



Republic of the Philippines  
Department of Education  
DepEd Complex, Meralco Avenue, Pasig City

# **MATATAG CURRICULUM**

**EDUKASYONG PANTAHANAN AT PANGKABUHAYAN (EPP) /  
TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)**

**Grades 4 and 7**

## **I. SHAPING PAPER**

### **A. Background of the Learning Area**

The Department of Education envisions developing Filipinos who passionately love their country and whose values and competencies enable them to realize their full potential and contribute meaningfully to building the nation.

To achieve this vision is the offering of Edukasyong Pantahanan at Pangkabuhayan (EPP)/Technology and Livelihood Education (TLE) and Technical-Vocational-Livelihood Track (TVL). Its curriculum goal is to equip learners with life-long learning skills that enable them to be productive individuals, ready for the world of work, and contribute to achieving national goals.

EPP/TLE is a learning area that provides learners with basic home skills that will enable them to be productive in life. The learners in Grades 4 to 6 will explore the fundamental home skills of the four components of EPP/TLE (Information and Communications Technology [ICT], Agriculture and Fishery Arts [AFA], Family and Consumer Science [FCS], and Industrial Arts [IA]). The basic and common competencies of the four TLE components will be introduced in Grades 7 to 8. In Grades 9 and 10, selected core competencies will be taken in every sector with intensified entrepreneurial skills (exploratory by sector). Learners are introduced in different industries of specializations focusing on the use of tools and equipment, mensuration, interpretation of drawings and plans, as well as observation of occupational safety and health, career, and business opportunities. The medium of instruction is Filipino for Grades 4 to 5 and English will be used starting Grades 6 to Grade 10.

Technical- Vocational and Livelihood Education (TVL) is a learning area that provides learners with technical skills. Hence, learners are tasked to choose a specialization that will be taken from Grades 11 to Grade 12. These specializations are anchored to TESDA Training Regulations Qualifications.

### **B. Rationale**

The review of the EPP/TLE Curriculum guide took place in 2018, while the intended curriculum of K to 10 started in 2019. It aims to identify gaps, issues, and concerns, across all learning areas and grade levels to enhance the learning area engagement, experiences, and outcomes in the EPP/TLE Curriculum.

Series of workshops were conducted by the Bureau of Curriculum Development and collaborated with ACTRC. The workshops serve as the avenue to review the learning competencies of Kindergarten, Grade 3, Grade 6 and Grade 10 Curriculum Guides.

There were three phases of the review namely:

1. Review of the cognitive and affective demands, together with the review of the essential and desirable competencies;
2. Horizontal and vertical alignment; and the
3. Cross validation with the Master Teachers

Based on the review conducted, the curriculum is congested, and the competencies are overlapping with the other learning areas. Some competencies are unpacked, entrepreneurial competencies are redundant, and ICT competencies are more complex in grades 6 compared to Grades 7 and 8. It also lacks in contact time due to shared time allotment with entrepreneurship.

### **C. Curriculum Framework**

The EPP/TLE/TVL framework is structured to support teaching and learning, as well as to plan and implement the curriculum. It comprises of four (4) different components, monitoring and evaluation, support systems, and curriculum exits.

The framework shows the different teaching/learning approaches to acquire the knowledge and skills being articulated in the curriculum. This shows the uniqueness of the learning area which recognizes the importance of the goals and education principles that will interplay with the learning area components, support systems, feedback mechanisms, and curriculum exits.

1. The EPP/TLE/TVL Curriculum aims to:

- 1.1 improve learners' knowledge, skills, values, and attitudes through quality and effective delivery of the basic, common, and core competencies;
- 1.2 equip learners with certifiable, and relevant skills, gauged through an authentic and timely assessment, that shall make them locally and globally competitive and productive citizens;
- 1.3 develop among the learner's proper self-care and home management;
- 1.4 provide an avenue for learners to explore and apply aspects of Micro, Small and Medium Enterprises (MSME) for sustainability;
- 1.5 develop the skills of the learners aligned with the Sustainable Development Goals and the 21st Century Educational Framework;
- 1.6 strengthen Information and Communication Technology (ICT) skills that shall enable the learners to cope with the advancement of technology; and
- 1.7 provide guidance for learners on the career path to take such as post-secondary education/higher education, entrepreneurship, middle-level skills development and employment

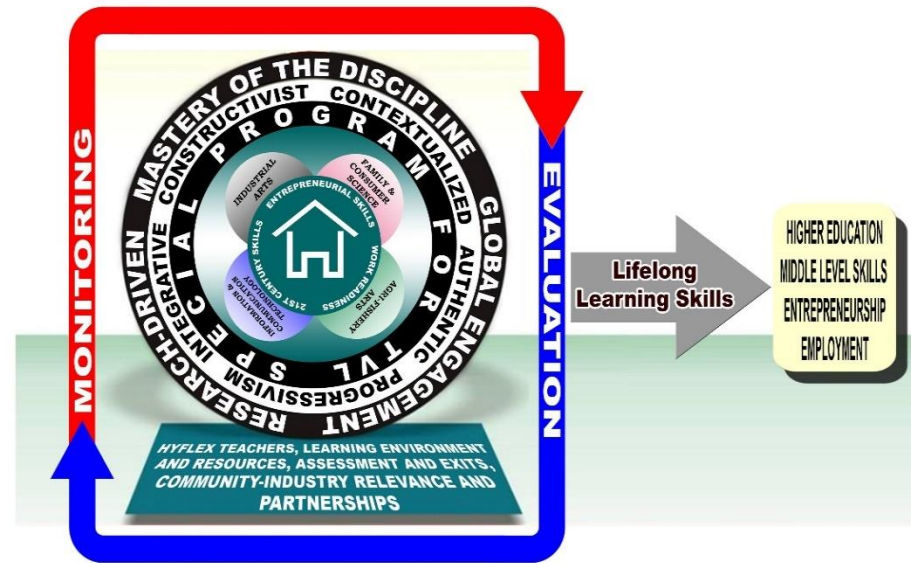


Figure 1. Conceptual Framework

To achieve the goals of the learning area, the needed support systems are articulated below:

1. Hyflex (Hybrid and Flexible) Teachers. These are educators who are flexible and capable of delivering the necessary competencies of EPP/TLE & TVL through various modalities such as face-to-face, online, in the printed module, and/or blended. For junior or senior high school, these are teachers who are highly skilled and passed the minimum qualification of NCII relevant to the subject being taught.
2. Learning environment and resources. It is the use of standard tools, machines equipment, facilities, and learning environment and resources aligned with the curriculum standards.
3. Assessment and exits. These are standard assessment guides aligned with the curriculum standards of EPP/TLE & TVL.
4. Relevant Partnership and Linkages. This is recognizing the significant participation of the community stakeholders, industry, government, and non-government organizations to help the school in delivering the standard competencies for EPP/TLE & TVL learners, work-related experiences, and possible employability.

