: Reading

Standard T1.1: Application of reading process to build knowledge and thoughts for decision-making and problem-solving in life, and encouraging acquisition of reading habit

Strand 2: Writing

Standard T2.1:Effective application of writing process for writing communications,
compositions, synopses, stories in various forms, data and information
reports, and study and research reports

Strand 3: Listening, Viewing and Speaking

Standard T3.1: Competency in selective and critical listening and viewing, and critical and creative expression of knowledge, thoughts and feelings on various occasions

Strand 4: Principles of Thai Language Usage

Standard T4.1:Understanding of nature and principles of Thai language, linguistic
change and power, linguistic wisdom and preservation of Thai
language as national treasure

Strand 5: Literature and Literary Works

Standard T5.1: Understanding and expressing opinions; criticism of Thai literature and literary works through appreciative approach; and application in real life

Mathematics

Strand 1: Numbers and Operations

Standard M1.1: Understanding of diverse methods of presenting numbers and their application in real life
Standard M1.2: Understanding of results of operations of numbers, relationship of operations, and application of operations for problem-solving
Standard M1.3: Use of estimation in calculation and problem-solving
Standard M1.4: Understanding of numerical system and application of numerical properties

Strand 2: Measurement

- Standard M2.1:Understanding of the basics of measurement; ability to measure and
estimate the size of objects to be measured
- Standard M2.2: Solving measurement problems

Strand 3: Geometry

- Standard M3.1: Ability to explain and analyse two-dimensional and threedimensional geometric figures
- Standard M3.2: Capacity for visualisation, spatial reasoning and application of geometric models for problem-solving

Strand 4: Algebra

- Standard M4.1: Understanding and ability to analyse patterns, relations and functions
- Standard M4.2: Ability to apply algebraic expressions, equations, inequality, graphs and other mathematical models to represent various situations as well as interpretation and application for problem-solving

Strand 5: Data Analysis and Probability

Standard M5.1: Understanding and ability to apply statistical methodology for data analysis

- Standard M5.2: Application of statistical methodology and knowledge of probability for valid estimation
- Standard M5.3: Application of knowledge of statistics and probability for decisionmaking and problem-solving

Strand 6: Mathematical Skills and Processes

Standard M6.1: Capacity for problem-solving, reasoning; communication and presentation of mathematical concept; linking various bodies of mathematical knowledge and linking mathematics with other disciplines; and attaining ability for creative thinking

Science

Strand 1: Living Things and Life Processes

- Standard Sc1.1: Understanding of the basic units of living things; relationship between structures and functions of various systems of living things which are interlinked; having investigative process for seeking knowledge; ability to communicate acquired knowledge, which could be applied to one's life and care for living things
- Standard Sc1.2: Understanding of process and importance of genetic transmission; evolution of living things; biodiversity; application of biotechnology affecting humans and the environment; having investigative process for seeking knowledge and scientific reasoning; communicating acquired knowledge that could be applied for useful purposes

Strand 2: Life and the Environment

Standard Sc2.1: Understanding of local environment; relationship between the environment and living things; relationship between living things in the eco-system; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes Standard Sc2.2: Appreciating the importance of natural resources; utilisation of natural resources at local, national and global levels; and application of knowledge for management of natural resources and local environment on a sustainable basis

Strand 3: Substances and Properties of Substances

- Standard Sc3.1: Understanding of properties of substances; relationship between properties of substances and structures and binding forces between particles; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes
- Standard Sc3.2: Understanding of principles and nature of change in the state of substances; solution formation; chemical reaction; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 4: Forces and Motion

- Standard Sc4.1: Understanding of the nature of electromagnetic, gravitational and nuclear forces; having investigative process for seeking knowledge; and communicating acquired knowledge that could be applied for useful and ethical purposes
- Standard Sc4.2 Understanding of characteristics and various types of motion of natural objects; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 5: Energy

Standard Sc5.1: Understanding of relationship between energy and living; energy transformation; interrelationship between substances and energy; effects of energy utilisation on life and the environment; having investigative process for seeking knowledge; and communicating acquired knowledge that could be applied for useful purposes

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and interior; relationship between various processes causing changes in climate, topography and form of the Earth; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 7: Astronomy and Space

- Standard Sc7.1: Understanding of evolution of the solar system, galaxies and the universe; interrelationships within the solar system and their effects on living things on the Earth; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes
- Standard Sc7.2: Understanding of importance of space technology utilised for space exploration and natural resources for agriculture and communication; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be ethically applied to life and the environment

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific process and scientific reasoning in investigation for seeking knowledge and problem-solving; knowing that most natural phenomena assume definite patterns which are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Social Studies, Religion and Culture

Strand 1: Religion, Morality and Ethics

- Standard So1.1: Knowledge and understanding of the history, importance, the Masters, moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence and observance of moral principles for peaceful coexistence
- Standard So1.2: Understanding, awareness and personal conduct of devout believers; and observance and furtherance of Buddhism or one's faith

Strand 2: Civics, Culture and Living in Society

- Standard So2.1: Understanding and personal conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community
- Standard So2.2: Understanding of political and administrative systems of the present society; adherence to, faith in, and upholding of the democratic form of government under constitutional monarchy

Strand 3: Economics

- Standard So3.1: Understanding and capability of managing resources for production and consumption; efficient and cost-effective utilisation of limited resources; and understanding principles of Sufficiency Economy for leading a balanced life
- Standard So3.2: Understanding of various economic systems and institutions; economic relations; and necessity for economic cooperation in the world community

Strand 4: History

- Standard So4.1: Understanding of the meaning and significance of historical times and periods; ability to use historical methodology for systematic analysis of various events
- Standard So4.2: Understanding of development of mankind from the past to the present; realising the importance of relationships and continuous changes of events, and ability to analyse their effects
- Standard So4.3:Knowledge of historical development of Thailand as a nation; culture;Thai wisdom; cherishing, pride in and preservation of Thai-ness

Strand 5: Geography

- Standard So5.1: Understanding of physical characteristics of the Earth and interrelationship of various things in the natural system which affect one another; utilisation of maps and geographical instruments for searching, analysing, drawing conclusions from, and efficiently utilising geo-data and information
- Standard So5.2: Understanding of interrelationship between man and physical environment leading to cultural creativity; awareness and participation in conservation of resources and the environment for sustainable development

Health and Physical Education

Strand 1: Human Growth and Development

Standard H1.1: Understanding of nature of human growth and development

Strand 2: Life and Family

Standard H2.1: Understanding and self-appreciation; family; sex education; and having life skills

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

- Standard H3.1: Understanding and skills in movement; physical activities; playing games and sports
- Standard H3.2: Favour for physical exercise, playing games and sports with regular practices; self-discipline; observance of rights, rules and regulations; having sporting spirit; having true competitive spirit; and appreciation of the aesthetics of sports

Strand 4: Health-Strengthening Capacity and Disease Prevention

Standard H4.1:Appreciation and skills in health-strengthening; maintaining one's
health; disease prevention and strengthening capacity for health

Strand 5: Safety in Life

Standard H5.1: Prevention and avoidance of risk factors, behaviours detrimental to health, and accidents; use of medicines; addictive substances and violence

Arts

Strand 1: Visual Arts

- Standards A1.1: Creating works of visual art through imagination and creativity; analysis and criticism on value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life
- Standard A1.2: Understanding of relationship between visual arts, history and culture; appreciating works of visual art that represent cultural heritage, local wisdom as well as Thai and universal wisdom

Strand 2: Music

Standard A2.1: Understanding and capacity for creative self-expression through music; analysis and criticism on value of music; free conveyance of feelings and thoughts on music; appreciation and application in daily life Standard A2.2: Understanding of relationship between music, history and culture; appreciating musical works that represent cultural heritage, local wisdom, and Thai and universal wisdom

Strand 3: Dramatic Arts

Standard A3.1: Understanding and creative self-expression through dramatic arts; analysis and criticism on value of dramatic arts; free expression of feelings and thoughts; appreciation and application in daily life
Standard A3.2: Understanding of relationship between dramatic arts, history and culture; appreciating the value of dramatic arts that represent cultural heritage, local wisdom, and Thai and universal wisdom

Occupations and Technology

Strand 1: Living and Family

Standard O1.1: Understanding of the concept of work; possessing creativity and skills in various respects--work processes, management, problem-solving, teamwork and investigation for seeking knowledge; morality, diligence, and awareness of the need to economise on the use of energy, resources and the environment for one's living and for family

Strand 2: Design and Technology

Standard O2.1 Understanding of technology and technological processes; designing and creating objects, utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment; participation in sustainable technological management

Strand 3: Information and Communication Technology (ICT)

Standard O3.1: Understanding, appreciation and efficient, effective and ethical use of information technology in searching for data, communication, problem-solving, working and livelihood

Strand 4: Occupations

Standard O4.1: Understanding and acquiring necessary skills and experiences; proper perception of future career; technological application for occupational development; possessing morality and favourable attitude towards occupations

Foreign Languages

Strand 1: Language for Communication

- Standard F1.1: Understanding and capacity for interpreting what has been heard and read from various types of media, and ability to express opinions with proper reasoning
- Standard F1.2:Possessing language communication skills for effective exchange of
data and information; efficient expression of feelings and opinions
- Standard F1.3: Ability to present data and information, concepts and views on various matters by speaking and writing

Strand 2: Language and Culture

- Standard F 2.1: Appreciating relationship between language and culture of native speakers and capacity for use of language appropriate to occasions and places
- Standard F2.2: Appreciating similarities and differences between language and culture of native speakers and Thai speakers, and capacity for correct and appropriate use of language

Strand 3: Language and Relationship with Other Learning Areas

Standard F3.1: Using foreign languages to link knowledge with other learning areas and as foundation for further development, to seek knowledge and widen one's world view

Strand 4: Language and Relationship with Community and the World

- Standard F4.1: Ability to use foreign languages in various situations in school, community and society
- Standard F4.2:Using foreign languages as basic tools for further education,livelihood and exchange of learning with the world community

Learner Development Activities

Learner development activities are aimed at allowing learners to develop themselves to their highest potentiality, thus becoming well-rounded and fully developed in all respects—physical, intellectual, emotional and social; inculcating of morality, ethics and self-discipline; creating and strengthening spirit of philanthropy for social benefits; ability for self-management and enjoying happy life among others.

Learner development activities are divided into three types as follows.

1. Counselling Activities

These activities are aimed at encouraging and developing learners to know themselves, know how to protect the environment, be able to make decisions, solve problems, set goals and make plans in regard to their education and future careers and adapt themselves appropriately. Furthermore, these activities will enable teachers to know and understand their students and therefore assist and advise parents regarding their participation in learner development.

2. Student Activities

These activities are aimed at instilling self-discipline, ability to lead and follow, teamwork, responsibility, problem-solving ability, appropriate decision-making, rationality, helpfulness and generosity, care, concern and unity. The activities are organised in accord with capacities, aptitudes and interests of learners, who practise the activities at all stages, i.e., study, analysis, planning, plan implementation, evaluation and improvement. Emphasis is given to teamwork as appropriate and consistent with learners' maturity and school and local contexts. Student activities include:

2.1 Boy Scout organisation, Girl Guides, Junior Red Cross, social service and territorial defence; and

2.2 Activities of various clubs and societies.

3 Activities for Social and Public Interest

These activities are aimed at encouraging learners to devote themselves and provide voluntary services for the benefit of society, their communities and local areas in accord with their interests, thus manifesting commitment, virtue, sacrifice for social causes and public-mindedness. They include voluntary services in various fields and those for public interest and concerns.

Educational Levels

The Basic Education Core Curriculum covers three educational levels as follows.

1. Primary Education Level (Primary education grades 1-6)

This level covers the first stage of compulsory education. It focuses on acquiring various skills--reading, writing, calculation, fundamental thinking, communication, social learning process and fundamentals of human beings—as well as complete and balanced development of quality of life in various respects—physical, intellectual, emotional, social and cultural—with emphasis on integrated learning management.

2. Lower Secondary Education Level (Lower secondary education grades 1-3, also know as grades 7-9)

This level covers the last stage of compulsory education. It focuses on allowing learners to explore their aptitudes and interests, promoting development of individual personality, skills for critical and creative thinking, problem-solving, life skills and skills required to apply technologies as learning tools, social responsibility, proper balance in regard to knowledge, virtue and pride in Thai-ness, which together provide a foundation for future livelihood or further education. 3. Upper Secondary Education Level (Upper secondary education grades 4-6, also known as grades 10-12)

This level focuses on increasing specific knowledge and skills in line with capacities, aptitudes and interests of individual learners in regard to academic and technological application, skills for high-level thinking process, ability to apply knowledge for further education and livelihood, and self-development and national progress in accordance with students' respective roles, as well as ability to lead and offer community services in various respects.

Learning Time Allotment

The Basic Education Core Curriculum prescribes a framework for minimal learning time structure for the eight learning areas and learner development activities. Educational institutions can increase the allotment of time, depending on their readiness and priorities, through adjustment to suit their contexts and learners' situations as follows:

1. Primary Education Level (Primary education grades 1-6)

Learning time is allotted on annual basis; not exceeding five hours each day.

Lower Secondary Education Level (Secondary education grades 1-3 or grades
 7-9)

Learning time is allotted on semester basis; not exceeding six hours each day; the weight of a course is counted in credits; the criterion is that 40 hours per semester is equivalent to one credit (cr).

3. Upper Secondary Education Level (Upper secondary education grades 4-6 or grades 10-12)

Learning time is allotted on semester basis; not less than six hours each day; the weight of a course is counted in credits; the criterion is that 40 hours per semester is equivalent to one credit (cr).

Learning Time Structure

	Learning Time (in hours)									
Learning Areas /		ъ.					Lower Secondary Education Level			Upper Secondary
Activities		Prim	ary Edu	ication	Level					Education Level
	G 1	G 2	G 3	G 4	G 5	G 6	G 7	G 8	G 9	G 10-12
• Learning Areas		•	•							
Thai Language	200	200	200	160	160	160	120	120	120	240
							(3 crs)	(3 crs)	(3 crs)	(6 crs)
Mathematics	200	200	200	160	160	160	120	120	120	240
							(3 crs)	(3 crs)	(3 crs)	(6 crs)
Science	80	80	80	80	80	80	120	120	120	240
							(3 crs)	(3 crs)	(3 crs)	(6 crs)
Social Studies,	120	120	120	120	120	120	160	160	160	320
Religion and Culture							(4 crs)	(4 crs)	(4 crs)	(8 crs)
- History	40	40	40	40	40	40	40	40	40	80
							(1cr)	(1cr)	(1cr)	(2 crs)
- Religion, Morality	80	80	80	80	80	80	120	120	120	240
and Ethics, Civics,							(3 crs)	(3 crs)	(3 crs)	(6 crs)
Culture and Living										
in Society, Economic,										
Geography										
Health and Physical	80	80	80	80	80	80	80	80	80	120
Education							(2crs)	(2 crs)	(2 crs)	(3 crs)
Arts	80	80	80	80	80	80	80	80	80	120
							(2crs)	(2 crs)	(2 crs)	(3 crs)
Occupations and	40	40	40	80	80	80	80	80	80	120
Technology							(2crs)	(2 crs)	(2 crs)	(3 crs)
Foreign Languages	40	40	40	80	80	80	120	120	120	240
							(3 crs)	(3 crs)	(3 crs)	(6 crs)
Total Learning Time	840	840	840	840	840	840	880	880	880	1,640
(Basic Level)							(22 crs)	(22 crs)		
• Learner	120	120	120	120	120	120	120	120	120	360
Development Activities										
•Additional courses/										
activities provided by schools, depending on	Not more than 40 hours for each year					100*	Not more than 200			Not less than 1,600
their readiness and	100	i more l	nan 40 l	nours it	n each y	year	hours for each year			hours
priorities										
prioraics										Not less than
Total Learning Time	Not more than 1,000 hours						Not more than 1,200 hours for each year			3,600 hours for
- other store ming rank		for each year								a total of 3 years

The Basic Education Core Curriculum prescribes the framework for learning time as follows.

Prescribing structure for basic and additional learning time

Educational institutions are authorised to proceed as follows.

Primary education level: basic learning time for each learning area can be adjusted as appropriate. Total learning time structure shall be as prescribed in basic learning time structure, while learners must attain the quality prescribed in learning standards and indicators.

Secondary education level: the basic learning time structure shall be as prescribed and shall meet all criteria and requirements for graduation.

Regarding additional learning time for both primary and secondary education levels, additional courses or learner development activities can be organised, with due consideration being given to the educational institutions' readiness and priorities as well as criteria and requirements for graduation. For primary education grades 1-3, additional learning time can be included in the learning areas of Thai language and mathematics.

Regarding the allocation of 120 hours each year for learner development activities for primary education grade 1 to -secondary education grade 3 (Grades 1-9) and 360 hours each year for secondary education grades 4-6 (Grades 10-12), such allotment is meant for counselling activities, student activities and activities for social and public interest. In regard to the last category of activities, educational institutions shall allot the time required as follows:

Primary education level (Grades 1-6), totalling 6 years: 60 hours

Lower secondary education level (Grades 7-9), totalling 3 years: 45 hours

Upper secondary education level (Grades 10-12), totalling 3 years: 60 hours.

Educational Provision for Special Target Groups

Regarding educational provision for special target groups, e.g., specialised education, education for the gifted and talented, alternative education, education for the disadvantaged and informal education, the Basic Education Core curriculum can be adjusted to suit the situations and contexts of each target group, on condition that the quality attained shall be as prescribed in the standards. Such adjustment shall meet the criteria and follow the methods specified by the Ministry of Education.

Learning Management

Learning management is an important process for curriculum implementation. The Basic Education Core Curriculum prescribes learning standards and learners' major capacities and desirable characteristics, which are the main goals of children and youth development.

In the efforts to develop learners, enabling them attain various characteristics prescribed in the curriculum goals, attempts will be made by teachers to select appropriate learning processes. Learning is provided by assisting learners to master all the eight learning areas, as well as by inculcating and strengthening desirable characteristics, and developing various skills essential for acquiring major capacities as envisaged in the goals.

1. Principles of learning management

The principles of learning management enabling the learners to attain knowledge and competencies for the standards required, major capacities and desirable characteristics as prescribed in the Basic Core Curriculum are: learners are most important; all are capable of learning and self-development; priority is given to learners' benefits; the process of learning management must enable learners to develop themselves naturally to their highest potentiality; consideration must be given to differences among individuals and their brain development; and emphasis must be given to both knowledge and morality.

2. Learning process

For learning management through the learner-centred approach, learners will depend on a variety of learning processes that serve as tools for enabling them to achieve the curriculum goals. Among the essential learning processes for learners are: integrated learning process; knowledge-creating process; thinking process; social process; heuristic learning process; learning process from actual experience; process of actual practice; management process; research process; self-learning process; and process of developing characteristics.

Learners should be trained and receive further development for acquiring competence in these processes, which will facilitate their learning, enabling them to achieve the curriculum goals. Teachers are therefore required to study and understand various learning processes in order to be able to make judicious choices.

3. Designing learning management

Teachers are required to study the curriculum of the educational institution concerned in order to understand the learning standards, indicators, learners' major capacities, desirable characteristics and learning contents suitable to the learners. The teachers then proceed to design learning management by choosing teaching methods and techniques, learning media/resources, and evaluation measures, so as to allow the learners to develop to their highest potentiality and thereby attain the established goals.

4. Roles of teachers and learners

In regard to learning management enabling learners to attain the quality as prescribed in the curriculum goals, teachers and learners should play the following roles.

4.1 Roles of teachers

Teachers should:

1) Study and analyse individual learners, and then use the data obtained for planning learning management in order to stimulate and challenge the learners' capacities;

2) Set the targets to be achieved by the learners in regard to knowledge, skills, process of conceptualisation, principles, relationships as well as desirable characteristics;

3) Design and organise learning responsive to individual differences and different levels of brain development, so as to enable the learners to attain the goals of learning;

4) Provide an ambience and atmosphere conducive to learning, and provide necessary care and assistance enabling the learners to learn;

5) Prepare and utilise media that are suitable to the activities organised, and avail of local wisdom and appropriate technologies for teaching-learning activities;

6) Assess the learners' progress through a variety of methods suitable to the intrinsic nature of the subjects and the learners' developmental level; and

7) Analyse assessment results for remedial and developmental measures for the learners' benefit, as well as improve their own teaching-learning methods and activities.

4.2 Roles of learners

Learners should:

1) Set the goals of learning, make plans and take responsibility for their own learning;

 Seek knowledge, make serious efforts to access learning resources, analyse and synthesise bodies of knowledge, raise questions and search for answers or problem solutions through various methods;

 Take action, draw conclusions regarding what has been learnt, and apply the knowledge gained to various situations;

4) Interact, work and join in activities organised by their peers and their teachers; and

5) Continuously assess and improve their own learning process.

Learning Media

Learning media serve as tools for promoting and supporting management of the learning process, enabling learners to efficiently acquire knowledge, skills, processes and characteristics as prescribed in the curriculum standards. There are several kinds of learning media, i.e., natural media, print media, technological media and various local learning networks. With a view to making judicious choices of learning media, attention should be paid to their suitability to the learners' different developmental levels and paces of learning.
For provision of leaning media, learners and teachers can produce and develop media themselves or make judicious choices from among the various media of quality around them, as well as improve the chosen media as appropriate. These media can be utilised in the learning process, enabling learners to learn through appropriate communication. Educational institutions should provide sufficient learning media to ensure proper learning by learners. Schools, educational service areas, relevant agencies and actors responsible for provision of basic education are therefore advised to:

1. Provide learning sources, learning media centres, learning information systems and efficient learning networks both in schools and communities for the purposes of study, research and exchange of learning experiences among educational institutions, local areas, communities and the world community;

2. Provide and procure learning media for study and research by learners to whom additional knowledge is given, and utilise duly adjusted locally available materials as learning media;

3. Choose and utilise learning media of high quality, which are suitable, diversified and consistent with the learning methods, the intrinsic nature of the learning contents and individual differences among learners;

4. Evaluate quality of the learning media selected for use on a systematic basis;

5. Study, explore and conduct research for development of learning media that are appropriate to the learners' learning process; and

6. Periodically and continuously supervise, monitor and assess the quality and efficiency of the learning media and their application.

In producing, selecting and evaluating the quality of learning media utilised in educational institutions, regard should be given to their major principles, e.g., harmony with the curriculum, learning objectives, design of learning activities; provision of experiences to learners; accuracy and timeliness of contents that are not detrimental to national security or morality; proper use of language; and presentation models that are easily understood and interesting.

Learning Assessment

Learning assessment must be based on two fundamental principles, i.e., evaluation for the purpose of developing the learners' capacity and for appraising their achievements. With a view to succeeding in developing the learners' learning quality, learners must be strengthened and assessed by availing of the relevant indicators, so as to achieve the learning standards prescribed. Such evaluation also reflects the learners' major capacities and their desirable characteristics, which are the main goals of measuring and evaluating the learning outcomes at all levels, i.e., classroom level, educational institution level, educational service area level, and national level. Learning assessment is a process of enhancing the learners' quality by using assessment results as data and information to show learners' developmental progress and accomplishment. The data will also be useful for strengthening the learners, thus enabling them to learn to their highest potentiality.

As already mentioned, learning assessment can be divided into four levels, i.e., classroom level, educational institution level, educational service area level and national level, details of which are as follow.

1. Classroom assessment

Measurement and evaluation are part of the learning process. Teachers regularly and continuously measure and evaluate students' performance in teaching-learning activities by using diverse assessment techniques, e.g., asking questions, observing, examining homework, assessing projects, tasks/assignments and portfolios, and using written tests, etc. Teachers will conduct evaluations themselves or provide learners with opportunities for selfevaluation, peer-to-peer evaluation, and evaluation by parents. Learners who do not succeed in meeting the standards prescribed in the indicators will need remedial measures for teaching and learning. Classroom assessment s aimed at verifying whether and to what extent learners have achieved development and progress in learning through the provided teaching-learning activities, and determining what must be improved and which areas must be strengthened. Furthermore, evaluation also provides teachers with necessary data for improving their own performance, which must be in accord with the established learning standards and indicators.

2. School assessment

This evaluation is conducted by the educational institution in order to appraise the learners' achievements on an annual/semester basis, based on assessment of reading, analytical thinking and writing, desirable characteristics, and learner development activities. The aim is also to obtain relevant information about whether education provided by the educational institution has enabled learners to reach their goals of learning, and what are the learners' strengths. The learning outcomes can also be compared with national assessment criteria. School assessment will provide data and information for improving policy, curriculum, projects and teaching-learning methodology. Evaluation outcomes are also useful for preparation of each educational institution's educational quality development plan in accord with the educational quality assurance guidelines, as well as reports on each educational institution's achievement to its school board, the office of the educational service area, OBEC, parents and the community.

3. Local assessment

Evaluation is conducted in order to assess learners' quality at educational service area level, based on the learning standards prescribed in the Basic Education Core Curriculum. It is aimed at obtaining basic information required for developing quality of education provided by the educational service area as mandated. Evaluation of the learners' achievements can be conducted by availing of standard examination papers prepared and administrated by the educational service area or in cooperation with the parent agency. Besides, assessment results are also obtained from verification and review of the data obtained from evaluation at educational institution level in the educational service area.

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4. National test

Evaluation is conducted in order to assess learners' quality at national level, based on the learning standards prescribed in the Basic Education Core Curriculum. Educational institutions are required to arrange for assessment of all students in Grades 3, 6, 9 and 12. The evaluation results will provide relevant data for comparing educational quality at different levels, which will be useful for planning in order to raise the quality of education provided. The data obtained will also support decision-making at national policy level.

The data from evaluation at the various levels mentioned above will be useful to educational institutions for checking, reviewing and developing learners' quality. It is incumbent upon the educational institutions to establish a system for providing necessary care and assistance, remedial measures, and encouragement and support in order to allow learners to develop themselves to their highest potentiality. Such development will be based on individual differences, depending on their particular problems and needs. The various groups include average achievers, the gifted and talented, under-achievers, those with disciplinary and behavioural problems, those who refuse schooling, those with economic and social problems, and those with physical and intellectual disabilities, etc. The data obtained from the evaluation therefore will provide essential information to the educational institutions for providing timely assistance to learners, who are thus allowed to enjoy full development and learning achievement.

Being responsible for educational provision, educational institutions are required to prepare relevant rules and regulations for measurement and evaluation of the learning outcomes, harmonious and in accord with the criteria and guidelines prescribed in the Basic Education Core Curriculum, thus providing a common and standard practice for all concerned.

Criteria for Learning Assessment

1. Judging, grading and reporting on learning outcomes

1.1 Judging learning outcomes

In judging the learning outcomes of various subject areas, reading, analytical thinking and writing, desirable characteristics and learner development activities, the teachers must base their judgement on development of individual learners. Teachers are required to regularly and continuously collect the learners' data in all respects for each semester, as well as provide remedial measures, enabling learners to develop to their highest potentiality.

Primary education level

(1) Learners must have an attendance record of not less than 80% of the total learning time requirement;

(2) Learners must be assessed on all indicators and must pass the criteria prescribed by the educational institutions;

(3) Learners must be judged on the learning outcomes of each course; and

(4) Learners must be evaluated and must pass all the criteria prescribed by the educational institutions regarding reading, analytical thinking and writing, desirable characteristics and learner development activities.

Secondary education level

(1) Teachers will judge the learning outcomes of all courses. Learners must have an attendance record of not less than 80% of the total learning time required for the respective courses for each semester;

(2) Learners must be assessed on all indicators and must pass all the criteria prescribed by the educational institutions;

(3) Learners must be judged on the learning outcomes of each course; and

(4) Learners must be evaluated and must pass all the criteria prescribed by the educational institutions regarding reading, analytical thinking and writing, desirable characteristics and learner development activities.

Regarding consideration of transition to next grade for both primary and secondary education levels, if learners have minor deficiencies which, in the view of the educational institutions, can be corrected and further developed with remedial measures, the educational institutions have the discretion to allow them to move to a higher grade. If, however, the learners have failed in many courses, and are likely to face problems in proceeding to a higher grade, the educational institutions can establish a committee to consider the possibility of repeating the year, with particular attention paid to the learners' maturity, knowledge and capacity.

1.2 Grading learning outcomes

Primary education level

In judging for the purpose of grading learning outcomes of each course, educational institutions can grade the level of learners' learning outcomes or the quality level of their performance by using numerical, alphabetical, and percentage systems or a system that uses key words to indicate the standard attained.

For assessment of reading, analytical thinking and writing, and desirable characteristics, the grading levels are: Excellent, Good Pass and Fail.

For assessment of learner development activities, consideration must be given to the amount of time devoted, and the participation and achievement of learners in accord with the criteria prescribed by the educational institutions. The outcomes of the participation are graded as: Pass and Fail.

Secondary education level

In judging for the purpose of grading learning outcomes of each course, eight numbers are applied to indicate the level of the learning outcomes. For assessment of reading, analytical thinking and writing, and desirable characteristics, the grading levels are: Excellent, Good, Pass and Fail.

For assessment of learner development activities, consideration shall be given to the amount of time devoted, and the participation and achievement of learners in accord with the criteria prescribed by the educational institutions. The outcomes of the participation are graded as: Pass and Fail.

1.3 Reporting on learning outcomes

Reporting on learning outcomes is a means of communicating to parents and learners the latter's progress of achievement. Educational institutions are required to summarise the assessment outcomes and prepare written reports for submission for the parents' information on a periodical basis or at least once every semester.

Reporting on learning outcomes can indicate quality level of learners' performance, which reflects the standard of achievement for the various learning areas.

2. Criteria of graduation

The Basic Education Core Curriculum prescribes general criteria for graduation at three educational levels, i.e., primary, lower secondary, and upper secondary education levels.

2.1 Graduation criteria for primary education level

(1) Learners have completed basic courses and supplementary courses/activities in accord with the learning time structure as prescribed in the Basic Education Core Curriculum;

(2) Learners' assessment outcomes for each basic course must meet the criteria prescribed by the respective educational institutions;

(3) Learners' assessment outcomes regarding reading, analytical thinking, and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and (5) Learners have participated in learner development activities and the assessment outcomes of their participation meet the criteria set by the respective educational institutions.

2.2 Graduation criteria for lower secondary education

(1) Learners have attained no more than 81 credits for basic and supplementary courses, with a distribution of 66 credits for basic courses and a number of credits for supplementary courses as prescribed by the respective educational institutions;

(2) Learners must have attained not less than 77 credits for the entire curriculum with a distribution of 66 credits for basic courses and not less than 11 credits for supplementary courses;

(3) Learners' assessment outcomes regarding reading and analytical thinking and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and

(5) Learners have participated in learner development activities and the assessment outcomes of their participation meet the criteria prescribed by the respective educational institutions.

2.3 Graduation criteria for upper secondary education

 Learners have attained not less than 81 credits, with a distribution of 41 credits for basic courses and a number of credits for supplementary courses as prescribed by the respective educational institutions;

(2) Learners must have attained not less than 77 credits for the entire curriculum, with a distribution of 41 credits for basic courses and not less than 36 credits for supplementary courses;

(3) Learners' assessment outcomes regarding reading and analytical thinking and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and

(5) Learners have participated in learner development activities and the assessment outcomes of their participation must meet the criteria prescribed by the respective educational institutions.

Regarding graduation criteria for education of special target groups, e.g., specialised education, education for the gifted and talented, alternative education, education for the disadvantaged, informal education, etc., school boards, educational service areas and those concerned will conduct measurement and evaluation of learning outcomes in accord with the criteria and guidelines prescribed in the Basic Education Curriculum for measurement and evaluation of special target groups.

Documents Showing Evidence of Education

Documents showing evidence of education are highly important, as they record the learning outcomes, data and information on various aspects of learners' development. These documents are divided into two categories as follow.

1. Documents showing evidence of education prescribed by the Ministry of Education

1.1 **Record of learning outcomes** shows and certifies learners' achievement, based on assessment outcomes of the various courses, reading, analytical thinking and writing and desirable characteristics required by the educational institutions as well as learner development activities. Educational institutions are required to record relevant data and issue such documents to individual learners upon their graduation at primary education level (Grade 6), compulsory education level (Grade 9), and basic education level (Grade 12) or any other cases of school-leaving.

1.2 **Certificate** shows the learners' qualifications, certifying their achievements and rights. Educational institutions are responsible for issuing certificates to graduates of compulsory education and basic education as prescribed in the Basic Education Core Curriculum.

1.3 **Report on graduates** shows authorisation of graduation by recording the names and relevant data of graduates at primary education level (Grade 6), compulsory education level (Grade 9), and basic education level (Grade 12).

2. Documents showing evidence of education prescribed by educational institutions

Educational institutions are required to prepare documents in order to keep record of learners' development, learning outcomes and essential data. These documents include a student's personal record, grade record for each course, cumulative record, learning outcome certificate and other documents required for specific purposes.

Transfer of Learning Outcomes

Educational institutions can transfer learners' learning outcomes in various cases, e.g., moving to another educational institution, change of type of education, course transfer, drop-out and request for continuing in-country education received abroad. Besides, knowledge, skills and experiences attained form other learning sources can also be transferred e.g. enterprise, religious institution, occupational training institution, home school etc.

Transfer of learning outcomes should be made before the beginning of the first semester or during the first semester at educational institutions that admit the transferred learners. The latter are required to study at the educational institutions for at least one semester. These educational institutions should decide on the courses/number of credits to be transferred as appropriate.

For the purpose of transfer, the following should be taken into consideration:

1. Certificates and other documents providing information on the learners' knowledge and capacity;

2. Learners' knowledge and capacity tested through various methods for assessment of both knowledge and capacity for practical work; and

3. Competence and performance in real situations.

Transfer of learning outcomes must follow the Ministry of Education's proclamations or guidelines. The transfer of learning outcomes at basic education level must follow the guidelines on transfer of learning outcomes at basic education level.

Curriculum Implementation and Management

In an education system that promotes decentralisation of authority to local areas and local educational institutions so as to participate in curriculum development, the relevant agencies at different educational levels, i.e., national, local and educational institution levels, play important roles, and have duties and responsibilities to develop, provide support and encourage efficient curriculum implementation and development. These measures will ensure the highest efficiency in preparation of the education institutions' curriculums as well as educational provision by these educational institutions, resulting in enhancing learners' quality so as to attain the learning standards prescribed at the national level.

At the local level, offices of the educational service areas and other parent agencies play important roles in improving quality of educational provision. They provide the linkage between the Basic Education Core Curriculum prescribed at the national level and the local situations and needs, leading to preparation of the educational institutions' curriculums, the implementation and development of which will be strengthened to ensure success. Their main tasks are: setting the goals and points of emphasis for developing learners' quality at the local level, with due consideration given to national requirements; developing local learning contents; evaluating quality of education provided at the local level; increasing the quality of curriculum implementation through research and development, personnel development, support provision, promotion, evaluation monitoring, and analysis and reports on learners' quality. Educational institutions play important roles in developing their own curriculums, planning for curriculum implementation, increasing quality of curriculum implementation through research and development, improving and further developing the curriculum, and preparing regulations for measurement and evaluation. In preparing their own curriculums, educational institutions must attach prime importance to attuning to the Basic Education Core Curriculum and other details provided by educational service areas or other parent agencies at the local level. Respective educational institutions can also add various aspects of problems and concerns of the community and the society, local wisdom, and learners' needs, with participation and contribution of all sectors in the preparation of their curriculums.

Learning Standards and Indicators

Learning Area of Thai Language

Why it is necessary to learn Thai language

Representing our national identity, Thai language is a cultural treasure leading to attainment of national unity and strengthening of Thai-ness in the Thai people's character. It serves as a communication tool for creating mutual understanding and happy relationships among the people, who are able to conduct their affairs and pursue their livelihoods, as well as enjoy peaceful coexistence in a democratic society. Thai language provides a tool for seeking knowledge and experiences from various sources of data and information in order to acquire knowledge and engage in processes of analytical, critical and creative thinking, so as to be attuned to social change and scientific and technological progress. It also serves the useful purpose of occupational development for achieving economic security. Furthermore, it is the medium of expression of our ancestors' wisdom regarding culture, tradition and aesthetics, representing a treasure of the highest value, worthy of learning, conserving and transmitting to succeeding generations as a permanent feature of the Thai nation.

What is learned in Thai language

Thai language skill requires training in language use for purposes of communication, effective learning and application in daily life.

