

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

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Analyse stages of work as required by the work process. 2. Apply group processes in working with sacrifice. 3. Make decisions with proper reasons in solving work problems.	1. Apply skills in seeking knowledge for work development. 2. Apply skills for problem-solving processes when working. 3. Have awareness and economically and cost- effectively use resources when working.	1. Discuss efficient stages of working. 2. Apply skills for team working with morality. 3. Discuss work by applying management skills for economising on energy, resources and the environment.	1. Explain methods of working for a living. 2. Create achievements through creative thinking and have teamwork skills. 3. Have management skills for work. 4. Have skills for problem-solving processes. 5. Have skills for seeking knowledge for a living. 6. Have morality and desirable 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 benefits of objects and utensils for use in daily life. 2. Construct simple toys and utensils by identifying problems or needs, collecting data, designing by conveying ideas through a two-dimensional sketch, constructing and evaluating.	1. Make simple toys and utensils by identifying problems or needs, collecting data, designing by transforming ideas into a two-dimensional sketch, constructing and evaluating. 2. Select objects and utensils for creative use in daily life. 3. Manage objects and utensils by recycling.	-	1. Explain the meaning and evolution of technology. 2. Safely make objects and utensils of interest by identifying problems or needs, collecting data, selecting method of design by conveying ideas through a three-dimensional sketch, constructing and evaluating. 3. Apply knowledge and skills for constructing work pieces in making objects and utensils.	1. Explain components of the technological system. 2. Safely construct objects and utensils of interest by identifying problems or needs, collecting data, selecting method of design by transforming the ideas into a three-dimensional sketch or a mind map, constructing and evaluating.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. 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 through models, and reporting on results of presenting the methodology.	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 methodology.	1. Explain and link relationship between technology and other disciplines. 2. Analyse the technological system. 3. Safely construct objects and utensils or methodologies in accord with the technological process by conveying ideas through an image and models, leading to constructing work pieces or conveying concepts of the methodology through models, and reporting on results by using or presenting achievements. 4. Have creativity in problem-solving or responding to needs for their own products or development of others' products.

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

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

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 livelihood

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

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

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain the guidelines for choosing occupations. 2. Have favourable attitude towards livelihood. 3. Recognise the importance of generating occupations.	1. Explain strengthening of occupational skills. 2. Specify self-preparation for entering employment. 3. Have basic skills required for taking up occupations of interest.	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.	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.