## Theoretical/Philosophical Bases

In order to ratify the knowledge and skills being articulated in the curriculum of TLE, the curriculum framework is anchored on the following learning theories:

- **Constructivism** is a theory of learning and an approach to education that states that learners can build their own knowledge and construct meaning from prior experiences rather than rote memorization. Learners are encouraged to share their knowledge, and experiences in solving problems, and decision-making. For instance, in plumbing, the lesson is about fittings, and repairing pipes. Learners may ask about their experiences or how they helped their father or older brother repair broken pipes or fittings. older family members who can do the fittings or repair the broken pipes.
- **Contextualization** refers to the educational process of relating the curriculum to a particular setting, situation, or area of application to make the competencies relevant, meaningful, and useful to all learners as mandated in the Republic Act 10533. In providing activities in the EPP/TLE & TVL, these make sure that local materials are utilized. For instance, the teaching of asexual propagation through marcotting of fruit trees. The learners may consider using available fruit seedlings in the area to be marcotted and other fruit-bearing trees.

## The New Features of the EPP/TLE Curriculum

In the revised EPP/TLE curriculum, it is anchored to big ideas that interplay with the four components and the four (4) curriculum exits.

The new features of the curriculum are the following:

- **One skill per component** - refers to one specific skill in the component of TLE that the learner should acquire at the end of every quarter. To master and demonstrate the skill for each component in each quarter, a time allotment of 50 minutes is dedicated for one component on each quarter to be mastered and demonstrate the skill.
- **Exploratory by Sectors** - refers to the clustered specializations within the same industry or sector. The nomenclature is exploratory since the learners will be introduced to different industry sectors.
- **STEM Framework**- refers to the framework that gears towards the Big Ideas. It serves as an avenue for the learners to utilize technology and see possible solutions from the simplest to complex world problems. It also helps the learners to have a deeper appreciation of the importance of self-improvement through skills and knowledge in helping them decide on what career path they want to choose.

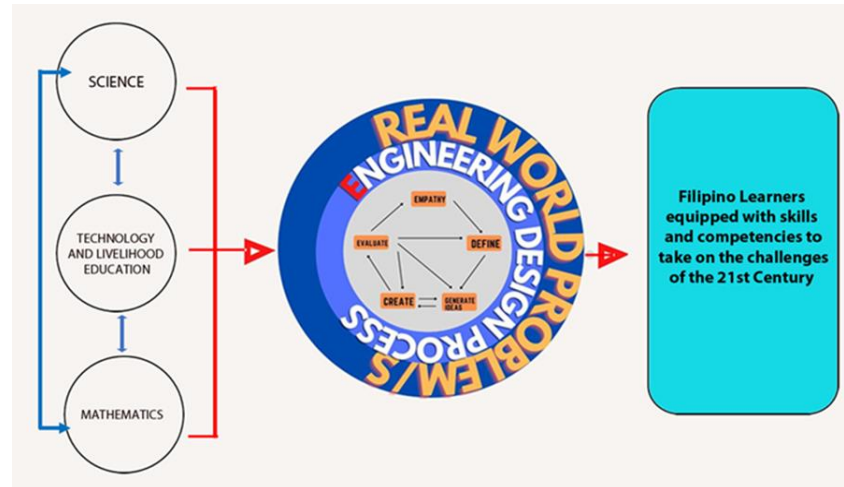


Figure 2. STEM Framework

#### D. Structure of the Learning Area

The EPP/TLE learning area provides an avenue for learners to explore and develop different skills that will prepare them in choosing a career and make them eligible for certification nationally or globally.

Components of the Learning Area

**Information and Communication Technology (ICT)** - This refers to practical skills in using hardware and software tools, programming, coding, and networking.

**Agricultural and Fishery Arts (AFA)** – This refers to practical skills in planting ranging from harvesting of crops, animal and fish raising, as well as food and beverage processing.

**Family and Consumer Science (FCS)** – This refers to practical skills in home management, food preparation, garments and needle works, health and wellness.

**Industrial Arts (IA)** – This refers to practical skills in wood works, metal works, masonry works, machine works, and electrical works.

## **Description of Competencies**

**Basic competencies** refer to non- technical knowledge, skills, and attitudes that a learner can perform irrespective of work or industry.

**Common competencies** refer to a set of knowledge and skills that are similar to an industry or sector.

**Core competencies** refer to a set of knowledge and technical skills in a specific specialization.

## **Specializations by Sector**

TLE is a complex learning area that introduces different specializations in the four components among the learners. To address decongestion and repetition of competencies, the specializations that are related to a common industry are merged into one sector. Listed below are the specializations by sector for each component:

### **Information and Communications Technology (ICT)**

1. **Computer Systems Servicing**
  - Computer Systems Servicing
2. **Computer Programming**
  - Java
  - .Net
3. **Visual Arts**
  - Animation
  - Illustration
4. **Telecommunication**
  - Contact Center Services

### **Agriculture and Fishery Arts (AFA)**

1. **Crop Production**
  - Agri-crop Production
  - Organic Agriculture
2. **Animal Production**
  - Poultry
  - Swine
  - Ruminants
3. **Aquaculture**
  - Fish culture

- Fish Grow-out
- 4. Fish Capture**
  - Fishing Gears
  - Fish Capturing
- 5. Food and Beverage Processing**
  - Fruits and Vegetables
  - Meat
  - Seafoods