• **Reading:** pronouncing words; reading aloud words, sentences, literature and different kinds of compositions; reading to oneself for comprehension and for acquiring thinking skills in analysing and synthesising knowledge from the readings for adapted application in daily life

• Writing: writing words in accord with rules of Thai orthography; writing various kinds of communications, compositions, synopses and reports based on study and research; and imaginative, analytical and critical, and creative writing

• Listening, Viewing and Speaking: critical listening and viewing; speaking to express opinions, feelings, speaking on various matters in logical sequence; speaking on various occasions, both formal and informal; and persuasive speaking

• Principles of Usage of Thai Language: studying nature and rules of Thai language; accurate linguistic usage appropriate to different occasions and persons; writing various kinds of works; and influence of foreign languages on Thai language

• Literature and Literary Works: analyse literature and literary works for studying data, concepts and values of literary writings as well as for pleasure; learning and comprehension of chants, children's rhymes and folk songs representing valuable Thai wisdom—these have contributed to customs and traditions, social matters of the past as well as linguistic beauty, leading to appreciation and pride in our ancestors' legacies accumulated over the years and passed on to the present

Learners' Quality

Grade 3 graduates

• Can accurately and fluently pronounce words; read aloud alliterations, texts, short stories and simple verses; understand meanings of the words and texts read; pose logical questions; make a sequence of situations; surmise on situations; summarise knowledge and insights from what has been read; follow instructions and explanations from their readings; understand meanings and data from diagrams, maps and charts; read regularly, and have good reading manners

• Write skilfully in regular script by using full space between the lines; write descriptions, diaries, letters to teachers requesting leaves of absence; write stories about their experiences; write stories from imagination, and have good writing manners

• Describe details and present the essentials; pose questions, answer questions as well as verbally express thoughts and feelings about what they have heard and viewed; speak in order to communicate; describe experiences, and verbally provide advice or persuade others to comply, and have good listening, viewing and speaking manners

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• Spell words and understand their meanings; recognise differences between words and syllables; understand functions of words in sentences; skilful in using dictionaries to search for meanings of words; construct simple sentences; compose alliterations, mottoes, and choose standard Thai language and dialects appropriate to the occasion

• Understand and summarise insights from reading of literature and literary works for application in daily life; express views from the literature and literary works read; know folk songs, lullabies representing local culture; sing popular rhymes for local children; memorise recitations and valuable verses in line with their interests

Grade 6 graduates

• Read loud accurately poetry and literature in prose and in verse presented in stylised melody; explain explicit and implicit meanings of words, sentences, texts, idioms; ornate phrases from their readings; understand suggestions and explanations in various manuals; distinguish between opinions and facts; capture knowledge and thoughts from their readings for decision-making to solve problems in life; have good reading manners and have acquired a reading habit, as well as appreciate their readings

• Write skilfully in regular script by using full and half spaces between the lines; write spellings of words; construct sentences and write texts as well as communications by using clear and appropriate words; use diagrams of outlines and mind-maps to refine writings; write compositions, synopses, personal letters; fill in various forms; write to express feelings and perceptions; write creatively from imagination; and have good writing manners

• Verbally express knowledge and thoughts on what they have heard and viewed; summarise or draw conclusions from material heard and viewed; pose questions, answer questions based on material heard and viewed; logically evaluate reliability from listening to and viewing advertisements; clearly present proper sequences of various matters; verbally report on subjects or issues of study and research from listening, viewing, conversation; speak persuasively and logically, as well as have good listening, viewing and speaking manners • Spell and understand meanings of words, idioms, popular sayings and proverbs; know and understand kinds and functions of words from dialects or foreign words in Thai language; use royal and polite vocabularies appropriately; construct sentences; compose various types of Thai verses, e.g., Four-Stanza Verse, Yani 11 Verse etc.

• Understand and appreciate value of the literature and literary works read; narrate folk tales; sing local folk songs; apply views and insights from the readings in real life, and memorise prescribed recitations

Grade 9 graduates

• Read aloud accurately poetry and literature in prose and in verse presented in stylised melody; understand explicit and implicit meanings; capture the essentials and details of what has been read; express opinions and disagreements about their readings, and write conceptual frameworks, mind-maps, synopses; write reports on their readings; logically present analyses and syntheses; present proper sequence and probability of their readings; assess accuracy of the supporting data from their readings

• Write communications in simple and clear handwriting; accurately write texts by using words appropriate to language levels; write slogans, dictums, congratulatory messages on various occasions, advertisements, mottoes, speeches, biographies, autobiographies and experiential accounts, synopses, business letters, employment application forms; write to logically analyse, criticise and express feelings or disagreements; write reports on study and research; write projects

• Verbally present opinions; analyse criticise and evaluate the issues identified from listening and viewing; apply insights gained in daily life; present verbal reports on matters or issues identified from systematic study and research; master the art of speaking; speak on various occasions in line with objectives, and can speak persuasively, logically and convincingly; have good listening, viewing and speaking manners

• Understand and use royal words, Pali and Sanskrit words, words from dialects, foreign words, transliterations and terms coined in Thai language; analyse differences between spoken and written language; understand structures of compound and complex

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sentences; understand characteristics of formal, semi-formal and informal language; compose various types of Thai verses, e.g., Four-Stanza Verse, Yani 11 Verse, etc.

• Summarise substance of the literature and literary works read; analyse main characters, Thai way of life and values obtained from literature, literary works and recitations, as well as summarise knowledge and insights for application in real life

Grade 12 graduates

• Read aloud accurately poetry and literature in prose and in verse presented in stylised melody; understand, interpret, convey meaning and elaborate on what has been read; analyse and criticise their readings; logically express disagreements and present new ideas from the readings; write conceptual frameworks, mind-maps, notes, synopses and reports from their readings; synthesise, evaluate and apply knowledge and thoughts from their readings for self-development and educational and occupational development; apply knowledge and thoughts for problem-solving in life; have good reading manners, and have acquired a reading habit

• Write various forms of communications by using accurate language in line with objectives; write synopses from media in diverse forms and substances; write compositions reflecting creative thinking by using idioms and ornate phrases; write notes; write reports on study and research based on principles of academic writing; use data and information to make references; produce their own works in various forms, both documentaries and writings for entertainment purposes, as well as evaluate others' works to refine their own writings

• Pose questions and express opinions on materials heard and viewed; have judgement in selecting materials to be heard and viewed; analyse objectives, line of thinking, use of language, and reliability of materials heard and viewed; evaluate things heard and viewed; speak skilfully on various occasions, both formal and informal, by using accurate language; logically express opinions, disagreements, persuasive arguments and present new concepts, as well as have good listening, viewing and speaking manners

• Understand nature of language, influence of language and characteristics of Thai language; use words, groups of words and construct sentences in line with objectives; compose various types of Thai verses; use language suitable to the occasion and accurately use royal and polite vocabularies; analyse principles of coining words in Thai language; understand influences of dialects and foreign languages on Thai language and understand dialects; analyse and evaluate use of language from print and electronic media

• Analyse and criticise literature and literary works, based on basic principles of literary criticism; know and understand outstanding characteristics of literature, linguistic wisdom and folk literary works; link with historical learning and Thai way of life; assess literary value; apply insights from literature and literary works in real life

Strand 1: Reading

Standard T1.1:Application of reading process to build knowledge and thoughts in
decision-making and problem-solving in life, and encourage

		Grade lev	vel indicators	Г	l
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Read aloud	1. Accurately	1. Accurately and	1. Accurately	1. Accurately	1. Accurately read
words,	read aloud	fluently read	read aloud	read aloud	aloud poetic
alliterations	words,	aloud words,	poetic pieces	poetic pieces	pieces in prose
and short	alliterations,	texts short	in prose and in	in prose and	and in verse.
texts.	texts and	stories and	verse.	in verse.	2. Explain
2. Tell	simple	simple verses.	2. Explain	2. Explain	meanings of
meanings	verses.	2. Explain	meanings of	meanings of	words,
of words	2. Explain	meanings of	words,	words,	sentences and
and texts	meanings of	words and texts	sentences and	sentences	idiomatic
read.	words and	read.	idioms from	and narrative	expression.
3. Answer	texts read.	3. Pose questions	what has been	and	3. Read diverse
questions	3. Pose and	and give logical	read.	descriptive	short stories by
about what	answer	answers about	3. Read short	texts.	setting time
has been	questions	what has been	stories in	3. Explain	limits and ask
read.	about what	read.	prescribed	implications	questions about
4. Present	has been	4. Present a	time and	from diverse	the readings.
summaries	read.	sequence of	answer	readings.	4. Differentiate
of	4. Identify the	situations and	questions on	4. Differentiate	between facts
readings.	essentials	surmise on	the stories	between facts	and opinions
5. Surmise on	and details	situations from	read.	and opinions	from readings.
situations	from	readings,	4. Differentiate	from	
from	readings.	providing	between facts	readings.	
readings		reasons for	and opinions		
		justification.	from		
			readings.		

acquisition of a reading habit

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Accurately read aloud	1. Accurately read	1. Accurately read	1. Accurately and pleasantly read
poetic pieces in prose	aloud poetic pieces	aloud poetic pieces	aloud poetic pieces in prose
and in verse suitable to	in prose and in	in prose and in	and in verse suitable to their
their readings.	verse.	verse suitable to	readings.
2. Capture the essentials	2. Capture the	their readings.	2. Interpret, convey meaning and
from their readings.	essentials,	2. Differentiate words	elaborate on their readings.
3. Specify causes and	summarise and	with explicit and	3. Logically analyse and criticise
effects and	explain details	implicit meanings.	all aspects of their readings.
differentiate between	from their	3. Specify the	4. Surmise on situations from
facts and opinions	readings.	essentials and	their readings and evaluate for
from their readings.	3. Write mind-maps	details of	application of knowledge and
4. Identify and explain	to show	supporting data	insights for decision-making
analogies and words	understanding of	from their readings.	to solve problems in life.
with several meanings	the various lessons	4. Read various stories	5. Analyse, criticise and express
in various contexts	read.	and write	disagreements with their
from their readings.	4. Discuss to show	conceptual	readings and present new
5. Interpret difficult terms	opinions and	frameworks, mind-	concepts logically.
in academic documents	disagreements with	maps, notes,	6. Answer questions from
by considering the	their readings.	synopses and	reading various types of
context.		reports.	writings within the time limit.

Strand 1: Reading

Standard T1.1:Application of reading process to build knowledge and thoughts in
decision-making and problem-solving in life, and encouraging

			vel indicators	~	
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
6. Regularly	5. Express	5. Summarise	5. Surmise on	5. Analyse and	5. Explain
read books	opinions	knowledge and	situations from	express	application of
in line	and surmise	insights from	their readings,	opinions on	knowledge and
with their	on	their readings	providing	their readings	thoughts from
interests	situations	for application	reasons for	for	their readings
and present	from their	in daily life.	justification.	application in	for decision-
their	readings.	6. Regularly read	6. Summarise	life.	making to solve
readings.	6. Regularly	books in line	knowledge and	6. Read	problems in
7. Tell	read books	with their	insights from	explanatory	life.
meanings	in line with	interests and	their readings	texts,	6. Read
of	their	present their	for application	instructions	explanatory texts,
important	interests	readings.	in daily life.	and	instructions and
signs or	and present	7. Read	7. Regularly read	suggestions to	suggestions to be
symbols	their	explanatory	valuable books	be followed.	followed.
frequently	readings.	texts and follow	in line with	7. Regularly	7. Explain
seen in	7. Read	instructions or	their interests	read valuable	meanings of
daily life.	explanatory	suggestions.	and present	books in line	data from
8. Have good	texts and	8. Explain	opinions on	with their	reading
reading	follow	meanings of	their readings.	interests and	diagrams, maps,
manners.	instructions	data from	8. Have good	present	charts and
	or	diagrams, maps	reading	opinions	graphs.
	suggestions.	and charts.	manners.	about their	8. Regularly read
	8. Have good	9. Have good		readings.	valuable books
	reading	reading		8. Have good	in line with
	manners.	manners.		reading	their interests
				manners.	and explain
					benefits
					obtained from
					their readings.
					9. Have good
					reading
					manners.

acquisition of a reading habit

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
6. Specify observations	5. Analyse and	5. Analyse, criticise and	7. Read various texts and write
and validity of	distinguish between	evaluate their	conceptual frameworks,
persuasive writings.	facts, supporting data	readings by using	mind-maps, notes, synopses
7. Follow instructions in	and opinions in	comparative	and reports.
manuals on	articles read.	techniques for	8. Synthesise knowledge from
application of tools	6. Specify observations,	readers' better	reading newspapers,
or appliances at more	propaganda,	understanding.	electronic media and
difficult level.	persuasion or validity	6. Evaluate accuracy of	various learning sources for
8. Analyse values	of writings.	supporting data in	self-development and
obtained from	7. Read diverse books,	their readings.	educational and
diverse readings for	articles or writings,	7. Criticise validity,	occupational development.
problems-solving in	and assess value of	sequencing and	9. Have good reading manners.
life.	concepts obtained	probability of their	
9. Have good reading	from readings for	readings.	
manners.	application in life.	8. Analyse to show	
	8. Have good reading	disagreements with	
	manners.	their readings.	
		9. Interpret and assess	
		value of concepts	
		obtained from diverse	
		writings for	
		application for	
		problem-solving in	
		life.	
		10. Have good reading	
		manners.	

Strand 2: Writing

Standard T2.1:Effective application of writing process for writing communications,
compositions, synopses, stories in various forms, data, information

reports, study reports and research reports Grade level indicators Grade 3 Grade 1 Grade 2 Grade 6 Grade 4 Grade 5 1. Write in 1. Write in 1. Write in regular 1. Write in 1. Write in 1. Write in regular regular regular script script by using regular script script by using regular script script by by using full full space by using full full and half by using full using full space between the and half spaces between and half spaces between the lines. spaces the lines. between the space 2. Can describe between the 2. Can write between lines. lines. 2. Write short communication 2. Can write the lines. things clearly in lines. 2. Write stories about writing. 2. Can write s by using communication communic their 3. Write diaries. communicati accurate, clear s by using ations by experiences. 4. Write letters to ons by using and appropriate accurate, clear using 3. Write short teachers accurate, words. and appropriate stories from 3. Write diagrams simple requesting leave clear and words. words and imagination. of absence. appropriate of outlines and 3. Write diagrams 4. Have good sentences. 5. Write stories words. mind-maps for of outlines and 3. Have good writing from 3. Write refining their mind-maps for writing manners. imagination. diagrams of writings. refining their manners. 6. Have good outlines and 4. Write synopses writings. writing mind-maps from their 4. Write for refining readings. compositions. manners.

their

4. Write

writings.

synopses from short

stories.

5. Write synopses from their readings.

5. Write letters to

parents and

relatives.

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Write in regular script	1. Write in regular script	1. Write in regular	1. Write communications in
by using half space	by using half space	script by using half	various forms in line with
between the lines.	between the lines.	space between the	objectives by using accurate
2. Write communications	2. Write narrative and	lines.	language and with clear data
by using accurate,	descriptive texts.	2. Accurately write	and essentials.
clear, appropriate and	3. Write compositions.	texts by using words	2. Write compositions.
refined words.	4. Write synopses.	appropriate to	3. Write synopses from media in
3. Describe their	5. Write reports on	language levels.	diverse forms and substances.
experiences in writing	study and research.	3. Write biographies	4. Produce their own writings in
by specifying the	6. Write business letters.	or autobiographies,	various forms.
essentials and	7. Logically analyse,	describing events,	5. Evaluate others' work to for
providing supporting	criticise and express	opinions and views	refine their own writings.
data.	knowledge, opinions	on various matters.	6. Write reports on study and
4. Write compositions.	or disagreements on	4. Write synopses.	research, matters of interest,
5. Write synopses from	their readings.	5. Write business	based on principles of
their readings.	8. Have good writing	letters.	academic writing and use data
6. Express in writing	manners.	6. Write to logically	and information.
their opinions on the		explain, clarify,	7. Regularly prepare notes on
substance of media		express opinions and	study and research for self-
received.		disagreements.	development.
			8. Have good writing manners.

Strand 2: Writing

Standard T2.1:Effective application of writing process for writing communications,
compositions, synopses, stories in various forms, data, information

reports,	study	reports	and	research	reports
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	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	5. Write letters	6. Can express	6. Write personal	
			to friends and	in writing	letters.	
			parents.	their feelings	7. Fill in various	
			6. Write notes	and opinions	forms.	
			and reports	in line with	8. Write stories	
			from study	intentions.	from	
			and research.	7. Fill in various	imagination and	
			7. Write stories	forms.	creativity.	
			from	8. Write stories	9. Have good	
			imagination.	from	writing	
			8. Have good	imagination.	manners.	
			writing	9. Have good		
			manners.	writing		
				manners.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
7. Write personal letters	-	7. Write to analyse,	-
and business letters.		criticise and express	
8. Write reports on		knowledge, opinions	
study and research		or disagreements on	
and projects.		various matters.	
9. Have good writing		8. Fill in employment	
manners.		application forms	
		and write to	
		describe their	
		knowledge and	
		skills suitable to the	
		jobs.	
		9. Write reports on	
		study and research	
		and projects.	
		10. Have good writing	
		manners.	

Strand 3: Listening

Standard T3.1:Competency in selective and critical listening and viewing, and
critical and creative expression of knowledge, thoughts and feelings

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Listen to	1. Listen to	1. Tell details of	1. Distinguish	1. Verbally	1. Verbally	
simple	complicated	materials	between facts	present	express	
suggestions	suggestions	listened to and	and opinions	knowledge,	knowledge and	
and	and	viewed, both for	from	opinions, and	understanding	
instructions	instructions	acquiring	materials	feelings about	of objectives of	
that are to	that are to be	knowledge and	listened to	materials	materials	
be	followed.	for	and viewed.	listened to	listened to and	
followed.	2. Verbally	entertainment.	2. Verbally	and viewed.	viewed.	
2. Answer	present about	2. Tell the	present the	2. Pose	2. Pose questions	
questions	materials	essentials from	essentials	questions and	and logically	
and verbally	listened to	listening and	from listening	logically	answer	
present about	and viewed,	viewing.	and viewing.	answer	questions from	
materials	both for	3. Pose questions	3. Verbally	questions	materials	
listened to	acquiring	and answer	present	about	listened to and	
and viewed,	knowledge	questions about	knowledge,	materials	viewed.	
both for	and for	materials	opinions and	listened to	3. Analyse	
acquiring	entertainment.	listened to and	feelings about	and viewed.	reliability from	
knowledge	3. State the	viewed.	materials	3. Logically	logical listening	
and for	essentials of	4. Verbally	listened to	analyse	to and viewing	
entertainment.	materials	present opinions	and viewed.	reliability of	of advertising	
	listened to	and feelings		materials	media.	
	and viewed.	about materials		listened to		
		listened to and		and viewed.		
		viewed.				

on various occasions

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Verbally present the	1. Verbally present the	1. Express opinions	1. Summarise concepts and
essentials of	essentials of	and evaluate	express opinions from about
materials listened to	materials listened to	matters from	materials listened to and
and viewed.	and viewed.	listening and	viewed.
2. Present summaries of	2. Analyse facts,	viewing.	2. Logically analyse concepts,
materials listened to	opinions and	2. Analyse and	use of language and reliability
and viewed.	reliability of	criticise materials	of materials listened to and
3. Verbally present	information from	listened to and	viewed.
creative opinions	various media.	viewed for	3. Evaluate materials listened to
about materials	3. Logically analyse and	application in life.	and viewed, and set
listened to and	criticise materials	3. Verbally report on	guidelines for application in
viewed.	listened to and	subjects or issues of	life.
4. Evaluate reliability of	viewed for	study and research	4. Have judgement in selecting
media with	application of	from listening,	materials for listening and
persuasive substance.	insights in life.	viewing and	viewing.
5. Verbally report on	4. Can speak on various	conversation.	5. Speak on various occasions,
subjects or issues of	occasions in line with	4. Can speak on	express views, disagreements
study and research	objectives.	various occasions	and persuasive arguments,
from listening,	5. Verbally report on	in line with	and present new concepts by
viewing and	subjects or issues of	objectives.	using accurate and
conversation.	study and research		appropriate language.
6. Have good listening,	from listening,		6. Have good listening, viewing
viewing and	viewing and		and speaking manners.
speaking manners.	conversation.		

Strand 3: Listening

Standard T3.1:Competency in selective and critical listening and viewing, and
critical and creative expression of knowledge, thoughts and feelings

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
3. Verbally	4. Pose	5. Speak	4. Pose questions	4. Verbally	4. Verbally report
express	questions and	clearly to	and logically	report on	on subjects or
opinions and	answer	communicate	answer	subjects or	issues of study
feelings from	questions	in line with	questions from	issues of	and research
materials	about	objectives.	materials	study and	from listening,
listened to	materials	6. Have good	listened to and	research from	viewing and
and viewed.	listened to and	listening,	viewed.	listening,	conversation.
4. Can verbally	viewed.	viewing and	5. Verbally	viewing and	5. Can speak
communicate	5. Verbally	speaking	report on	conversation.	persuasively,
in line with	present	manners.	subjects or	5. Have good	logically and
objectives.	opinions and		issues of study	listening,	convincingly.
5. Have good	feelings about		and research	viewing and	6. Have good
listening,	materials		from listening,	speaking	listening,
viewing and	listened to and		viewing and	manners.	viewing and
speaking	viewed.		conversation.		speaking
manners.	6. Speak clearly		6. Have good		manners.
	to		listening,		
	communicate		viewing and		
	in line with		speaking		
	objectives.		manners.		
	7. Have good				
	listening,				
	viewing and				
	speaking				
	manners.				

on various occasions

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	6. Have good listening,	5. Speak persuasively	-
	viewing and	by logically and	
	speaking manners.	convincingly	
		presenting evidence	
		in proper sequence.	
		6. Have good	
		listening, viewing	
		and speaking	
		manners.	

Strand 4: Principles of Thai Language Usage

Standard T4.1:Understanding of nature and principles of Thai language, linguistic
change and power, linguistic wisdom and preservation of Thai

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Say and	1. Say and write	1. Write	1. Spell words and	1. Identify kinds	1. Analyse kinds
write	consonants,	spellings and	tell their	and functions	and functions
consonants,	vowels,	tell meanings	meanings in	of words in	of words in
vowels,	intonations and	of words.	various	sentences.	sentences.
intonations	Thai numerals.	2. Specify kinds	situations.	2. Distinguish	2. Can use words
and Thai	2. Write spellings	and functions	2. Specify kinds	components	appropriate to
numerals.	and tell	of words in	and functions of	of sentences.	the occasion
2. Write	meanings of	sentences.	words in	3. Compare	and audience.
spellings	words.	3. Use	sentences.	standard Thai	3. Collect and
and tell	3. Arrange words	dictionaries to	3. Use dictionaries	language with	tell meanings
meanings	into sentences	search for	to search for	dialects.	of foreign
of words.	in line with	meanings of	meanings of	4. Use royal	words used in
3. Arrange	communication	words.	words.	vocabulary.	Thai language.
words into	objectives.	4. Construct	4. Accurately	5. Identify	4. Identify
simple	4. Tell	simple	construct	foreign words	characteristics
sentences.	characteristics	sentences.	sentences in	in Thai	of sentences.
4. Make	of	5. Coin	accord with	language.	5. Write verses.
sequences	alliterations.	alliterations	linguistic rules.	6. Write verses.	6. Analyse and
of simple	5. Choose	and mottoes.	5. Write verses and	7. Use idioms	compare
alliterations.	standard Thai	6. Choose	mottoes.	properly.	idioms that are
	language and	standard Thai	6. Tell meanings of		popular
	dialects	language and	idioms.		sayings and
	appropriate to	dialects	7. Can compare		proverbs.
	the occasion.	appropriate to	standard Thai		
		the occasion.	language with		
			dialects.		

language as a national treasure

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain	1. Coin words in Thai	1. Distinguish and use	1. Explain nature, power and
characteristics of	language.	foreign words in	characteristics of language.
sounds in Thai	2. Analyse structures of	Thai language.	2. Use words and groups of
language.	simple, compound	2. Analyse structures	words to construct sentences
2. Coin words in Thai	and complex	of sentences with	in line with objectives.
language.	sentences.	several clauses.	3. Use language appropriate to
3. Analyse kinds and	3. Write verses.	3. Analyse linguistic	opportunity, occasion and
functions of words in	4. Use royal vocabulary.	levels.	audience, as well as use
sentences.	5. Collect and explain	4. Use transliterations	appropriate royal vocabulary.
4. Analyse differences	meanings of foreign	and translated	4. Write verses.
between spoken and	words used in Thai	terms.	5. Analyse influences of foreign
written language.	language.	5. Explain meanings	languages and dialects.
5. Write verses.		of academic and	6. Explain and analyse principles
6. Distinguish and use		professional terms.	of coining words in Thai
idioms that are		6. Write verses.	language.
popular sayings and			7. Analyse and evaluate use of
proverbs.			language from print and
			electronic media.

Strand 5: Literature and Literary Works

Standard T5.1:Understanding and expressing opinions; criticism of Thai literature
and literary works through appreciative approach, and application in

real life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell	1. Specify	1. Specify	1. Specify	1. Summarise	1. Express
insights	insights	insights	insights from	from the	opinions about
obtained	obtained from	obtained from	folk tales or	literature or	the literature or
from	reading or	reading literary	moral tales.	literary works	literary works
reading or	listening to	works for	2. Explain	read.	read.
listening to	literary works	application in	insights from	2. Specify	2. Tell folk tales
literary	for children	daily life.	reading for	knowledge and	of their local
works for	for	2. Know folk	application	insights from	areas and those
children in	application in	songs and	in real life.	reading	of other areas.
prose and in	daily life.	lullabies for	3. Sing folk	literature and	3. Explain value
verse.	2. Sing popular	inculcating	songs.	literary works	of the literature
2. Memorise	rhymes for	appreciation of	4. Memorise the	which can be	and literary
the	local children.	local culture.	recitations	applied in real	works read, and
recitations	3. Memorise the	3. Express	prescribed	life.	apply them in
prescribed	recitations	opinions about	and valuable	3. Explain the	real life.
and verses	prescribed	the literature	verses in line	value of	4. Memorise the
in line with	and valuable	read.	with their	literature and	recitations
their	verses in line	4. Memorise the	interests.	literary works.	prescribed and
interests.	with their	recitations		4. Memorise the	valuable verses
	interests.	prescribed and		recitations	in line with
		valuable verses		prescribed and	their interests.
		in line with		valuable verses	
		their interests.		in line with	
				their interests.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Summarise the	1. Summarise the	1. Summarise the	1. Analyse and criticise literature
substance of the	substance of the	substance of	and literary works, based on
literature and literary	literature and literary	literature, literary	basic principles of literary
works read.	works read at more	works and local	criticism.
2. Analyse the	difficult level.	literary works at	2. Analyse outstanding
literature and literary	2. Analyse and criticise	even more difficult	characteristics of literature;
works read, as well	literature, literary	level.	link with historical learning
as provide reasons	works and local	2. Analyse Thai way	and social way of life in the
for justification.	literary works read, as	of life and values	past.
3. Explain value of the	well as provide	from the literature	3. Analyse and evaluate literary
literature and literary	reasons for	and literary works	value of literature and literary
works read.	justification.	read.	works as national cultural
4. Summarise	3. Explain value of the	3. Summarise	legacies.
knowledge and	literature and literary	knowledge and	4. Synthesise insights from
insights from	works read.	insights from	literature and literary works
reading for	4. Summarise knowledge	reading for	for application in real life.
application in real	and insights from	application in real	5. Collect folk literary works and
life.	reading for application	life.	explain linguistic wisdom.
5. Memorise the	in real life.	4. Memorise and tell	6. Memorise and tell value of the
recitations	5. Memorise the	the value of the	recitations prescribed and of
prescribed and	recitations prescribed	recitations	valuable verses in line with
valuable verses in	and valuable verses in	prescribed, and the	their interests and use them as
line with their	line with their	value of valuable	references.
interests.	interests.	verses in line with	
		their interests and	
		use them as	
		references.	

Learning Area of Mathematics

Why it is necessary to learn mathematics

Mathematics is highly important to development of the human mind. It enables a person to acquire skills in creativity, logic and systematic and methodical thinking, and allows one to carefully and thoroughly analyse various problems or situations, anticipate, plan, make decisions, solve problems and accurately and appropriately apply mathematics in daily life. Mathematics serves as a tool for learning science, technology and other disciplines. It is therefore useful to one's life, enhances quality of life and enables a person to live in harmony with others.

What is learned in mathematics

The learning area for mathematics is aimed at enabling all children and youths to continuously learn this subject in accord with their potentiality. The contents prescribed for all learners are as follow:

• Numbers and Operations: numerical concepts and sense of perception; real number system; properties of real numbers; operation of numbers; ratio; percentage; problem-solving involving numbers; and application of numbers in real life

• Measurement: length; distance; weight; area; volume and capacity; money and time; measuring units; estimation for measurement; trigonometric ratio; problem-solving regarding measurement; and application of measurement in various situations

• Geometry: geometric figures and properties of one-dimensional geometric figures; visualization of geometric models; geometric theories; and geometric transformation through translation, reflection and rotation

• Algebra: pattern; relationship; function; sets and their operations; reasoning; expression; equation; equation system; inequality; graph; arithmetic order; geometric order; arithmetic series; and geometric series

• Data Analysis and Probability: determining an issue; writing questions; determining methods of study; study; data collection, systematization and presentation; central tendency and data distribution; data analysis and interpretation; opinion polling; probability; application of statistical knowledge and probability; application of probability in explaining various situations as well as for facilitating decision-making in real life

• Mathematical Skills and Processes: problem-solving through diverse methods; reasoning; communication; communication and presentation of mathematical concepts; linking mathematics with other disciplines; and attaining ability for creative thinking

Learners' Quality

Grade 3 graduates

• Have numerical knowledge, understanding and sense of cardinal numbers not more than 100,000, and zero as well as operation of numbers; can solve problems involving addition, subtraction, multiplication and division; and are aware of validity of the answers reached

• Have knowledge and understanding of length, distance, weight, volume, capacity, time and money; can measure correctly and appropriately; and can apply knowledge of measurement for solving problems faced in various situations

• Have knowledge and understanding of triangle, quadrilateral, circle, ellipse, cuboid, sphere and cylinder as well as point, line segment and angle

• Have knowledge and understanding of pattern and can explain relationship

• Can collect and analyse relevant data and information about themselves and their surroundings in their daily lives; can avail of pictograms and bar charts for discussing various issues

• Can apply diverse methods for problem-solving; can avail of mathematical knowledge, skills and processes appropriately for solving problems faced in various situations; can suitably present reasoning for decision-making and appropriately present the conclusion reached; can use mathematical language and symbols for communication, as well as accurate and appropriate communication and presentation of mathematical concepts; can
link various bodies of mathematical knowledge; can link mathematics with other disciplines; and have attained ability for creative thinking

Grade 6 graduates

• Have numerical knowledge, understanding, and sense of cardinal numbers and zero, fractions, decimals of not more than three places, percentages, operation of numbers and properties of numbers; can solve problems involving addition, subtraction multiplication and division of cardinal numbers, fractions, decimals of not more than three places and percentages; are aware of validity of the answers reached; and can find estimates of cardinal numbers and decimals of not more than three places

• Have knowledge and understanding of length, distance, weight, area, volume, capacity, time, money, direction, diagrams and size of angles; can measure correctly and appropriately; and can apply knowledge of measurement for solving problems faced in various situations

• Have knowledge and understanding of characteristics and properties of triangles, squares, circles, cuboids, cylinders, cones, prisms, pyramids angles and parallel lines

• Have knowledge and understanding of patterns and can explain their relationships and solve problems involving patterns; can analyse situations or problems as well as write linear equations with an unknown that can be solved

• Can collect data and information and discuss various issues from pictograms, bar charts, comparative bar charts, pie charts, line graphs and tables that are availed of for presentation; and can apply knowledge of basic probability in projecting various possible situations

• Can apply diverse methods for problem-solving, availing of mathematical and technological knowledge, skills, and processes appropriately to solve problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusions reached; can use mathematical language and symbols for communication as well as accurate and appropriate communication and presentation of mathematical concepts; can link various bodies of mathematical knowledge and can link

mathematical knowledge with other disciplines; and have attained ability for creative thinking

Grade 9 graduates

• Understand concepts of numbers, ratio, proportion, percentage, real numbers expressed in exponential notation with integer indices, square root and cube root of real numbers; can carry out operations involving integral numbers, fractions, decimals, exponents, square roots and cube roots of real numbers; can apply numerical knowledge in real life

• Have knowledge and understanding of surface areas of prisms and cylinders, and volume of prisms, cylinders, pyramids, cones and spheres; can appropriately choose units of the various systems of measuring length, area, and volume; and can apply knowledge of measurement in real life

• Can construct and explain stages of constructing two-dimensional geometric figures with compass and straight edge; can explain characteristics and properties of three-dimensional geometric figures, i.e., prisms, pyramids, cylinders, cones and spheres

• Understand properties of congruence and similarities of triangles, parallels, Pythagoras' theorems and converse; can apply these properties for reasoning and problem-solving; and understand geometric transformation through translation, reflection and rotation

• Can visualise and explain characteristics of two-dimensional and threedimensional geometric figures

• Can analyse and explain relationships of patterns, situations or problems; and can use single-variable linear equations, two-variable linear equation systems, single-variable linear inequality, and graphs in problem-solving

• Can determine an issue, write questions about a problem or a situation, determine methods of study and collect and present data by utilizing pie charts or any other forms of presentation

• Understand concepts of the measures of central tendency, arithmetic mean, median, and mode of non-frequency distribution data that can be chosen appropriately for application, as well as apply knowledge in considering statistical data and information

• Understand the concepts of random sampling and probability; can apply knowledge of probability for projecting and for decision-making in various situations

• Can apply diverse methods for problem-solving; avail mathematical and technological knowledge, skills and processes appropriately to solve problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusion reached; can use mathematical language and symbols for communication; can communicate and present mathematical concepts accurately and clearly; can link various bodies of mathematical knowledge; can link mathematical knowledge, principles and processes with other disciplines; and have attained ability for creative thinking

Grade 12 graduates

• Have concepts of the real number system, absolute values of real numbers and real numbers expressed in radicals and in exponential notation with rational indices; can find estimates of real numbers expressed in radicals and exponents through appropriate calculation methods; and can apply properties of real numbers

• Apply knowledge of trigonometric ratio for estimating distance and height, and can solve measurement problems

• Have concept of sets and their operation; and can apply knowledge of Venn-Euler diagrams for problem-solving and checking validity of reasoning

• Understand and can apply reasoning through induction and deduction

• Have concepts of relation and function that can be applied for problem-solving in various situations

• Understand concepts of arithmetic sequence, geometric sequence and can find general terms; understand the concepts of the sums of the first n terms of arithmetic and geometric series, by using formulas that can be applied

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• Know and understand the concept of solving equations and inequalities with one variable (degree not more than two); and can also use graphs of equations, inequalities or functions for problem-solving

• Understand simple methodology for opinion polling; can choose central tendency suitable to data and objectives; can find arithmetic mean, median, mode, standard deviation and percentile of data; can analyse data and apply results of data analysis for facilitating decision-making

• Understand concepts of random sampling and probability; can apply knowledge of probability for projection and for decision-making in various situations

• Can apply diverse methods for problem-solving; can avail of mathematical and technological knowledge, skills and processes for appropriately solving problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusions reached; can use mathematical language and symbols for communication; can communicate and present mathematical concepts accurately and clearly; can link various bodies of mathematical knowledge, principles, and processes with other disciplines; and have attained ability for creative thinking

Standard M1.1: Understanding diverse methods of presenting numbers and their

		Grade	level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Write and	1. Write and	1. Write and	1. Write and read	1. Write and read	1. Write and read
read Hindu-	read Hindu-	read Hindu-	Hindu-Arabic	fractions,	decimals with
Arabic and	Arabic and	Arabic and	and Thai	mixed numbers	not more than
Thai	Thai	Thai	numerals and	and decimals	3 places.
numerals	numerals and	numerals and	written forms	with not more	2. Compare and
showing	written	written forms	showing	than 2 places.	arrange
quantity of	forms	showing	cardinal	2. Compare and	sequence of
objects or	showing	quantity of	numbers, 0,	arrange	fractions and
cardinal	quantity of	objects or	fractions, and	sequence of	decimals with
numbers	objects or	cardinal	one-place	fractions and	not more than
not	cardinal	numbers not	decimals.	decimals with	3 places.
exceeding	numbers not	exceeding	2. Compare and	not more than 2	3. Write decimals
100, and 0.	exceeding	100,000,	arrange	places.	in the form of
2. Compare	1,000, and 0.	and 0.	sequence of	3. Write fractions	fractions and
and arrange	2. Compare	2. Compare and	cardinal	in decimal form	write fraction
sequence of	and arrange	arrange	numbers and	and	in form of
cardinal	sequence of	sequence of	0, fractions,	percentages;	decimal.
numbers	cardinal	cardinal	and one-place	write	
not	numbers not	numbers not	decimals.	percentages in	
exceeding	exceeding	exceeding		the forms of	
100, and 0.	1,000, and 0.	100,000,		fractions and	
		and 0.		decimals, and	
				write decimals	
				in the forms of	
				fractions and	
				percentages.	

application in real life

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Specify or give	1. Write fractions in the	-	1. Show relationships of various
examples and	form of decimals and		numbers in the real number
compare added	write circulating		system.
integral numbers,	decimals in form of		2. Have concepts of absolute
subtracted integral	fractions.		values of real numbers.
numbers, 0, fractions	2. Distribute prescribed		3. Have concepts of real numbers
and decimals.	real numbers and		expressed in exponential
2. Have concept of real	give examples of		notation with rational indices,
numbers expressed	rational and irrational		and real numbers expressed in
in exponential	numbers.		radicals.
notation with integer	3. Explain and specify		
indices and write	square roots and cube		
numbers in scientific	roots of real		
notation.	numbers.		
	4. Apply knowledge of		
	ratio, fraction and		
	percentage to solve		
	problems.		