### **Family and Consumer Science (FCS)**

- 1. Food Preparation**
  - Cookery
  - Bread and Pastry
- 2. Garments**
  - Dressmaking
  - Tailoring
- 3. Handicrafts**
  - Needle Craft
  - Paper Craft
  - Fashion and Design
- 4. Food Services**
  - Barista
  - Bartending
  - Food and Beverage Services
- 5. Beauty Care**
  - Barbering
  - Hair Dressing
  - Nail Care
- 6. Health and Wellness**
  - Caregiving
  - Wellness
- 7. Tourism Services**
  - Local Tour Guiding
  - Tourism Promotion
  - Attraction and Theme Park
  - Travel Services
- 8. Hotel Services**
  - Housekeeping
  - Front Office Services



- Events management

## **Industrial Arts (IA)**

1. **Residential Plumbing**
  - Technical Drafting
  - Plumbing
2. **Residential Construction**
  - Masonry
  - Tiles Setting
3. **Carpentry**
  - Home Furniture
  - Fixture
4. **Automotive and Small Machine**
  - 4 Wheels Vehicle
  - 2 Wheels Vehicle
  - Small Engine
5. **Metals and Engineering**
  - SMAW
6. **Electronics and Electrical Engineering**
  - Electrical Installation and Maintenance
  - Electronics and Products Assembly Services
  - Domestic Refrigeration and Air Condition Services

## **Skills Progression**

Skills Progression means that the basic principles are introduced in a particular grade and are rediscovered in succeeding grades in a more complex form. With this approach, concepts are introduced and re-taught in succeeding years in an increasingly sophisticated fashion. In the TLE learning area, basic skills are introduced as early as Grade 4 but pre-requisite skills are expected to be taught in Key Stage 1 (Grades 1-3). For instance, the concept about animal raising in Agriculture and Fishery Arts, learners in Key Stage 2 (Grades 4 to 6) are taught on how to raise pet animals, chickens, pigs, goats, and fishes and the pre-requisite skills such as care for animals are found in learning areas of Science and GMRC of Key stage 1.

In Key Stages 3 to 4 (Grades 7- 12), learners are taught on how to grow and propagate livestock animals in the specializations of Animal Production Poultry, Swine, and Ruminants. These specializations are anchored to the competency standards of TESDA's Training Regulations for Animal Production (Poultry) NC II, Animal Production (Swine) NC II, and Animal Production (Ruminants) NC II. These captured the Big Ideas of TLE subjects, such as soft skills (leading the workplace communication), hard skills (performing farrowing-related activities), and lifelong learning skills (maintaining of housing facilities, tools, and equipment for swine production).

Skills Progression in this learning area was viewed by the specialists as the progression of skills from key stage 1 (Grades K-3) up to Key Stage 4 (Grades 11-12). The table below portrays the examples and approaches on the revised curriculum from TLE to TVL.

**Sample Skills Progression**

<b>Component</b>	<b>Key Stage 2 (Grades 4 to 6)</b>	<b>Key Stage 3 (Grades 7 and 8) and (Grades 9 to 10)</b>
<b>ICT</b>	Demonstrate knowledge and skills in coding (block coding), productivity tools, and internet navigation in a safe and responsible manner.	<p>Grades 7 and 8</p> <p>Demonstrate knowledge and skills in productivity tools, graphic design, and video editing in a safe and responsible manner.</p> <p>Grades 9 and 10</p> <p>Demonstrate selected core competencies in Computer Systems Servicing, Computer Programming, Contact Center Services and Visual Arts.</p>
<b>AFA</b>	Performs natural way of planting ornamental plants, vegetables, and fruit trees.	<p>Grades 7/8 - discusses safety procedures in farm operation.</p> <p>discusses agricultural practices in crop production.</p> <p>Grades 9-10 - performs agricultural practices in planting crops according to natural farming.</p>
<b>FCS</b>	Performs competencies in home management and food preparation.	<p>Grades 7 and 8 Familiarizes and utilizes common kitchen tools and occupational safety and health, career, and business opportunities in preparing food and food services, constructing clothes, handicrafts and beauty care.</p> <p>Grades 9-10 – Performs the skills in constructing different clothing styles, providing care and support to clients, providing food and beverage service to customers.</p>

<b>Component</b>	<b>Key Stage 2 (Grades 4 to 6)</b>	<b>Key Stage 3 (Grades 7 and 8) and (Grades 9 to 10)</b>
<b>IA</b>	Creates simple wood/bamboo, metal and/or electrical project with safety precautions.	Grade 7-8 – Explains signs and symbols for construction services, electrical services, and automotive and small engine services.  Grade 9-10 – Applies procedures in electrical installation with safety precautions

### **Horizontal and Vertical Articulation**

EPP/TLE serves as a laboratory of learning areas by providing hands-on experiences, fostering creativity and innovation, and developing important life skills. Learning areas theories and concepts are applied in EPP/TLE such as the integration of Science and EPP/TLE is in the field of Agriculture. In Science, students may learn about the scientific principles behind plant growth and development, while in EPP/TLE, learners may learn practical skills related to farming such as crops management. Through this integrated approach, learners can gain a deeper understanding of the scientific principles underlying agriculture while also developing practical skills that they can use in their future careers. This is a manifestation of the alignment of the curricula that allow subject disciplines to move from seeming fragmented and unrelated to an integrated and constitutive holistic education.

On the other hand, vertical articulation ensures that what students learn from one year to the next, takes the form as a coherent and logical process that maximally supports student understanding and progression. This is also related to the skills progression that was presented earlier. Similarly, the EPP/TLE introduced in Grade 4 have some competencies that are explicitly taught in the earlier grades in the other learning area. The table below shows how the vertical articulation occurs in the component of ICT.

### **Sample Vertical Articulation in the ICT Component from Grades 4 to 8.**

<b>Grade Level</b>	<b>Component</b>	<b>Focus</b>	<b>Learning Competencies</b>
4		Paggamit ng <i>Word Processing Software</i>	nakagagawa ng <i>word document gamit ang: Page Size, Orientation, at Margin; Font Type, Style, Size, at Color; at Text Alignment</i>

<b>Grade Level</b>	<b>Component</b>	<b>Focus</b>	<b>Learning Competencies</b>
5	Information Communications Technology and	Paggamit ng <i>Word Processing Software</i>	nakagagawa ng <i>word document</i> na may <i>images, shapes, Smartarts, tables</i> at <i>page background</i>
6		Utilization of Word Processing Software	creates word document with watermark, page color, borders, page number, header and footer
7		Utilization of Word Processing Software	creates word document with page break, auto tables of contents, mail merge and references
8		Graphics Design Tool  (LCs from Word Processing software and other productivity softwares are prerequisite to Graphic designing)	Utilizes graphic design tools for graphic production

### **E. Development of 21<sup>st</sup> Century Skills**

The world today is continuously changing at an increasingly overwhelming rate. The skills learned today are likely to become outdated in a very short time. As such, professional and technical workers are constantly urged to keep abreast with new developments in their respective fields giving the emphasis now on lifelong learning.

To develop the 21<sup>st</sup> Century Skills, the learners are introduced to some of the skills that interplay in the EPP/TLE and TVL curriculum.

#### 1. Learning and Innovation

In the age of information and technology, it is essential for learners to manifest learning and innovation skills. This is a set of abilities where learners think critically, reflectively, and creatively, analyze and solve problems, create and implement innovations using a variety of techniques or methods, and generate functional knowledge that support varying degrees of thinking skills and metacognition

thereby allowing them to easily navigate and respond to dynamic, fluid, and complex forces (both internal and external) that significantly affect their well-being.

These are visible when learners are given opportunities to plan, create, and innovate projects or process individually and collaboratively using ideas inspired by imagination, inquiry, experimentation, and purposeful play. As a skill for the 21st century, this shall generally encompass all basic understandings in the subject of EPP/TLE. As a skill-based subject, a strong foundation for the following of general principles (in order to execute) is a must. Moreover, the development/innovation of learned skills into more complex and intricate skills align to the very purpose being aimed.

e.g.

- ICT- creating knowledge product using productivity tools, create database objects, creating portable bootable devices, construction simple robotics system
- Agriculture - creating/producing food and non-food products from agricultural and fishery produce and by-products such as food, fiber, soap lotion, shampoo and toothpaste, organic soil amendments, creative ornaments.
- Family and Consumer Science - applying handicraft design to furniture, linens, and apparels as well as researching and developing new recipes from available ingredients.
- Industrial Arts - designing and illustrating plans, circuits and specifications for a project embedding innovative function, mechanism or process applying fundamental concepts of industrial arts (ex. Voice command on/off to some electrical devices, configuring electronic products.)
- applying electrical, digital functions to furniture and mechanical fixtures in construction. (ex. Voice command on/off to some electrical devices, configuring electronic products.)

## 2. Critical Thinking and Problem-Solving

It is the ability to analyze evidence, patterns, relationships, making inferences using reasoning, judging, evaluating, and making decisions or solving problems. It includes actively and skillfully conceptualizing, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action, the ability to make inferences, calculating probabilities and making decisions.

e.g.

- Information and Communication Technology - analyzing information, filtering fake news, assessing the credibility of the site use when conducting research

- Agriculture - giving solution/recommendations to lessen the effect of climate change, demonstrating ways on how to mitigate climate change; conserving and building soil health, managing crop/animal/fishery pests and diseases, improving crop/animal/fishery yields, proper storage, transport and packaging to maintain good quality to reduce post-harvest losses without negative impacts to the environment.
- Family and Consumer Science - being able to provide solutions to daily budgeting, provide inputs to improve the tourism industry services
- Industrial Arts - analyzing and troubleshooting problems based on logical processes or procedures such as conducting or performing simple repair of broken electrical and mechanical parts and components fixtures at home or community chairs and tables, fixing a leaky kitchen or bathroom pipe.

### 3. Communication and Collaboration

Communication is something we are engaged with every day, may that be personally, academically, or professionally, making it a significant and relevant domain among the 21st Century Skills. This domain recognizes the value of communication for a wide range of purposes.

Collaboration refers to the capacity of an individual to effectively participate in interactions between at least two co-equal parties voluntarily engaged in shared decision-making as they work towards a common goal.

Collaboration involves joint communication and goal setting (including planning, sharing information, discussing problems, and learning from others) as well as the need for parties to contribute different information or resources that need to be pooled together for action.

It effectively bridges cultural, educational, and environmental divides and aids a child's understanding of social and environmental issues in local and global contexts. The very success of livelihood education can be reliant on how much learners are able to communicate their proficiency in their crafts and other labor-based efforts they can offer. As learners develop the skill to execute processes and produce crafts in their specific specializations, they also gain the ability to share such skills with potential consumers and market them for future gain. In the area of technology, such communication skills are also further enhanced through the better understanding of media and how to use it.

e.g.

- ICT- using web conferencing tools, being able to send email with attachments, analyze communication process (contact center services)
- Agriculture and Fishery Arts - following directions from farm supervisor, respond to the call of superiors, communicate with co-workers in accomplishing task, keep records of farm activities and tasks (using digital apps)

- Family and Consumer Science – Expressing thoughts through presenting cultural foods,
- Industrial Arts - analyzing and interpreting circuits, drawings and plans and discussing the related technical information about an industrial project in the workplace.

#### 4. Information, Media, and Technology Skills

##### - *Information Literacy*

Information Literacy is a set of integrated abilities encompassing the inquisitive, analytical, and reflective process of acquiring, organizing, evaluating, sharing, and producing information with an understanding on what type of information is needed, when it is needed, where it is accessible, and how the information is socially situated and its ethical and legal considerations to use and communicate accurate and appropriate information relevant to the current context and needs of the target audience.

This provides skills to access, evaluate, use, and manage information. This is evident when learners accurately, responsibly, and creatively access and evaluate information from a variety of sources with an understanding of ethical and legal issues.

eg.