Standard M1.2: Understanding results of operations of numbers, relationships of

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Add,	1. Add,	1. Add, subtract	1. Add, subtract	1. Add, subtract	1. Add, subtract
subtract and	subtract and	and mix	and mix	and mix	and mix
mix	mix addition	addition and	addition,	addition and	addition,
addition	and	subtraction of	subtraction,	subtraction of	subtraction,
and	subtraction	cardinal	multiplication	fractions, as	multiplication
subtraction	of cardinal	numbers not	and division of	well as be aware	and division of
of cardinal	numbers not	exceeding	cardinal	of validity of the	fractions, mixed
numbers	exceeding	100,000, and	numbers and 0,	answers.	numbers and
not	1,000, and 0,	0, as well as	as well as be	2. Add, subtract	decimals, as
exceeding	as well as be	be aware of	aware of	and mix	well as be
100, and 0,	aware of	validity of the	validity of the	addition and	aware of
as well as	validity of	answers.	answers.	subtraction of	validity of the
be aware of	the answers.	2. Analyse and	2. Analyse and	decimals with	answers.
validity of	2. Analyse and	show method	show method	answers in	2. Analyse and
the	find answers	of finding	of finding	decimals of not	show method of
answers.	to problems	answers to	answers to	more than 2	finding answers
2. Analyse	and mix-	problems and	problems and	places, as well	to problems and
and find	problems of	mix-problems	mix-problems	as be aware of	mix-problems
answers to	cardinal	of cardinal	of cardinal	validity of the	of cardinal
problems	numbers not	numbers not	numbers and 0,	answers.	numbers,
and mix-	exceeding	exceeding	as well as be	3.Analyse and	fractions mixed
problems of	1,000, and 0,	100,000, and	aware of	show method of	numbers,
cardinal	as well as be	0, as well as	validity of the	finding answers	decimals and
numbers	aware of	be aware of	answers, and	to problems and	percentages, as
not	validity of	validity of the	be able to	mix-problems of	well as be
exceeding	the answers.	answers.	construct	cardinal	aware of
100, and 0,			problems.	numbers,	validity of the
					answers.

operations, and application of operations for problem-solving

Grad	le level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Add, subtract, multiply and	1. Find square root and	-	1. Understand concepts and find
divide integral numbers for	cube root of integral		results of addition,
the purpose of problem-	numbers by separating		subtraction, multiplication
solving; be aware of validity	factors for the purpose		and division of real numbers;
of the answers; explain the	of problem-solving as		understand real numbers
results obtained from the	well as be aware of		expressed in exponential
addition, subtraction,	validity of the answers.		notation with rational indices,
multiplication, and division,	2. Explain results of		and real numbers expressed in
and explain the relationship	finding square root and		radicals.
between addition and	cube root of integral		
subtraction, and between	numbers, fractions and		
multiplication and division	decimals, and express		
of integral numbers.	the relationship between		
2. Add, subtract, multiply and	exponents and roots of		
divide fractions and	real numbers.		
decimals for the purpose of			
problem-solving; be aware			
of validity of the answers;			
explain the results of the			
addition, subtraction,			
multiplication and division;			
and explain relationships			
between addition and			
subtraction, and between			
multiplication and division			
of fractions and decimals.			

Standard M1.2: Understanding results of operations of numbers, relationships of

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
as well as	-	-	3. Add and	fractions,	the answers,	
aware of			subtract	decimals and	and can	
validity of			fractions with	percentages, as	construct	
the			same	well as aware of	problems	
answers.			denominator.	validity of the	involving	
				answers, and	cardinal	
				can construct	numbers.	
				problems		
				involving		
				cardinal		
				numbers.		

operations, and application of operations for problem-solving

G	Grade level indicators			
Grade 7	Grade 8	Grade 9	Grade 10-12	
3. Explain results of	-	-	-	
expression in				
exponential notation				
of integral numbers,				
ratios and decimals.				
4. Multiply and divide				
real numbers in the				
form of exponents				
with the same bases				
and integer indices.				

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	1. Make	1. Make	
				approximate	approximate	
				estimates of	estimates of	
				integers of	various	
				10, 100 and	integers of	
				1,000 of	cardinal	
				cardinal	numbers,	
				numbers,	which can be	
				which can be	applied.	
				applied.	2. Make estimates	
					of decimals of	
					not more than 3	
					places.	

	Grade level indicators				
Grade 7	Grade 8	Grade 9	Grade 10-12		
1. Use estimation	1. Find estimates of	-	1. Find estimates of real numbers		
appropriately in	square root and cube		expressed in radicals and real		
various situations, as	root of real numbers,		numbers expressed in		
well as for	which can be applied		exponents through		
considering validity of	for problem-solving,		appropriate calculation		
answers reached	as well as be aware		methods.		
through calculation.	as validity of the				
	answers.				

Standard M1.4: Understanding of numerical system and application of numerical

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-		-	-		 1. Use communicative, associative and distributive properties in calculation. Find highest common factor (H.C.F.) and lowest common multiples (L.C.M.) of cardinal numbers. 	

properties

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Apply knowledge and	1. Explain relationships	-	1. Understand properties of real
properties of integers	between real		numbers relating to addition
for problem-solving.	numbers, rational		and multiplication, equality
	numbers, and		and inequality, which can be
	irrational numbers.		applied.

Strand 2: Measurement

Standard M2.1: Understanding the basics of measurement; ability to measure and

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell length,	1. Tell length	1. Tell length in	1. Tell the	1. Tell the	1. Explain a route
weight,	in metres	metres,	relationship	relationship	or indicate
volume,	and	centimetres and	between	between	positions of
and	centimetres,	millimetres by	measuring	measuring	various objects
capacity by	and compare	using appropriate	units for	units for	by specifying
using non-	length by	measuring tools,	length,	length,	direction and
standard	using the	and compare	weight,	weight and	real distance
units of	same unit.	length.	volume or	volume or	from pictures,
measure.	2. Tell weight	2. Tell weight in	capacity and	capacity.	maps and
2. Tell	in	kilogrammes	time.	2. Find the	diagrams.
period of	kilogrammes	and grammes	2. Find area of	perimeter of	2. Find the
time,	and grammes,	by using	rectangle.	quadrilaterals	area of
number and	and compare	appropriate	3. Tell the time	and triangles.	quadrilateral.
names of	weight by	weighing	on a clock	3. Find the area	3. Find the
days of the	using the	machine, and	dial; read and	of rectangles	circumference
week.	same unit.	compare weights.	write the time	and triangles.	and area of
	3. Tell volume	3. Tell volume	by using	4. Measure the	circles.
	and capacity	and capacity in	numerals; and	size of angle.	
	in litres, and	litres and	tell length of	5. Find volume	
	compare	millilitres by	time.	or capacity of	
	volume and	using	4. Estimate	cuboids.	
	capacity.	appropriate	length, weight		
		measuring	and volume or		
		tools, and	capacity.		
		compare weight			
		and capacity by			
		using the same			
		units.			

estimate the size of objects to be measured

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Compare measuring	1. Find the surface	1. Apply knowledge of
	units for length and	area of prisms and	trigonometric ratio of angles
	area of the same and	cylinders.	in estimating distance and
	different systems and	2. Find the volume of	height.
	choose appropriate	prisms, cylinders,	
	measuring units.	pyramids, cones and	
	2. Appropriately	spheres.	
	estimate time,	3. Compare units for	
	distance, area,	measuring volume or	
	volume and weight,	capacity of the same	
	and explain the	or different systems	
	method used for	and choose	
	estimation.	appropriate units of	
	3. Appropriately choose	measure.	
	estimation for	4. Appropriately use	
	measurement in	estimation for	
	various situations.	measurement in	
		various situations.	

Strand 2: Measurement

Standard M2.1: Understanding the basics of measurement; ability to measure and

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	4. Tell total	4. Tell the time on	-	-	-
	amount of	a clock dial			
	money from	(period of 5			
	coins and	minutes); read,			
	bank notes.	write and tell			
	5. Tell the time	the time by			
	on a clock	using numerals.			
	dial (period	5. Tell the			
	of 5	relationship			
	minutes).	between			
	6. Tell the	measuring units			
	days, months	for length,			
	and year	height and time.			
	from a	6. Read and write			
	calendar.	amount of			
		money by using			
		numerals.			

estimate the size of objects to be measured

	Grade level indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	-	-

Strand 2: Measurement

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Standard M2.2:	Solvi
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2: Solving measurement problems

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	1. Solve	1. Solve problems	1. Solve	1. Solve	1. Solve problems
	problems	involving	problems	problems	involving area
	involving	measurement of	involving	involving area	and perimeter
	measurement	length, weight,	measurement	and perimeter	of quadrilaterals
	of length,	volume, money	of length,	of	and circles.
	weight,	and time.	weight,	quadrilaterals	2. Solve problems
	volume and	2. Read and keep	volume, money	and triangles.	involving
	money.	record of	and time.		volume and
		income and	2. Read and keep		capacity of
		expenditure.	record of		cuboids.
		3. Read and keep	income and		3. Draw diagrams
		record of	expenditure.		showing
		activities or	3. Read and keep		positions of
		events,	record of		various objects
		specifying the	activities or		and diagrams
		time.	events,		showing travel
			specifying the		routes.
			time.		

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Apply knowledge of	1. Apply knowledge	1. Solve problems on length and
	length and area for	of length and area	height by applying
	problem-solving in	for problem-solving	trigonometric ratio.
	various situations.	in various situations	

Strand 3: Geometry

Standard M3.1: Ability to explain and analyse two-dimensional and three-dimensional

	geometric figures				
	[Grade lev	vel indicators	[
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Distinguish	1. Identify	1. Identify two-	1. Identify kind,	1. Identify	1. Identify kinds
triangles,	two-	dimensional	name and	characteristics	of two-
quadrilaterals,	dimensional	geometric	components of	and	dimensional
circles and	geometric	figures that are	angles and	differentiate	geometric
ellipses.	figures	components of	write symbols.	between	figures that are
	whether in	an object in the	2. Can identify	various kinds	components of
	the form of	form of a three-	which pair of	of three-	three-
	triangles,	dimensional	straight lines or	dimensional	dimensional
	quadrilaterals,	geometric	parts of	geometric	geometric
	circles or	figure.	straight lines	figures.	figures.
	ellipses.	2. Identify two-	form a parallel,	2. Identify	2. Identify
	2. Identify	dimensional	as well as use	characteristics,	characteristics
	three-	geometric	symbols to	relationship	of diagonals in
	dimensional	figures with axis	indicate kind	and	various kinds of
	figures	of symmetry	of parallel.	differentiate	quadrilaterals.
	whether in	from a given	3. Identify	between	3. Identify which
	the form of	figure.	components of	various kinds	pair of straight
	cuboids,	3. Write linear	a circle.	of	lines is parallel.
	spheres or	points, straight	4. Can identify	quadrilaterals.	
	cylinders.	lines, rays, parts	which figure or	3. Identify	
	3. Distinguish	of straight lines,	which part of	characteristics,	
	between	angles and	an object has	components,	
	rectangles	symbols.	the form of a	relationships	
	and cuboids,		rectangle, and	and	
	and between		can identify	differentiate	
	circles and		whether it is a	between	
	spheres.		square or a	various kinds	
			rectangle.	of triangles.	

geometric figures

Grad	le level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Construct and explain	-	1. Explain	-
steps of basic geometric		characteristics and	
construction.		properties of	
2. Construct two-		prisms, pyramids,	
dimensional geometric		cylinders, cones	
figures by using basic		and spheres.	
geometric construction,			
and explain steps of			
construction without			
emphasizing proof.			
3. Search for, observe and			
project about geometric			
properties.			
4. Explain characteristics of			
three-dimensional			
geometric figures from			
a given image.			
5. Identify two-dimensional			
images from front view			
and side view of a given			
three-dimensional			
geometric figure.			

Strand 3: Geometry

Standard M3.1: Ability to explain and analyse two-dimensional and three-dimensional

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	5. Can identify	-	-
			which two-		
			dimensional		
			geometric		
			figures have		
			axes of		
			symmetry, and		
			identify the		
			number of		
			axes.		

geometric figures.

G	Grade level indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
6. Draw or create a	-	-	-
three-dimensional			
figure from a cube,			
when given two-			
dimensional image			
from front view, side			
view and top view.			

Strand 3: Geometry

Standard M3.2: Ability for visualization, spatial reasoning and application of

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	1. Draw two-	1. Draw two-	1. Use geometric	1. Construct	1. Create cuboids,
	dimensional	dimensional	figures to	angles by	cylinders,
	geometric	geometric	create various	using a	cones, prisms
	figures by	figures given	designs.	protractor.	and pyramids
	using	in various		2. Create	from nets of
	geometric	models.		rectangles,	three-
	models.	2. Identify various		triangles, and	dimensional
		geometric		circles.	geometric
		figures in the		3. Create	figures or two-
		surroundings.		parallels by	dimensional
				using a set	geometric
				square.	figures given.
					2. Construct
					various kinds of
					quadrilaterals.

geometric models for problem-solving

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Use properties of	1. Use properties of	-
	congruence of	similar triangles for	
	triangles and those of	reasoning and	
	parallels for reasoning	problem-solving.	
	and problem-solving.		
	2. Use Pythagoras'		
	Theorem and converse		
	for reasoning and		
	problem-solving.		
	3. Understand and apply		
	geometric		
	transformation		
	through translation,		
	reflection and rotation.		
	4. Identify images from		
	translation, reflection		
	and rotation of		
	models, and explain		
	the method of		
	obtaining the images		
	when given such		
	models and images.		

Strand 4: Algebra

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell the	1. Tell the	1. Tell the	1. Tell the	1. Tell the	1. Solve problems
numbers	numbers and	numbers and	numbers and	numbers and	involving
and	relations in	relations in	relations in	relations in	pattern.
relations in	patterns of	patterns of	patterns of	patterns of	
patterns of	numbers that	numbers that	number which	given	
numbers	increases by	increases by 3s,	increases or	numbers.	
that	5s, 10s and	4s, 25s and 50s,	decreases in		
increases	100s , and	and decreases	equal amount		
by 1s and	decreases by	by 3s, 4s, 5s,	each time.		
2s, and	2s, 10s and	25s and 50s and	2. Identify the		
decreases	100s.	in repeated	forms and		
by 1s.	2. Identify the	patterns.	relations in		
2. Identify the	forms and	2. Identify the	patterns of a		
forms and	relations in	forms and	given form.		
relations in	patterns in	relations in			
patterns in	which forms	patterns in			
which	are related in	which forms are			
forms are	one of the	related in two of			
related in	following	the following			
one of the	respects:	respects: shape,			
following	shape, size	size or colour.			
respects:	or colour.				
shape, size					
or colour.					

Standard M4.1:	Understanding and ability to analyse pattern, relation and function	t
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(Grade level indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Analyse and explain	-	-	1. Have concept of sets and their
relations of a given			operation.
pattern.			2. Understand and can use
			reasoning through induction
			and deduction.
			3. Have concept of relation and
			function, and show relation
			and function through various
			methods, e.g., tables, graphs
			and equations.
			4. Understand concept of
			sequence and can express
			general terms of finite
			sequence.
			5. Understand concepts of
			arithmetic and geometric
			sequences, and can express
			general terms of arithmetic
			and geometric sequences,
			which can be applied.

Strand 4: Algebra

Standard M4.2:Ability to apply algebraic expressions, equations, inequalities, graphs
and other mathematical models to represent various situations, as well

• , , ,•	1	1	C 11	1 .
as interpretation	and	application	for probl	em-solving
us merpretation	unu	application	101 p1001	om borving

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	1. Write an
					equation based
					on a situation or
					problem, solve
					the equation
					and check the
					answer.

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Solve simple linear	1. Solve problems	1. Apply knowledge of	1. Draw Venn-Euler diagrams
equations with one	involving linear	linear inequalities with	that can be applied for
variable.	equations with one	one variable for	problem-solving.
2. Write linear equations	variable, and be	problem-solving, as	2. Check validity of reasoning
with one variable	aware of the	well as be aware of the	by applying Venn-Euler
from simple situations	validity of the	validity of the answer.	diagrams.
or problems.	answer.	2. Write a graph showing	3. Solve equations and
3. Solve problems	2. Find coordinates of	link of two sets of	inequalities with one
involving simple	points and explain	quantities with linear	variable (degree not more
linear equations with	characteristics of	relationship.	than two).
one variable, as well	geometric figures	3. Draw graphs of linear	4. Construct relations or
as be aware of the	obtained from	equations with two	functions from situations or
validity of the answer.	translation,	variables.	problems that can be
4. Draw a graph on the	reflection and	4. Read and interpret	applied for problem-
plane of the	rotation on the	meaning of systems of	solving.
rectangular coordinate	plane of the	linear equations with	5. Apply graphs of equations,
system showing the	rectangular	two variables and other	inequalities and functions
relationship of the two	coordinate system.	graphs.	in problem-solving.
sets of quantities		5. Solve systems of linear	6. Understand the concepts of
given.		equations with two	the sums of the first <i>n</i> terms
5. Read and interpret the		variables which can be	of arithmetic series, and
meaning of the graph		applied for problem-	find the sums of arithmetic
on the plane of the		solving, as well as be	series by using applicable
rectangular coordinate		aware of the validity of	formulas.
system given.		the answer.	

Strand 5: Data Analysis and Probability

Standard M5.1: Understanding and ability to apply statistical methodology for data

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	1. Collect and	1. Collect and	1. Draw bar	1. Read data from	
		categorize data	categorize	charts with	line graphs and	
		about oneself	data.	shortening of	pie-charts.	
		and the	2. Read data	lines to	2. Draw	
		surroundings in	from	represent	comparative bar	
		daily life.	pictograms,	numbers.	charts and line	
		2. Read data from	bar charts and	2. Read data	graphs.	
		simple	tables.	from		
		pictograms and	3. Draw	comparative		
		bar charts.	pictograms	bar charts.		
			and bar			
			charts.			

analysis

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Read and present data	1. Determine an issue	1. Understand simple
	by using pie-charts.	and write questions	methodology for opinion
		about various	polling.
		problems or	2. Find arithmetic mean, median,
		situations, as well as	mode, standard deviation and
		set appropriate	percentile of data.
		methods for study	3. Select central tendency
		and for data	suitable to data and
		collection.	objectives.
		2. Find arithmetic	
		mean, median and	
		mode of non-	
		frequency	
		distribution data, and	
		make appropriate	
		selection for	
		utilization.	
		3. Present data in	
		appropriate forms.	
		4. Read, interpret and	
		analyse the data	
		obtained from	
		presentations.	

Strand 5: Data Analysis and Probability

Standard M5.2: Application of statistical methodology and knowledge of probability

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	1. Can tell	1. Explain events
				whether a	by using terms
				described	with similar
				situation:	meaning to:
				- will definitely	- will definitely
				happen;	happen;
				- may or may	- may or may
				not happen;	not happen;
				- will definitely	- will definitely
				not happen.	not happen.

for valid estimation

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Can explain which,	1. Can explain that,	1. Find probability of	1. Apply opinion poll results for
among events	among events	events from random	projecting events that may
described, are more	described:	sampling with	happen in given situations.
likely to happen.	- which will definitely	equal probability	2. Explain random sampling,
	happen;	for each result, and	events, probability of events,
	- which will definitely	apply knowledge of	and apply results obtained for
	not happen;	probability for valid	projecting events that may
	- which are more	projection of	happen in given situations.
	likely to happen.	events.	

Strand 5: Data Analysis and Probability

Standard M5.3: Application of knowledge of statistics and probability for decision-

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	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	-	-	

making and problem-solving

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	1. Apply knowledge	1. Apply data, information and
		of statistics and	statistics for decision-making
		probability for	and problem-solving.
		decision-making in	2. Apply knowledge of
		various situations.	probability for decision-
		2. Discuss possible	making and problem-solving.
		errors in presenting	
		statistical data.	
Strand 6: Mathematical Skills and Processes

Standard M6.1: Capacity for problem-solving, reasoning, and communication; communication and presentation of mathematical concepts; linking various bodies of mathematical knowledge and linking mathematics with other disciplines; and attaining ability for creative thinking

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Apply	1. Apply	1. Apply diverse	1. Apply diverse	1. Apply	1. Apply diverse	
diverse	diverse	methods for	methods for	diverse	methods for	
methods for	methods for	problem-	problem-	methods for	problem-	
problem-	problem-	solving.	solving.	problem-	solving.	
solving.	solving.	2. Appropriately	2. Appropriately	solving.	2. Appropriately	
2. Appropriately	2. Appropriately	apply	apply	2. Appropriately	apply	
apply	apply	mathematical	mathematical	apply	mathematical	
mathematical	mathematical	knowledge,	and	mathematical	and	
knowledge,	knowledge,	skills and	technological	and	technological	
skills and	skills and	processes for	knowledge,	technological	knowledge,	
processes for	processes for	problem-solving	skills and	knowledge,	skills and	
problem-	problem-	in various	processes for	skills and	processes for	
solving in	solving in	situations.	problem-	processes for	problem-	
various	various	3. Suitably	solving in	problem-	solving in	
situations.	situations.	provide	various	solving in	various	
3. Suitably	3. Suitably	reasoning for	situations.	various	situations.	
provide	provide	decision-making	3. Suitably	situations.	3. Suitably	
reasoning for	reasoning for	and	provide	3. Suitably	provide	
decision-	decision-	appropriately	reasoning for	provide	reasoning for	
making and	making and	present the	decision-	reasoning for	decision-	
appropriately	appropriately	conclusions	making and	decision-	making and	
present the	present the	reached.	appropriately	making and	appropriately	
conclusions	conclusions		present the	appropriately	present the	
reached.	reached.		conclusions	present the	conclusions	
			reached.	conclusions	reached.	
				reached.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Apply diverse	1. Apply diverse	1. Apply diverse	1. Apply diverse methods for
methods for problem-	methods for	methods for	problem-solving.
solving.	problem-solving.	problem-solving.	2. Appropriately apply
2. Appropriately apply	2. Appropriately apply	2. Appropriately apply	mathematical and
mathematical and	mathematical and	mathematical and	technological knowledge,
technological	technological	technological	skills and processes for
knowledge, skills and	knowledge, skills and	knowledge, skills	problem-solving in various
processes for	processes for	and processes for	situations.
problem-solving in	problem-solving in	problem-solving in	3. Suitably provide reasoning for
various situations.	various situations.	various situations.	decision-making and
3. Suitably provide	3. Suitably provide	3. Suitably provide	appropriately present the
reasoning for	reasoning for	reasoning for	conclusions reached.
decision-making and	decision-making and	decision-making	4. Accurately and succinctly use
appropriately present	appropriately present	and appropriately	mathematical language and
the conclusions	the conclusions	present the	symbols for communication,
reached.	reached.	conclusions	communication of concepts
4. Accurately and	4. Accurately and	reached.	and presentation.
succinctly use	succinctly use		5. Link various bodies of
mathematical	mathematical		mathematical knowledge and
language and symbols	language and		link mathematical knowledge,
for communication of	symbols for		principles and processes with
concepts and	communication,		those of other disciplines.
presentation.	communication of		
	concepts and		
	presentation.		

Strand 6: Mathematical Skills and Processes

Standard M6.1: Capacity for problem-solving, reasoning and communication; communication and presentation of mathematical concepts; linking various bodies of mathematical knowledge and linking mathematics with other disciplines; and attaining ability for creative thinking

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
4. Accurately	4. Accurately	4. Accurately use	4. Accurately use	4. Accurately	4. Accurately use	
use	use	mathematical	mathematical	use	mathematical	
mathematical	mathematical	language and	language and	mathematical	language and	
language and	language and	symbols for	symbols for	language and	symbols for	
symbols for	symbols for	communication,	communication,	symbols for	communication,	
communication	communication,	communication	communication	communication,	communication	
of concepts	communication	of concepts and	of concepts	communication	of concepts and	
and	of concepts and	presentation.	and	of concepts	presentation.	
presentation.	presentation.	5. Link various	presentation.	and	5. Link various	
5. Link various	5. Link various	bodies of	5. Link various	presentation.	bodies of	
bodies of	bodies of	mathematical	bodies of	5. Link various	mathematical	
mathematical	mathematical	knowledge, and	mathematical	bodies of	knowledge, and	
knowledge,	knowledge,	link	knowledge,	mathematical	link	
and link	and link	mathematics	and link	knowledge,	mathematics	
mathematics	mathematics	with other	mathematics	and link	with other	
with other	with other	disciplines.	with other	mathematics	disciplines.	
disciplines.	disciplines.	6. Attain ability	disciplines.	with other	6. Attain ability	
6. Attain	6. Attain ability	for creative	6. Attain ability	disciplines.	for creative	
ability for	for creative	thinking.	for creative	6. Attain ability	thinking.	
creative	thinking.		thinking.	for creative		
thinking.				thinking.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
5. Link various bodies	5. Link various bodies	4. Accurately and	6. Attain ability for creative
of mathematical	of mathematical	succinctly use	thinking.
knowledge, and link	knowledge, and link	mathematical	
mathematical	mathematical	language and	
knowledge, principles	knowledge,	symbols for	
and processes with	principles and	communication,	
those of other	processes with those	communication of	
disciplines.	of other disciplines.	concepts and	
6. Attain ability for	6. Attain ability for	presentation.	
creative thinking.	creative thinking.	5. Link various bodies	
		of mathematical	
		knowledge, and	
		link mathematical	
		knowledge,	
		principles and	
		processes with	
		those of other	
		disciplines.	
		6. Attain ability for	
		creative thinking.	

Learning Area of Science

Why it is necessary to learn science

Science plays an important role in our present and future world communities, as it concerns all of us in our daily lives and livelihoods. Science also involves technologies, instruments, devices and various products at our disposal, which facilitate our life and work. All these benefit from our scientific knowledge, which is combined with creativity as well as other disciplines. Science enables us to develop our thinking skills in various respects—logical, creative, analytical and critical. It also enables us to acquire essential investigative skills for seeking knowledge, and allows the ability for systematic problem-solving, and for verifiable decision-making based on diverse data and evidences. Science is essential to the modern world, which is intrinsically a knowledge society. All of us therefore need to be provided with scientific knowledge so as acquire knowledge and understanding of nature and man-made technologies that can be applied through logical, creative and moral approaches.

What is learned in science

The learning area of science is aimed at enabling learners to learn this subject with emphasis on linking knowledge with processes, acquiring essential skills for investigation, building knowledge through investigative processes, seeking knowledge and solving various problems. Learners are allowed to participate in all stages of learning, with activities organized through diverse practical work suitable to their levels. The main content areas are prescribed as follows:

• Living Things and Processes of Life: living things; basic units of living things; structures and functions of various systems of living things and processes of life; biodiversity; genetic transmission; functioning of various systems of living things, evolution and diversity of living things and biotechnology

• Life and the Environment: diverse living things in the environment; relationship between living things and the environment; relationships among living things in the eco-system; importance of natural resources, and utilization and management of natural

resources at local, national and global levels; factors affecting survival of living things in various environments

• Substances and Properties of Substances: properties of materials and substances; binding forces between particles; changes in the state of substances; solution formation and chemical reaction of substances, chemical equations and separation of substances

• Forces and Motion: nature of electromagnetic, gravitational and nuclear forces; forces acting on objects; motion of objects; frictional forces; moment of variety of motions in daily life

• Energy: energy and life; energy transformation; properties and phenomena of light, sound, electrical circuits, electromagnetic waves, radioactivity and nuclear reactions; interrelationship between substances and energy; energy conservation; effects of utilization of energy on life and the environment

• Change Process of the Earth: structure and components of the Earth; geological resources; physical properties of soil, rock, water and air; properties of the Earth's surface and atmosphere; change processes of the Earth's crust; geological phenomena; factors affecting atmospheric change

• Astronomy and Space: evolution of the solar system; galaxies; the universe; interrelationship and effects on living things on Earth; relationship between the sun, the moon and Earth; importance of space technology

• Nature of Science and Technology: scientific processes; investigation for seeking knowledge, problem-solving, and scientific mind

Learners' Quality

Grade 3 graduates

• Understand general characteristics of living things and the existence of diverse living things in the local environment

• Understand the phenomena and changes in materials in the surroundings; natural forces; forms of energy

• Understand physical properties of soil, rock, water, air, the sun and stars

• Pose questions about living things, materials and objects as well as various phenomena in the surroundings; observe, explore and verify with the use of simple instruments, and communicate what has been learned through story-telling, writing or drawing pictures

• Apply scientific knowledge and processes in life and search for additional knowledge; implement the projects or work assignments as prescribed or in accord with their interests

• Show enthusiasm, interest in learning and appreciation of the environment around them; show kindness and care and concern for other living things

• Carry out assignments with determination, care, economy and honesty until successfully complete, and work happily with others

Grade 6 graduates

• Understand structure and function of various systems of living things and relationships among diverse living things in different environments

• Understand properties and distribution of groups of materials; states of substances; properties of substances and causing change in substances; substances in daily life; simple methods of separating substances

• Understand effects of force acting on objects; pressure; basic principles of buoyancy; properties and basic phenomena of light, sound and electrical circuits.

• Understand characteristics, components and properties of the Earth's surface and atmosphere; relationship between the sun, Earth and the moon, which affects natural phenomena

• Pose questions about what is to be learned; give estimates of several possible answers; plan, investigate and verify by applying tools and devices; analyse data and communicate knowledge obtained from investigation and verification

• Apply scientific knowledge and processes in life and search for additional knowledge; implement projects or tasks as prescribed or in accord with their interests

• Show interest, determination, responsibility, care and honesty in seeking knowledge

• Are aware of the value of knowledge of science and technology; show appreciation, honour and respect of inventors' rights to their achievements

• Show recognition, care and concern as evident in conscientious behaviour for utilization, protection and conservation of natural resources and the environment

• Work constructively with others; be ready to express their opinions and recognise views of others

Grade 9 graduates

• Understand characteristics and main components of cells of living things; relationship of function in various systems; genetic transmission; biotechnology; diversity of living things; living things' behaviour and responses to stimuli in the environment.

• Understand components and properties of solutions; pure substances; transformation of substances through change of their state; solution forming and chemical reaction.

• Understand frictional forces; moment of forces; variety of motion in daily life; rules for energy conservation; energy transfer; heat equilibrium; reflection, refraction and density of light.

• Understand relationship between electrical quantities; principles of electrical domestic circuits; electrical energy and basic principles of electronic circuits

• Understand change processes of the Earth's crust; geological sources; factors affecting atmospheric change; reactions within the solar system and effects on various things on Earth; importance of space technology

• Understand relationship between science and technology; development and effects of development on quality of life and the environment

• Pose questions with prescription and control of variables; give estimates to several possible answers; plan, investigate, verify, analyse and evaluate data conformity and create bodies of knowledge

• Communicate thoughts and knowledge obtained from investigation and verification through verbal or written presentation, display, or application of information technology

• Apply scientific and technological knowledge and processes in life and seek additional knowledge; create projects or work pieces in accord with their interests

• Show interest, determination, responsibility, care and honesty in investigating and seeking knowledge by applying instruments and methods that provide reliable results

• Are aware of the value of scientific and technological knowledge applied in daily life and livelihood; show appreciation, honour and respect of inventors' rights to their achievements

• Show recognition, care and concern, as well as appreciate behaviour for utilization and conservation of natural resources and local environment

• Work constructively with others; be ready to express opinions and acknowledge views of others

Grade 12 graduates

• Understand maintenance of cell equilibrium and mechanisms for maintaining equilibrium of living things

• Understand processes of genetic transmission, variation, mutation, evolution of living things and factors affecting their survival in various environments

• Understand processes, importance and effects of biotechnology on human beings, living things and the environment

• Understand kinds of important particles that form components of atomic structures, sequencing of elements in the Periodic Table, chemical reactions and writing chemical equations, and factors affecting rates of chemical reaction

• Understand kinds of binding forces between particles and various properties of substances that are related to binding forces

• Understand the origin of petroleum, natural gas separation and fractional distillation of crude oil, the application of petroleum products for useful purposes and their effects on living things and the environment

• Understand kinds, properties and important reactions of polymers and biomolecular substances

• Understand relationships between quantities involving various types of motion; properties of mechanical waves; quantities of sound and hearing; properties, benefits and harms of electromagnetic waves, radioactivity and nuclear energy.

• Understand change processes of the Earth and geological phenomena affecting living things and the environment

• Understand origin and evolution of the solar system, galaxies, the universe, and the importance of space technology

• Understand how scientific knowledge can result in development of various kinds of technologies, and how technological development can result in discovery of advanced scientific knowledge, as well as the effects of technology on life, society and the environment

• Identify problems; pose questions for investigation and verification by prescribing relationships between various variables; search for data from various sources; propose several possible hypotheses; decide to investigate feasible hypotheses

• Plan processes of investigation and verification for problem-solving or answering questions; analyse and link relationships of various variables by applying mathematical equations or creating models from results or knowledge obtained from investigation and verification

• Communicate thoughts and knowledge obtained from investigation through verbal or written presentation, display or application of information technology

• Explain scientific knowledge and apply scientific processes for living and seeking additional knowledge; create projects or work pieces in accord with their interests

• Show interest, dedication, responsibility, care and honesty in investigating and seeking knowledge by applying instruments and methods that yield accurate and reliable results

• Are aware of the value of scientific and technological knowledge applied in daily life and livelihood; show appreciation, pride, respect, and make references to achievements and accomplishments resulting from local wisdom and development of modern technology

• Show recognition, care and concern as well as appreciative behaviour for utilization and conservation of natural resources and the environment; volunteer to cooperate with the community for protection and care for natural resources and local environment

• Show satisfaction and appreciation of abilities to discover knowledge, find answers or solve problems

• Work constructively with others; express opinions based on reliable references and sound reasoning resulting from scientific and technological development and application, bearing in mind moral obligation to society and the environment; and be ready to acknowledge views of others Strand 1: Living and Family

Standard Sc1.1: Understanding basic units of living things; relationship between structures an functions of living things, which are interlinked; investigative process for seeking knowledge; ability to communicate acquired knowledge that could be applied to one's life and care for living things

		Grade lev	el indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Compare	1. Experiment	-	1. Experiment	1. Observe and	1. Explain human
differences	and explain		and explain	specify	growth from
between living	that water		functions of	components of	birth to
things and	and light are		bundles and	flowers and	adulthood.
non-living	essential		stomas of	structures	2. Explain
things.	factors for		plants.	involved in	interrelated
2. Observe and	plan life.		2. Explain that	reproduction	functioning of
explain	2. Explain that		water, carbon	of	digestive,
characteristics	nutrients,		dioxide, light	angiosperms.	respiratory and
and functions	water and air		and	2. Explain	circulatory
of external	are essential		chlorophyll	reproduction	systems of
structures of	factors for		are some of	of flowers,	human beings.
plants and	the life and		the factors	plants, plant	3. Analyse
animals.	growth of		essential for	propagation,	nutrients and
3. Observe and	plants and		growth and	and apply	discuss body
explain	animals, and		photosynthesis.	acquired	requirements
characteristics,	apply		3. Experiment	knowledge for	for nutrients in
functions and	acquired		and explain	useful	proportions
importance of	knowledge		responses of	purposes.	suitable to
external human	for useful		plants to light,		gender and
organs as well	purposes.		sound and		age.
as health care.			touch.		

	Grade level indicators				
Grade 7	Grade 8	Grade 9	Grade 10-12		
1. Observe and explain	1. Explain structures and	-	1. Experiment and explain		
forms and	functions of digestive,		maintenance of cell		
characteristics of cells	circulatory, respiratory,		equilibrium of living		
of unicellular and	excretory and		things		
multicellular	reproductive systems of		2. Experiment and explain		
organisms.	human beings and		mechanisms for		
2. Observe and compare	animals as well as nervous		maintenance of water		
essential components	system of human beings.		equilibrium in plants.		
of plant and animal	2. Explain relationship of		3. Search for data and		
cells.	various systems of human		explain mechanisms for		
3. Experiment and explain	beings and apply		control of equilibrium of		
functions of essential	acquired knowledge for		water, minerals and		
components of plant	useful purposes.		temperature by human		
and animal cells.	3. Observe and explain		beings and other animals,		
4. Experiment and explain	behaviour of human		and apply acquired		
processes of passing	beings and animals		knowledge for useful		
substances through	responding to internal and		purposes.		
cells by diffusion and	external stimuli.		4. Explain the body's		
osmosis.	4. Explain principles and		immune system, and		
5. Experiment to find	effects of		apply acquired		
some factors essential	biotechnological		knowledge for health		
for photosynthesis of	application for		care.		
plants, and explain that	propagation, improved				
light, chlorophyll	breeding and increased				
carbon dioxide and	productivity of animals,				
water are essential for	and apply acquired				
photosynthesis.	knowledge for useful				
	purposes.				

Strand 1: Living and Family

Standard Sc1.1: Understanding basic units of living things; relationship between structures and functions of living things, which are interlinked; investigative process for seeking knowledge; ability to communicate acquired knowledge that could be applied to one's life and care for living things

		Grade leve	el indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	3. Explore and	-	4. Explain	3. Explain life	-
	explain		behaviour of	cycles of some	
	abilities of		animals	kinds of	
	plants and		responding to	angiosperms.	
	animals to		light,	4. Explain	
	respond to		temperature	animal	
	light,		and touch,	reproduction	
	temperature		and apply	and	
	and touch.		acquired	propagation.	
	4. Explore and		knowledge	5. Explain life	
	explain the		for useful	cycles of some	
	ability of the		purposes.	kinds of	
	human body			animals and	
	to respond to			apply acquired	
	light,			knowledge for	
	temperature			useful	
	and touch.			purposes.	
	5. Explain the				
	factors				
	essential for				
	the life and				
	growth of				
	human				
	beings.				

Grade le		Key stage indicators	
Grade 7	Grade 8	Grade 9	Grade 10-12
6. Experiment and explain results	5. Experiment, analyse	-	-
obtained concerning photosynthesis	and explain nutrients		
by plants.	in foods with energy		
7. Explain importance of the	quantity and		
photosynthesis process of plants on	proportion suitable to		
living things and the environment.	gender and age.		
8. Experiment and explain groups of	6. Discuss effects of		
cells involved in transportation of	addictive substances		
water in plants.	on various systems of		
9. Observe and explain structures of	the body, and		
the systems for transportation of	guidelines for self-		
water and nutrients in plants.	protection from		
10. Experiment and explain floral	addictive substances.		
structures involved in plant			
reproduction.			
11. Explain sexual reproduction			
processes of angiosperms and plant			
asexual reproduction processes by			
referring to various parts for			
propagation.			
12. Experiment and explain responses			
of plants to light, water and touch.			
13. Explain principles and effects of			
biotechnological application for			
propagation, improved breeding			
and increased productivity of			
plants, and apply acquired			
knowledge for useful purposes.			

Strand 1: Living and Family

Standard Sc1.2: Understanding of process and importance of genetic transmission; evolution of living things; biodiversity; application of biotechnology affecting humans and the environment; investigative process for seeking knowledge and scientific mind; communicating knowledge that could be applied for useful purposes

		Grade level	l indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify	1. Explain	1. Discuss various	-	1. Explore, compare and	-
characteristi	benefits of	characteristics of		specify their own	
cs of living	plants and	living things in the		characteristics and	
things in the	animals in	immediate		those of their family	
local area,	the local	environment.		members.	
and	area.	2. Compare and		2. Explain genetic	
categorise		specify similar		transmission of each	
them by		characteristics of		generation of living	
using		parents and		things.	
external		children.		3. Distinguish between	
characteristi		3. Explain that the		flowering and non-	
cs as		similar		flowering plants.	
criteria.		characteristics of		4. Specify	
		parents and		characteristics of	
		children originate		monocellular and	
		from genetic		multicellular plants by	
		transmission, and		using their external	
		apply the		organs as criteria.	
		knowledge gained		5. Categorise animals	
		for useful purposes.		into groups by using	
		4. Search for data and		external characteristics	
		discuss kinds of		and some internal	
		extinct living things		characteristics as	
		and kinds that exist		criteria.	
		in the present.			

	Grade level i	ndicators	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
Grade 7		Grade 9 1. Observe and explain characteristics of chromosomes with genetic units or genes in their nuclei. 2. Explain the importance of genetic material or DNA and the process of transmitting genetic characteristics. 3. Discuss genetic diseases resulting from abnormality of genes and chromosomes, and	Grade 10-12 1. Explain the processes of genetic transmission, transformation, mutation and the origin of biodiversity. 2. Search for data and discuss effects of biotechnology on human beings and the environment, and apply the knowledge gained for useful purposes. 3. Search for data and discuss
		 apply the knowledge gained for useful purposes. 4. Explore and explain biodiversity in the local area enabling living things to maintain equilibrium in their lives. 5. Explain effects of biodiversity on human beings animals, plants and the environment. 6. Explain effects of biotechnology on living of human beings and the environment. 	effects of biodiversity on human beings and the environment. 4. Explain natural selection processes and their effects on diversity of living things.

Strand 2: Life and the Environment

Standard Sc2.1: Understanding of local environment; relationship between the environment and living things; relationship between living things in the eco-system; investigative process for seeking knowledge and scientific mind; and communicating acquired knowledge that could be applied for useful purposes

		Grade lev	el indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
		1. Explore the			1. Explore and
		environment in			discuss
		the local area			relationship of
		and explain the			groups of living
		relationship			things in
		between living			various habitats.
		things and the			2. Explore
		environment.			relationship of
					living things in
					terms of food
					chain and food
					web.
					3. Search for data
					and explain
					relationships
					between the
					lives of living
					things and the
					environment.

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
		1. Explore various	1. Explain the equilibrium of the
		eco-systems in the	eco-system.
		local area and	2. Explain processes of change
		explain	and replacement of living
		relationships of the	things.
		components within	3. Explain the importance of
		the eco-systems.	biodiversity and propose
		2. Analyse and	guidelines for providing care
		explain relationship	and preservation.
		of energy	
		transmission in	
		living things in	
		term of food chain	
		and food web.	
		3. Explain water and	
		carbon cycles and	
		their importance to	
		the eco-system.	
		4. Explain the factors	
		affecting change in	
		size of population	
		in the eco-system.	

Strand 2: Life and the Environment

Standard Sc2.2: Appreciating the importance of natural resources; utilization of natural resources at local, national and global levels; and application of knowledge for management of natural resources and local environment on a sustainable basis

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
-	-	1. Explore natural	-	-	1. Search for data and		
		resources and			discuss sources of		
		discuss utilization			natural resources in		
		of local natural			each local area		
		resources.			beneficial to living.		
		2. Specify utilization			2. Analyse effects of		
		of natural			population increase		
		resources			on utilization of		
		conducive to			natural resources.		
		creating local			3. Discuss effects on		
		environmental			living things from		
		problems.			environmental		
		3. Discuss and			change both due to		
		present ideas for			nature and due to		
		economical and			human beings.		
		cost-effective			4. Discuss guidelines		
		utilization of			for taking care of		
		natural resources			and preserving		
		and participate in			natural resources		
		the practice.			and the environment.		
					5. Participate in		
					providing care and		
					preservation of		
					natural resources in		
					the local area.		

	Grade level in	ndicators	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	1. Analyse the state of	1. Analyse the state and causes of
		problems concerning the	problems concerning the
		environment and natural	environment and natural
		resources in the local area,	resources at local, national
		and propose guidelines for	and global levels.
		problem-solving.	2. Discuss guidelines for
		2. Explain guidelines for	preventing and solving
		preserving the equilibrium of	problems concerning the
		the eco-system.	environment and natural
		3. Discuss sustainable	resources.
		utilization of natural	3. Plan and observe, preserve
		resources.	and develop the environment
		4. Analyse and explain	and natural resources.
		utilization of natural	
		resources in terms of the	
		Sufficiency Economy	
		Philosophy.	
		5. Discuss environmental	
		problems and propose	
		relevant guidelines for	
		problem-solving.	
		6. Discuss and participle in	
		providing care and	
		preserving the local	
		environment on a sustainable	
		basis.	

Strand 3: Substances and Properties of Substances

Standard Sc3.1: Understanding of properties of substances; relationship between properties of substances and structures and binding forces between particles; investigative process for seeking knowledge and scientific mind; and communicating acquired knowledge for useful purposes

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1.Observe and	1. Specify the	1. Classify the	-	1. Experiment	1. Experiment and	
specify	kinds and	kinds and		and explain	explain properties of	
apparent	compare	properties of		properties of	solids, liquids and	
characteristi	properties of	materials that		various kinds	gases.	
cs or	materials for	are		of materials	2. Categorise substances	
properties	making toys	components of		concerning	into groups by using	
of materials	and articles of	toys and		elasticity,	their state or other	
utilized for	everyday use.	articles of		hardness,	student-prescribed	
making toys	2. Choose	everyday use.		toughness,	criteria prescribed.	
or articles of	appropriate	2. Explain		heat	3. Experiment and	
everyday	and safe	utilization of		conductivity	explain separation of	
use.	materials and	each kind of		and density.	materials through	
2. Classify the	articles for use	material for		2. Search for	sifting, precipitation,	
materials	in daily life.	useful		data and	filtering, sublimation	
utilized for		purposes.		discuss	and evaporation.	
making toys				application	4. Explore and categorise	
or articles of				of materials	various substances	
everyday				in daily life.	used in daily life by	
use as well					using their properties	
as specify					and utilization for	
the criteria					useful purposes as	
for such					criteria.	
classification.					5. Discuss selection of	
					correct and safe	
					application of each	
					kind of substance.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Experiment and	1. Explore and explain	-	1. Search for data and explain
classify substances	components and		structure of atoms and nuclear
into groups by using	properties of elements		symbols of elements.
their texture or	and compounds.		2. Analyse and explain electronic
particle size as	2. Search for data and		configuration in atoms and
criteria and explain	compare properties of		relationship between electrons
properties of each	metallic, non-metallic		in outermost energy- level with
group of substances.	semi metallic and		properties of elements and
2. Explain properties	nuclear elements and		formation of reactions.
and transition of	apply the knowledge		3. Explain sequencing of
substances by using	gained for useful		elements and predict properties
particle arrangement	purposes.		of elements in the Periodic
models.	3. Experiment and		Table.
3. Experiment and	explain principles of		4. Analyse and explain formation
explain acid-base	substance separation		of chemical bonds in crystal
properties of	by applying methods		network and in molecules of
solutions.	of filtering,		substances.
4. Verify pH value of	crystallisation,		5. Search for data and explain
solutions, and apply	expunctions,		relationship between boiling
the knowledge	distillation and		point, melting point and state
gained for useful	chromatography, and		of substances with binding
purposes.	apply the knowledge		forces between particles of
	gained for useful		substances.
	purposes.		

Strand 3: Substances and Properties of Substances

Standard Sc3.2 : Understanding of principles and nature of change in the state of substances; solution formation; reaction; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

		Grade lev	el indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
		1. Experiment and			1. Experiment and
		explain effects			explain
		of change in			properties of
		objects when a			substances
		force acts on			when they
		them or upon			dissolve and
		heating and			change their
		cooling.			state.
		2. Discuss benefits			2. Analyse and
		and detriments			explain the
		that may arise			changes
		due to changes			resulting in
		in the objects.			transition of
					substances to
					new substances
					with different
					properties.
					3. Explain
					substance
					changes
					affecting living
					things and the
					environment.

	Grade level indicators		Key stage indicators
Grade 7	Grade 7 Grade 8 Grade 9		Grade 10-12
1. Experiment	1. Experiment and	-	1. Experiment, explain and write equations of
and explain	explain changes in		general chemical reactions found in daily
methods of	properties, mass and		life as well as explain effects of chemical
preparing	energy when		substances on living things and the
solutions with	substances have		environment.
density in	chemical reactions as		2. Experiment and explain the rates of
percentage,	well as explain factors		chemical reactions and factors affecting
and discuss	affecting the chemical		chemical reactions and apply the
application of	reactions.		knowledge gained for useful purposes.
knowledge	2. Experiment, explain		3. Search for data and explain the origin of
about solutions	and write chemical		petroleum, natural gas separation and
for useful	equations of reactions		fractional distillation of crude oil.
purposes.	of various substances,		4. Search for data and discuss application of
2. Experiment	and apply the		products from natural gas and fractional
and explain	knowledge gained for		distillation of crude oil for useful purposes
change of	useful purposes.		as well as effects of these products on
properties,	3. Search for data and		living things and the environment.
mass and	discuss effects of		5. Experiment and explain the origin of
energy of	chemical substances		polymers and their properties.
substances	and chemical		6. Discuss utilization of polymers for useful
when they	reactions on living		purposes as well as effects from production
change state	things and the		and utilization of polymers on living things
and dissolve.	environment.		and the environment.
3. Experiment	4. Search for data and		7. Experiment and explain the components,
and explain	explain proper and		benefits and some kinds of reactions of
factors	safe application of		carbohydrates.
affecting	chemical substances		8. Experiment and explain benefits and some
changes in the	as well as methods of		kinds of reactions of fat and oil.
state and	protection from and		9. Experiment and explain the components,
dissolution of	remedies for harm		benefits and some kinds of reactions of
substances.	from use of chemical		proteins and nucleic acids.
	substances.		

Strand 4: Forces and Motion

Standard Sc4.1: Understanding of the nature of electromagnetic, gravitational and nuclear forces; investigative process of seeking knowledge and applying acquired knowledge for useful and ethical purposes

		Grade lev	vel indicators	-	-
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Experiment	1. Experiment	1. Experiment	-	1. Experiment	-
and explain	and explain	and explain		and explain	
the act of	forces	effects of		finding	
pulling or	originating	forces acting		resultant	
pushing	from a magnet.	on objects.		force of two	
objects.	2. Explain	2. Experiment		parallel	
	application of	the falling of		forces acting	
	magnets for	objects on the		on objects.	
	useful	Earth's		2. Experiment	
	purposes	surface and		and explain	
	3. Experiment and	explain the		air pressure.	
	explain	Earth's		3. Experiment	
	electrical forces	attractive		and explain	
	resulting from	forces for the		liquid	
	rubbing some	objects.		pressure.	
	kinds of			4. Experiment	
	materials.			and explain	
				buoyant	
				forces of	
				liquid,	
				floating and	
				sinking of	
				objects.	

	Grade level indicators				
Grade 7	Grade 8	Grade 9		Grade 10-12	
1. Search for data and	1. Experiment and	1. Explain	1.	Experiment and explain	
explain scalar and	explain finding	acceleration and		relationship between forces	
vector quantities.	resultant force of	effects of resultant		and motion of objects in	
2. Experiment and	several forces on the	forces acting on		gravitational fields and	
explain distance,	same plane acting on	objects.		explain application of the	
speed, displacement	objects.	2. Experiment and		knowledge gained for useful	
and velocity of	2. Explain resultant	explain actionary		purposes.	
motion of objects.	forces acting on	and reactionary	2.	Experiment and explain	
	static objects or	forces between		relationship between forces	
	objects moving with	objects, and apply		and motion of particles in	
	constant velocity.	the knowledge		electrical fields, and apply	
		gained for useful		the knowledge gained for	
		purposes.		useful purposes.	
		3. Experiment and	3.	Experiment and explain	
		explain buoyant		relationship between forces	
		forces acting on		and motion of particles in	
		liquid.		magnetic fields, and apply	
				the knowledge gained for	
				useful purposes.	
			4.	Analyse and explain nuclear	
				and electrical forces between	
				particles in nuclei.	

Strand 4: Forces and Motion

Standard Sc4.2:Understanding of characteristics and various types of motion of natural
objects; investigative process for seeking knowledge and scientific mind;

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
-	-	-	-	1. Experiment	-		
				and explain			
				frictional			
				forces and			
				apply the			
				knowledge			
				gained for			
				useful			
				purposes.			

and communication of acquired knowledge for useful purposes

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	1. Experiment and	1. Experiment and explain
		explain differences	relationship between
		between static,	displacement, time, velocity,
		friction and forces,	acceleration of in a straight
		and apply the	line.
		knowledge gained	2. Observe and explain simple
		for useful purposes.	projectile, circular and
		2. Experiment and	harmonic motions.
		explain moment of	3. Discuss results of investigation
		forces, and apply	and benefits of simple
		the knowledge	projectile, circular and
		gained for useful	harmonic motions.
		purposes.	
		3. Observe and	
		explain motions of	
		objects in a straight	
		line and in curves.	

Strand 5: Energy

Standard Sc5.1: Understanding of relationship between energy and life; energy transformation; interrelationship between substances and energy; effects of energy utilization on life and the environment; investigative process for seeking knowledge; and communication of acquired knowledge that could be applied for useful purposes

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
-	1. Experiment	1. Identify natural	1. Experiment	1. Experiment	1. Experiment and		
	and explain	energy sources	and explain	and explain	explain		
	that	utilized for	motion of light	origin and	connecting a		
	electricity	producing	from its source.	propagation	simple electrical		
	is a form of	electricity.	2. Experiment	of sound.	circuit.		
	energy.	2. Explain the	and explain	2. Experiment	2. Experiment and		
	2. Explore and	importance of	reflection of	and explain	explain		
	cite	electrical	light on	origin of high	electrical		
	examples of	energy and	objects.	pitched and	conductors and		
	electric	propose	3. Experiment	low-pitched	insulators.		
	appliances	economical and	and classify	sound.	3. Experiment and		
	at home	safe methods	objects based	3. Experiment	explain a series		
	that can	for utilizing	on visual	and explain	connection of		
	transform	electricity.	characteristics	loud and soft	cells, and apply		
	electrical		from sources	sound.	the knowledge		
	energy into		of light.	4. Explore and	gained for		
	other forms			discuss	useful purposes.		
	of energy.			detrimental			
				effects of			
				listening to			
				excessively			
				loud sounds.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Experiment and	1. Experiment and	1. Explain kinetic and	1. Experiment and explain qualities
explain temperature	explain reflection	gravitational	of mechanical waves and explain
and its measurement	and refraction of	potential energy,	relationship between speed,
2. Observe and explain	light, and apply	rules for	frequency and wavelength.
heat transmission,	the knowledge	conservation of	2. Explain origin of sound waves,
and apply the	gained for useful	energy and	sound beats, sound intensity,
knowledge gained	purposes.	relationship	level of sound intensity, hearing
for useful purposes.	2. Explain effects of	between these	of sounds and sound quality, and
3. Explain heat	brightness on	quantities as well as	apply the knowledge gained for
adsorption and	human beings and	apply the	useful purposes.
emission through	other living things.	knowledge gained	3. Discuss results of searching for
radiation, and apply	3. Experiment and	for useful purposes.	data on noise pollution affecting
the knowledge	explain absorption	2. Experiment and	human health and propose
gained for useful	of light, heat,	explain relationship	preventive measures.
purposes.	seeing colours of	between potential	4. Explain electromagnetic waves
4. Explain thermal	objects, and apply	difference, electrical	and their spectrums and present
equilibrium and	the knowledge	current and	results of searching for data on
effects of heat on	gained for useful	resistance, and	benefits and prevention of harm
expansion of	purposes.	apply the	from electromagnetic waves.
substances, and		knowledge gained	5. Explain nuclear reaction, fission,
apply the knowledge		for useful purposes.	fusion and the relationship
gained in daily life.			between man and energy.

Strand 5: Energy

Standard Sc5.1: Understanding of relationship between energy and life; energy transformation; interrelationship between substances and energy; effects of energy utilization on life and the environment; investigative process for seeking knowledge; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	4. Experiment and	-	4. Experiment and
			explain refraction of		explain connection
			light that passes		of bulbs in both
			though two kinds of		series and parallel
			transparent mediums.		circuits, and apply
			5. Experiment and		the knowledge
			explain		gained for useful
			transformation of		purposes.
			light into electrical		5. Experiment and
			energy, and apply the		explain origin of a
			knowledge gained for		magnetic field
			useful purposes.		produced when
			6. Experiment and		electric current is
			explain that white		present in a wire,
			light comprises		and apply the
			various coloured		knowledge gained
			lights, and apply the		for useful purposes.
			knowledge gained for		
			useful purposes.		

	Grade level indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
		3. Calculate electrical	6. Search for data on energy
		energy of electric	originating from nuclear
		appliances, and	reactions and effects on life
		apply the	and the environment.
		knowledge gained	7. Discuss results of searching
		for useful purposes.	for data on nuclear power
		4. Observe and discuss	plants and application for
		correct, safe and	useful purposes.
		economical	8. Explain the kinds and
		connection of	properties of radiation from
		electrical circuits at	radioactive elements.
		home.	9. Explain origin of radioactivity
		5. Explain resistors,	and identify methods of
		diodes and	checking radiation in the
		transistors and	environment, their application
		experiment in	for useful purposes, and
		connecting basic	effects on living things and
		electronic circuits	the environment.
		with transistors.	

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and inside the Earth; relationship between various processes causing changes in climate, topography and form of the Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Explore,	1. Explore and	1. Explore and	1. Explore and	1. Explore,	1. Explain and
experiment	categorise	explain physical	explain soil	experiment and	classify rocks
and explain	soil by	properties of	formation.	explain	by using their
components	using	water from	2. Specify	formation of	characteristics
and	physical	sources in the	kinds and	clouds, mist,	and properties
physical	properties	local area, and	properties	dew, rain and	as criteria, and
properties	as criteria,	apply the	of soil used	hail.	apply the
of soil in	and apply	knowledge	for growing	2. Experiment and	knowledge
the local	the	gained for	plants in	explain	gained for
area.	knowledge	useful purposes.	the local	formation of the	useful purposes.
	gained for	2. Search for data	area.	water cycle.	2. Explore and
	useful	and discuss the		3. Design and make	explain changes
	purposes.	components of		simple	of rocks.
		air and the		instruments for	3. Search for data
		importance of		measuring	and explain
		air.		temperature,	geological
		3. Experiment and		humidity and air	disasters
		explain the		pressure.	affecting human
		motion of air		4. Experiment and	beings and the
		resulting from		explain formation	environment in
		differences in		of wind, and	the local area.
		temperature.		apply the	
				knowledge	
				gained for useful	
				purposes.	

Grade level indicators			Key stage indicators	
Grade 7	Grade 8	Grade 9	Grade 10-12	
1. Search for relevant	1. Explore, experiment and	-	1. Search for relevant information	
information and explain	explain soil profile, soil		and explain principles for	
components and division	properties and the soil		dividing the Earth's structure.	
of atmospheric layers	formation process.		2. Experiment with geological	
covering the Earth's	2. Explore, analyse and explain		process simulation models and	
surface.	utilization of soil and		explain the Earth's geological	
2. Experiment and explain	improvement of soil quality.		change processes.	
relationship between	3. Experiment with geological		3. Experiment with simulation	
temperature, humidity and	process simulation models to		models and explain the processes	
air pressure and climate-	explain the rock formation		that form mountains, faults, folds,	
affecting phenomena.	process and the characteristics		earthquakes and volcanic	
3. Observe, analyse and	of components of rocks.		eruptions.	
discuss formation of	4. Test and observe components		4. Search for relevant information	
climate phenomena	and properties of rocks for		and explain the importance of	
affecting human beings.	their classification, and apply		geological phenomena,	
4. Search for relevant	the knowledge gained for		earthquakes and volcanic	
information, analyse and	useful purposes.		eruptions affecting living things	
interpret meanings of data	5. Verify and explain physical		and the environment.	
from weather forecasts.	characteristics of minerals and			
5. Search for, analyse and	their application for useful			
explain effects of climate	purposes.			
on the lives of living				
things and the				
environment.				

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and interior; relationship between various processes causing changes in climate, topography and form of the Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	-	-	
	Grade level indicators		Key stage indicators			
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Grade 7	Grade 8	Grade 9	Grade 10-12			
6. Search for relevant	6. Search for relevant information	-	5. Explore, analyse and explain			
information,	and explain formation process,		stratigraphy from rock layer			
analyse and explain	characteristics and properties of		orientation, fossils and			
natural factors and	petroleum, coal and oil shale,		geological structures to explain			
man-mode actions	and their application for useful		the origin and development of			
affecting changes	purposes.		the local area.			
of the Earth's	7. Explore and explain		6. Search for relevant			
temperature, ozone	characteristics of natural water		information, analyse and			
holes and acid rain.	sources, and utilization and		explain benefits of geological			
7. Search for relevant	conservation of local water		data.			
information,	sources for benefits.					
analyse and explain	8. Experiment with simulation					
effects of global	models and explain formation					
warming, ozone	process of ground water sources					
holes and acid rain	and underground water sources.					
on living things and	9. Experiment with simulation					
the environment.	models and explain processes of					
	weathering, erosion, sweeping					
	away, piling up and					
	crystallisation and the effects of					
	these processes.					
	10. Search for relevant information,					
	make a model and explain					
	structure and components of the					
	Earth.					

Strand 7: Astronomy and Space

Standard Sc7.1: Understanding of evolution of the solar system, galaxies and the universe; interrelationships within the solar system and their effects on living things on Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge for useful purposes

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
1. Specify	1. Search for	1. Observe and	1. Make a model	1. Observe and	1. Make a model		
that in the	and discuss	explain the	to explain	explain	and explain		
sky there	the	rising and	characteristics	formation of	formation of		
are the sun,	importance	setting of the	of the solar	directions	seasons, waxing		
the moon	of the sun.	sun, the moon,	system.	(north, east,	and waning of		
and stars.		causes of day		south, west)	the moon, solar		
		and night and		and	eclipses and		
		setting of		phenomena of	lunar eclipses,		
		directions.		the rising and	and apply the		
				falling of stars	knowledge		
				by using star	gained for		
				chart.	useful purposes.		

	Grade level indicator	rs	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	1. Search for relevant	1. Search for relevant
		information and	information and explain
		explain relationships	formation and evolution of
		between the sun,	the solar system, galaxies and
		Earth, the moon and	the universe.
		other planets, and the	2. Search for relevant
		effects on the	information and explain
		environment and	nature and evolution of fixed
		living things on	stars.
		Earth.	
		2. Search for relevant	
		information and	
		explain components	
		of the universe,	
		galaxies and the solar	
		system.	
		3. Specify position of	
		constellations, and	
		apply the knowledge	
		gained for useful	
		purposes.	

Strand 7: Astronomy and Space

Standard Sc7.2: Understanding of importance of space technology utilized for space exploration and natural resources for agriculture and communication; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be ethically applied to life and the environment

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	-	1. Search for data and discuss progress and benefits of space technology.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	1. Search for relevant	1. Search for relevant
		information and	information and explain the
		discuss process of	launching of satellites, and
		utilizing space	calculate the velocity of
		technology for	satellites revolving around the
		exploration of	Earth.
		space, objects in the	2. Search for relevant
		sky, weather	information and explain
		conditions, natural	benefits of satellites in various
		resources for	respects.
		agriculture and	3. Search for relevant
		communication.	information and explain the
			launching of space ships, and
			space exploration by utilizing
			space ships and space stations.

Standard Sc8.1: Application of scientific process and scientific mind in investigation for seeking knowledge and problem-solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Pose	1. Pose	1. Pose questions	1. Pose questions	1. Pose questions	1. Pose questions	
questions	questions	about the	about the	about the issues,	about the	
about the	about the	matters to be	issues, matters	matters or	issues, matters	
matters to be	matters to be	studied as	or situations to	situations to be	or situations to	
studied as	studied as	prescribed and	be studied as	studied as	be studied as	
prescribed or	prescribed or	in accord with	prescribed and	prescribed and	prescribed and	
in accord	in accord	their interests.	in accord with	in accord with	in accord with	
with their	with their	2. Plan for	their interests.	their interests.	their interests.	
interests.	interests.	observation,	2. Plan for	2. Plan for	2. Plan for	
2. Plan for	2. Plan for	propose	observation	observation and	observation and	
observation,	observation,	methods of	and propose	propose methods	propose	
exploration,	exploration,	exploration,	methods for	for exploration,	methods for	
verification,	verification,	verification,	exploration,	verification,	exploration,	
study and	study and	study and	verification,	study and	verification,	
research by	research by	research by	study and	research, and	study and	
using their	using their	using their own	research, and	form	research, and	
own ideas	own ideas	ideas, those of	form	expectations of	form	
and those of	and those of	groups, and form	expectations of	what is to be	expectations of	
their	their	expectations of	what is to be	found from the	what is to be	
teachers.	teachers.	what is to be	found from the	exploration and	found from the	
		found from the	exploration and	verification.	exploration and	
		exploration and	verification.		verification.	
		verification.				

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Pose questions	1. Pose questions	1. Pose questions	1. Pose questions based on
prescribing the issues	prescribing the issues	prescribing the issues	scientific knowledge and
or important variables	or important variables	or important variables	understanding or their
for exploration and	for exploration and	for exploration and	interests or from current
verification or	verification or conduct	verification and	issues for comprehensive
conduct	comprehensive and	conduct	and reliable exploration and
comprehensive and	reliable study and	comprehensive and	verification.
reliable study and	research on matters of	reliable study and	2. Make hypotheses supported
research on matters of	their interest.	research on matters of	by theories, or form
their interest.	2. Make verifiable	their interest.	expectations on what is to be
2. Make verifiable	hypotheses and plan	2. Make verifiable	found, or make models or
hypotheses and plan	several methods for	hypotheses and plan	formats leading to
several methods for	exploration and	several methods for	exploration and verification.
exploration and	verification.	exploration and	3. Search for and collect data
verification.	3. Select techniques and	verification.	requiring consideration of
3. Select techniques and	methods for	3. Select techniques and	factors or important
methods for	quantitative and	methods for	variables, factors affecting
quantitative and	qualitative exploration	quantitative and	other factors, uncontrollable
qualitative exploration	and verification	qualitative	factors and the number of
and verification	yielding accurate and	exploration and	times the exploration and
yielding accurate and	safe results by using	verification yielding	verification process should
safe results by using	appropriate materials	accurate and safe	be repeated to ensure that
appropriate materials	and equipment.	results by using	reliable and sufficient data is
and equipment.		appropriate materials	obtained.
		and equipment.	

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
3. Use	3. Use suitable	3. Select suitable	3. Select accurate	3. Select	3. Select accurate	
materials and	materials,	materials,	and	accurate and	and appropriate	
instruments	instruments	instruments and	appropriate	appropriate	instruments and	
for	and	equipment for	instruments	instruments	methods for	
exploration	equipment	exploration and	for	for	exploration and	
and	for	verification, and	exploration	exploration	verification in	
verification	exploration	record data.	and	and	order to obtain	
and record	and	4. Arrange data	verification.	verification in	comprehensive	
results using	verification,	into groups,	4. Make a record	order to	and reliable	
simple	and record	compare it with	of quantitative	obtain reliable	data.	
methods.	data.	expectations and	data, and	data.	4. Make a record	
4. Arrange data	4. Arrange	present results.	present	4. Make a	of quantitative	
obtained	data into	5. Pose new	conclusion of	record of	and qualitative	
from	groups, and	questions	results.	quantitative	data, analyse	
exploration	compare and	arising from the	5. Pose new	and	and verify	
and	present	results of	questions for	qualitative	results with	
verification	results.	exploration and	subsequent	data, verify	expectations,	
into groups	5. Pose new	verification.	exploration	results with	and present	
and present	questions		and	expectations,	results and	
results.	arising from		verification.	and present	conclusions.	
	the results of		6. Express	results and		
	exploration		opinions and	conclusions.		
	and		conclusions			
	verification.		about what is			
			being learned.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
4. Collect data and	4. Collect data and	4. Collect data and	4. Select materials, techniques
process it	process it	process it	and methods, instruments
quantitatively and	quantitatively and	quantitatively and	utilized in accurate observation
qualitatively.	qualitatively.	qualitatively.	measurement, exploration and
5. Analyse and evaluate	5. Analyse and evaluate	5. Analyse and	verification in width and in
conformity of eye-	conformity of eye-	evaluate conformity	depth for quantitative and
witnesses with the	witnesses with the	of eye-witnesses	qualitative dimensions.
conclusions both	conclusions both	with the conclusions	5. Collect data and systematically
supporting and	supporting or	both supporting or	and accurately record results of
contradicting the	contradicting the	contradicting the	exploration and verification
hypotheses and data	hypotheses and data	hypotheses and data	addressing both quantity and
abnormality from	abnormality from	abnormality from	quality by verifying
exploration and	exploration and	exploration and	probability, appropriateness or
verification.	verification.	verification.	errors in the data.
6. Create models or	6. Create models or	6. Create models or	6. Process data by taking into
formats explaining or	formats explaining or	formats explaining	consideration accurate
showing results of	showing results of	or showing results of	quantitative reporting of
exploration and	exploration and	exploration and	results, and present the data
verification.	verification.	verification.	through appropriate techniques
			and methods.

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
5. Express	6. Express	6. Express opinions	7. Make a	5. Pose new	5. Pose new
opinions in	group	and collect data	record and	questions for	questions for
the course of	opinions that	from groups,	clearly and	subsequent	subsequent
exploration	are compiled	leading to	directly	exploration	exploration and
and	as a body of	knowledge	explain	and	verification.
verification.	knowledge.	creation.	results of	verification.	6. Freely express
6. Make a	7. Make a	7. Make a record	exploration	6. Freely	opinions, provide
record and	record and	and explain	and	express	explanations,
explain	clearly and	authentic results	verification.	opinions,	reach
results of the	directly	of the exploration	8. Present and	explanations	agreements, and
exploration	explain	and verification,	display work	and	draw conclusions
and	results of	using diagrams in	through	conclusions	about what is
verification	exploration	the explanations.	verbal	about what is	being learned.
by drawing	and	8. Present and	presentation	being learned.	7. Make a record
pictures or	verification	display work	or write to	7. Make a	and explain
writing short	by drawing	through verbal	explain the	record and	results of the
texts.	pictures,	presentation and	processes	explain results	exploration and
7. Verbally	diagrams or	write to show the	and results	of the	verification
present their	explanations.	processes and	of their work	exploration	based on the real
work for	8. Verbally	results of their	for others to	and	situations, with
others to	present their	work for others	understand.	verification	rationality and
understand.	work so	to understand.		based on the	eye-witnesses for
	others can			real situations	reference.
	understand			and	
	the processes			references.	
	and results.				

	Grade level indicators		Key stage indicators
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Grade 7	Grade 8	Grade 9	Grade 10-12
7. Pose questions	7. Pose questions leading	7. Pose questions leading	7. Analyse data, interpret
leading to exploration	to exploration and	to exploration and	meanings of data and
and verification of	verification of	verification of relevant	evaluate conformity of the
relevant matters, and	relevant matters, and	matters, and apply the	conclusions or main
apply the knowledge	apply the knowledge	knowledge gained in	substance for verification
gained in new	gained in new	new situations or to	with the hypotheses.
situations or to explain	situations or to	explain the concepts,	8. Consider reliability of the
the concepts, processes	explain the concepts,	processes and results of	methods and results of the
and results of the	processes and results	the project or task for	exploration and verification
project or task for	of the project or task	others to understand.	based on principles of error
others to understand.	for others to	8. Make a record and	of measurement and
8. Make a record and	understand.	explain results of	observation, and
explain results of	8. Make a record and	additional	recommend improvement
additional observation,	explain results of	observation,	of the exploration and
exploration,	additional	exploration,	verification methods.
verification and	observation,	verification and	9. Apply results obtained from
research from various	exploration,	research from various	exploration and
sources of knowledge	verification and	sources of knowledge	verification, both in regard
in order to obtain	research from various	in order to obtain	to methodology and bodies
reliable data, and	sources of knowledge	reliable data, and	of knowledge, to pose new
accept changes in the	in order to obtain	accept changes in the	questions, and apply results
knowledge	reliable data and	knowledge discovered	to problem-solving in new
discovered when	accept changes in the	when presented with	situations and in real life.
presented with new	knowledge discovered	new and additional	
and additional data,	when presented with	data, eye-witnesses or	
eye-witnesses or	new and additional	contradictory data.	
contradictory data.	data, eye-witnesses or		
	contradictory data.		

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	8. Present and	8. Present and	
				display their	display their	
				work through	work through	
				verbal or	verbal or	
				written	written	
				presentations	presentations to	
				to explain the	explain the	
				processes and	processes and	
				results so that	results so that	
				others can	others can	
				understand.	understand.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
9. Display their	9. Display their	9. Display their	10. Realise the importance of the need to
work, write	work, write	work, write	participate and to be responsible for
reports and/or	reports and/or	reports and/or	explanation, agreeing on views and
explain the	explain the	explain the	drawing conclusions about results of
concepts,	concepts,	concepts,	scientific learning accurately presented to
processes and	processes and	processes and	the public.
results of the	results of the	results of the	11. Make a record and logically explain the
project or task	project or task so	project or task	results of exploration and verification; use
so that others	that others can	so that others	evidence for reference or conduct
can understand.	understand.	can understand.	additional research in order to find reliable
			evidence for reference, and accept that the
			knowledge previously acquired can be
			changed in light of new and additional data
			and eye-witnesses or after careful
			verification of contradictory data, leading
			to acceptance in the body of knowledge.
			12. Display their work, write reports and/or
			explain the concepts, processes and results
			of their project or task so that others can
			understand.

Learning Area of Social Studies, Religion and Culture

Why it is necessary to learn social studies, religion and culture

The learning area of social studies, religion and culture enables learners to acquire knowledge and understand the lives of human beings as both individuals and as coexisting members of a society. The area addresses self-adjustment in accord with exigencies of environmental situations and management of limited resources. Learners acquire understanding of development and change in accord with exigencies of various periods, times and factors, leading to understanding of oneself and others. Learners also acquire patience, forbearance and acceptance of differences. They are endowed with morality and the ability to adjust knowledge gained for application in leading their lives as good citizens of the country and desirable members of the world community.