- ICT- filtering fake news/information, assessing the credibility of the site use when conducting research/putting into practice their understanding of the intellectual property, copyright, and fair use, creating an online survey form to gather relevant information
- Agriculture - Evaluating the veracity of information in relation to selling and buying agricultural products, access and curate information from reputable sources of information
- Family and Consumer Science - Assessing and validating data from reputable sources.
- Industrial Arts - searching and applying relevant information related to industrial trends and applications and evaluate reliability of sources

##### - *Media Literacy*

This refers to a wide range of skills that involve understanding various media contents and its uses, accessing information efficiently and effectively, using a broad range of media to express ideas. It involves analyzing media and creating media products and creations. This can be seen when learners examine and use media to learn how and why messages are created, produced, and interpreted, as well as how media shapes culture, values, and behaviors.

e.g.

- ICT- evaluating current trends in media and information, evaluating the reliability and validity of text information and media and its sources based on the learned/set criteria

- Agriculture - assessing the role of technology in producing agricultural products necessary for human survival, accessing science-based evidences and avoiding fake news and anecdotal stories.
- Family and Consumer Science - analyzing media information issues and current trends that will aid in the improvement of products and services rendered
- Industrial Arts - developing and analyzing media information to broaden their knowledge and skills and capability to enhance creativity in developing their own media structure and apply it to their specific technological field.

- *Technology literacy*

This refers to the effective incorporation of information, communication, and their applications through technology. It includes responsible use of appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning across all learning areas and to acquire lifelong knowledge and skills in the 21st century. This domain ultimately leads to developing abilities to use technology that enables learners to use their inventiveness to design and create ideas and concepts in solving practical problems that are technological in nature.

This is very specific in the technology aspect of EPP/TLE. Students learn the nature of various devices from the 21st century which are essential for at-home and in-work situations that requires them. The subject of Technology aims to increase student proficiency of learners in manipulating pieces of IT, and increase their interest to pursue the area (as a career option) proportional to their potentials with it.

e.g.

- ICT- creating knowledge product using productivity tools, using slide deck/productivity tools to make engaging/interactive presentation,
- Agriculture- using technology in searching modern methods/strategies to apply appropriate technologies needed for the food systems, production, supply and value chain including agri-waste management. Growing and improving varieties of crops or crop science and animal production or animal science.
- Family and Consumer Science - applying skills and competencies in creating a platform for effective communication and marketing of products and services.
- Industrial Arts - utilizing and applying relevant innovative ideas for a specific purpose and evaluate outputs from industrial application of specific technological concepts and principles.



## 5. Life and Career Skills

### - *Flexibility and Adaptability*

Life and career skills prepare learners to make informed life and career decisions to enable them to become citizens that engage in a dynamic global community and to successfully adapt to meet the challenges and opportunities to lead in the global workforce. These are critical for our learners to become active responsible citizens who hold meaningful and productive jobs and businesses that will contribute to the sustainability and welfare of the community beyond adversity.

The relevant skills are the capacity to adapt to change and being flexible. This is evident when learners are flexible and adapt to change in a variety of contexts and circumstances.

e.g.

- ICT - using appropriate applications/digital tools to adjust to the current situation and context in working with others
- Agriculture - adopting and adapting farming systems and practices to constant environmental climate changes
- Family and Consumer Science- adapting and applying practical application of the emerging technologies in day to day life activities and challenges.
- Industrial Arts - learning new skills, behaviours and practices in the work environment and able to respond and adapt to some challenges, circumstances and current trends in technology applied in the workplace.

### - *Self-discipline*

This pertains to being able to set goals with tangible and intangible success criteria. It is a balance of short-and long-term goals to manage one's workload efficiently by controlling impulses and delaying gratification. This is necessary to manage one's life in an organized, industrious manner to give meaning and purpose in a changing environment.

e.g.

- ICT - using productivity tools efficiently in preparing educational projects/ e-portfolio based on the set criteria
- Agriculture – following the developed planting calendar to guarantee success in farming. Being able to take care of some vegetable plots or pots (or make simple experiments) or raise small animals relative to the students' ages. to have a positive attitude to agriculture.
- Family and Consumer Science – being able to work with one's own initiative and get things done with minimal supervision in culinary or home management activities.

- Industrial Arts - being able to perform assigned tasks based from plans and design to meet the required target for assembly and fabrication and production.

- *Future Orientation*

This is the ability to consider future developments and consequences when thinking, making decisions, and acting to result in a more sustainable future. Future considerations include society, environment, culture, and economy to balance them in pursuit of improved quality of life for this and future generations. Future orientation allows individuals to envision how to meet the needs of the present without compromising the sustainability of future generations.

e.g.

- ICT - creating an online platform/*social media platform* to share relevant information and collaborate to work on an online community project for a specific purpose with colleagues and interested individuals globally
- Agriculture – being able to collaborate and exchange farming practices with other farmers, agri-preneurs, agri-techies, agro-industries in their locality and other places
- Family and Consumer Science – having the ability to work effectively and efficiently with different socio-cultural backgrounds and maintain harmonious interrelationship and cultural appreciation in the workplace for improved work performance.
- Industrial Arts - interacting and discussing with fellow team members on work preparation, schedules and workloads considering colleagues capability in industrial set-up.

- *Resilience and adversity management*

This is the process of advancing despite adversity. Being resilient allows learners to adapt with flexibility to a new environment, lifestyle, emerging challenges or when faced with stressors. It involves taking a growth mindset, being open to change and can involve profound personal growth.

e.g.

- ICT- conducting research using online survey tools to get feedback in improving the quality of particular systems/products/services
- Agriculture and Fishery Arts – being able to constantly improve the quality, quantity and availability of agriculture and fishery products equitably while taking care of the environment.
- Family and Consumer Science – having the ability to instill continuous improvement in every area of specialization.

- Industrial Arts - being able to consider various alternatives and selecting the best option (suggests) to improve industrial systems and procedures to make production efficient with quality product output.

*- Leadership skills*

It is the ability to organize proactively and lead people in such a way to motivate them to achieve tasks effectively. Learners are future leaders of the nation and must be able to learn the art and skills of leadership including resolving conflicts, developing people, being accountable, and adapting to a complex and rapidly changing environment. They must also be morally upright and ethically grounded.

e.g.