What is learned in social studies, religion and culture

The learning area of social studies, religion and culture focuses on coexistence in societies that are interlinked and that have many differences, enabling the learners to adjust themselves to various environmental contexts. They will thus become good, responsible citizens, are endowed with knowledge, skills, morality and desirable values. The main strands prescribed are as follow:

• Religion, Morality and Ethics: fundamental concepts about religion, morality, ethics and principles of Buddhism or those of learners' religions; application of religions, principles and teachings for self-development and peaceful and harmonious coexistence; ability to do good deeds; acquisition of desirable values; continuous self-development as well as provision of services for social and common interests and concerns

• Civics, Culture and Living: political and administrative systems of the present society; democratic form of government under constitutional monarchy; characteristics and importance of good citizenship; cultural differences and diversity; values under

constitutional monarchy; rights, duties and freedoms in peaceful existence in Thai society and the world community

• Economics: production, distribution and consumption of goods and services; management of limited resources available; lifestyle of equilibrium and application of the principles of Sufficiency Economy in daily life

• **History:** historical times and periods; historical methodology; development of mankind from the past to the present; relationships and changes of various events; effects of important events in the past; personalities that influenced various changes in the past; historical development of the Thai nation; culture and Thai wisdom; origins of important civilizations of the world

• Geography: physical characteristics of the Earth; physical characteristics, resources and climate of Thailand and various other regions of the world; utilisation of maps and geographical instruments; inter-relationship of various things in the natural system; relationship between man and natural environment and man-made objects; presentation of geo-data and information; preservation of the environment for sustainable development

Learners' Quality

Grade 3 graduates

• Have knowledge about themselves and those around them as well as the local environment, places where they live, and can link experiences to the wider world

• Have skills, knowledge and necessary data for development to attain morality, ethics, behaviour and practices in accord with the principles and teachings of their religions; attain qualities of good citizens and sense of responsibility; can live and work with others; participate in classroom activities, and have practice in decision-making

• Have knowledge about themselves, and their families, schools and communities on an integrated basis; understand concepts about the present and the past; have fundamental economic knowledge; have been given ideas about family income and expenditure; understand roles of producers and consumers; know basic saving and methodology of Sufficiency Economy

• Know and understand basic concepts about religion, morality, ethics, civics, economics, history and geography, so as to provide foundation for understanding at higher levels

Grade 6 graduates

• Have knowledge about their own provinces, regions and the country regarding history, physical characteristics, societies, traditions and culture as well as politics, administration and economic situations, with emphasis on Thai nationhood

• Have knowledge and understanding about religion, morality and ethics; observe principles and teachings of their religions, as well as exhibit greater participation in religious rites and ceremonies

• Conduct themselves in accord with the status, roles, rights and duties as good citizens of the local areas, provinces, regions and the country, as well as exhibit greater participation in activities in line with customs, traditions and culture of their own areas

• Can compare data and information about Thailand's various provinces and regions with those of neighbouring countries; have developed sociological concepts regarding religion, morality, ethics, civics, economics, history and geography, with a view to widening their experiences for understanding of the Eastern and Western worlds regarding religion, morality, ethics, values, beliefs, customs, traditions, culture and way of life; have developed concepts of organisation of social order and social change from past to the present

Grade 9 graduates

• Have knowledge about world affairs through comparative studies of Thailand and countries in various regions of the world with a view to developing concepts of peaceful coexistence

• Have essential skills of critical thinkers; have developed concepts and widened experiences; have compared Thailand with other countries in various regions, i.e., Asia, Australia, Oceania, Africa, Europe, North America and South America, regarding religion,

morality, ethics, values, beliefs, customs, traditions, culture, politics, administration, history and geography by applying historical and sociological methodology

• Know and understand concepts and analyse future events that can be appropriately applied for leading their lives and planning for various undertakings

Grade 12 graduates

• Have wider and more profound knowledge about world affairs

• Are endowed with qualities of good citizens, morality and ethics; observe principles of their religions as well as are endowed with desirable values; are able to live happily with others and in society; have potential to continue their education at higher levels as intended

• Have knowledge about wisdom, pride in Thai-ness, history of the Thai nation; adhere to the way of life and democratic form of government under constitutional monarchy

• Have good consumption habits; appropriately choose and decide on consumption; are aware of and participate in preservation of Thai traditions, culture and the environment, and love their local areas and the country; are dedicated to providing services and creating things of value for social benefit

• Have knowledge and capability of managing their own learning; are able to guide themselves and seek knowledge from various learning sources in society throughout their lives

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Recount in	1. Tell the	1. Explain the	1. Explain the	1. Analyse the	1. Analyse the
brief the	importance	importance of	importance of	importance of	importance of
life of the	of	Buddhism or	Buddhism or	Buddhism or	Buddhism as
Buddha or	Buddhism	that of	that of	that of	the national
the lives of	or that of	students' own	students' own	students' own	religion or the
the Masters	students'	religions as a	religions as	religions as	importance of
of students'	own	significant	the spiritual	cultural	students' own
own	religions.	foundation of	focal point for	heritage and	religions.
religions.	2. Summarise	Thai culture.	believers.	a pivot for	2. Summarise the
2. Delight in	the life of	2. Summarise the	2. Summarise the	developing	life of the
and tell the	the	life of the	life of the	the Thai	Buddha from
models of	Buddha	Buddha from	Buddha from	nation.	the
living and	from birth	the practice of	enlightenment	2. Summarise	announcement
the insights	to	self-	to propagation	the life of the	of his coming
from the	ordination	mortification to	of the	Buddha from	death to the
lives of the	or the lives	the Great	Dhamma or	arrival at the	Four Holy
disciples,	of the	Decease of the	the lives of	town of	Places of
stories of	Masters of	Buddha or the	the Masters of	Kapilavastu	Buddhism or
the	students'	lives of the	students' own	to his	the lives of the
Buddha's	own	Masters of	religions as	important	Masters of
previous	religions	students' own	prescribed.	deeds or the	students' own
lives, tales	as	religions as		lives of the	religions as
and	prescribed.	prescribed.		Masters of	prescribed.
exemplary				students'	
believers as				own religions	
prescribed.				as prescribed.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the	1. Explain the	1. Explain the	1. Analyse Indian society and
dissemination of	dissemination of	dissemination of	religious beliefs before the
Buddhism or	Buddhism or	Buddhism or	period of the Buddha or past
students' own	student's own	student's own	societies of the Masters of
religions to Thailand.	religions to	religions to various	students' own religions.
2. Analyse the	neighbouring	countries	2. Analyse the Buddha as a
importance of	countries.	worldwide.	supreme human being for
Buddhism or	2. Analyse the	2. Analyse the	self-training for
students' own	importance of	importance of	enlightenment, the founding,
religions for the Thai	Buddhism or that of	Buddhism or that of	teaching methods and
social environment	students' own	students' own	dissemination of Buddhism or
as well as self-	religions in	religions in	analyse lives of the Masters
development and	contributing to	contributing to	of students' own religions as
family development.	strengthening mutual	creating civilisation	prescribed.
3. Analyse the life of the	understanding with	and world peace.	3. Analyse the life of the Buddha
Buddha from birth to	neighbouring	3. Discuss the	regarding religious
the practice of self-	countries.	importance of	administration or analyse the
mortification or the	3. Analyse the	Buddhism or that of	lives of the Masters of their
lives of the Masters	importance of	students' own	religions as prescribed.
of students' own	Buddhism or that of	religions and the	4. Analyse the practices of the
religions as	student's own	principles of the	Middle Path in Buddhism or
prescribed.	religions as a	Sufficiency	the concepts of students' own
	foundation of culture,	Economy	religions as prescribed.
	national identity and	Philosophy and	
	national heritage.	sustainable	
		development.	

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
3. Tell the	3. Delight in	3. Delight in and	3. Appreciate and	3. Appreciate	3. Appreciate and	
meaning and	and tell the	tell the models	conduct	and conduct	conduct	
importance of	models of	of living and	themselves in	themselves in	themselves in	
and respect	living and	the insights	accord with	accord with	accord with the	
the Triple	the insights	from the lives	the models of	the models of	models of	
Gem,	from the	of the disciples,	living and the	living and the	living and the	
observe the	lives of the	the stories of	insights from	insights from	insights from	
principles of	disciples,	the Buddha's	the lives of	the lives of	the lives of the	
the Three	the stories	previous lives,	the disciples,	the disciples,	disciples, the	
Admonitions	of the	other tales and	the stories of	the stories of	stories of the	
of the	Buddha's	exemplary	the Buddha's	the Buddha's	Buddha's	
Buddha in	previous	believers.	previous	previous	previous lives,	
Buddhism, or	lives, other	4. Tell the	lives, other	lives, other	other tales and	
the moral	tales and	meaning and	tales and	tales and	exemplary	
principles of	exemplary	importance of	exemplary	exemplary	believers as	
students'	believers as	the Tipitaka	believers as	believers as	prescribed.	
own	prescribed.	(the three	prescribed.	prescribed.	4. Analyse the	
religions as		divisions of the			importance and	
prescribed.		Buddhist			respect the	
		Canon) or the			Triple Gem,	
		scriptures of			observe the	
		students' own			principles of	
		religions.			the Threefold	
					Learning and	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
4. Analyse and conduct	4. Analyse the	4. Analyse the life of	5. Analyse development of proper
themselves in accord	importance of	the Buddha from	faith and wisdom in Buddhism
with the models of	Buddhism or that of	various poses of	or concepts of students' own
living and the	students' own	Buddha images or	religions as prescribed.
insights from the	religions for	analyse the lives	6. Analyse democratic
lives of the disciples,	community	of the Masters of	characteristics in Buddhism or
the stories of the	development and for	students' own	democratic concepts in
Buddha's previous	organising social	religions as	students' own religions as
lives, other tales and	order.	prescribed.	prescribed.
exemplary believers	5. Analyse the life of the	5. Analyse and	7. Analyse Buddhist principles
as prescribed.	Buddha or the lives	conduct	and scientific principles or
5. Explain the Buddha's	of the Masters of	themselves in	concepts of students' own
virtues and important	students' own	accord with the	religions as prescribed.
teachings within the	religions as	models of living	8. Analyse self-training and self-
framework of the	prescribed.	and the insights	development, self-reliance and
Four Noble Truths or	6. Analyse and conduct	from the lives of	determination to attain
explain the principles	themselves in accord	the disciples, the	liberation in Buddhism or
of students' own	with the models of	stories of the	similar concepts in the
religions as	living and the	Buddha's previous	students' own religions as
prescribed;	insights from the	lives, other tales	prescribed.
appreciate and apply	lives of the disciples,	and exemplary	9. Analyse Buddhism as the
for solving their own	the stories of the	believers as	science of education that
problems and those	Buddha's previous	prescribed.	emphasises the relationship
of their families.	lives, other tales and		between the root causes and
	exemplary believers		methods for problem-solving
	as prescribed.		or similar concepts in students
			own religions as prescribed.

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

	Grade level indicators					
Grade 1	Grade 2 Grade 3		Grade 4	Grade 5	Grade 6	
4. Appreciate	4. Tell the	5. Pay respect to	4. Pay respect to	4. Explain the	the Three	
and pray for	meaning,	the Triple Gem	the Triple	components	Admonitions	
the spreading	importance	and observe the	Gem, observe	and the	of the Buddha	
of loving-	and respect	principles of	the principles	importance	in Buddhism,	
kindness;	the Triple	the Three	of the	of the	or the	
have	Gem and	Admonitions of	Threefold	Tipitaka (the	principles of	
mindfulness	observe the	the Buddha in	Learning and	Three	students' own	
as the basis	principles	Buddhism, or	the Three	divisions of	religions as	
for	of the Three	the moral	Admonitions	the Buddhist	prescribed.	
concentration	Admonitions	principles of	of the Buddha	Canon) or the	5. Delight in their	
in Buddhism,	of the	students' own	in Buddhism,	scriptures of	countrymen's	
or spiritual	Buddha in	religions as	or the moral	students'	performance of	
development	Buddhism,	prescribed.	principles of	own	good deeds in	
in accord	or the moral		students' own	religions.	accord with	
with the	principles		religions as	5. Pay respect to	religious	
guidelines of	of students'		prescribed.	the Triple	principles as	
students'	own			Gem and	well as relate	
own	religions as			observe the	the practices in	
religions as	prescribed.			principles of	life.	
prescribed.				the Threefold	6. Appreciate and	
				Learning and	pray for	
				the Three	spreading of	
				Admonitions	loving-	
					kindness,	

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	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
6. Appreciate the value	7. Explain in brief the	6. Explain virtues of	10. Analyse Buddhism regarding
of spiritual	structure and	the Sangha and	self-training to avoid
development for	substance of the	important	heedlessness; aim to achieve the
learning and living	Tipitaka (the three	teachings within	benefits and personal, social and
by adopting the	divisions of the	the framework of	world peace or concepts of
Yonisonamasikara	Buddhist Canon) or	the Four Noble	students' own religions as
way of thinking, i.e.,	the scriptures of	Truths or the moral	prescribed.
through the approach	students' own	principles of	11. Analyse Buddhism and
of true-false values	religions.	students' own	Sufficiency Economy
and benefits-harms	8. Explain the	religions as	Philosophy and national
and solutions, or	Buddha's virtues	prescribed.	sustainable development or the
spiritual	and important	7. Appreciate and	concepts of students' own
development in	teachings within the	analyse self-	religions as prescribed.
accord with the	framework of the	conduct in accord	12. Analyse the importance of
guidelines of	Four Noble Truths,	with moral	Buddhism regarding complete
students' own	or explain the	principles for self-	education, politics and peace or
religions.	principles of	development to	the concepts of students' own
7. Pray for the spreading	students' own	prepare themselves	religions as prescribed.
of loving-kindness,	religions as	for work and for	13. Analyse the principles within
train their spirit and	prescribed;	having a family.	the framework of the Four
acquire wisdom	appreciate and		Noble Truths or the principles
through mindfulness	apply for		of the teachings of students'
of breathing or in	development and		own religions.
accord with the	for solving		14. Analyse the insights and
guidelines of	community and		models of living from the lives
students' own	social problems.		of the disciples, stories of the
religions as			Buddha's previous lives, other
prescribed.			tales and exemplary believers as
			prescribed.

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
	5. Delight in the	6. Appreciate and	5. Delight in the	of the Buddha	train their spirit	
	performance of	pray for the	performance	in Buddhism,	and acquire	
	good deeds,	spreading of	of good	or the moral	wisdom; have	
	and family	loving-	deeds, and	principles of	mindfulness as	
	member's	kindness; have	family	students'	the basis for	
	performance of	mindfulness as	members'	own religions	concentration	
	good deeds, at	the basis for	performance	as prescribed.	in Buddhism,	
	school and	concentration	of good	6. Appreciate	or spiritual	
	elsewhere, in	in Buddhism or	deeds, at	and pray for	development in	
	accord with	spiritual	school and in	the spreading	accord with the	
	religious	development in	the	of loving-	guidelines of	
	principles.	accord with the	community in	kindness;	students' own	
	6. Appreciate and	guidelines of	accord with	have	religions as	
	pray for the	students' own	religious	mindfulness	prescribed.	
	spreading of	religions as	principles, as	as the basis	7. Observe the	
	loving-	prescribed.	well as tell the	for	moral	
	kindness; have	7. Tell the names	guidelines for	concentration	principles of	
	mindfulness as	and importance	living.	in Buddhism	students' own	
	the basis for	of, and behave	6. Appreciate and	or spiritual	religions for	
	concentration in	appropriately	pray for the	development	solving	
	Buddhism or	towards,	spreading of	in accord	problems of	
	spiritual	religious	loving-	with the	the evil paths	
	development in	objects, places	kindness;	guidelines of	and addictive	
	accord with the	and persons of	have	students'	substances.	
	guidelines of	students' own	mindfulness	own religions		
	students' own	religions.	as the basis	as prescribed.		
	religions as		for			
	prescribed.		concentration			
			in Buddhism			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
8. Analyse and observe	9. Appreciate the value	8. Appreciate the value	15. Analyse the value and
the moral principles	of spiritual	of spiritual	importance of settling
of students' own	development for	development for	questions of doctrine and
religions in life,	learning and living	learning and living	fixing the text of the Tipitaka
based on the	by adopting the	by adopting the	(the three divisions of the
principles of	Yonisonamasikara	Yonisonamasikara	Buddhist Canon) or the
Sufficiency	way of thinking, i.e.,	way of thinking, i.e.,	scriptures of students' own
Economy, and care	through the means of	through the approach	religions and dissemination of
for and protect the	stimulating morality	of the Four Noble	doctrine.
environment for	and relationships of	Truths and through	16. Firmly believe in the effects
peaceful	spiritual teachings,	investigation for root	of doing good deeds and evil;
coexistence.	or spiritual	causes, or spiritual	be able to analyse situations
9. Analyse the reasons	development in	development in	and decide to take action or
and need for all to	accord with the	accord with	conduct themselves
study and learn	guidelines of	guidelines of	reasonably and appropriately
about other	students' own	students' own	in accord with moral and
religions.	religions.	religions.	ethical principles, and set
10. Conduct	10. Pray for the	9. Pray for the	goals and roles in life for
themselves	spreading of loving-	spreading of loving-	peaceful coexistence and
appropriately with	kindness, train their	kindness, train their	harmonious coexistence as a
other believers in	spirit and acquire	spirit and acquire	nation.
various situations.	wisdom through	wisdom through	17. Explain in brief the lives of
	mindfulness of	mindfulness of	the Masters of other religions.
	breathing or in	breathing or in	
	accord with the	accord with the	
	guidelines of	guidelines of	
	students' own	students' own	
	religions.	religions.	

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	7. Tell the	-	or spiritual	7. Observe the	8. Explain in brief	
	names of		development	principles of	the important	
	the		in accord with	students' own	principles of	
	religions,		the guidelines	religions for	other religions.	
	the Masters		of students'	developing	9. Explain the	
	and		own religions	themselves and	important	
	importance		as prescribed.	the environment.	characteristics	
	of the		7. Observe the		of religious	
	scriptures of		moral		rites and	
	students'		principles of		ceremonies of	
	own		students' own		other religions	
	religions		religions for		and conduct	
	and those of		harmonious		themselves	
	other		coexistence as		appropriately	
	religions.		a nation.		when	
			8. Explain in		participating in	
			brief the lives		such rites and	
			of the Masters		ceremonies.	
			of other			
			religions.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
11. Analyse actions	11. Analyse self-	10. Analyse the	18. Appreciate and realise the importance of
of the	conduct in	differences and	ethical values that determine the different
exemplary	accord with	accept the ways	beliefs and behaviours of believers of
figures in	moral principles	of life of	various religions for eliminating conflicts
religious	of students' own	believers of	and for peaceful coexistence in society.
relations and	religions for	other religions.	19. Appreciate the value of, firmly believe in
present	appropriate		and show determination for personal
guidelines for	behaviour		improvement through spiritual and learning
their own	amidst the tide		development by adopting the
actions.	of global change		Yonisonamasikara way of thinking, or
	and for peaceful		spiritual development in accord with the
	coexistence.		guidelines of students' own religions.
			20. Pray for the spreading of loving-kindness
			and train their spirit and acquire wisdom in
			accord with the principles of the
			Foundations of Mindfulness or the
			guidelines of their religions.
			21. Analyse major moral principles for
			peaceful coexistence of other religions, and
			persuade, encourage and provide support
			for others to recognise the importance of
			mutually doing good deeds.
			22. Propose guidelines for organising
			cooperative activities of all religions for
			problem-solving and social development.

Standard So1.2: Understanding, awareness and self-conduct of devout believers; and

	-	Grade lev	vel indicators	-	
Grade 1	Grade 2 Grade 3		Grade 4	Grade 5	Grade 6
1. Provide	1. Conduct	1. Conduct	1. Discuss the	1. Organise	1. Explain their
services to	themselves	themselves	importance of	simple and	knowledge of
temples or	appropriately	appropriately	and participate	useful	various parts of
places of	and correctly	and correctly	in maintaining	ceremonies of	places of
worship of	towards the	towards the	places of	their religions	worship and
their	disciples of	disciples, places	worship of	and conduct	conduct
religions.	their religions	of worship, and	their religions.	themselves	themselves
2. Profess	as prescribed.	religious objects	2. Have the	correctly.	appropriately.
themselves	2. Conduct	of their religions	manners of	2. Conduct	2. Have the
as Buddhists	themselves	as prescribed.	good believers	themselves in	manners of
or believers	correctly in	2. Appreciate the	as prescribed.	religious rites	good believers
of their	religious	value of and	3. Conduct	and	as prescribed.
religions.	rites and	conduct	themselves	ceremonies	3. Explain the
3. Conduct	ceremonies	themselves	correctly in	and on	benefits
themselves	as	correctly in	religious rites	important	obtained from
correctly in	prescribed.	religious rites	and ceremonies	religious days	participation in
religious		and ceremonies	and on	as prescribed,	religious rites
rites and		and on	important	and discuss	and ceremonies
ceremonies		important	religious days	the benefits	and activities on
and on		religious days as	as prescribed.	obtained from	important
important		prescribed.		participation	religious days
religious		3. Profess		in these	as prescribed,
days as		themselves as		activities.	and conduct
prescribed.		Buddhists or		3. Have the	themselves
		believers of		manners of	correctly.
		their religions.		good	4. Profess
				believers as	themselves as
				prescribed.	Buddhists or
					believers of
					their religions.

observance and furtherance of Buddhism or one's faith

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Provide services to	1. Conduct themselves	1. Analyse disciples'	1. Conduct themselves as
places of worship of	appropriately towards	duties and roles and	good believers towards
their religions.	various persons in	conduct themselves	disciples, family
2. Explain disciples'	accord with the	correctly towards	members and those
behaviour so as to serve	principles of their	disciples as prescribed.	around them.
as a model for personal	religions as	2. Conduct themselves	2. Conduct themselves
conduct, and conduct	prescribed.	appropriately towards	correctly in religious
themselves	2. Have the manners of	various persons in	rites and ceremonies in
appropriately towards	good believers as	accord with religious	accord with the
the disciples of their	prescribed.	principles as prescribed.	principles of their
religions.	3. Analyse the value of	3. Carry out the duties of	religions.
3. Conduct themselves	religious rites and	good believers.	3. Profess themselves as
appropriately towards	conduct themselves	4. Conduct themselves	Buddhists or believers
various persons in	correctly.	correctly in religious	of their religions.
accord with the	4. Explain the teachings	rites and ceremonies.	4. Analyse the moral
principles of their	related to important	5. Explain the history of	principles and doctrines
religions as prescribed.	religious days and	important religious days	related to important
4. Organise religious	conduct themselves	as prescribed, and	days and festivals of
ceremonies and conduct	correctly.	conduct themselves	their religions, and
themselves correctly in	5. Explain the	correctly.	conduct themselves
religious rites and	differences of	6. Profess themselves as	correctly.
ceremonies.	religious rites and	Buddhists or believers of	5. Organise seminars and
5. Explain the historical	ceremonies in accord	their religions.	propose guidelines for
importance of important	with practices of other	7. Present guidelines for	the upholding of their
days of their religions as	religions with a view	the upholding of their	religions conducive to
prescribed, and conduct	to attaining mutual	religions.	development of self, th
themselves correctly.	acceptance and		nation and the world.
	understanding.		

Strand 2: Civics, Culture and Living in Society

Standard So2.1: Understanding and self-conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Tell the	1. Observe the	1. Summarise the	1. Conduct	1. Cite	1. Abide by the	
benefits and	agreements,	benefits of and	themselves as	examples and	laws relating to	
conduct	rules,	observe family	good citizens	conduct	the daily life of	
themselves	regulations,	and local	of the	themselves in	their families	
as desirable	orders and	traditions and	democratic	accord with	and	
members of	duties	culture.	way of life,	the status,	communities.	
their	required in	2. Tell their own	thus	roles rights,	2. Analyse	
families and	daily life.	behaviour in life	constituting	freedoms and	cultural change	
schools.	2. Observe	and that of	desirable	duties of good	over time and	
2. Cite	Thai	others in the tide	community	citizens.	preserve the	
examples of	manners.	of diversified	members.	2. Propose	fine culture.	
their own	3. Show	cultures.	2. Conduct	methods of	3. Show Thai	
goodness	behaviour of	3. Explain the	themselves as	protecting	manners	
and that of	accepting	significance of	good leaders	themselves	appropriate to	
others and	different	important	and good	and others	the occasion.	
tell the	thoughts,	official	followers.	from violation	4. Explain	
effects from	beliefs and	holidays.	3. Analyse	of child	different	
good	practices of	4. Cite examples	children's	rights.	cultural values	
actions.	others	of people whose	fundamental	3. Appreciate	of various	
	without	achievements	rights entitled	the values of	groups of	
	prejudice.	are beneficial to	to them as	Thai culture	people in Thai	
	4. Respect	their	provided by	that affect the	society.	
	their own	communities	law.	way of life in		
	rights and	and local areas.	4. Explain	Thai society.		
	those of		cultural			
	others.		differences of			
			various groups			
			of local people.			

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	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Abide by the laws for	1. Explain and abide by	1. Explain differences of	1. Analyse and abide by the
protecting personal	the laws relating to	committing misdeeds	laws relating to
rights.	themselves, their	in criminal and civil	themselves, their families,
2. Specify their own	families, communities	cases.	communities, the nation
capacity for	and the country.	2. Participate in	and the world community.
providing services to	2. Appreciate the value	protecting others in	2. Analyse the importance of
society and the	of self-conduct in	accord with the	social structure, social
nation.	accord with the status,	principles of human	refinement and social
3. Discuss cultural	roles, duties, freedoms	rights.	change.
values conducive to	and duties of good	3. Preserve Thai culture	3. Conduct themselves and
creating harmonious	citizens along the	and choose to absorb	participate in encouraging
relations or mutual	democratic path.	appropriate universal	others to conduct
misunderstanding.	3. Analyse the roles,	culture.	themselves so as to
4. Show respect for	importance and	4. Analyse factors	become good citizens of
their own rights and	relationships of social	conducive to creating	the nation and the world
freedoms and those	institutions.	conflicts in the	community.
of others.	4. Explain similarities	country, and propose	4. Evaluate human rights
	and differences	concepts for mitigating	situations in Thailand and
	between Thai culture	the conflicts.	propose developmental
	and those of other	5. Propose concepts for	guidelines.
	countries in the Asian	living happily in the	5. Analyse the necessity to
	region conducive to	country and in the	improve, change and
	creating mutual	world community.	preserve Thai culture and
	understanding.		choose to absorb universal
			culture.

Strand 2: Civics, Culture and Living in Society

Standard So2.1: Understanding and self-conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	5. Propose methods of peaceful coexistence in daily life.	4. Participate in the preservation and dissemination of the local	5. Follow various data, information and events in daily life, and choose to receive and	
				wisdom of their communities.	utilise the data and information appropriately for learning.	

	Grade level indicators		
Grade 7	Grade 8 Grade 9		Grade 10-12
-	-	-	-

Strand 2: Civics, Culture and Living in Society

Standard So2.2:Understanding of political and administrative systems of the present
society; adherence to, faith in and upholding of the democratic form

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Tell the	1. Explain the	1. Specify the	1. Explain	1. Explain the	1. Compare the	
structure,	relationship	roles and duties	sovereign	structure,	roles and duties	
roles and	between	of community	power and the	power, duties	of local	
duties of	themselves	members in	importance of	and importance	administrations	
family	and family	participating in	the	of local	and those of the	
members in	members as	various	democratic	administration.	central	
school.	part of the	activities	system.	2. Specify the	government.	
2. Specify	community.	through	2. Explain the	roles, duties	2. Participate in	
their own	2. Specify	democratic	people's roles	and methods of	various	
roles, rights	those with	processes.	and duties in	assuming posts	activities that	
and duties	the roles and	2. Analyse	the election	in local	promote	
in family	authority in	differences of	process.	administrations.	democracy in	
and in	decision-	decision-making	3. Explain the	3. Analyse the	local areas and	
school.	making in	processes in	importance of	benefits to be	in the country.	
3. Participate	school and	class, school	the monarchy	received by	3. Discuss the role	
in decision-	community.	and community	in the	communities	and importance	
making and		by means of	democratic	from local	of exercising	
take part in		direct voting	form of	administration	electoral rights	
family and		and by electing	government	organisations.	in the	
school		representatives	under		democratic	
activities		to vote.	constitutional		system.	
through		3. Cite examples	monarchy.			
democratic		of changes in				
processes.		classroom,				
		school and				
		community				
		resulting from				
		decisions of				
		individuals and				
		groups of				
		persons.				

of government under constitutional monarchy

	Grade level indicators	3	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain in brief the	1. Explain the	1. Explain various forms	1. Analyse important political
principles, intents,	legislative process.	of government adopted	issues of various countries
structure and	2.Analyse the	at present.	from various sources of data
important substance	political and	2. Make a comparative	as well as propose guidelines
of the current	administrative	analysis of Thailand's	for remedial measures.
Constitution of the	data and	form of government	2. Propose political and
Kingdom of	information	and those of other	administrative guidelines
Thailand.	affecting the	countries with	leading to creating
2. Explain the role of	present Thai	democratic systems of	understanding and mutual
balancing sovereign	society.	government.	benefits among countries.
powers in the current		3. Analyse various	3. Analyse the importance and
Constitution of the		provisions of the	necessity to uphold the
Kingdom of		current Constitution	democratic form of
Thailand.		relating to elections,	government under
3. Observe the		participation and	constitutional monarchy.
provisions of the		checking application of	4. Propose guidelines and
current Constitution		state power.	participate in checking
of the Kingdom of		4. Analyse problematic	application of state power.
Thailand concerning		issues that hamper	
themselves.		democratic	
		development of	
		Thailand and propose	
		guidelines for remedial	
		measures.	

Strand 3: Economics

Standard So3.1: Understanding and capability of managing resources for production and consumption; efficiency and cost-effective utilisation of limited resources available; and understanding principles of Sufficiency Economy for leading a life of equilibrium

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Specify the	1. Specify the	1. Distinguish	1. Specify the	1. Explain the	1. Explain the	
goods and	resources	between	factors	factors for	roles of	
services	utilised for	desire and	affecting	producing	responsible	
utilised in	producing	necessity in	choice in	goods and	producers.	
daily life.	goods and	utilising	buying	services.	2. Explain the	
2. Cite	services used in	goods and	goods and	2. Apply the	roles of sharp	
examples	daily life.	services.	services.	concepts of	consumers.	
from daily	2. Tell the sources	2. Analyse their	2. Tell the	the	3. Tell the	
life of	of their own	own	fundamental	Sufficiency	methods and	
spending	income and	spending.	rights as	Economy	benefits of	
without	expenditure and	3. Can explain	consumers	Philosophy in	sustainable	
exceeding	those of their	that the	and protect	organising	utilisation of	
the amount	families.	limited	their own	various	resources.	
of money	3. Keep records of	resources	interests as	activities in		
available,	their own	available	consumers.	family,		
and	income and	affect	3. Explain the	school and		
appreciate	expenditure.	production of	principles of	community.		
benefits of	4. Conclude about	goods and	Sufficiency	3. Explain the		
saving.	the benefits of	services.	Economy	main		
3. Cite	spending		and apply	principles		
examples of	appropriate to		them in their	and benefits		
economical	income		own daily	of a		
use of	available and		lives.	cooperative.		
resources in	those of saving.					
daily life.						
	Grade level indicators		Key stage indicators			
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Grade 7	Grade 8	Grade 9	Grade 10-12			
1. Explain the meaning	1. Analyse the factors	1. Explain the price	1. Discuss fixing of prices and			
and importance of	affecting investment	mechanism in the	wages in the economic			
economics.	and saving.	economic system.	system.			
2. Analyze the values	2. Explain the factors	2. Participate in	2. Realise the importance of the			
and consuming	for production of	problem-solving and	Sufficiency Economy			
behaviour of people in	goods and services	in local development	Philosophy to the socio-			
society affecting the	and the factors	along the lines of	economic system of the			
economies of	influencing	Sufficiency	country.			
communities and the	production of goods	Economy.	3. Realise the importance of the			
country.	and services.	3. Analyse the	cooperative system to			
3. Explain the historical	3. Propose guidelines	relationship between	economic development at			
development,	for development of	the concepts of	community and national			
principles and	local production	Sufficiency	levels.			
importance of the	along the lines of the	Economy and those	4. Analyse economic problems			
Sufficiency Economy	Sufficiency	of the cooperative	of the community and			
Philosophy for Thai	Economy.	system.	propose remedial measures.			
society.	4. Discuss the					
	guidelines for					
	protecting their own					
	rights as consumers.					

Strand 3: Economics

Standard So3.2: Understanding of various economic systems and institutions,

economic relations and necessity for economic cooperation in the

world community

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Explain the	1. Explain	1. Tell the goods	1. Explain	1. Explain basic	1. Explain
reasons and	exchanges of	and services	economic	roles and	relationships
necessity	goods and	procured by the	relationships of	functions of	between
for people	services by	state and	people in the	banks.	producers,
to be	various	provided to the	community.	2. Identify	consumers,
engaged in	methods.	people.	2. Explain basic	advantages and	bank and the
honest	2. Tell	2. Tell the	functions of	disadvantages	government.
livelihoods.	relationship	importance of	money.	of borrowing.	2. Cite examples
	between	taxes and the			of economic
	buyers and	people's roles in			grouping in the
	sellers.	paying taxes.			local area.
		3. Explain the			
		reasons for trade			
		competition			
		resulting in			
		reduction of			
		prices of goods.			

	Grade level indicator	rs	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Analyse the roles,	1. Discuss various	1. Explain the government's	1. Explain the government's
functions and	economic systems.	roles and functions in the	roles concerning financial
differences of	2. Cite examples of	economic system.	and local policies in
types of financial	economic dependence	2. Express opinions about	national economic
institutions and the	and competition in the	the government's	development.
central bank.	Asian region.	economic policies and	2. Analyse the effects of
2. Cite examples of	3. Analyse distribution	activities affecting	economic liberalisation
economic	of resources in the	individuals, groups of	affecting Thai society.
dependence and	world affecting	persons and the nation.	3. Analyse advantages and
competition in the	international	3. Discuss the roles and	disadvantages of
country.	economic relations.	importance of	international economic
3. Specify the	4. Analyse internal and	international economic	cooperation in various
factors influencing	external trade	groupings.	forms.
determination of	competition affecting	4. Discuss effects of	
demand and	the quality,	inflation and liquidity	
supply.	production quantity	shortage.	
4. Discuss effects of	and price of goods.	5. Analyse disadvantages of	
having intellectual		unemployment and	
property laws.		guidelines for solving	
		unemployment problems.	
		6. Analyse causes and	
		methods of international	
		trade discrimination.	

Strand 4: History

Standard So4.1:Understanding of the meaning and significance of historical times and
periods; and ability to avail of historical methodology for systematic

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell the days,	1. Use	1. Compare	1. Count the time	1. Investigate	1. Explain the
months, year	specific	important	period by	historical	importance of
and the	terms for	eras, based on	decade,	development	historical
counting of	the times of	the calendar	century and	of the local	methodology in
time period,	events in	used in daily	millennium.	area by using	making a
based on the	the past,	life.	2. Explain the	a variety of	simple study of
calendar used in	present and	2. Make	ages in	evidence.	historical
daily life.	future.	sequences of	studying the	2. Collect data	events.
2. Make a	2. Make	important	brief history of	from various	2. Present data
sequence of	sequences	events in	mankind.	sources in	from a variety
events in daily	of events in	school and	3. Categorise the	order to	of evidence in
life, based on	their	community by	evidence used	reasonably	order to
the day and	families or	specifying	in studying	answer	understand
time of the	in their own	relevant	historical	historical	events of the
events.	lives by	evidence and	development of	questions.	past.
3. Tell their own	using	data sources.	the local area.	3. Explain	
origins and	relevant			differences	
biographical	evidence.			between	
development as				truths and	
well as those of				facts	
their families				concerning	
by asking those				the history of	
concerned.				the local area.	

analysis of various events

	Grade level indicators		Key stage indicators
Grade 7	Grade 7 Grade 8		Grade 10-12
1. Analyse the	1. Evaluate the	1. Reasonably analyse	1. Be aware of the importance of
importance of time in	reliability of	historical matters	historical times and periods
studying history.	historical evidence in	and important events	indicating changes in the
2. Compare the eras	various forms.	by using historical	development of mankind.
used in the various	2. Analyse differences	methodology.	2. Create new bodies of historical
systems for studying	between truths and	2. Apply historical	knowledge through
history.	facts of historical	methodology in	systematic application of
3. Apply historical	events.	studying various	historical methodology.
methodology for	3. Recognise the	matters of their	
studying historical	importance of	interests.	
events.	interpreting reliable		
	historical evidence.		

Strand 4: History

Standard So4.2:Understanding of development of mankind from the past to the
present; realising the importance of relationships and continuous

change of events, and ability to analyse their effects

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Tell the	1. Search for	1. Specify the	1. Explain in	1. Explain in	1. Explain the	
changes in	changes in	factors	brief the	brief the	present social,	
environ-	the ways of	influencing the	settling and	influence of	economic and	
mental	daily life of	settling and	development of	Indian and	political	
conditions,	their	development of	human beings	Chinese	situations of	
objects,	community	the community.	in the pre-	civilisations	neighbouring	
utensils and	members	2. Summarise	historic and	on Thailand	countries.	
lifestyles	from the past	important	historic ages.	and Southeast	2. Tell in brief the	
between their	to the	characteristics	2. Cite examples	Asia.	relationship of	
own time and	present.	of the customs,	of historical	2. Discuss in	the ASEAN	
the times of	2. Explain	traditions and	evidence found	brief the	Group.	
their parents	effects of	culture of the	in the local	influence of		
and	changes on	community.	area that show	foreign		
grandparents.	ways of life	3. Compare	development of	cultures on		
2. Tell events	of	cultural	mankind.	the present		
of the past	community	similarities and		Thai society.		
affecting	members.	differences of				
themselves at		their own				
present.		community and				
		other				
		communities.				

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the social,	1. Explain the social,	1. Explain in brief the	1. Analyse the importance of
economic and	economic and political	social, economic and	ancient civilisations and
political development	development of the	political	communication between the
of various countries in	Asian region.	development of the	Eastern and Western worlds
the Southeast Asian	2. Specify the	various regions of	affecting development and
region.	importance of origins	the world.	change in the world.
2. Specify the	of ancient civilisations	2. Analyse the effects	2. Analyse various important
importance of origins	in the Asian region.	of change leading to	events affecting social,
of civilisations in the		cooperation and	economic and political
Southeast Asian		conflicts in the 20^{th}	changes leading to the present
region.		century as well as	world.
		the attempts to solve	3. Analyse the effects of
		the problems of	expansion of influence of
		conflicts.	European countries to the
			continents of America, Africa
			and Asia.
			4. Analyse the world situation of
			the 21 st century.

Strand 4: History

Standard So4.3:Knowledge of historical development of Thailand as a nation and
culture; Thai wisdom; cherishing, pride in and preservation of

Thai-ness

		Grad	le level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Explain the	1. Specify	1. Specify the	1. Explain in	1. Explain in brief	1. Explain in brief
meaning and	benefactors	names and	brief the	the development	Thailand's
significance	of the local	brief	development	of the Ayutthaya	development
of important	area or the	achievements	of the	and Thonburi	during the
symbols of	nation.	of the Thai	Sukhothai	kingdoms.	Rattanakosin
the Thai	2. Cite	kings who	kingdom.	2. Explain factors	period.
nation and	examples of	founded the	2. Tell the	contributing to	2. Explain factors
conduct	culture,	Kingdom of	lives and	economic	contributing to
themselves	tradition	Thailand.	achievements	prosperity and	Thailand's
correctly.	and Thai	2. Explain in	of important	administrative	economic
2. Tell	wisdom	brief the life	persons of	achievements of	prosperity and
important	that they	and	the	the Ayutthaya	administrative
places that	are proud of	achievements	Sukhothai	kingdom.	achievements
are cultural	and should	of the	period.	3. Tell the lives and	during the
resources	be preserved.	current king.	3. Explain about	achievements of	Rattanakosin
in the		3. Relate	important	important persons	period.
community.		heroic deeds	Thai wisdom	of the Ayutthaya	3. Cite examples of
3. Specify what		of the Thai	of the	and Thonburi	achievements of
they cherish		ancestors	Sukhothai	periods whom	important persons
and are		who	period that	they are proud of.	in various respects
proud of in		participated	they are proud	4. Explain about	during the
the local		in defending	of and should	important Thai	Rattanakosin
area.		the nation.	be preserved.	wisdom of the	period.
				Ayutthaya and	4. Explain about
				Thonburi periods	important Thai
				that they are proud	wisdom of the
				of and should be	Rattanakosin
				preserved.	period that they
					are proud of and
					should be
					preserved.