- ICT- organizing an online consultation with ICT practitioner to share different ICT applications/tools used for online learning; creating an e-group to discuss different applications/tools to develop e-portfolio; designing a simple website where colleagues collaboratively share their relevant information about online learning resources.
- Agriculture - conducting remote learning or in face-to-face forum with other farmers to talk/discuss innovations in farming practices; organize agri-youth projects or organizations.
- Family and Consumer Science- planning, organizing, and conducting training and webinars and home based and interdisciplinary learning.
- Industrial Arts - providing logistics support to achieve company goals and objectives by showing colleagues and team members the commitment to the job and organization.

## **F. Big Ideas**

Big ideas refer to core concepts, principles, theories, and processes that should serve as the focal point of curricula, instruction, and assessment. This serves as the terminal goal of the learning area.

The application of knowledge and skills from the early years up to the senior years will equip the learners to the four exits of the K-12 program namely, college education, enhancement of the middle level skills, engaging to entrepreneurship, and employment which is the end goal. Technology is given importance for practical purposes in daily lives or in the industry related. As the learners' level up in the next key stages, their soft skills, hard skills, and life-long learning skills also progress. Combining the use of acquired skills and technology, learners can develop, create, innovate products that are saleable or provide services. With all of these, learners become productive members of their family, community, and even to the country.

EPP/TLE big ideas include the soft skills, hard skills and life-long learning skills that are the foundation of the learner in the world of work.

## **The World of Work**

The world of work is a term used to talk about a diverse, broad expanse of vocational opportunities. It can also be quoted as occupations, jobs, careers, employment, etc. Work is a means of survival, thus, almost everyone in the world will tell you that they work because they must. Those who are unable to work or unable to secure enough work are often the most vulnerable and marginalized in our society.

The EPP/TLE subject offers numerous avenues and opportunities for Filipino learners to equip themselves for the workforce and effectively tackle future life challenges. Engaging in this learning area enables students to cultivate employable skills, gain technological literacy, and acquire a diverse range of life skills. By immersing themselves in relevant experiences and environments, learners can foster their personal and professional development, ensuring they are well-prepared for the demands of the modern world.

The world of work requires individuals to possess a wide array of skills. While hard skills, which are specific to a particular industry or job role, remain crucial for technical proficiency, the importance of soft skills cannot be overlooked. Soft skills encompass a range of interpersonal and personal attributes that enable individuals to effectively navigate their professional environment.

**Soft Skills** are the non-cognitive skills that are the foundation in the workforce. These include creative skill, problem-solving skill, critical thinking, and communication skills.

### Creative Skill

In Key Stage 2, students demonstrate their fundamental creative abilities by developing innovative products that can bring benefits to themselves, their families, and their communities. Moving on to Key Stage 3, this stage focuses on technical skills that are applicable in various industries. At this stage, learners utilize their creative and innovative thinking to produce and introduce new products.

### Problem-solving skill

In Key Stage 2, learners exhibit a spirit in finding a way to approach an assigned task not only by using but also by modifying the acquired knowledge and standards. Meanwhile, in Key Stage 3, learners manifest an undaunted mood in testing various methods that require the least input to come up with the most output.

### Critical thinking skill

In Key Stage 2, learners acquire the fundamental skills necessary to undertake tasks, such as planning and organizing. As they progress to Key Stage 3, learners begin to analyze and evaluate the existing rules and standards, comparing them with innovative approaches to determine the most suitable course of action for completing a project.

### Communication skill

In Key Stage 2, learners rely on using vocabulary related to the subject area to effectively communicate their ideas and instructions within their group, which includes classmates and teachers. Moving on to Key Stage 3, learners utilize specialized language, such as laboratory or shop jargon, during discussions and practical work.

**Hard Skills** are specific abilities, capabilities, and skill sets that the learner can possess and demonstrate in a measured manner. These learnable skills enable them to perform a task required for a specific job. This includes, operating tools, machine and equipment, observing occupational safety and health, computer skills, technical skills, entrepreneurial skills.

### Operating tools, machines, equipment and paraphernalia

Learners demonstrate responsible behavior when handling both hand and power tools, operating simple machines, and utilizing equipment appropriately.

### Occupational Safety and Health (OSH)

Learners demonstrate the practice of ensuring their own safety, as well as the safety of others, while performing tasks in a typical workplace setting.

### Computer Skills

Learners possess the capability to utilize computers and associated technologies, such as software processing, internet browsing, file management, and presentation creation, among others.

### Entrepreneurial Skills

Learners develop a range of valuable skills in the learning area, including customer service, financial management, strategic planning, and general business skills. These skills are not only applicable within the learning environment but also have practical applications in real-world scenarios. By acquiring these competencies, learners are equipped with the necessary tools to excel in various professional settings.

### Technical skills

Learners are equipped with the specialized knowledge and expertise required to excel in a specific working environment. These skills adhere to the standards observed in a particular industry.

**Life-long Learning Skills** are the concept of pursuing additional education and the development of further skills beyond an individual's formal or compulsory education.

## **G. Social issues and Government thrusts**

The EPP/TLE learning area contributes to the different Social Issues and Government Thrust that are applicable in the real-life situations.

1. Comprehensive Sexuality Education
2. Disaster Risk Reduction and Management
3. Education for Sustainable Development
4. Environmental Awareness, Protection, and Conservation
5. Green Economy

## **H. Pedagogy and Assessment**

Pedagogical approaches

Educators today are tasked with developing lifelong learners who can survive and thrive in a global knowledge economy – learners who have the capability to apply skills and competencies effectively and creatively to new situations in an ever-changing, complex world (The World Bank, 2003; Kuit & Fell, 2010). The different learning delivery modalities have emerged through the advent of technologies. With the existing condition of educational system nowadays, there are no barriers to knowing, and the skills required to be an effective learner today have changed dramatically, it is in this state that the heutagogy approach emerged through the advent of technologies. With the existing condition of educational system nowadays, there are no barriers to knowing, and the skills required to be an effective learner today have changed dramatically, it is in this state that the heutagogy approach emerged. According to Stewart Hase, heutagogy is an education approach that fosters learner agency: the confident, lifelong ability to take control of one's learning. It promotes capabilities such as collaboration, assessing information, understanding local and global contexts, creative problem solving, challenging assumptions, reflection, and personal responsibility.