	Grade level indicators				
Grade 7	Grade 7 Grade 8		Grade 10-12		
1. Explain in brief	1. Explain various	1. Analyse various	1. Analyse important issues of		
historical	aspects of	aspects of Thailand's	Thai history.		
development of the	development of the	development during	2. Analyse the importance of the		
Thai territory during	Ayutthaya and	the Rattanakosin	monarchy to the Thai nation.		
the pre-Sukhothai	Thonburi kingdoms.	period.	3. Analyse factors conducive to		
period.	2. Analyse factors	2. Analyse factors	creation of Thai wisdom and		
2. Analyse various	contributing to	contributing to	Thai culture that affect the		
aspects of	security and	Thailand's security	present Thai society.		
development of the	prosperity of the	and prosperity	4. Analyse achievements of		
Sukhothai kingdom.	Ayutthaya kingdom.	during the	important persons, both Thai		
3. Analyse the influence	3. Specify Thai wisdom	Rattanakosin period.	and foreign, who have		
of culture and Thai	and culture of the	3. Analyse Thai	contributed to creating Thai		
wisdom of the	Ayutthaya and	wisdom and culture	culture and Thai history.		
Sukhothai period and	Thonburi periods and	of the Rattanakosin	5. Plan, set guidelines and		
the present Thai	the influence of such	period and their	participate in preservation of		
society.	wisdom on	influence on	Thai wisdom and Thai		
	development of the	development of the	culture.		
	Thai nation in the	Thai nation.			
	subsequent period.	4. Analyse Thailand's			
		role in the period of			
		democracy.			

Strand 5: Geography

Standard So5.1: Understanding of physical characteristics of the Earth and relationship of various things in the natural system which affect one another; utilisation of maps and geographical instruments for searching, analysis, conclusion and efficient utilisation of geo-data and information

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Differentiate	1. Specify	1. Use maps,	1. Use maps and	1. Know	1. Use
various things	various	diagrams and	photographs;	positions	geographical
in the	natural and	photographs	specify	(geographical	instruments
surroundings,	man-made	in efficiently	important	specifications,	(various kinds
both natural	things seen	searching for	physical	latitude,	of maps,
and man-made.	between home	geo-data in	characteristics	longitude),	photographs)
2. Specify	and school.	the	of their own	distance and	for specifying
relationships of	2. Specify	community.	province.	direction of	important
position,	simple	2. Draw simple	2. Specify	their own	physical and
distance and	positions and	diagrams to	sources of	region.	social
direction of	physical	show	resources and	2. Specify	characteristics
various things	characteristics	locations of	various things	important	of the country.
in the	of various	important	in their own	marks and	2. Explain
surroundings.	things	places in	province by	geographical	relationships
3. Specify the	appearing on	school and	using maps.	characteristics	between
main directions	the globe,	community	3. Use maps to	of their own	physical
and positions	maps,	areas.	explain	region on a	characteristics
of various things.	diagrams and	3. Tell	relationships of	map.	and natural
4. Use simple	photographs.	relationships	various things	3. Explain	phenomena of
diagrams to	3. Explain	of physical	in the province.	relationships	the country.
show positions	relationships	and social		of physical	
of various	of phenomena	characteristics		and social	
things in the	between the	of the		characteristics	
classroom.	Earth, the sun	community.		of their own	
5. Observe and	and the moon.			region.	
tell weather					
changes in a					
day.					

	Grade level indicators					
Grade 7	Grade 8	Grade 9	Grade 10-12			
1. Select geographical	1. Use geographical	1. Use geographical	1. Use geographical instruments			
instruments (globe,	instruments for	instruments for	for collecting, analysing and			
maps, graphs, charts)	collecting, analysing	collecting,	efficiently presenting geo-			
in searching for data	and presenting data	analysing and	data and information.			
to analyse physical	on physical and	presenting physical	2. Analyse influence of			
and social	social characteristics	and social	geographical conditions			
characteristics of	of Europe and	characteristics of	causing physical problems or			
Thailand, Asia,	Africa.	North and South	natural disasters in Thailand			
Australia and	2. Analyse relationships	America.	and other regions of the			
Oceania.	between physical and	2. Analyse	world.			
2. Explain the	social characteristics	relationships	3. Analyse changes in the area			
international date	of Europe and	between physical	influenced by geographical			
line and compare the	Africa.	and social	factors in Thailand and			
days and times of		characteristics of	various continents.			
Thailand with those		North and South	4. Analyse whether natural			
other continents.		America.	changes in the world result			
3. Analyse causes of			from human and/or natural			
natural disasters and			actions.			
link guidelines for						
preventing natural						
disasters and disaster						
warning in Thailand,						
Asia, Australia and						
Oceania.						

Strand 5: Geography

Standard So5.2: Understanding of interrelationship between man and physical environment leading to cultural creativity; awareness of and participation in conservation of resources and the environment for sustainable development

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell various	1. Explain the	1. Compare	1. Explain the	1. Analyse physical	1. Analyse
things of	importance	environmental	physical	environment	relationship
natural origin	and value of	changes in the	environmen	influencing	between natural
affecting the	natural and	community	t of the	characteristics of	and social
lives of	social	from the past	community	the settling and	environments in
human	environments.	to the present.	affecting	migration of	the country.
beings.	2. Distinguish	2. Explain	the lives of	people in the	2. Explain natural
2. Observe and	and cost-	dependence on	people in	region.	transformations
compare	effectively	the	the	2. Explain the	in Thailand from
environmental	use depleting	environment	province.	influence of	the past to the
changes in	and non-	and natural	2. Explain	natural	present and the
the	depleting	resources in	environ-	environment	results of such
surroundings.	natural	meeting basic	mental	leading to	changes.
3. Participate	resources.	needs and	changes in	lifestyles and	3. Prepare a plan
in organising	3. Explain	livelihood of	the province	cultural creativity	for utilising
environmental	relationship	human beings.	and results of	in the region.	natural resources
order at	of seasons	3. Explain about	such	3. Present examples	in the
home and in	and human	pollution and	changes.	reflecting the	community.
the	lives.	origin of	3. Participate	results of	
classroom.	4. Participate	pollution	in	conservation and	
	in	caused by man.	conservatio	destruction of the	
	rehabilitating	4. Explain	n of the	environment, and	
	and	differences	environmen	propose concepts	
	improving	between urban	t in the	for environment	
	the	and rural areas.	province.	conservation in	
	environment	5. Be aware of the		the region.	
	in school and	environmental			
	in the	changes in the			
	community.	community.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the effects of	1. Analyse formation	1. Analyse the	1. Analyse the situations and
natural changes in	of the new social	formation of the new	crises relating to natural
Asia, Australia and	environment	social environment	resources and the environment
Oceania.	resulting from	resulting from	of Thailand and elsewhere in the
		-	
2. Analyse cooperation	natural and social	natural and social	world.
between various	changes of Europe	changes of North and	2. Specify preventive and
countries affecting	and Africa.	South America.	problem-solving measures, roles
natural resources in	2. Specify guidelines	2. Specify guidelines	of organisations and
Asia, Australia and	for conservation of	for conservation of	coordinating internal and
Oceania.	natural resources	natural resources and	external cooperation relating to
3. Explore and explain	and environment in	environment in North	laws on environment and
locations of	Europe and Africa.	and South America.	management of natural resources
economic and social	3. Explore and discuss	3. Explore and discuss	and environment.
activities in Asia,	environmental	environmental issues	3. Specify the guidelines for
Australia and	issues and problems	and problems in North	conservation of natural
Oceania by using a	in North and South	and South America.	resources and environment in
variety of data	America.	4. Analyse causes and	various regions of the world.
sources.	4. Analyse causes and	continuing effects of	4. Explain utilisation of the
4. Analyse physical and	effects on Thailand	environmental	environment for cultural
social factors	from environmental	changes in North and	creativity representing local
affecting the flow of	changes in Europe	South America on	identities both in Thailand and
thoughts,	and Africa.	Thailand.	around the world.
technologies, goods			5. Participate in problem-solving
and populations in			and leading lives along the line
Asia, Australia and			of conservation of resources
Oceania.			and environment for
			sustainable development.

Learning Area of Health and Physical Education

Why it is necessary to learn health and physical education

Health or state of health means the human condition with full development in all respects—physical, mental, social and intellectual or spiritual. Health or state of health is therefore important, as it is linked to all dimensions of life. All should learn about health for acquisition of knowledge, accurate understanding with proper attitude, morality and appropriate values, as well as practical skills in health for acquiring hygienic habits, resulting in the achievement of a society of quality.

What is learned in health and physical education

Health and physical education is education about health with the aims of maintaining and strengthening health and sustainable development of quality of life of individuals, families and communities.

Health Education places emphasis on enabling learners to concurrently develop behaviours regarding knowledge, attitude, morality, values and health practices.

Physical Education places emphasis on enabling learners to participate in kinesthetic activities, physical exercises, playing games and sports. It serves as an instrument in holistic development in all respects—physical, mental, emotional, social and intellectual, as well as imparting capacities for health and sports.

The learning area for health and physical education includes the following bodies of knowledge:

• Human Growth and Development: the nature of human growth and development; factors affecting growth; relationships and linkages in the functioning of various body systems as well as self-conduct for attaining growth and development in accord with students' age

• Life and Family: students' values and those of their families; self-adjustment to changes in various respects—physical, mental, emotional, sexual; creating and maintaining relationships with others; sexual health practices and life skills

• Movement, Doing Physical Exercises, Playing Games, Thai and International Sports: various forms of movement; participation in a variety of physical activities and sports, both as individuals and in teams, and both Thai and international sports; observance of rules, regulations, orders, agreements for participation in physical activities and sports, and having sporting spirit

• Strengthening of Health, Capacity and Disease Prevention: principles and methods of selecting food for consumption, health products and services; capacity-strengthening for health and prevention of communicable and non- communicable diseases

• Safety in Life: self-protection from various risk behaviours, i.e., health risks, accidents, violence, harm from use of medicines and addictive substances as well as guidelines for promoting safety in life

Learners' Quality

Grade 3 graduates

• Have knowledge and understanding of human growth and development, factors affecting growth and development, methods of creating relationships in family and in groups of friends

• Have good health habits in eating, rest and sleep, cleanliness of all parts of the body, playing games and doing physical exercises

• Protect themselves from behaviours conducive to using addictive substances, sexual harassment and know how to refuse improper affairs

• Are able to control their own movements in accord with development of each age range; are skilful in basic movements and participate in physical activities; engage in games and activities for physical capacity-strengthening for health with enjoyment and safety

• Are skilful in selecting food for consumption, toys, utensils beneficial to health; able to avoid and protect themselves from accidents

• Are able to conduct themselves properly when faced with emotional and health problems

• Observe rules, orders, agreements, advice and various steps, and willingly cooperate with others until successful completion of tasks

• Observe their own rights and respect those of others in team play

Grade 6 graduates

• Understand relationships and linkages in the functioning of various systems of the body and know how to take care of important parts of such systems

• Understand the nature of changes in various respects—physical, mental, emotional, social, and sexual urge of men and women; when entering the age of puberty and adolescence, able to appropriately adjust and manage themselves

• Understand and appreciate value of having a warm and happy life and family

• Are proud of and appreciate value of their own sex; able to correctly and appropriately observe sexual practices

• Protect and avoid risk factors and risk behaviours detrimental to health or conducive to contracting diseases, accidents, violence, addiction and sexual harassment.

• Skilful in basic movements and self-control in coordinated movement

• Know principles of movement and able to select participation in physical activities, games, folk games, Thai sports and international sports with safety and enjoyment; have sporting spirit by observing rules, regulations, their own rights and duties until successful completion of tasks

• Plan and regularly participate in physical activities and activities for physical capacity-strengthening for health as appropriate and required

• Are able to appropriately manage emotions, stress and health problems

• Are skilful in seeking knowledge, data and information for health-strengthening

Grade 9 graduates

• Understand and recognise the importance of factors affecting growth and development that have influence on health and life during various age ranges

• Understand, accept and are able to adjust themselves to changes in various respects—physical, mental, emotional; sexual feelings; gender equality; create and maintain relationship with others, and make decisions for solving life problems with appropriate methods

• Choose to consume appropriate food in suitable portions beneficial to growth and development in accord with their age

• Are skilful in assessing the influences of sex, friends, family, community and culture on attitudes and values about health and life, and are able to appropriately manage such influences

• Protect themselves from and avoid risk factors or risk behaviours detrimental to health and conducive to contracting diseases, accidents, misuse of medicine, addiction and violence; know how to strengthen safety for themselves, family and community

• Participate in physical, sports and recreational activities as well as activities for physical capacity-strengthening for health by applying principles of mechanical skills with safety and enjoyment, and regularly engage in such activities in accord with their aptitudes and interests

• Show realisation of the relationship between health behaviours, disease prevention, health maintenance, emotion, and stress management; do physical exercises, play sports and enjoy healthy lifestyles

• Realise their own self-worth, potential and independence

• Observe rules, regulations, duties and responsibilities; respect their own rights and those of others; cooperate in sport competitions and systematic teamworking with self-determination and sporting spirit until successful achievement of the goals with delight and enjoyment

Grade 12 graduates

• Through systematic planning, are able to efficiently take care of their health, strengthen health, protect themselves from diseases, and avoid risk factors and risk behaviours detrimental to health and conducive to accidents, misuse of medicine, addiction and violence

• Show love, care, concern and understanding of the influences of family, friends, society and culture on sex behaviours, way of life and healthy lifestyles

• Do physical exercises, play sports, participate in recreational activities, engage in activities for strengthening capacity for health by accurately and regularly applying skills and mechanisms with delight and enjoyment

• Show responsibility; cooperate and observe rules, regulations, rights and safety principles while participating in physical activities, and play sports until successful achievement of their goals and those of their teams

• Show good manners in watching, playing and competing with sporting spirit and practise good manners on all occasions until imbued with good personality.

• Analyse and assess personal health to determine strategies to reduce risks and strengthen and maintain health; disease prevention, and ability to accurately and appropriately manage emotions and stress.

• Apply processes of civil society to strengthen community to enjoy safety and desirable lifestyles

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Explain	1. Explain	1. Explain	1. Explain	1. Explain	1. Explain the	
characteristics	characteristi	characteristics	physical and	importance	importance of	
and functions	cs and	and growth of	mental growth	of digestive	reproductive	
of external	functions of	the human	and	and excretory	and circulatory	
organs.	internal	body.	development	systems on	systems	
2. Explain	organs.	2. Compare their	in accord with	health,	affecting	
methods	2. Explain	growth with	their age.	growth and	health, growth	
of taking	methods of	standard	2. Explain	development.	and	
care of	taking care	criteria.	importance of	2. Explain	development.	
external	of internal	3. Specify factors	muscles,	methods of	2. Explain	
organs.	organs.	affecting	bones and	taking care of	methods of	
	3. Explain the	growth.	joints	digestive and	taking care of	
	nature of		affecting	excretory	reproductive,	
	human life.		health, growth	systems for	circulatory and	
			and	functioning.	respiratory	
			development.		systems for	
			3. Explain		normal	
			methods of		functioning.	
			taking care of			
			muscles,			
			bones and			
			joints for			
			efficient			
			functioning.			

Strand 1: Human Growth and Development

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the	1. Explain changes in	1. Compare changes in	1. Explain processes of
importance of	physical, mental,	physical, mental	strengthening and maintaining
nervous and ductless	emotional, social and	emotional, social	efficient functioning of
gland systems	intellectual respects	and intellectual	various organ systems.
affecting health,	among teenagers.	respects at each	2. Plan for health care in accord
growth and	2. Specify factors	stage in life.	with conditions of their own
development of	affecting growth and	2. Analyse social	growth and development and
teenagers.	development in	influences and	those of their family
2. Explain methods of	physical, mental,	expectations on	members.
taking care of	emotional, social and	changes among	
nervous and ductless	intellectual respects	teenagers.	
gland systems for	among teenagers.	3. Analyse advertising	
normal functioning.		media influencing	
3. Analyse conditions of		growth and	
their own physical		development of	
growth with standard		teenagers.	
criteria.			
4. Search for guidelines			
for self-development			
to self-development			
to attain growth in			
accord with their			
ages.			

Strand 2: Life and Family

Standard H2.1: Understanding and self-appreciation; family; sex education; and life

skills

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Specify	1. Specify their	1. Explain the	1. Explain	1. Explain	1. Explain the	
family	roles and	importance and	characteristics	sexual	importance of	
members	duties and	differences of	of friends and	changes and	creating and	
and love	those of	the family on	of good family	conduct	maintaining	
and bonds	their family	themselves.	members.	themselves	relationships	
among	members.	2. Explain	2. Exhibit	appropriately.	with others.	
family	2. Tell the	methods of	behaviours	2. Explain the	2. Analyse risk	
members.	importance	creating	appropriate to	importance of	behaviours	
2. Tell what	of friends.	relationships in	their sex in	having a	conducive to	
they delight	3. Specify	the family and	accord with	warm family	sexual	
in and are	behaviours	groups of	Thai culture.	in accord with	intercourse,	
proud of in	appropriate	friends.	3. Cite examples	Thai culture.	contracting	
themselves.	to sex.	3. Tell methods of	of methods of	3. Specify	AIDS and	
3. Tell	4. Explain	avoiding	refusing	desirable and	premature	
characteristi	pride in	behaviours	harmful and	undesirable	pregnancy.	
cs of	being	conducive to	inappropriate	behaviours in		
differences	female or	sexual	actions in	resolving		
between	male.	harassment.	sexual matters.	conflicts in		
males and				family and		
females.				groups of		
				friends.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain appropriate	1. Analyse factors	1. Explain mother-and	1. Analyse influences of family,
methods for self-	influencing attitudes	-child health,	friends, society and culture on
adjustment to	about sexual matters.	family planning and	sexual behaviour and one's
physical, mental and	2. Analyse problems	methods for	lifestyle.
emotional changes	and effects of having	appropriate self-	2. Analyse sexual values in
and sexual	sexual intercourse at	conduct.	accord with Thai and other
development.	school age.	2. Analyse factors	cultures.
2. Show skills in	3. Explain methods of	affecting	3. Select appropriate skills in
refusing for self-	self-protection and	pregnancy.	preventing and reducing
protection from	avoid sexually	3. Analyse causes and	conflicts and solving
sexual harassment.	transmitted diseases,	propose guidelines	problems concerning sexual
	AIDS and unwanted	for prevention and	matters and family affairs.
	pregnancy.	resolution of family	4. Analyse causes and effects of
	4. Explain the	conflicts.	possible conflicts between
	importance of gender		students or youths in the
	equality and conduct		community and propose
	themselves		guidelines for problem-
	appropriately.		solving.

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.1: Understanding and skills in movement; physical activities; playing

		Grade	e level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Move body	1. Control	1. Control	1. Can control	1. Arrange	1. Can show
while	body	body	themselves	patterns of	kinesthetic skills
standing	movements	movements	when using	integrated	with others in
still,	while	in guided	integrated	movements	relays and in
moving and	standing	directions	kinesthetic	and control	integration while
using	still, moving	while	skills while	themselves	standing still,
equipment.	and using	standing	standing	when using	moving and using
2. Play	equipment.	still, moving	still, moving	kinesthetic	equipment and
miscellaneous	2. Play	and using	and using	skills in	movements attuned
games and	miscellaneous	equipment.	equipment.	accord with	to songs.
participate in	games and	2. Move body	2. Practise free-	the patterns	2. Classify
physical	participate in	by using	hand	prescribed.	kinaesthetic
activities	physical	kinesthetic	physical	2. Play games	principles regarding
requiring	activities with	skills in	exercises in	leading to	accepting and using
natural	methods that	guiding	accord with	chosen sports	forces and balance
movement.	depend on	directions	the beats.	and	of body movements
	basic	for playing	3. Play	kinesthetic	in playing games
	movements	miscellaneo	imitating	activities in	and sports, and
	while standing	us games.	games and	relays.	apply results for
	still, moving		activities in	3. Control	improving and
	and using		relays.	movements	increasing their
	equipment.		4. Can play at	regarding	practices and those
			least one	accepting and	of others.
			kind of basic	using forces	
			sport.	and balance.	

games and sports

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Increase their own	1. Apply results of self-	1. Can play Thai and	1. Analyse concepts of various
capacities in line with	conduct regarding	international sports,	patterns of movements in
the kinesthetic	mechanical and	one of each kind, by	playing sports.
principles that use	kinesthetic skills in	using techniques	2. Use their capacities for
mechanical and basic	playing sports from a	suitable to	increasing team potential
principles conducive	variety of data sources	themselves and to	bearing in mind the effects on
to development of	for conclusion of	the teams.	others and on society.
skills for playing	suitable methods in	2. Apply principles,	3. Can play Thai sports,
sports.	their own contexts.	knowledge and	international sports in
2. Can play Thai and	2. Can play Thai and	kinesthetic skills to	singles/doubles and team
international sports as	international sports as	physical activities,	sports, one of each kind.
individuals and in	individuals and in	playing games and	4. Show creative movements.
teams by using basic	teams, one of each	sports for health-	5. Participate in out-of-school
skills of the sports,	kind.	strengthening on a	recreational activities, and
one of each kind.	3. Compare efficiency	continuous and	apply the principles and
3. Participate in at least	of patterns of	systematic basis.	concepts for improving and
one recreational	movements affecting		developing their own quality
activity and apply the	playing sports and		of life and society.
knowledge gained for	activities in daily life.		
linkage and			
relationship with other			
subjects.			

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports.

Standard H3.1: Understanding and skills in movement; physical activities; playing

		Gra	de level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	4. Show	3. Can play Thai and
				mechanical skills	international
				in participating	sports as
				in physical	individuals and in
				activities and	teams, one of each
				playing sports.	kind.
				5. Can play Thai	4. Use mechanical
				and international	skills for
				sports as	improving and
				individuals and	increasing their
				in teams, one of	own capacities and
				each kind.	those of others in
				6. Explain	playing sports.
				principles and	5. Participate in at
				participate in at	least one
				least one	recreational
				recreational	activity, and apply
				activity.	the knowledge or
					principles obtained
					as a basis for
					studying and
					seeking
					knowledge about
					other matters.

games and sports

	Grade level indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
-	4. Participate in at least	3. Participate in at	-
	one recreational activity	least one recreational	
	and apply the	activity and apply	
	knowledge and	the principles of	
	principles gained, duly	knowledge and	
	adjusted, to their daily	methodology for	
	lives on a systematic	multiplying results	
	basis.	of learning for the	
		benefit of others.	

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.2 : Favour for physical exercise, playing games and sports regularly; observance of rights, rules and regulations; having sporting spirit; having true competitive spirit and appreciation of the aesthetics of sports

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Enjoy	1. Can do	1. Select	1. Do physical	1. Do physical	1. Explain the	
doing	physical	physical	exercises and	exercises by	benefits and	
physical	exercise and	exercises and	play games and	following	principles of doing	
exercise	play games	folk games	sports that they	patterns,	physical exercise	
and playing	themselves	and play	like; able to	play games	for health, physical	
games as	with	games	analyse their	requiring	capacity and	
advised.	enjoyment.	suitable to	own	thinking	personality-	
2. Observe	2. Observe	their own	developmental	skills and	strengthening.	
rules,	rules,	strengths,	effects by	decision-	2. Play games	
regulations	regulations	weaknesses	following	making.	requiring planning	
and	and	and	examples and	2. Regularly	skills, and able to	
agreements	agreements	limitations.	practices of	play their	increase skills for	
in playing	in games	2. Can observe	others.	favourite	physical exercises	
games as	played in	themselves	2. Observe rules	sports by	and movements on	
advised.	teams.	the rules,	and regulations	creating a	a systematic basis.	
		regulations	of basic sports	variety of	3. Play their favourite	
		and	in accord with	alternatives	sports and able to	
		agreements of	the respective	for their own	regularly assess	
		physical	kinds of sports	practice, and	their own playing	
		exercises,	played.	have	skills.	
		games and		sporting		
		folk games.		spirit.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the	1. Explain causes of	1. Have good manners	1. Do physical exercise and play
importance of doing	changes in physical,	in playing and	sports suitable to themselves
physical exercise and	mental, emotional,	watching sports with	regularly and use their
playing sports until	social and intellectual	sporting spirit.	capacities for increasing the
they become a healthy	respects resulting	2. Do physical	potential of the team,
way of life.	from regularly doing	exercise and play	decreasing egoism, and
2. Do physical exercise	physical exercise and	sports regularly and	bearing in mind the effects o
and choose to	playing sports until	proudly apply the	society.
participate in sports in	they become a way of	concepts and	2. Explain and observe the right
accord with their	life.	principles gained	rules, regulations and variou
aptitudes and interests	2. Choose to participate	from the playing for	strategies while playing and
to their highest	in doing physical	developing their	competing in sports with
potential, as well as	exercises and playing	quality of life.	others, and apply them for
assess their own	sports in accord with	3. Observe rules,	concluding practical
performance and that	their aptitudes and	regulations and	guidelines and continuously
of others.	interests as well as	agreements for	apply them in daily life.
3. Observe rules,	analyse individual	playing the sports	3. Show good manners in
regulations and	differences for	chosen, and apply	watching, playing and
agreements stipulated	providing guidelines	the concepts gained	competing in sports with
for the sports chosen.	for self-development.	for developing their	sporting spirit and apply the
4. Plan offensive and		quality of life in	on all occasions resulting in
defensive strategies		society.	development of good
for playing the sports			personality.
chosen and			
systematically apply			
them in their playing.			

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.2 : Favour for physical exercise, playing games and sports with regular practice; observance of rights, rules and regulations; having sporting spirit; having true competitive spirit and appreciation of the aesthetics of sports

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
				3. Observe rules	4. Observe rules
				and	and regulations
				regulations of	of the
				playing games	respective kinds
				and Thai and	of sports
				international	played, bearing
				sports in	in mind their
				accord with	own safety and
				the respective	that of others.
				kinds of	5. Distinguish
				sports played.	offensive and
				4. Observe their	defensive
				own rights, do	strategies and
				not infringe	apply teams in
				on those of	playing sports.
				others and	6. Play games and
				accept	sports in unity
				individual	and have
				differences in	sporting spirit.
				playing games	
				and Thai and	
				international	
				sports.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
5. Cooperate in playing	3. Have discipline,	4. Distinguish	4. Participate in physical
team sports and in	observe rules,	offensive and	activities and play sports
team-working with	regulations and	defensive strategies	happily; appreciate the value
enjoyment.	agreements in playing	and apply them in	and aesthetics of sports.
6. Make a comparative	the sports chosen.	playing the sports	
analysis and accept	4. Plan offensive and	chosen, and decide	
differences between	defensive strategies	to choose methods	
their own methods of	for playing the sports	suitable to the team	
playing sports and	chosen, and apply	for application in	
those of others.	them for appropriate	accord with the	
	team play.	situations of play.	
	5. Apply results of	5. Present results of	
	performance in	their own health	
	playing sports for	development from	
	concluding with	doing physical	
	determination the	exercise and playing	
	methods suitable to	sports regularly.	
	themselves.		

Strand 4: Health Strengthening, Capacities and Disease Prevention

Standard H4.1 : Appreciation and skills in health strengthening; maintaining one's

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Observe the	1. Tell	1. Explain	1. Explain	1. Show	1. Show
principles of	characteristics	transmission	relationship	behaviours that	behaviours for
the National	of having	and methods of	between the	recognise the	preventing and
Health	good health.	protection from	environment	importance of	solving
Regulations	2. Choose to	spreading of	and health.	observing the	environmental
as advised.	take nutritious	diseases.	2. Explain states	National	problems
2. Tell	food.	2. Classify the	of emotions	Health	affecting health.
symptoms of	3. Specify	5 groups of	and feelings	Regulations.	2. Analyse effects
their own	utensils and	essential	affecting	2. Search for data	from spreading
illness.	toys	nutrients.	health.	and	of diseases and
3. Follow	detrimental to	3. Choose to take	3. Analyse data	information for	propose
advice when	health.	a varied diet	on labels of	health-	guidelines for
they have	4. Explain	with all the 5	food and	strengthening.	preventing
symptoms of	symptoms and	groups of	health	3. Analyse	important
an illness.	methods of	essential	products to	advertising	communicable
	protection	nutrients in	make	media to	diseases
	from possible	appropriate	consumption	inform	prevalent in
	illnesses and	proportion.	choices.	decision-	Thailand.
	injuries.	4. Show correct	4. Test and	making when	3. Show
	5. Follow advice	method of	improve	choosing to	behaviours
	when they	brushing teeth	physical	buy food and	indicating
	have	for proper	capacities	health products	responsibility
	symptoms of	cleaning.	from the	with proper	for health for
	illnesses and	5. Can strengthen	results of	reasons.	all.
	injuries.	physical	physical		
		capacities as	fitness testing.		
		advised.			

health; disease prevention and strengthening capacity for health

	Grade level indicators		Key stage indicators	
Grade 7	Grade 8	Grade 9	Grade 10-12	
1. Choose to consume	1. Choose to consume 1. Choose to use health		1. Analyse the roles and	
food suitable to their	services with proper	to various ages,	responsibilities of individuals	
ages.	reasons.	bearing in mind cost-	for health-strengthening and	
2. Analyse problems	2. Analyse effects of	effectiveness and	disease prevention in the	
arising from	technological	nutritional value.	community.	
nutritional status	applications on health.	2. Propose guidelines	2. Analyse influences of	
affecting health.	3. Analyse medical	for preventing	advertising media on health	
3. Control their own	advancement affecting	diseases that are the	for making choices about	
weight to the norm.	health.	main causes of	consumption.	
4. Strengthen and	4. Analyse relationship	illness and death	3. Observe consumers' rights.	
improve physical	of the balance	among the Thai	4. Analyse causes and propose	
capacity from test	between physical and	people.	guidelines for protection from	
results.	mental health.	3. Collect data and	illnesses and death among the	
	5. Explain basic	propose guidelines	Thai people.	
	characteristics and	for solving health	5. Plan and implement health	
	symptoms of those	problems in the	development plans for	
	who have mental	community.	themselves and their families.	
	health problems.	4. Plan and allocate	6. Participate in strengthening	
	6. Recommend methods	time for doing	and developing community	
	of self-conduct for	physical exercise,	health.	
	managing emotions	rest and	7. Devise and follow plans for	
	and stress.	strengthening	developing physical and	
		physical capacity.	mechanical capacities.	

Strand 4: Health Strengthening, Capacities and Disease Prevention

Standard H4.1: Appreciation and skills in health strengthening; maintaining one's

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	-	4. Observe	4. Continuously	
				requirements for	strengthen and	
				self-protection	improve	
				from diseases	physical	
				frequently found	capacity for	
				in daily life.	health.	
				5. Test and		
				improve		
				physical		
				capacity from		
				results of		
				physical fitness		
				testing.		

health; disease prevention and strengthening capacity for health

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
-	7. Develop their own	5. Test physical	-
	physical capacities so	capacity and able to	
	as to meet the criteria	develop in accord	
	prescribed.	with individual	
		differences.	

Strand 5: Safety in Life

Standard H5.1: Prevention and avoidance of risk factors; behaviours detrimental to

	Grade level indicators				
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify	1. Conduct	1. Conduct	1. Explain the	1. Analyse the	1. Analyse effects
harmful	themselves	themselves for	importance of	factors	of violence
things at	for	safety from	the use of	influencing	from natural
home and	protection	accidents at	medicines and	the use of	disasters on the
in school,	from	home, in school	proper methods	addictive	body, mind and
and	possible	and while	for using	substances.	society.
methods of	accidents in	travelling.	medicines.	2. Analyse	2. Specify self-
protection.	water and on	2. Show methods	2. Show methods	effects of the	conduct for
2. Tell causes	land.	of seeking help	of first aid	use of	safety from
and	2. Tell names	from persons	treatment when	medicines and	natural
protection	of household	and various	harmed by	addictive	disasters.
from harm	medicines	sources when	misuse of	substances on	3. Analyse causes
resulting	and use them	there are	medicines,	the body,	of addiction to
from play.	as advised.	dangerous	chemicals,	mind,	drugs and
3. Express	3. Specify the	incidents or	insect and	emotions,	persuade others
words or	dangers of	accidents.	animal bites,	society and	to avoid the use
gestures for	addictive	3. Show methods	and injuries	the intellect.	of drugs.
seeking	substances	of first aid	from playing	3. Conduct	
help when	and	treatment when	sports.	themselves	
there are	dangerous	injured from		for safety	
dangerous	substances	play.		from misuse	
incidents at	around them,			of medicines	
home and	and methods			and to avoid	
in school.	of			addictive	
	protection.			substances.	

health; accidents; use of medicines; addictive substances and violence

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Show methods of first	1. Specify methods,	1. Analyse risk factors	1. Participate in protection from
aid treatment and	factors and sources	and risk behaviours	risks of using medicines,
safe transfer of	of assistance and	affecting health and	addictive substances and
patients.	rehabilitation for	methods of	violence for their own health,
2. Tell characteristics	drug addicts.	protection.	family and society.
and symptoms of	2. Explain methods of	2. Avoid resorting to	2. Analyse effects from
drug addiction and	avoiding risk	use of violence and	possession, use and sale of
protection from drug	behaviours and risk	persuade friends to	addictive substances.
addiction.	situations.	avoid resorting to	3. Analyse factors affecting
3. Explain the	3. Apply life skills for	use of violence for	health and violence of the
relationship of using	self-protection and	problem-solving.	Thai people and propose
drugs with	avoid emergent	3. Analyse influence	guidelines for protection.
contracting disease	situations conducive	of the media on	4. Plan and set guidelines for
and accidents.	to dangers.	behaviours related	decreasing accidents and
4. Show methods of		to health or	strengthening safety in the
persuading others to		violence.	community.
lessen, abandon and		4. Analyse the effect	5. Participate in strengthening
stop using drugs by		of consuming	safety in the community.
applying various		alcoholic drinks on	6. Apply problem-solving skills
skills.		health and causing	in situations of risk to health
		of accidents.	and violence.
		5. Show proper	7. Show proper resuscitation
		resuscitation	methods.
		methods.	
Strand 5: Safety in Life

Standard H5.1 : Prevention and avoidance of risk factors; behaviours detrimental to

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	4. Observe the	-	3. Analyse the	4. Analyse the	-
	symbols or		damage of	influence of	
	warning		cigarette	media on	
	signs for		smoking and	health	
	harmful		alcoholic	behaviours.	
	objects or		drinks on	5. Conduct	
	places.		health and	themselves	
	5. Explain		analyse	for protection	
	causes and		methods of	from harm	
	dangers of		protection.	from playing	
	fires, and			sports.	
	explain				
	methods for				
	fire				
	protection as				
	well as show				
	fire escape				
	routes.				

health; accidents; use of medicines; addictive substances and violence

	Key stage indicators		
Grade 7	Grade 8	Grade 10-12	
-	-	-	-

Learning Area of Arts

Why it is necessary to learn arts

The learning area of arts helps to develop creativity in learners, who will have artistic imagination, appreciate beauty, have aesthetics and worthiness, which affect the quality of human lives. Artistic activities help to develop learners in various respects— physical, mental, intellectual, emotional and social, as well as lead to environmental development. Artistic activities strengthen self-confidence in learners, thus providing a foundation for future education or livelihood.

What is learned in arts

The learning area of arts is aimed at developing knowledge and understanding in learners, enabling them to acquire artistic skills and techniques, and to appreciate artistic value. This provides them with opportunities to freely express themselves in various branches of arts. The main contents include:

• Visual Arts: knowledge and understanding of composition of art, visual elements; ability to create and present works of visual arts from imagination by being able to use appropriate instruments as well as artistic techniques and methods for efficiently creating works of art; ability to analyse and criticise value of works of visual art; understanding of the relationship between visual arts, history and culture; appreciation of value of works of art representing cultural heritage, local wisdom, Thai and universal wisdom; delight in art and apply in daily life

• **Music:** knowledge and understanding of composition of music; ability to express themselves freely through music, analyse and criticise value of music and convey feelings freely through music; delight in music and apply in daily life; appreciation of the relationship between music, history and culture; appreciation of music representing cultural heritage, local wisdom, Thai and universal wisdom; ability to sing and play various forms of music, express opinions about musical sounds, express aesthetic feelings about music and understand the relationship between music, tradition, culture and historical events

• Dramatic Arts: knowledge and understanding of composition of dramatic arts; ability to creatively express themselves through dramatic arts, use basic vocabulary of dramatic arts, analyse and criticise values of dramatic arts, convey feelings and thoughts freely, create various forms of movement and apply dramatic arts in daily life; understanding of the relationship between dramatic arts, history and culture; appreciation of values of dramatic arts representing cultural heritage, local wisdom, Thai and universal wisdom

Learners' Quality

Grade 3 graduates

• Know and understand about shapes, forms and distinguish visual elements of various things in nature, the environment and works visual art; have basic skills in using materials and instruments in creating paintings in colour by using lines, shapes, forms, colours and surfaces; are able to create collages, sculptures and simple mobiles; convey thoughts and feelings from stories, incidents and real life; create works of arts in accord with their predilection; are able to show reasons and methods for improving their own work

• Know and understand the importance of works of visual art in daily life, sources of works of visual art in the local area as well as know how to use materials, instruments and methods of creating works of visual art in the local area

• Know and understand origins of sound and properties of sound; know and understand roles, functions, meanings and importance of the songs heard around them; are able to recite verses, sing songs, beat time and attune body movements to songs; read, write and use symbols instead of sounds and beat time; express opinions about music and their own singing; participate in musical activities in daily life

• Know and understand unique characteristics of local music; delight in and recognise importance and benefits of music in the lifestyles of the local people

• Create various forms of movement; are able to perform musical callisthenics based on styles of dramatic art; have good manners in viewing performances; know the roles of the performers and the audience; know benefits of performance of dramatic arts in daily life; participate in performances suitable to their age

• Know and understand Thai children's games and local dramatic arts; find delight and pride in folk games; are able to link what they see in folk games with the Thai way of life; are able to tell outstanding features and unique characteristics of Thai dramatic arts as well as importance of the performance of Thai dramatic arts

Grade 6 graduates

• Know and understand utilisation of visual elements, shapes, forms, light and shadow; have basic skills in utilising materials and instruments, conveying thoughts, emotions and feelings; are able to apply principles for arranging size, proportion, balance, weight, light and shadow as well as utilise complementary colours suitable for creating twodimensional and three-dimensional works of visual art, e.g., works of mixed media, paintings, sculptures and lithographs, as well as able to draw diagrams, plans and illustrations for portraying thoughts and imagination about various incidents, and able to compare differences of materials, instruments and methods between works; understand problems of arranging artistic elements, principles of subtraction and addition in sculptures, conveying meaning of their own works of visual art; know methods of improving their work as well as know and appreciate the value of works of visual art in people's lives in society

• Know and understand the roles of works of visual art reflecting life and society, and the influences of religious belief, faith and culture affecting creation of works of visual art in the area

• Know and understand about musical sounds, singing voices and musical instruments, and their roles and functions; know the up and down movements of melodies, composition of music, musical terms in songs, lines and emotions of the songs heard; sing and play a musical instrument; do simple improvisations; use and maintain musical instruments properly; read and write Thai and international music scores in various forms;

know characteristics of would-be good musicians; express opinions about musical elements; convey feelings of the songs heard; able to use music to accompany activities relating to dramatic arts and story-telling

• Know and understand the relationship between music and way of life, tradition, Thai and other cultures, stories about music in history and the influence of culture on music; appreciate the value of music from different cultures; recognise the importance of conservation

• Know and understand composition of dramatic arts; are able to present laban notations and basic dance vocabulary; create simple movements and performances of dramatic art and theatrical work; convey styles or emotions and are able to design simple costumes or props; understand the relationship between dramatic arts and theatrical work and what they encounter in daily life; express opinions upon viewing performances and describe their own feelings about works of dramatic art

• Know and understand relationship and benefits of dramatic arts and theatrical work; are able to compare various kinds of Thai performances in each local area and things that reflect culture and tradition; appreciate value of conservation and transmission of performances of Thai dramatic art

Grade 9 graduates

• Know and understand about visual elements and principles of design and

diverse techniques for creating two-dimensional and three-dimensional works of visual art to communicate meaning and various stories with quality; analyse forms and contents, and evaluate value of their own works of visual art and those of others; are able to choose works of visual art by applying appropriately set criteria; are able to design pictures, symbols and graphics for presenting data; have knowledge and necessary professional skills relevant to works of visual art

• Know and understand changes and development of national and local works of visual arts in different periods; appreciate value of works of visual art that reflect culture and are able to compare works of visual art from various periods and cultures

• Know and understand differences regarding sounds, elements, emotions and feelings of songs from various cultures; are skilful in singing and playing musical instruments, both solo and in orchestra, with emphasis on singing and playing techniques of quality; are skilful in composing simple songs; are able to read and write scores on a scale with basic musical notation; know and understand factors affecting forms of musical works, elements of musical works and those of other branches of arts; express opinions and describe emotions and feelings about songs; are able to present songs of their predilection with proper reasons; are skilful in assessing quality of songs and musical performances; know various professions related to music and roles of music in the entertainment business; understand influence of music on individuals and society

• Know and understand origins, relationships, influences and roles of music of different each cultures in various periods; analyse factors leading to acceptance of musical works

• Know and understand usage of dance vocabulary or theatre vocabulary for interpretation and communication through performance as well as develop forms of performance; are able to apply simple criteria in considering quality of performances; make a comparative criticism of works of dramatic art through application of knowledge of composition of dramatic arts; participate in organising performances; apply concepts of the performances, duly adjusted, to daily life.

• Know and understand types of Thai plays in each period; know and understand factors affecting changes in Thai dramatic arts, folk dramatic arts, Thai plays and folk plays; compare special characteristics of performances of dramatic arts from various cultures, as well as are able to describe and create props and costumes for performance of dramatic arts and plays; understand the importance and roles of dramatic arts and plays in daily life

Grade 12 graduates

• Know and understand about visual elements and principles of design for communicating meaning; are able to use vocabulary of visual arts; explain objectives and contents of works of visual art; have skills and techniques in utilising materials, instruments

and higher processes in creating works of visual art; analyse contents and concepts, techniques and methods of expression of Thai and international artists, as well as apply various technologies for designing and creating works appropriate to occasion and place, as well as express opinions about social situations through caricatures and cartoons, and assess and criticise works of visual arts based on principles of theories of art criticism

• Make a comparative analysis of works of visual art of Eastern and Western styles; understand influences of cultural heritage and international wisdom affecting creation of works of visual art in society

• Know and understand the forms of various types of songs and orchestras, and distinguish the forms of both Thai and international orchestras; understand influence of culture on creating of music; compare emotions and feelings inspired from music of different cultures; read and write Thai and international music scores with various beats and rhythms; are skilful in singing or playing musical instruments, both solo and in orchestra, with emphases on techniques, expression and quality of performance; set criteria for appropriately assessing quality of their own and others' music compositions; are able to apply music to other activities

• Make a comparative analysis of the forms and outstanding characteristics of Thai and international music in various cultures; understand roles of music in reflecting concepts and values of people in society and social status of musicians in various cultures; create guidelines and participate in promoting and conserving music

• Are skilful in performances of diverse forms; have initiative in performances of dramatic arts in duos and in groups; create short plays in the form of their predilection; able to analyse the essence of performances of dramatic arts and plays intended to communicate meaning; analyse influences of costumes, light, colour, sound, scenery, instruments and places affecting performances; criticise performances of dramatic arts and plays; develop and apply assessment criteria for evaluating performances, and are able to analyse gestures and movements of people in daily life and apply them to performances

• Understand evolution of dramatic arts and performance of Thai plays, and roles of important personalities of Thailand's world of dramatic arts and plays in various periods; are able to compare presentations of performances on various occasions, and propose concepts for conservation of Thai dramatic arts

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Discuss	1. Describe	1. Describe forms	1. Compare	1. Describe the	1. Specify
forms,	forms and	and shapes in	characteristics	rhythms and	complementary
characteristi	shapes found	nature, the	of forms and	positions of	colours and
cs and sizes	in nature and	environment	shapes in	various	discuss the use
of man-	the	and works of	nature, the	things seen in	of
made	environment.	visual art.	environment	the	complementary
products	2. Specify	2. Specify	and works of	environment	colours to
and things	visual	materials and	visual art.	and works of	convey
around	elements in	instruments	2. Discuss	visual art.	thoughts and
them in	the	utilised in	influences of	2. Compare	feelings.
nature.	environment	creating the	warm hues	differences	2. Explain
2. Tell feelings	and works of	works when	and cool hues	between	principles of
about nature	visual art	viewing works	on human	works of	arranging size,
and their	with	of visual art.	emotions.	visual art	proportion and
surroundings.	emphases on	3. Distinguish	3. Distinguish	created with	balance in
3. Have basic	lines,	visual elements	visual	different	creating works
skills in	colours,	of various	elements of	materials,	of visual art.
using	forms and	things in	various things	instruments	3. Create works
materials	shapes.	nature, the	in nature, the	and methods.	of visual art
and		environment	environment	3. Paint pictures	with two
instruments		and works of	and works of	by applying	dimensions to
to create		visual art with	visual art with	techniques of	three
works of		emphases on	emphases on	light and	dimensions by
visual art.		lines, colours,	lines, colours,	shadow,	applying
		forms, shapes	forms, shapes,	weight and	principles of
		and surfaces.	surfaces and	hues.	light and
			blank space.		shadow and
					weight.

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Describe differences	1. Discuss visual	1. Describe the	1. Analyse application of visual
and similarities of	elements regarding	environment and	elements and principles of
works of visual art	forms and concepts	works of arts	design in communicating
and the environment	of the works of	chosen by applying	meaning through various
by applying	visual art chosen.	knowledge of	forms.
knowledge of visual	2. Describe differences	visual elements and	2. Describe objectives and
elements.	and similarities of	principles of	contents of works of visual ar
2. Specify and describe	forms and methods	design.	by using visual arts
principles of	of utilising materials	2. Specify and	vocabulary.
designing works of	and instruments in	describe techniques	3. Analyse choice of materials,
visual art with	particular artists'	and methods of	instruments and techniques of
emphases on unity,	works of art.	artists in creating	artists in expressing
harmony and	3. Paint pictures with	works of visual art.	themselves through visual
balance.	diverse techniques to	3. Analyse and	arts.
3. Paint landscapes	communicate	describe methods of	4. Have skills and techniques to
showing short and	meaning and various	using visual	utilise materials, instruments
long distances in	stories.	elements and	and higher processes for
three dimensions.	4. Set evaluation criteria	principles of design	creating works of visual art.
4. Collect sculptures or	and criticise works of	in creating their	5. Create works of visual art
works of mixed	visual art.	own works of	using various technologies
media to create	5. Apply results of such	visual art of quality.	with emphases on principles
three-dimensional	criticism for		of design and arranging
stories with	improving and		artistic elements.
emphases on unity,	developing the		
harmony and	works.		
conveying stories			
about the works.			

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
4. Create	3. Create	4. Paint pictures	4. Have basic	4. Create	4. Create
works of	various	of objects	skills in	sculptures	sculptures by
visual art	works of	around them.	utilising	from	applying
by	visual art by	5. Have basic skills	materials and	plasticine or	principles of
experimentin	using visual	in utilising	instruments to	clay with	addition and
g with the	elements	materials and	create	emphasis on	subtraction.
use of	with	instruments to	sculptures.	conveying	5. Create works
colours	emphases	create sculptures.	5. Have basic	imagination.	of visual art by
through	on lines and	6. Draw pictures	skills in	5. Create	applying
simple	forms.	to convey	utilising	lithographs	principles of
techniques.	4. Have basic	thoughts and	materials and	with	forms and
5. Paint	skills in using	feelings from	instruments to	emphasis on	blank space.
landscapes	materials and	incidents in real	create	arranging	6. Create works
from their	instruments	life by using	paintings.	positions of	of visual art by
own	to create	forms, shapes,	6. Describe	various	using
feelings.	three-	colours and	characteristics	objects in the	complementary
	dimensional	surfaces.	of the paintings	pictures.	colours, and
	works of	7. Describe	with emphases		principles of
	visual art.	reasons and	on arranging		arranging size,
		methods for	distance, depth,		proportion and
		creating works	weight and		balance.
		of visual art	light and		
		with emphases	shadow in the		
		on techniques,	paintings.		
		materials and			
		instruments.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
5. Design pictures,	6. Draw pictures	4. Be skilful in	6. Design works of visual art
symbols or other	showing personality	creating at least 3	appropriate to the occasion
graphics to present	and characteristics of	kinds of works of	and place.
thoughts and data.	the characters.	visual art.	7. Analyse and explain
6. Evaluate works of	7. Describe methods of	5. Be skilful in	objectives of the artists in
visual art and	utilising works of	integrating various	choosing materials,
describe methods of	visual art in	materials to create	instruments, techniques and
improving their own	advertisement to	works of visual art	contents to create works of
and others' works by	entice and present	by applying	visual art.
using prescribed	examples to	principles of	8. Evaluate and criticise works o
criteria.	illustrate.	design.	visual art by applying art
		6. Create both two-	criticism theory.
		dimensional and	9. Classify works of visual art to
		three-dimensional	reflect their own developmen
		works of art to	and progress.
		convey experience	10. Create Thai and international
		and imagination.	works of visual art by
		7. Create works of	studying concepts and
		visual art to	methods used by artists they
		communicate	admire.
		meaning through	11. Paint pictures in the form of
		stories by applying	caricatures or cartoons to
		visual elements and	express opinions about the
		principles of	present situation in society.
		design.	

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	5. Create	8. Specify what is	7. Paint pictures	6. Specify	7. Create works
	collages by	admired and	using warm	problems in	of visual art in
	cutting or	what should be	hues and cool	arranging	the form of
	tearing	improved in	hues to	artistic	diagrams,
	paper.	their own	convey	elements and	plans and
	6. Draw pictures	works of visual	feelings and	conveying	illustrations to
	to convey	art.	imagination.	meaning in	convey
	stories about	9. Specify and	8. Compare	their own	thoughts or
	their own	classify	thoughts and	works of	stories about
	families and	pictures based	feelings	visual arts,	various
	those of their	on the visual	conveyed	and tell	incidents.
	neighbours.	elements	through their	methods of	
	7. Collect works	highlighted in	own and	improvement.	
	of visual art	particular	others' works	7. Describe	
	and describe	works of visual	of visual art.	benefits and	
	what they see,	art.	9. Choose to use	value of	
	including	10. Describe	hues to	works of	
	contents and	characteristics,	convey	visual art to	
	relevant	forms and	emotions and	human life in	
	stories.	shapes in the	feelings in	society.	
	8. Create works	work of	creating		
	of visual art in	designing	works of		
	the form of	various objects	visual art.		
	mobiles.	at home and in			
		school.			

	Grade level indica	ators	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	8. Analyse and discuss the	-
		forms, contents and	
		value of their own works	
		of visual art and those of	
		others or those of artists.	
		9. Create works of visual	
		arts to describe various	
		events by using diverse	
		techniques.	
		10. Specify professions	
		related to works of	
		visual art and skills	
		required to engage in	
		such professions.	
		11. Select works of visual	
		art by applying	
		appropriately prescribed	
		criteria and mount	
		exhibitions.	

Standard A1.2:Understanding of relationship between visual arts, history and culture;appreciation for works of visual art that represent cultural heritage,

local wisdom, and Thai and universal wisdom

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify	1. Tell the	1. Tell about	1. Specify and	1. Specify and	1. Describe the
works of	importance	sources of	discuss works	describe	roles of works
visual art	of works of	works of visual	of visual art in	characteristics	of visual art
in daily	visual art	art in the local	events and	and forms of	reflecting life
life.	seen in	area.	celebrations of	works of	and society.
	daily life.	2. Explain about	local culture.	visual art in	2. Discuss the
	2. Discuss	the materials,	2. Describe	learning	influences of
	various	instruments and	works of visual	resources or	religious beliefs
	types of	methods of	art from	art	and faiths on
	works of	creating works	various	exhibitions.	works of visual
	visual art in	of visual art in	cultures.	2. Discuss	art in the local
	the local	the local area.		works of	area.
	area with			visual art	3. Specify and
	emphases			reflecting	describe local
	on methods			culture and	cultural
	of creating			wisdom in the	influences on
	the works			local area.	creation of
	and the				personal works
	materials				of visual art.
	and				
	instruments				
	utilised.				

	Grade level indicators		Key stage indicators
Grade 7 Grade 8		Grade 9	Grade 10-12
1. Specify and describe	1. Specify and describe	1. Study and discuss	1. Analyse and compare works of
characteristics and	various cultures	works of visual art	visual art in Eastern and
forms of national and	reflecting works of	reflecting cultural	Western styles.
local works of visual	visual art at present.	values.	2. Specify works of visual art of
art from the past to	2. Describe changes in	2. Compare	famous artists and describe
the present.	Thai works of visual	differences of	outcomes of social
2. Specify and compare	art in each period with	works of visual art	acceptance.
works of visual art in	emphases on concepts	in each period of	3. Discuss the influences of
various regions of	and contents of the	Thai and universal	international cultures on
Thailand.	works.	cultures.	works of visual art in society.
3. Compare differences	3. Compare concepts in		
in the objectives in	designing works of art		
creating works of	of Thai and universal		
visual art of Thai and	cultures.		
universal cultures.			

Strand 2: Music

Standard A2.1: Understanding of and capacity for creative self-expression through music; analysis and criticism of value of music; free conveyance of feelings and thoughts about music; appreciation and application in daily life

		Grade le	vel indicators	-	
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Know that	1. Distinguish	1. Tell the forms	1. Tell simple	1. Specify	1. Describe the
various	sources of	and	lines of music.	musical	songs heard by
things can	sounds	characteristics	2. Distinguish	elements of	availing of
produce	heard.	of the musical	types of	songs utilised	musical
different	2. Distinguish	instruments	musical	to convey	elements and
sounds.	properties	seen and heard	instruments	emotions.	musical
2. Tell	of high-	in daily life.	played in the	2. Distinguish	vocabulary.
characteristics	pitched and	2. Utilize	songs heard.	characteristics	2. Distinguish
of loud and	low-	pictures or	3. Specify	of sounds of	types, roles and
soft sounds	pitched,	symbols to	directions of	singing and	functions of
and pace of	loud and	represent	simple up-and-	musical	Thai musical
rhythm.	soft and	sounds and	down	instruments in	instruments and
3. Recite	long and	beat.	movements of	various types	instruments
verses and	short	3. Tell the roles	the tune, form,	of orchestras.	from other
sing simple	sounds of	and functions	beat and tempo	3. Read and	cultures.
songs.	music.	of the songs	of the songs	write 5 scales	3. Read and write
4. Participate	3. Beat time or	heard.	heard.	of Thai and	Thai and
in musical	move their	4. Sing and play	4. Read and write	international	international
activities	bodies in	simple music.	Thai and	music scores.	music scores of
with	attunement	5. Move their	international	4. Use musical	simple tunes.
enjoyment.	to contents	bodies in	music scores.	instruments to	4. Utilise musical
	of the	attunement to	5. Sing songs by	make rhythm	instruments to
	songs.	emotions of the	using pitches	and melody.	accompany
	4. Sing simple	songs heard.	suitable to their		improvised
	songs		age.		singing with
	suitable to				simple beats
	their age.				and tunes.

	Grade level indicators Key stage indicators					
Grade 7	Grade 8	Grade 9	Grade 10-12			
1. Read, write and sing	1. Compare utilisation	1. Compare elements	1. Compare forms of different			
Thai and	of musical elements	utilised in musical	types of songs and orchestras.			
international music	from a different	works and in other	2. Classify into types and forms			
scores.	culture.	works of art.	of orchestras, both Thai and			
2. Compare sounds of	2. Read, write and sing	2. Sing songs and play	international.			
singing and of	Thai and international	music solo and in	3. Explain the reasons for people			
musical instruments	music scores with	groups with	of different cultures creating			
from a different	notations.	emphases on	different musical works.			
culture.	3. Specify important	techniques of	4. Read and write Thai and			
3. Sing and play musical	factors influencing	singing, playing,	international music scores			
instruments to	creation of musical	self-expression and	with various tempos.			
accompany singing	works.	sound quality.	5. Sing or play music solo or in			
songs in diverse	4. Sing and play musical	3. Compare short	orchestra with emphases on			
forms.	instruments solo and	songs with simple	techniques of expression and			
4. Classify types of Thai	in groups.	beats.	quality of the performance.			
orchestras and	5. Describe emotions of	4. Explain reasons for	6. Create criteria for			
orchestras from	the songs and feelings	choice of musical	appropriately evaluating the			
various cultures.	towards the songs	elements in creating	quality of their own and			
5. Express opinions	heard.	their own musical	others' compositions and			
about emotions of	6. Evaluate	works and in works	music performances.			
songs with different	development of their	of others.	7. Compare emotions and			
tempos and loudness	own musical skills	6. Explain about the	feelings roused from musical			
and softness.	after practice.	influence of music	works of a different culture.			
6. Compare emotions	*	on people and	8. Apply music to other works.			
and feelings when		society.				
listening to different		ž				
types of music.						

Strand 2: Music

Standard A2.1: Understanding of and capacity for creative self-expression through music; analysis and criticism of value of music; free conveyance of feelings and thoughts about music; appreciation and application in daily life

		Grade le	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
5. Tell	5. Tell the	6. Express	6. Utilise and	5. Sing Thai or	5. Describe their
relevance	meaning	opinions about	keep musical	international	feelings
of songs	and	their own and	instruments	songs or	towards music.
used in	importance	others' music	correctly and	modern Thai	6. Express
daily life.	of songs	and singing.	safely.	songs suitable	opinions about
	heard.	7. Apply music in	7. Specify that	to their age.	tune, beat, voice
		daily life or	music can be	6. Make simple	harmony and
		other occasions	availed of for	improvisations	sound quality of
		appropriately.	communicating	by using lines	the songs heard.
			stories.	of question-	
				and-answer	
				type.	
				7. Use music	
				together with	
				activities in	
				expressing	
				themselves	
				from	
				imagination.	

	Grade level indicators				
Grade 7	Grade 8	Grade 9	Grade 10-12		
7. Present examples of	7. Specify various	7. Present or organise	-		
the songs they	professions connected	suitable musical			
admire and discuss	with music and roles	performances by			
outstanding features	of music in the	integrating with			
that make these	entertainment	other learning			
songs delightful.	business.	strands in the area			
8. Use criteria for		of arts.			
evaluating the					
quality of the music					
or songs heard.					
9. Play and maintain					
musical instruments					
with care and					
responsibility.					

Strand 2: Music

Standard A2.2: Understanding of relationship between music, history and culture; appreciation of musical works that represent cultural heritage, local wisdom, and Thai and universal wisdom

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
1. Tell about	1. Tell the	1. Specify	1. Tell the	1. Explain the	1. Explain the		
local	relationship	outstanding	sources and	relationship	stories of Thai		
music.	of sounds of	characteristics	relationships	between	music in		
2. Specify	singing and	and unique	of Thai way	music and	history.		
what they	those of	features of local	of life	tradition in	2. Distinguish		
admire in	musical	music.	reflected in	various	music from		
local	instruments	2. Specify the	local music	cultures.	different		
music.	in local	importance and	and songs.	2. Explain the	periods.		
	songs by	benefits of	2. Specify the	value of	3. Discuss the		
	using simple	music to the	importance of	music from	influence of		
	words.	lives of the	conserving	different	culture on local		
	2. Perform and	local people.	and	cultures.	music.		
	participate in		promoting				
	local musical		musical				
	activities.		culture.				

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the role,	1. Describe the role and	1. Describe the	1. Analyse the forms of Thai and
relationship and	influence of music on	evolution of music in	international music in various
influence of music on	the cultures of	various periods.	periods.
Thai society.	various countries.	2. Discuss outstanding	2. Analyse the social status of
2. Specify diversity of	2. Describe the	characteristics	artists in various cultures.
musical elements in	influence of culture	leading to	3. Compare outstanding musical
different cultures.	and historical events	acceptance of the	characteristics in various
	on the forms of	musical works.	cultures.
	music in Thailand.		4. Explain the role of music in
			reflecting changes in the
			concepts and values of people
			in society.
			5. Propose guidelines for
			promoting and conserving
			music as national heritage.

Strand 3: Dramatic Arts

Standard A3.1:Understanding and creative self-expression through dramatic arts;
analysis and criticism about value of dramatic arts; free expression of

feelings and thoughts; appreciation and application in daily life

		Grade	level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Imitate	1. Move while	1. Create	1. Specify basic	1. Describe	1. Create
movements.	remaining in	various forms	skills in dramatic	elements of	movements and
2. Show simple	the same	of movement	arts and theatrical	dramatic arts.	performances
gestures to	place and	in short	work that are	2. Show	with emphasis
communicate	while	situations.	applied to	gestures in	on conveying
meanings	moving	2. Show	communicate	attunement to	styles or
instead of	about.	musical	meanings and	songs or	emotions.
words.	2. Show	calisthenics	emotions.	stories based	2. Design simple
3. Tell what	movements	based on	2. Use laba notation	on their own	costumes or
they like	that freely	forms of	and dance	thoughts.	props.
from viewing	reflect their	dramatic arts.	vocabulary or	3. Perform	3. Show simple
or	own	3. Compare the	simple theatre	dramatic arts	dramatic arts
participating	emotions.	roles and	vocabulary in	with emphasis	and theatrical
in	3. Show	duties of	conveying	on application	work.
performances.	gestures to	performers	stories.	of laba	4. Describe their
	communicate	and	3. Show	notation and	own creative
	meanings	audiences.	movements in	dance	feelings for
	instead of	4. Participate in	various beats	vocabulary in	dramatic arts
	words.	activities of	based on their	communicating	and theatrical
	4. Creatively	performances	own thoughts.	meaning and	work.
	perform	suitable to	4. Show	in self-	5. Express
	calisthenics.	their age.	performances of	expression.	opinions in
	5. Specify	5. Tell the	dramatic arts in	4. Participate in	viewing
	manners in	benefits of	duos or in	groups	performances.
	viewing	dramatic arts	groups.	writing story	
	performances.	in daily life.		lines or short	
				plays.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the	1. Explain the	1. Specify the structure of	1. Have skills in various
influences of famous	integration of other	plays by using theatre	forms of performance.
performers who entice	branches of arts with	vocabulary.	2. Create short plays in the
emotions or thoughts	performance.	2. Use appropriate dance	form of their predilection.
from the audience.	2. Create performances	vocabulary or theatre	3. Use initiative in
2. Use dance vocabulary	by using elements of	vocabulary to compare	performances of dramatic
or theatre vocabulary	dramatic arts and	people's gestures made	art in duos and in groups.
in performances.	theatrical work.	in daily life and those in	4. Criticise performances
3. Perform dramatic arts	3. Analyse their own	performances.	based on principles of
and theatrical work in	and others'	3. Have thinking skills in	dramatic arts and
simple forms.	performances by	developing forms of	theatrical work.
4. Use collective skills	using appropriate	performance.	5. Analyse the essence of
in the process of	dance vocabulary or	4. Have skills in	performances of dramatic
producing	theatre vocabulary.	interpreting and	art and theatrical work
performances.	4. Propose opinions for	communicating through	intended to communicate
5. Apply the simple	improving	performances.	meaning.
criteria prescribed in	performances.	5. Make a comparative	6. Describe and analyse the
considering quality of	5. Link the learning	criticism of different	influences of costumes,
the performances	between dramatic	works of dramatic art by	lights, colours, sounds,
viewed, with	arts and theatrical	applying knowledge of	props and sets affecting
emphasis on the use	work with other	elements of dramatic	performances.
of sounds, gestures	learning areas.	arts.	
and movement.			

Strand 3: Dramatic Arts

Standard A3.1:Understanding and creative self-expression through dramatic arts;
analysis and criticism about value of dramatic arts; free expression of

feelings and	thoughts.	appreciation	and application	in daily life
icenings and	mougnes,	appreciation	and approacion	in daily life

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	-	-	5. Tell what they	5. Compare	6. Explain the	
			admire in a	different shows	relationship	
			performance	of dramatic art	between	
			with emphasis	performances.	dramatic arts	
			on the main	6. Tell the benefits	and theatrical	
			points of the	obtained from	work in what	
			story and	viewing	they encounter	
			outstanding	performances.	in daily life.	
			features of the			
			characters.			

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	6. Participate in	7. Develop and apply evaluation
		organising	criteria in assessing
		performances, taking	performances.
		various roles and	8. Analyse people's gestures and
		functions.	movements in daily life and
		7. Present concepts	apply them to performances.
		from the contents of	
		performances that	
		could be adjusted for	
		application in daily	
		life.	

Strand 3: Dramatic Arts

Standard A3.2:Understanding of relationship between dramatic arts, history and
culture; appreciation of the value of dramatic arts that represent

cultural heritage, local wisdom and Thai and universal wisdom

		Grade le	evel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify	1. Specify and	1. Tell about the	1. Explain the	1. Compare	1. Explain about
and play	play folk	performances	history of	various types	things that are
Thai	games.	of dramatic	dramatic arts or	of Thai	important to
children's	2. Link what	arts that they	simple shows or	performances	performances of
games.	they see in	have viewed in	performances.	in the local	dramatic arts
2. Tell what	folk games	the local area.	2. Compare	area.	and theatrical
they like in	with what	2. Specify	performances of	2. Specify or	work.
performances	they see in	outstanding	dramatic arts	perform	2. Specify the
of Thai	the lifestyle	characteristics	with those from	dramatic arts	benefits
dramatic	of Thai	and unique	other cultures.	and folk	obtained from
arts.	people.	features of	3. Explain the	dramatic arts	performances or
	3. Specify	performances	importance of	reflecting	viewing
	what they	of dramatic	paying respect	culture and	performances of
	admire and	arts.	in learning and	tradition.	dramatic arts
	are proud of	3. Explain the	performing		and plays.
	in folk	importance of	dramatic arts.		
	games.	performances	4. Specify the		
		of dramatic	reasons for		
		arts.	conserving and		
			transmitting		
			performances of		
			dramatic arts.		

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Specify factors	1. Compare special	1. Design and create	1. Compare presentation of
affecting changes in	characteristics of	instruments and	performances on various
dramatic arts, folk	performances of	costumes for	occasions.
dramatic arts and Thai	dramatic arts from	performing dramatic	2. Discuss the roles of important
and folk theatrical	various cultures.	arts and plays from	personalities in the world of
work.	2. Specify or perform	various cultures.	dramatic arts and theatrical
2. Describe types of	dramatic arts, folk	2. Explain the	work in Thailand during the
Thai plays in various	dramatic arts, Thai	importance and roles	various periods.
periods.	and folk plays or other	of dramatic arts and	3. Describe the evolution of Thai
	forms of	theatrical work in	dramatic arts and theatrical
	entertainment	daily life.	work from the past to the
	favoured in the past.	3. Express opinions	present.
	3. Explain the	about conservation.	4. Present concepts for
	influences of culture		conserving Thai dramatic arts.
	on the content of		
	plays.		

Learning Area of Occupations and Technology

Why it is necessary to learn occupations and technology

The learning area of occupations and technology contributes to development of learners in acquiring knowledge and understanding basic skills essential to their lives. Learners will thus be alert to changes and able to apply knowledge about living, occupations and technology to their work with creativity and competitiveness in Thai society and the world community. Learners will be able to see prospects for their future careers, love working and have a favourable attitude towards work, as well as lead a happy life in society, based on the principles of sufficiency.

What is learned in occupations and technology

The learning area of occupations and technology is aimed at learners' holistic development with a view to enabling them to acquire knowledge, capacity and essential skills required for work. Learners will thus efficiently see the prospects of their future careers and further education. The main contents include:

• Life and Family: work in daily life; ability to help themselves, their families and society under guidance of the principles of sufficiency economy; intent not to destroy the environment; emphasis on actual practice until attainment of confidence and pride in their accomplishments in order to discover their own capacities, aptitudes and interests

• **Design and Technology:** creative development of human capacities by applying knowledge with technological processes to create objects, utensils and methodologies, or to increase efficiency in life.

• Information and Communication Technologies (ICTs): process of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; value and effects of ICTs

• Occupations: skills essential to learners' occupations; recognition of the importance of morality, ethics and favourable attitude towards occupations; ability to use

technologies appropriately; appreciation of value of honest occupations; and ability to see prospects for future careers

Learners' Quality

Grade 3 graduates

• Understand working methods to help themselves, their families and the public; use materials, instruments and equipment correctly as required for the type of work; have skills in processes of work; have skills in characteristics and habits of work that show enthusiasm, punctuality, economy, care for safety, cleanliness and carefulness, and have awareness of the need to protect the environment

• Understand the benefits of objects and utensils in daily life; have ideas for solving problems and responding to needs through creative thinking; are skilful in making simple toys and utensils by applying technological processes, i.e., identify problems or needs, collect data, design by conveying ideas through a two-dimensional sketch, construct and evaluate; choose materials and instruments appropriate for application; choose to use objects and utensils creatively in daily life, and manage objects and utensils through recycling

• Understand and are skilful in searching for data at all stages, presenting data in various forms and applying methods of care and maintenance of ICTs

Grade 6 graduates

• Understand working and improve each step of working; have skills in management, teamworking and systematic working, and have creative thinking; have characteristics and habits of work that show diligence, patience, responsibility and honesty; have manners and an awareness of the need to use water and electricity economically and cost-effectively

• Understand meaning and evolution of technology and elements of the technological system; have ideas for solving problems or responding to diverse needs; apply knowledge and skills in constructing work pieces to make objects and utensils safely

according to their interests by using technological processes, i.e., identify problems or needs, collect data, design by conveying ideas through a three-dimensional sketch or mind map, construct and evaluate; choose to apply technologies creatively in daily life for life and society, and manage technologies through transformation and recycling

• Understand basic principles of problems-solving; are skilful in utilising computers to search for data, store data, prepare graphics, document and present data, and construct work pieces with awareness and responsibility

• Know and understand about occupations as well as have knowledge, capacity and morality related to occupations

Grade 9 graduates

• Understand efficient work processes; apply group processes in work; are skilful in seeking knowledge, solving problems and management; have characteristics and habits of work that show sacrifice and morality; make correct decisions with proper reasoning and have an awareness of economical and cost effective use of energy, resources and the environment

• Understand technological processes and levels; have creativity in problemsolving or responding to needs; construct objects and utensils accurately and safely or use methodology according to the technological processes by conveying ideas through an image, leading to constructing work pieces or models of the ideas and reporting results; choose to apply technologies creatively to life, society and the environment and manage technologies through reducing use of resources or choose to apply technologies without negative effects on the environment

• Understand basic principles of communicating data, computer networks, and principles and methods of solving problems or implementing projects through ICT processes; skilful in searching for and communicating data through computer networks in a moral and ethical manner, and use of computers for solving problems and constructing applications of ICTs for presentation of accomplished tasks

• Understand guidelines for choosing occupations, having favourable attitudes and

recognise the importance of livelihood, methods of seeking employment and necessary qualifications for employment; analyse guidelines for entering employment; have basic skills required for occupations of interest, and evaluate livelihood alternatives in accord with knowledge, aptitudes and interests

Grade 12 graduates

• Understand methods of working for their livelihoods; create achievements through creative thinking; are skilful in teamworking, management, problem-solving and seeking knowledge; work morally and have and awareness of cost-effective and sustainable use of energy and resources

• Understand relationship between technology and other disciplines; analyse technological systems; have creativity in problem-solving or responding to needs; construct and develop objects and utensils or methodologies through safe technological processes by using software for designing or presenting accomplishments; analyse and choose to apply technologies appropriate to daily life creatively for the benefit of life, society and the environment, and manage technologies through methodology of clean technologies

• Understand components of information systems, components and principles of functioning of computers, systems of data communication for computer networks, characteristics of computers and connecting accessories, and are skilful in using computers to solve problems; write programming languages; develop computer programs; use hardware and software; communicate and search for data on the Internet; use computers to process data to serve as information for decision-making; use ICT for presenting achievements and use computers to create work pieces or projects

• Understand guidelines for entering employment, and choice and application of technologies appropriate to occupations; have experiences in occupations for which they have aptitudes and interests, and have desirable characteristics for the occupations

Strand 1: Living and Family

Standard O1.1: Understanding of concept of work; endowment with creativity and skills for various aspects and work processes, management, teamwork, investigation for seeking knowledge, morality, diligence, and awareness of the need to economise on the use of energy and the environment for one's life and for family

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
1. Tell	1. Tell	1. Tell methods	1. Explain the	1. Explain the	1. Discuss the		
methods of	methods	and benefits of	reasons for	reasons for	guidelines for		
working for	and benefits	working to help	working to	working	working and		
self-help.	of working	themselves,	reach goals.	correctly at	improving each		
2. Use simple	to help	their families	2. Work in stages	each stage	stage of work.		
materials,	themselves	and the public.	to reach goals	required by	2. Apply		
instruments	and their	2. Use materials,	with diligence,	the work	management		
and	families.	instruments and	patience,	process.	and teamwork		
equipment in	2.	equipment as	responsibility	2. Apply	skills.		
working	Economical	required for	and honesty.	management	3. Conduct		
safely.	ly use	various types of	3. Conduct	skills in	themselves		
3. Work for	materials,	work.	themselves	systemic,	with good		
self- help	instruments	3. Work in stages	with good	refined and	manners when		
with	and	as required by	manners when	creative	working with		
enthusiasm	equipment	the work	working.	work.	family		
and	suitable to	process, paying	4. Economically	3. Conduct	members and		
punctuality.	the type of	attention to	and cost-	themselves	others.		
	work.	cleanliness,	effectively	with good			
	3. Work safely	carefulness and	use and	manners			
	to help	conservation of	energy and	when			
	themselves	the	resources in	working with			
	and their	environment.	working.	family			
	families.			members.			
				4. Have an			
				awareness of			
				the			
				economical			
				and cost-			
				effective use			
				of energy			
				and resources.			

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Analyse stages of	1. Apply skills in	1. Discuss efficient	1. Explain methods of working
work as required by	seeking knowledge	stages of working.	for a living.
the work process.	for work	2. Apply skills for	2. Create achievements through
2. Apply group	development.	team working with	creative thinking and have
processes in working	2. Apply skills for	morality.	teamwork skills.
with sacrifice.	problem-solving	3. Discuss work by	3. Have management skills for
3. Make decisions with	processes when	applying	work.
proper reasons in	working.	management skills	4. Have skills for problem-
solving work	3. Have awareness and	for economising on	solving processes.
problems.	economically and	energy, resources	5. Have skills for seeking
	cost- effectively use	and the	knowledge for a living.
	resources when	environment.	6. Have morality and desirable
	working.		characteristics and habits
			when working.
			7. Cost-effectively and
			sustainably use energy and
			resources in working for
			conservation of the
			environment.