According to Stewart Hase, heutagogy is an education approach that fosters learner agency: the confident, lifelong ability to take control of one's learning. It promotes capabilities such as collaboration, assessing information, understanding local and global contexts, creative problem solving, challenging assumptions, reflection, and personal responsibility. It is also a pedagogical approach that could be applied to emerging technologies in distance education, as well as serve as a framework for digital-age teaching and learning (Anderson, 2010, p. 33; Wheeler, 2011). Such a shift requires change within distance education environments as distance education teaching methods support self-directed learning and the teacher role is already one of guide-on-the-side in facilitating teaching and learning. By design, the heutagogical approach facilitates students working together to share knowledge and reflect on their progress.

## **ASSESSMENT**

Assessment is conducted through a) classroom-based assessment or b) systems assessments which may be national or international. Classroom-based assessment is composed of formative and summative assessments administered by teachers in their classrooms. National Assessment is a large-scale assessment that is administered to learners at a specific time as prescribed by the DO. 55s. Of 2016.

For the EPP/TLE Grades 4 to 10, only classroom-based assessment is being conducted and for TVL, learners may obtain National Certification Assessment conducted by TESDA based on the Qualification/Specialization that they have completed after Senior high school.

### **Assessment Component**

Assessment is a process to determine a learner's achievement of expected learning outcomes including a range of written/oral methods and practical demonstration. (TVET Glossary TVET Sector Support Program, GIZ, October 2019)

Competency Assessment, as used in TESDA, is the term that refers to the process of collecting evidence and making judgments on whether competency has been achieved. (Implementing Guidelines on PTQCS)

Competency-Based Assessment is the process of gathering and interpreting evidence to make a judgment about a learner's achievement against the required competencies in a qualification or part qualification. (TVET Glossary TVET Sector Support Program, GIZ, October 2019)

#### Methods of Competency-Based Assessment

- Skill Demonstration and Observation with oral Questions
- Indirect Observation in the workplace
- Product / Project based assessment
- Portfolio Assessment
- Simulation
- Self – Assessment
- Written Report
- Assignment

## II. Learning Area Standards

### A. Key Stage Standards

The Key Stage Standards describe the terminal goals that a learner is expected to master at the end of every key stage from grades 4 to 10. Skills progress in every component while focusing on a specific sector.

Key Stage 2 (Grades 4-6)	Key Stage 3 (Grades 7-10)
In this stage, the learners are expected to demonstrate the acquired basic home knowledge and skills in the four components of the learning area.	In this stage, the learners are expected to demonstrate the acquired common industry skills that were introduced in the different specializations focusing on the use of tools and equipment, mensuration, interpretation of drawings and plans, observance of occupational safety and health, career, and business opportunities. For Grades 9 and 10, learners are expected to demonstrate technical skills of the different sectors.

### B. Grade Level Standards

Grade Level	Standards
4	<i>Naipakikita ng mga mag-aaral ang pagkaunawa sa mga pangunahing kaalaman, kasanayan, pagpapahala, at saloobin sa Information and Communications Technology (nakapagsasagawa ng mga pangunahing pagpapatakbo ng computer at paggamit ng mga kagamitan sa pagiging produktibo), Agrikultura (pag-aalaga ng mga halamang pampalamuti, gulay, at mga namumungang puno), Family and Consumer Science (pagpapanatili ng kaayusan ng tahanan) at Industrial Arts (pagre-recycle ng mga pinaggamitan at/o pinagputulan), na nagbibigay kakayahan upang mapabuti nila ang pansarili, pampamilya, at pampamayanang kalagayang pang-ekonomiya.</i>



Grade Level	Standards
5	<i>Naipapakita ng mga mag-aaral ang pagkaunawa sa mga pangunahing kaalaman, kasanayan, pagpapahalaga, at saloobin sa Information and Communications Technology (desktop publishing, electronic mailing, internet navigating, at online conferencing), Agrikultura (pag-aalaga ng Poultry Animals), Family and Consumer Science (pagkukumpuni at pagtatahi ng mga pambahay na linen), at Industrial Arts (pagpapahusay sa mga recycled, pinaggamitan, at/o pinagputulang sangkap at pangunahing pagpapanatili ng mga muwebles at kagamitang de-kuryente sa loob ng bahay) na nagbibigay kakayahan upang mapabuti nila ang pansarili, pampamilya, at pampamayanang kalagayang pang-ekonomiya.</i>
6	The learner demonstrates an understanding of the basic knowledge, skills, values, and attitudes in Information and Communications Technology (multimedia editing and basic coding), Fishery-Arts (fish-growing), Family and Consumer Science (food preservation & processing), and Industrial Arts (making simple projects out of materials available locally) towards improving oneself, family's, and community's economic life.
7 and 8	The learner demonstrates knowledge and skills of the basic and common competencies in the TLE Exploratory in the components of Information and Communications Technology, Agriculture and Fishery Arts, Family and Consumer Science, and Industrial Arts intensified integration of entrepreneurship.
9 or 10	The learner demonstrates knowledge and skills of selected core competencies from different sectors in the TVL specializations with intensified integration of entrepreneurship.