Strand 2: Design and Technology

Standard O2.1: Understanding of technology and technological processes; design and creation of objects and utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment, and participation in sustainable technological management

Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
-	1. Tell the	1. Make simple toys	-	1. Explain the	1. Explain	
	benefits of	and utensils by		meaning and	components of	
	objects and	identifying		evolution of	the technological	
	utensils for	problems or		technology.	system.	
	use in daily	needs, collecting		2. Safely make	2. Safely construct	
	life.	data, designing		objects and	objects and	
	2. Construct	by transforming		utensils of	utensils of	
	simple toys	ideas into a two-		interest by	interest by	
	and utensils	dimensional		identifying	identifying	
	by identifying	sketch,		problems or	problems or	
	problems or	constructing and		needs, collecting	needs, collecting	
	needs,	evaluating.		data, selecting	data, selecting	
	collecting	2. Select objects		method of design	method of design	
	data,	and utensils for		by conveying	by transforming	
	designing by	creative use in		ideas through a	the ideas into a	
	conveying	daily life.		three-dimensional	three-	
	ideas through	3. Manage objects		sketch,	dimensional	
	a two-	and utensils by		constructing and	sketch or a mind	
	dimensional	recycling.		evaluating.	map,	
	sketch,			3. Apply knowledge	constructing and	
	constructing			and skills for	evaluating.	
	and			constructing work		
	evaluating.			pieces in making		
				objects and		
				utensils.		

	Key stage indicators			
Grade 7	Grade 8	Grade 9	Grade 10-12	
Grade 7	Grade level indicatorsGrade 81. Explain the technological process.2. Safely construct objects and utensils or methodologies through the technological process by conveying ideas through a three- dimensional sketch or a projected picture, leading to constructing models of objects and utensils, or conveying concepts of the methodology	Grade 9 1. Explain technological levels. 2. Safely construct objects and utensils or methodologies through the technological process; design by conveying ideas through a projected picture, leading to constructing models of objects and utensils, or conveying concepts of the methodology through models, and reporting on results of presenting the		
Strand 2: Design and Technology

Standard O2.1: Understanding of technology and technological processes; design and creation of objects and utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment; and participation in sustainable technological management

		Grade	e level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	3. Apply	-	-	3. Apply knowledge	3. Apply
	knowledge			and skills for	knowledge and
	about			constructing work	skills for
	appropriate			pieces when making	constructing
	utilisation of			objects and utensils.	work pieces
	utensils and			4. Have at least two	when making
	equipment to			features of creativity	objects and
	make simple			for problems-	utensils.
	toys and			solving or	
	utensils.			responding to needs.	
	4. Have at			5. Select creative use	
	least one			of technologies in	
	feature of			daily life for benefit	
	creativity in			of life and society,	
	problem-			and manage objects	
	solving or			and utensils through	
	responding			transformation and	
	to needs.			reuse.	

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
	3. Have creativity in		5. Analyse and choose to
	problem-solving or		creatively apply technologies
	responding to needs in		suitable to daily life for the
	their own production.		benefit of life, society and the
	4. Choose to creatively		environment, and sustainably
	apply technologies to		mange technologies through
	life, society and the		methodology of clean
	environment, and		technologies.
	manage technologies		
	through reducing use		
	of resources or		
	choosing to use		
	technologies without		
	negative effects on the		
	environment.		

Strand 3: Information and Communication Technology

Standard O3.1: Understanding, appreciation, and efficient, effective and ethical use of information technology processes in searching for data,

communicating, problem–solving, working and rivermood					
	Γ	Grade	e level indicators	Γ	
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1.Tell the	1. Tell the	1. Search for	1. Tell the names	1. Search for	1. Tell basic
data of	benefits of	data in	and functions of	and collect	principles of
interest and	data and	stages and	information	data of	problem-solving.
sources of	collect data	present the	technology	interest for	2. Use computers to
data around	of interest	data in	instruments.	useful	search for data.
them.	from various	various	2. Tell basic	purposes	3. Store useful data
2. Tell the	reliable	forms.	principles of	from various	in various forms.
benefits of	sources of	2. Tell methods	function of a	reliable	4. Present data in
information	data.	of caring for	computer.	sources of	appropriate forms
technology	2. Tell the	and	3. Tell the benefits	data as	by choosing
instruments.	benefits of	maintaining	and harms of	targeted.	applied software.
	and conserve	information	using computers	2. Create	5. Use computers to
	sources of	technology	for work.	documentati	facilitate creation
	data.	instruments.	4. Use computers'	on for use in	of work pieces
	3. Tell the		functioning	daily life	from imagination
	names and		systems for work.	with	or work
	functions of		5. Create images or	responsi-	performed in daily
	basic		work pieces from	bility.	life with
	instruments		imagination		awareness and
	forming		responsibly by		responsibility.
	major		using graphics		
	components		programmes.		
	of a				
	computer.				

communicating, problem-solving, working and livelihood

	Grade level indicator	S	Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain	1. Explain basic	1. Explain principles of	1. Explain composition of the
principles of	principles of	implementing a	information system.
function, roles	communicating	project requiring	2. Explain components and principles
and benefits of a	data and computer	application of	of function of a computer.
computer.	networks.	information	3. Explain the data communication
2. Discuss main	2. Explain principles	technologies.	system for computer networks.
characteristics	and methods of	2. Write basic	4. Tell characteristics of a computer
and effects of	problem-solving	programming	and connecting accessories.
information	through	languages.	5. Efficiently solve problems through
technologies.	information	3. Use information	information technology processes.
3. Process data so	technology	technologies in forms	6. Write programming languages.
as to serve as	processes.	appropriate to the	7. Develop computer projects.
information.	3. Search for data	type of work.	8. Use hardware and software
	and communicate	4. Use computers to	appropriate to various tasks.
	through computer	facilitate creation of	9. Communicate and search for data
	networks morally	work pieces from	through the Internet.
	and ethically.	imagination or work	10. Use computers in processing data
	4. Use software for	performed in daily life	to serve as information for
	work.	in accord with the	decision-making.
		principles of project	11. Use information technologies to
		implementation with	present achievements in appropriate
		awareness and	forms as targeted.
		responsibility.	12. Use computers to facilitate creation
			of work pieces or projects with
			awareness and responsibility.
			13. Tell recommended instructions for
			users of information technologies.

Strand 4: Occupation

Standard O4.1: Understanding and acquisition of necessary skills and experiences; proper perception of future career; technological application for occupational development; endowment with morality and favourable attitude towards occupations

		Grade lev	vel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Grade 1	Grade 2	Grade 3	 Explain the meaning and importance of occupations. 	 Collect data about various occupations in the community. Specify differences between 	 Explore themselves to plan to choose occupations. Specify knowledge, capacities and morality
				occupations.	relevant to occupations of interest.

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
Grade 7 1. Explain the guidelines for choosing occupations. 2. Have favourable attitude towards livelihood. 3. Recognise the importance of generating occupations.	Grade 8 1. Explain strengthening of occupational skills. 2. Specify self- preparation for entering employment. 3. Have basic skills required for taking up occupations of interest.	Grade 9 1. Explain searching for employment through diverse methods. 2. Analyse the guidelines for entering employment. 3. Evaluate alternatives for taking up occupations in keeping with their knowledge, attitudes and interests.	Grade 10-12 1. Discuss guidelines for taking up occupations of interest. 2. Choose and apply technologies appropriate to the occupations. 3. Have experience in occupations in which they have aptitude and interest. 4. Have desirable characteristics for occupations.

Learning Area of Foreign Languages

Why it is necessary to learn foreign languages

In the present global society, learning foreign languages is very important and essential to daily life, as foreign languages serve as an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community. Foreign languages enable learners to be aware of diversity of cultures and viewpoints in the world community, conducive to friendship and cooperation with various countries. They contribute to learners' development by giving learners better understanding of themselves and others. The learners are thus able to learn and understand differences of languages and cultures, customs and traditions, thinking, society, economy, politics and administration. They will be able to use foreign languages for communication as well as for easier and wider access to bodies of knowledge, and will have vision in leading their lives.

The foreign language constituting basic learning content that is prescribed for the entire basic education core curriculum is English, while for other foreign languages, e.g., French, German, Chinese, Japanese, Arabic, Pali and languages of neighbouring countries, it is left to the discretion of educational institutions to prepare courses and provide learning management as appropriate.

What is learned in foreign languages

The learning area for foreign languages is aimed at enabling learners to acquire a favourable attitude towards foreign languages, the ability to use foreign languages for communicating in various situations, seeking knowledge, engaging in a livelihood and pursuing further education at higher levels. Learners will thus have knowledge and understanding of stories and cultural diversity of the world community, and will be able to creatively convey Thai concepts and culture to the global society. The main contents include:

• Language for Communication: use of foreign languages for listening, speaking, reading and writing, exchanging data and information, expressing feelings and opinions,

interpreting, presenting data, concepts and views on various matters, and creating interpersonal relationships appropriately

• Language and Culture: use of foreign languages harmonious with culture of native speakers; relationships, similarities and differences between languages and cultures of native speakers; languages and cultures of native speakers and Thai culture; and appropriate application

• Language and Relationship with Other Learning Areas: use of foreign languages to link knowledge with other learning areas, forming the basis for further development, seeking knowledge and broadening learners' world views

• Language and relationship with Community and the World: use of foreign languages in various situations, both in the classroom and the outside community and the global society, forming a basic tool for further education, livelihood and exchange of learning with the global society

Learners' Quality

Grade 3 graduates

• Act in compliance with the orders and requests heard; pronounce the alphabet, words, groups of words, simple sentences and simple chants by observing the principles of pronunciation; accurately tell the meanings of the word and groups of words heard; answer questions from listening to or reading sentences, dialogues or simple tales

• Engage in interpersonal communication using short and simple words by following the models heard; use simple orders and requests; tell their needs in simple words; request and give data about themselves and their friends; tell their own feelings about various objects around them or various activities by following the models heard

• Verbally provide data about themselves and matters around them; categorise words according to the types of persons, animals and objects about which they have heard or read

• Speak and make accompanying gestures by observing social manners/culture of native speakers; tell the names and simple terms about festivals/important days/celebrations and lifestyles of native speakers; participate in language and cultural activities suitable to their age levels

• Tell differences concerning sounds of the alphabet, words, groups of words and simple sentences in foreign languages and those in Thai language

- Tell the terms related to other learning areas
- Listen/speak in simple situations in the classroom
- Use foreign languages to collect relevant terms around them

• Are skilful in using foreign languages (with emphasis on listening and speaking) to communicate about themselves, their families, schools, the surrounding environment, foods, beverages and free time and recreation with a vocabulary of around 300-450 words (concrete words)

• Use one-word sentences and simple sentences in conversations as required for situations in daily life

Grade 6 graduates

• Act in compliance with the orders, requests and instructions that they have heard and read; accurately read aloud sentences, texts, tales and short verses by observing the principles of reading; choose/specify the sentences and text corresponding to the meanings of symbols or signs read; tell the main idea and answer questions after listening to and reading dialogues, simple tales and stories

• Speak/write in an exchange in interpersonal communication; use orders and requests and give instructions; speak/write to express needs; ask for help; accept and refuse to give help in simple situations; speak and write to ask for and give data about themselves, friends, families and matters around them; speak/write to express their feelings about various matters and activities around them, as well as provide brief justifications

• Speak/write to give data about themselves, friends and the surrounding environment; draw pictures, plans, charts and tables to show the various data that they have heard and read; speak/write to show opinions about various matters around them

• Use words, tone of voice, gestures and manners politely and appropriately by observing social manners and culture of native speakers; give data about the festivals/important days/celebrations/lifestyles of native speakers; participate in language and cultural activities in accordance with their interests

• Tell similarities/differences between the pronunciation of various kinds of sentences, use of punctuation marks and word order regarding structures of sentences in foreign languages and in Thai language; compare the similarities/differences between the festivals, celebrations and traditions of native speakers and those of Thais

• Search for and collect the terms related to other learning areas from learning sources and present them through speaking/writing

- Use languages to communicate various situations in the classroom and in school
- Use foreign languages in searching for and collecting various data

• Are skilful in using foreign languages (with emphasis on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, free time and recreation, health and welfare, selling and buying, and climate with vocabulary of around 1,050-1,200 words (concrete and abstract words)

• Use simple and compound sentences to communicate meanings in various contexts

Grade 9 graduates

• Act in compliance with requests, instructions, clarifications and explanations that they have heard or read; accurately read aloud texts, news, advertisements, tales and short verses by observing the principles of reading; specify/write various forms of non-text information related to sentences and texts that they have heard and read; choose and specify the topics, main ideas and supporting details, and express opinions about what they have heard or read from various types of media, as well as provide justifications and examples for illustration

• Converse and write for an exchange of data about themselves, various matters around them, situations and news of interest to society, and communicate such data continuously and appropriately; use appropriate requests, clarifications and explanations and give suitable instructions; speak and write to show needs; offer and provide assistance; accept and refuse to give help; speak and write appropriately to ask for and give data, describe, explain, compare and express opinions about what they have heard or read; speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as to provide appropriate justifications

• Speak and write to describe themselves, experiences, news/incidents/various issues of interest to society; speak and write to summarise the main idea/theme or topic identified from the analysis of matters/news/incidents/situations of interest; speak and write to express opinions about activities, experiences and incidents, as well as provide justifications

• Choose appropriate language, tone of voice, gestures and manners by observing social manners and culture of native speakers; explain about the lifestyles, customs and traditions of native speakers; participate in/organise language and cultural activities in accordance with their interests

• Compare and explain similarities and differences between pronunciation of various kinds of sentences and word orders regarding structures of sentences in foreign languages and in Thai language; compare and explain the similarities and differences between the lifestyles and culture of native speakers and those of Thais and apply them appropriately

• Search for, collect and summarise data/information related to other learning areas from learning sources, and present them through speaking and writing

• Use language for communication in real situations/simulated situations in the classroom, school, community and society

• Use foreign languages in searching/conducting research, collecting and drawing conclusions about knowledge/various data sources from the media and various learning sources for further study and livelihood; disseminate/convey to the public data and news about the school, community and local area in foreign languages

• Are skilful in the use of foreign languages (with emphasis on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, free time and recreation, health and welfare, buying and selling, climate, education and occupations, travel for tourism, provision of services, places, language and science and technology with a vocabulary of around 2,100-2,250 words (words of higher abstract quality)

• Use compound and complex sentences to communicate meanings in various contexts for both formal and informal conversations

Grade 12 graduates

• Observe instructions in manuals for various types of work, clarifications, explanations and descriptions that they have heard and read; accurately read aloud texts, news, announcements, advertisements, poems and skits by observing principles of reading; explain and write sentences and texts related to various forms of non-text information that they have heard or read; identify the main idea, analyse the essence, conclude, interpret and express opinions from listening and reading feature articles and materials for entertainment purpose, as well as provide justifications and examples for illustration

• Converse and write to exchange data about themselves, various matters around them, experiences, situations, news/incidents, issues of interest and communicate them continuously and appropriately; choose and use requests, clarifications, explanations and give instructions; speak and write to show needs; offer and provide assistance; speak and write appropriately to ask for and give data, describe, explain, compare and express opinions about matters/issues/news/incidents about which they have heard and read; speak and write to describe their own feelings and express opinions about various matters, activities, experiences and news/incidents with proper reasoning

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• Speak and write to present data about themselves/experiences/news/incidents, matters and various issues of interest; speak and write about the main idea and theme identified from analysis of matters, activities, news, incidents and situations in accordance with their interests; speak and write to express opinions about activities, experiences and incidents in the local area, society and the world, as well as provide justifications and examples for illustration

• Choose the language, tone of voice, gestures and manners appropriate to the level of the persons, time, occasions and places by observing social manners and culture of native speakers; explain/discuss about lifestyles, thoughts, beliefs and origins of customs and traditions of native speakers; participate in, advise and organise language and cultural activities appropriately

• Explain/compare differences between structures of sentences, texts, idioms, sayings, proverbs and poems in foreign languages and Thai language; analyse/discuss similarities and differences between the lifestyles, beliefs and culture of native speakers and those of Thais, and apply them with proper reasoning

• Conduct research/search for, make records, conclude and express opinions about the data related to the learning areas from various sources, and present them through speaking and writing

• Use language for communication in real situations/simulated situations in the classroom, school, community and society

• Use foreign languages in searching for/conducting research, collecting, analysing and summarising knowledge/various data from the media and various learning sources for further study and livelihood; disseminate/convey to the public data and news about the school, community and local area/nation in foreign languages

• Are skilful in the use of foreign languages (with emphases on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, interpersonal relationships, free time and recreation, health and welfare, selling and buying, climate, education and occupations, travel for tourism,

provision of services, places, language and science and technology with a vocabulary of around 3,600-3,750 words (words with different levels of usage)

• Use compound and complex sentences to communicate meanings in various contexts for both formal and informal conversations

Standard F1.1: Understanding of and capacity to interpret what has been heard and read from various types of media, and ability to express opinions with

1. Act in compliance1. Act compliancewith simplewith simpleorders heard.simple2. Specify the alphabet and sounds;he alphabet and sounds;accurately pronounce and spellso pr simple wordssimple words by observing principles of reading.so other	Grade 2 Act in compliance with orders and simple requests heard. Specify the alphabet and	Grade 3 1. Act in compliance with orders and requests heard or read.	Grade 4 1. Act in compliance with orders, requests and simple	Grade 5 1. Act in compliance with orders, requests and simple	Grade 6 1. Act in compliance with orders, requests and
compliancecompliancewith simplewithorders heard.sin2. Specify thehealphabet and2. Specify thealphabet and2. Specify theaccuratelysopronounceprand spellspsimple wordsaccuratelyby observingsinprinciples ofsereading.ot	compliance with orders and simple requests heard. Specify the	compliance with orders and requests	compliance with orders, requests and	compliance with orders, requests	compliance with orders,
with simpleworders heard.sin2. Specify thehealphabet and2. Specify thealphabet and2. Specify thesounds;alphabet andaccuratelysopronounceprand spellspsimple wordsaccuratelyby observingsinprinciples ofsereading.ot	with orders and simple requests heard. Specify the	with orders and requests	with orders, requests and	orders, requests	with orders,
picturesrecorrespondingreto the3. CHmeanings ofpiwords andccgroups oftowords heard.m4. Answerwquestionsoffromse	sounds; pronounce and spell words; accurately read simple sentences by observing the principles of reading. Choose the pictures corresponding to the meanings of words, groups of words and sentences heard.	 Pronounce and spell words; accurately read aloud groups of words, sentences and simple chants by observing the principles of reading. Choose/ specify the images or symbols corresponding to the meanings of groups of words and sentences heard. 	 instructions heard or read. 2. Pronounce and spell words; accurately read aloud groups of words, sentences, simple texts and chants by observing the principles of reading. 3. Choose/ specify the pictures or symbols or signs corresponding to the meanings of sentences and short texts heard or read. 	 instructions heard and read. Accurately read aloud sentences, texts and short poems by observing the principles of reading. Specify/draw the symbols or signs corresponding to the meanings of sentences and short texts heard or read. 	 requests and instructions heard and read. 2. Accurately read aloud texts, tales and short poems by observing the principles of reading. 3. Choose/specify the sentences or short texts corresponding to the meanings of symbols or signs read.

proper reasoning

		Grade level indicators		Key stage indicators
	Grade 7	Grade 8	Grade 9	Grade 10-12
1.	Act in compliance	1. Act in compliance with	1. Act in compliance	1. Observe instructions in
	with orders requests,	requests, instructions,	with requests,	manuals for various types
	instructions and	clarifications and simple	instructions,	of work, clarifications,
	simple explanations	explanations heard and	clarifications and	explanations and
	heard and read.	read.	explanations heard	descriptions heard and
2.	Accurately read	2. Accurately read aloud	and read.	read.
	aloud texts, tales and	texts, news,	2. Accurately read	2. Accurately read aloud
	short poems by	advertisements and	aloud texts, news,	texts, news,
	observing the	short poems by	advertisements and	advertisements, poems and
	principles of reading.	observing the principles	short poems by	skits by observing the
3.	Choose/specify the	of reading.	observing the	principles of reading.
	sentences and texts	3. Specify/write sentences	principles of	3. Explain and write
	related to non-text	and texts related to	reading.	sentences and texts related
	information read.	various forms of non-	3. Specify and write	to various forms of non-
4.	Specify the topic and	text information read.	various forms of	text information, as well
	main idea and	4. Choose the topic and	non-text	as specify and write
	answer questions	main idea, tell	information related	various forms of non-text
	from listening to and	supporting details and	to sentences and	information related to
	reading dialogues,	express opinions about	texts heard or read.	sentences and texts heard
	tales and short	what has been heard and		or read.
	stories.	read, as well as provide		
		justifications and simple		
		examples for		
		illustration.		

Standard F1.1: Understanding of and capacity for interpreting what has been heard and read from various types of media and ability to express opinions with

		Grade l	evel indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
	4. Answer	4. Answer	4. Answer	4. Tell the main	4. Tell the main
	questions from	questions from	questions from	points and	idea and
	listening to	listening to or	listening to and	answer	answer
	sentences,	reading	reading	questions from	questions from
	dialogues or	sentences,	sentences,	listening to and	listening to and
	simple tales with	dialogues or	dialogues and	reading	reading
	illustrations.	simple tales.	simple tales.	dialogues and	dialogues,
				simple tales or	simple tales
				short texts.	and stories.

proper reasoning

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	4. Choose/specify	4. Identify the main idea, analyse
		the topic, main	the essence, interpret and
		idea and	express opinions from
		supporting details	listening to and reading
		and express	feature articles and
		opinions about	entertainment articles, as well
		what has been	as provide justifications and
		heard and read	examples for illustration.
		from various types	
		of media, as well	
		as provide	
		justifications and	
		examples for	
		illustration.	

Standard F1.2: Endowment with language communication skills for exchange of data 1 :... 6 f f. . 1:. s and oninior IS

		Grade level	indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Speak in an	1. Speak in an	1. Speak in an	1. Speak/write in	1. Speak/write in an	1. Speak/write in
exchange with	exchange with	exchange with	an exchange in	exchange in	an exchange
short and	short and	short and simple	interpersonal	interpersonal	in
simple words	simple words	words in inter-	communication.	communication.	interpersonal
in	in interpersonal	personal	2. Use orders,	2. Use orders and	communication.
interpersonal	communication	communication	requests and	requests for	2. Use orders
communication	by following	by following the	simple	permission and	requests and
by following	the models	models heard.	requests for	give simple	give
the models	heard.	2. Use orders and	permission.	instructions.	instructions.
heard.	2. Use orders	simple requests	3. Speak/write	3. Speak/write to	3. Speak/write
2. Use simple	and simple	by following the	to express	express needs,	to express
orders by	requests by	models heard.	their own	ask for help	needs, ask for
following the	following the	3. Express their	needs and to	and agree and	help and
models heard.	models heard.	own simple	ask for help in	refuse to give	agree and
3. Express their	3. Express their	needs by	simple	help in simple	refuse to give
own simple	own simple	following the	situations.	situations.	help in simple
needs by	needs by	models heard.	4. Speak/write	4. Speak/write to	situations.
following the	following the	4. Speak to ask for	to ask for and	ask for and	4. Speak and
models heard.	models heard.	and give simple	give data	give data about	write to ask
4. Speak to ask	4. Speak to ask	data about	about	themselves,	for and give
for and give	for and give	themselves and	themselves,	their friends,	data about
simple data	simple data	their friends by	their friends	families and	themselves,
about	about	following the	and families.	matters around	their friends,
themselves by	themselves by	models heard.		them.	families and
following the	following the				matters
models heard.	models heard.				around them.

and information; efficient expression of feelings and opin	nons
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	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Converse to	1. Converse	1. Converse and write to	1. Converse and write to
exchange data about	appropriately to	exchange data about	exchange data about
themselves, various	exchange data about	themselves, various	themselves and various
activities and	themselves, various	matters around them,	matters around them,
situations in daily	matters around them	situations, news and	experiences, situations,
life.	and various	matters of interest to	news/incidents and issues
2. Use requests and	situations in daily	society, and	of interest to society, and
give instructions and	life.	communicate the data	communicate the data
clarifications	2. Use orders and give	continuously and	continuously and
according to the	instructions,	appropriately.	appropriately.
situation.	clarifications and	2. Use requests	2. Choose and use requests
3. Speak and write	explanations	appropriately and give	and give instructions,
appropriately to	according to the	instructions,	clarifications and
express needs, ask	situation.	clarifications and	explanations fluently.
for help and agree	3. Speak and write	explanations.	3. Speak and write to
and refuse to give	appropriately to	3. Speak and write	express needs and offer,
help in various	express needs, offer	appropriately to	accept and refuse to give
situations.	help and agree and	express needs, offer	help in simulated or real
4. Speak and write	refuse to give help in	help and agree and	situations.
appropriately to ask	various situations.	refuse to give help in	4. Speak and write
for and give data and	4. Speak and write	various situations.	appropriately to ask for
express opinions	appropriately to ask	4. Speak and write	and give data, describe,
about what has been	for and give data,	appropriately to ask for	explain, compare and
heard or read.	describe and express	and give data, explain,	express opinions about
	opinions about what	compare and express	matters/ issues/news and
	has been heard or	opinions about what	situations heard and read.
	read.	has been heard or read.	

Standard F1.2: Endowment with language communication skills for exchange of data and information; efficient expression of feelings and opinions

	Grade level indicators						
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6		
-	-	5. Tell their own	5. Speak to	5. Speak/write to	5. Speak/write		
		feelings about	express their	express their own	to express		
		various objects	own feelings	feelings about	their own		
		around them or	about various	various matters	feelings about		
		various	matters	around them and	various		
		activities by	around them	various activities,	matters		
		following the	and various	as well as	around them		
		models heard.	activities by	provide brief	and various		
			following the	justifications.	activities, as		
			models heard.		well as		
					provide brief		
					justifications.		

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	Key stage indicators		
Grade 7	Grade 7 Grade 8 Grade 9		Grade 10-12
5. Speak and write to	5. Speak and write to	5. Speak and write to	5. Speak and write to describe
express their own	express their own	describe their own	their own feelings and
feelings and opinions	feelings and opinions	feelings and opinions	opinions about various
about various matters	about various matters	about various matters,	matters, activities,
around them, various	around them, various	activities, experiences	experiences and news/
activities, as well as	activities, as well as	and news/incidents, as	incidents with proper
provide brief	provide brief	well as provide	reasoning.
justifications	justifications	justifications	
appropriately.	appropriately.	appropriately.	

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Standard F1.3: Ability to present data, information, concepts and views about various

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		Grade	level indicators		
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Speak to	1. Speak to	1. Speak to give	1. Speak/write to	1. Speak/write to	1. Speak/write to
give data	give data	data about	give data about	give data	give data about
about	about	themselves and	themselves and	about	themselves,
themselves	themselves	matters around	matters around	themselves	their friends and
and matters	and matters	them.	them.	and matters	the environment
around	around	2. Categorise words	2. Speak/draw	around them.	around them.
them.	them.	into groups	pictures to show	2. Draw	2. Draw pictures,
		according to the	relationships of	pictures, plans	plans, charts and
		types of	various objects	and charts to	tables to show
		persons, animals	around them	show various	various data
		and objects	according to what	data heard or	heard or read.
		based on what	they have heard	read.	3. Speak/write to
		they have heard	or read.	3. Speak/write to	express opinions
		or read.	3. Speak to express	express	about various
			simple opinions	opinions	matters around
			about matters	about various	them.
			around them.	matters	
				around them.	

matters through speaking and writing

	Grade level indicators			
Grade 7	Grade 8	Grade 9	Grade 10-12	
1. Speak and write	1. Speak and write to	1. Speak and write to describe	1. Speak and write to	
to describe	describe themselves,	themselves, experiences/	present data	
themselves, their	their daily routines,	matters/ various issues of	themselves/experiences	
daily routines,	experiences and	interest to society.	news/incidents, matters	
experiences and	news/incidents of	2. Speak and write to summarise	and various issues of	
the environment	interest to society.	the main idea/theme and topic	interest to society.	
around them.	2. Speak and write to	identified from analysis of	2. Speak and write to	
2. Speak/ write to	summarise the main	matters/news/incidents/situati	summarise the main	
summarise the	idea, theme and	ons of interest to society.	idea/theme identified	
main idea/theme	topic identified from	3. Speak and write to express	from analysis of	
identified from	analysis of	opinions about activities,	matters, activities,	
analysis of	matters/news/incide	experiences and incidents, as	news, incidents and	
matters/incidents	nts of interest to	well as provide justifications.	situations in accordance	
of interest to	society.		with their interests.	
society.	3. Speak and write to		3. Speak and write to	
3. Speak/write to	express opinions		express opinions about	
express opinions	about activities or		activities, experiences	
about activities or	various matters		and incidents in the	
various matters	around them and		local area, society and	
around them as	experiences, as well		the world, as well as	
well as provide	as provide brief		provide justifications	
brief	justifications.		and examples for	
justifications.			illustration.	

Strand 2: Language and Culture

Standard F2.1: Appreciation of the relationship between language and culture of native speakers and capacity for use of language appropriate to occasions and

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Speak and	1. Speak and	1. Speak and	1. Speak and	1. Use words,	1. Use words,	
make	make	make	politely make	tone of voice	tone of voice,	
accompanying	accompanying	accompanying	accompanying	and polite	gestures and	
gestures in	gestures in	gestures in	gestures in	gestures in	manners	
accordance	accordance	accordance	accordance	accordance	politely and	
with the	with the	with social	with social	with social	appropriately	
culture of	culture of	manners/	manners and	manners and	by observing	
native	native	culture of	culture of	culture of	the social	
speakers.	speakers.	native	native	native	manners and	
2. Tell the	2. Tell the	speakers.	speakers.	speakers.	culture of	
names and	names and	2. Tell the	2. Answer	2. Answer	native	
vocabulary	vocabulary	names and	questions	questions/	speakers.	
of native	of native	simple	about	tell the	2. Give data	
speakers'	speakers'	vocabulary	festivals/	importance	about the	
important	important	about the	important	of festivals/	festivals/	
festivals.	festivals.	festivals/	days/	important	important	
3. Participate	3. Participate	important	celebrations	days/	days/	
in language	in language	days/	and simple	celebrations	celebrations/	
and cultural	and cultural	celebrations	lifestyles of	and simple	lifestyles of	
activities	activities	and lifestyles	native	lifestyles of	native	
appropriate	appropriate	of native	speakers.	native	speakers.	
to their age	to their age	speakers.	3. Participate in	speakers.	3. Participate in	
levels.	levels.	3. Participate	language and	3. Participate in	language and	
		in language	cultural	language and	cultural	
		and cultural	activities	cultural	activities in	
		activities	appropriate	activities in	accordance	
		appropriate to	to their age	accordance	with their	
		their age	levels.	with their	interests.	
		levels.		interests.		

places

	Grade level indicators		Key stage indicators	
Grade 7	Grade 7 Grade 8		Grade 10-12	
1. Use language, tone	1. Use language, tone	1. Choose the language,	1. Choose the language, tone	
of voice, gestures	of voice, gestures	tone of voice, gestures	of voice, gestures and	
and manners politely	and manners	and manners	manners appropriate to	
and appropriately by	appropriate to	appropriate to various	various persons, occasions	
observing social	various persons and	persons and occasions	and places by observing	
manners and culture	occasions by	in accordance with the	social manners and culture	
of native speakers.	observing social	social manners and	of native speakers.	
2. Describe the	manners of native	culture of native	2. Explain/discuss the	
festivals, important	speakers.	speakers.	lifestyles, thoughts, beliefs	
days, lifestyles and	2. Describe the	2. Describe the lifestyles,	and origins of customs and	
traditions of native	festivals, important	customs and traditions	traditions of native	
speakers.	days, lifestyles and	of native speakers.	speakers.	
3. Participate in	traditions of native	3. Participate in/organise	3. Participate in, give advice	
language and cultural	speakers.	language and cultural	and organise language and	
activities in	3. Participate in	activities in accordance	cultural activities	
accordance with their	language and cultural	with their interests.	appropriately.	
interests.	activities in			
	accordance with their			
	interests.			

Strand 2: Language and Culture

Standard F2.2: Appreciation of similarities and differences between language and culture of native and Thai speakers, and capacity for accurate and

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify the	1. Specify the	1.Tell	1. Tell	1. Tell similarities/	1.Tell similarities/
alphabet	alphabet	differences	differences of	differences	differences
and sounds	and sounds	of the sounds	the sounds of	between	between
of the	of the	of the	the alphabet,	pronunciation	pronunciation of
alphabet of	alphabet of	alphabet,	words, groups	of various kinds	various kinds of
foreign	foreign	words,	of words,	of sentences,	sentences, use
languages	languages	groups of	sentences and	use of	of punctuation
and Thai	and Thai	words and	texts in	punctuation	marks and word
language.	language.	simple	foreign	marks and word	order in
		sentences in	languages and	order in	accordance with
		foreign	Thai	accordance with	structures of
		languages	language.	structures of	sentences in
		and Thai	2. Tell the	sentences in	foreign
		language.	similarities/	foreign	languages and
			differences	languages and	Thai language.
			between the	Thai language.	2.Compare the
			festivals and	2. Tell the	differences/simil
			celebrations	similarities/	arities between
			in the culture	differences	the festivals,
			of native	between the	celebrations and
			speakers and	festivals and	traditions of
			those in	celebrations of	native speakers
			Thailand.	native speakers	and those of
				and those of	Thais.
				Thais.	

appropriate use of language

	Grade level indicators		Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Tell differences and	1. Compare and explain	1. Compare and explain	1. Explain/compare
similarities between	similarities and	similarities and	differences between the
pronunciation of	differences between	differences between	structures of sentences,
various kinds of	pronunciation of	pronunciation of	texts, idioms, sayings,
sentences, use of	various kinds of	various kinds of	proverbs and poems in
punctuation marks	sentences and word	sentences in	foreign languages and
and word order in	order in accordance	accordance with	Thai language.
accordance with the	with structures of	structures of sentences	2. Analyse/discuss
structures of	sentences in foreign	in foreign languages	similarities and
sentences in foreign	languages and Thai	and Thai language.	differences between the
languages and Thai	language.	2. Compare and explain	lifestyles, beliefs and
language.	2. Compare and	similarities and	culture of native speakers
2. Compare similarities	explain similarities	differences between	and those of Thais, and
and differences	and difference	the lifestyles and	apply them appropriately.
between the	between the lifestyles	culture of native	
festivals,	and culture of native	speakers and those of	
celebrations,	speakers and those of	Thais, and apply them	
important days and	Thais.	appropriately.	
lifestyles of native			
speakers and those of			
Thais.			

Strand 3: Language and Relationship with Other Learning Areas

Standard F3.1: Usage of foreign languages to link knowledge with other learning areas, as foundation for further development and to seek knowledge

	Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	
1. Tell the	1. Tell the terms	1. Tell the terms	1. Search for and	1. Search for and	1. Search for	
terms	related to	related to	collect the terms	collect the terms	and collect	
related to	other learning	other learning	related to other	related to other	the terms	
other	areas.	areas.	learning areas,	learning areas,	related to	
learning			and present	and present	other learning	
areas.			them through	them through	areas from	
			speaking/	speaking/	learning	
			writing.	writing.	sources, and	
					present them	
					through	
					speaking/	
					writing.	

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Search for, collect	1. Search for, collect	1. Search for, collect and	1. Research/search for, make
and summarise the	and summarise the	summarise the	records, summarise and
data/facts related to	data/facts related to	data/facts related to	express opinions about the
other learning areas	other learning areas	other learning areas	data related to other
from learning	from learning	from learning sources,	learning areas, and present
sources, and present	sources, and present	and present them	them through speaking and
them through	them through	through	writing.
speaking/writing.	speaking/writing.	speaking/writing.	

Strand 4: Language and Relationship with Community and the World

Standard F4.1: Ability to use foreign languages in various situations in school,

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Listen/speak	1. Listen/speak	1. Listen/speak	1. Listen and	1. Listen, speak	1.Use language
in simple	in simple	in simple	speak in	and	for
situations	situations	situations	situations	read/write	communication
in the	in the	in the	in the	in various	in various
classroom.	classroom.	classroom.	classroom	situations	situations in the
			and in	in the	classroom and
			school.	classroom	in school.
				and in	
				school.	

community and society

	Key stage indicators		
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Use language for	1. Use language for	1. Use language for	1. Use language for
communication in	communication in	communication in real	communication in real
real situations/	real situations/	situations/simulated	situations/simulated
simulated situations	simulated situations	situations in the	situations in the
in the classroom and	in the classroom,	classroom, school,	classroom, school,
in school.	school and	community and	community and society.
	community.	society.	

Strand 4: Language and Relationship with Community and the World

Standard F4.2: Usage of foreign languages as basic tools for further education, livelihood and exchange of learning with the world community

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Use foreign	1. Use foreign	1. Use foreign	1. Use foreign	1. Use foreign	1. Use foreign
languages to	languages to	languages to	languages to	languages to	languages to
collect	collect	collect relevant	search for and	search for	search for and
relevant	relevant	terms around	collect	collect various	collect various
terms around	terms around	them.	various data.	data.	data.
them.	them.				

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Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Use foreign	1. Use foreign	1. Use foreign languages	1. Use foreign languages in
languages in	languages in	in conducting research,	conducting research,
conducting research	conducting research,	collecting and	collecting, analysing and
for knowledge/	collecting and	summarising	summarising
various data from the	summarising	knowledge and various	knowledge/various data
media and different	knowledge/various	data from the media	from the media and
learning sources for	data from the media	and different learning	different learning sources
further education and	and different learning	sources for further	for further education and
livelihood.	sources for further	education and	livelihood.
	education and	livelihood.	2. Disseminate/convey to
	livelihood.	2. Disseminate/convey to	the public data and news
	2. Disseminate/convey	the public data and	about the school,
	to the public data and	news about the school,	community and the local
	news about the	community and the	area/the nation in foreign
	school in foreign	local area in foreign	languages.
	languages.	languages.	

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