### III EDUKASYONG PANTAHANAN AT PANGKABUHAYAN (EPP)/ TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)

#### EDUKASYONG PANTAHANAN AT PANGKABUHAYAN (EPP) GRADE 4

#### QUARTER I - INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

CONTENT	CONTENT STANDARD Ang mga mag-aaral ay...	LEARNING COMPETENCIES Ang mga mag-aaral ay...
<p><i>Introduction to Computer</i></p> <ul style="list-style-type: none"> <li>● Kahalagahan ng <i>computer at computing devices</i></li> <li>● Mga bahagi ng <i>Computer System</i></li> <li>● <i>Basic Computer Operations</i> <ul style="list-style-type: none"> <li>- <i>Booting and shutting down computer</i></li> <li>- <i>Keyboarding Techniques</i></li> <li>- <i>Mouse Techniques</i></li> </ul> </li> </ul>	<p>naipamamalas ang pag-unawa sa kahalagahan, bahagi, at <i>basic operation</i> ng <i>computer</i></p>	<ol style="list-style-type: none"> <li>1. naipaliliwanag ang kahalagahan ng computer at iba pang computing device</li> <li>2. natatalakay ang mga bahagi at gamit ng computer at peripherals nito</li> <li>3. natatalakay ang <i>basic computer operations</i></li> </ol>
<p><i>Digital Citizenship</i></p> <ul style="list-style-type: none"> <li>● <i>Digital health and wellness</i></li> <li>● <i>Online security and safety</i></li> </ul>	<p>naipamamalas ang pag-unawa sa <i>digital health and wellness at online security and safety</i></p>	<ol style="list-style-type: none"> <li>4. natatalakay ang wastong posisyon, layo, at oras sa paggamit ng computer at iba pang <i>computing devices</i></li> <li>5. naipaliliwanag ang mga panuntunang pangkaligtasan sa paggamit ng Internet</li> </ol>
<p><i>Word Processing Software</i></p> <ul style="list-style-type: none"> <li>● <i>User Interface</i></li> <li>● <i>Page Size, Orientation, and Margin</i></li> <li>● <i>Font Type, Style, Size, and Color</i></li> <li>● <i>Text Alignment</i></li> </ul>	<p>naipamamalas ang pag-unawa sa paggamit ng <i>productivity software</i></p>	<ol style="list-style-type: none"> <li>6. nakagagawa ng <i>word document</i></li> </ol>

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<i>Presentation Software</i> <ul style="list-style-type: none"> <li>● <i>User Interface</i></li> <li>● <i>Page Design/ Theme</i></li> <li>● <i>Inserting and formatting textbox, WordArt, shapes and images</i></li> </ul>		7. nakagagawa ng <i>presentation document</i>
<i>Desktop Publishing Software</i> <ul style="list-style-type: none"> <li>● <i>User Interface</i></li> <li>● <i>Templates</i></li> <li>● <i>Inserting and formatting Textbox, WordArt, shapes, and images</i></li> </ul>		8. nakagagawa ng <i>desktop publishing document</i>
<i>Spreadsheet Software</i> <ul style="list-style-type: none"> <li>● <i>User Interface</i></li> <li>● <i>Borders</i></li> <li>● <i>Basic Formula (MDAS)</i></li> </ul>		9. nakagagawa ng spreadsheet document
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay nakagagawa ng iba't ibang dokumento gamit ang <i>computing devices at productivity tools</i>	
<i>Introduction to block coding</i> <ul style="list-style-type: none"> <li>● <i>Algorithm</i></li> <li>● <i>basic process flowchart</i></li> </ul>	naipamamalas ang pag-unawa sa <i>algorithm</i> at <i>basic process flowchart</i>	10. nakagagawa ng <i>algorithm</i> para sa mga gawaing pang-araw-araw  11. nakagagawa ng <i>basic process flow chart</i> para sa mga gawaing pang-araw-araw
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay nakagagawa ng algorithm at basic process flow chart bilang bahagi ng block coding	

**QUARTER II - AGRICULTURE AND FISHERY ARTS (AFA)**

<p><b>CONTENT</b></p>	<p><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<p>Agrikultura, mga sangay nito sa paghahalaman at pamamaraan ng pagtatanim</p> <ul style="list-style-type: none"> <li>• Kahulugan ng Agrikultura</li> <li>• Mga sangay ng Agrikultura sa paghahalaman               <ul style="list-style-type: none"> <li>• <i>Agronomy</i></li> <li>• <i>Horticulture</i></li> <li>• <i>Forestry</i></li> </ul> </li> </ul> <p>Pamamaraan ng pagtatanim ng halaman</p> <ul style="list-style-type: none"> <li>• Pagkakaiba ng natural na pagtatanim at organikong pagtatanim               <ul style="list-style-type: none"> <li>• <i>Intercropping</i></li> <li>• <i>Contour farming</i></li> <li>• <i>Multiple cropping</i>, atbp</li> </ul> </li> <li>• Alternatibong paraan ng paghahalaman               <ul style="list-style-type: none"> <li>• <i>urban gardening</i></li> <li>• <i>containerized</i></li> <li>• <i>vertical gardening</i></li> <li>• <i>dish gardening</i></li> <li>• <i>hydroponics</i></li> <li>• <i>aquaponics</i></li> <li>• <i>aeroponics</i></li> </ul> </li> </ul>	<p>naipamamalas ang pang-unawa sa natural na pamamaraan nang pagtatanim, pangangalaga, pagpaparami, pag-aani, at pagbebenta ng halamang ornamental, gulay, at punong-prutas</p>	<p>1 natatalakay ang kahulugan ng agrikultura, mga sangay nito sa paghahalaman</p> <p>2 natatalakay ang mga pamamaraan ng pagtatanim ng halaman</p> <p>3 nakikilala ang iba't ibang alternatibong paraan ng paghahalaman</p>
<p>Kahalagahan ng Paghahalaman</p> <ul style="list-style-type: none"> <li>• Kahalagahan at kabutihang-dulot ng paghahalaman sa tao               <ul style="list-style-type: none"> <li>• mabuting libangan (<i>stress reliever</i>)</li> </ul> </li> </ul>		<p>4. natatalakay ang mga kahalagahan at kabutihang dulot ng paghahalaman sa tao, hayop, at kalikasan o kapaligiran</p>

<p align="center"><b>CONTENT</b></p>	<p align="center"><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p align="center"><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<ul style="list-style-type: none"> <li>• panlunas sa iba't ibang sakit (<i>medicinal value</i>)</li> <li>• napagkakakitaan</li> <li>• nakapagbibigay ng sariwang hangin, tubig, at pagkain</li>   <li>• Kahalagahan at kabutihang-dulot ng paghahalaman sa hayop <ul style="list-style-type: none"> <li>• nakakapagbigay ng sariwang hangin, tubig, at pagkain</li> </ul> </li>   <li>• Kahalagahan at kabutihang-dulot ng paghahalaman sa kalikasan o kapaligiran <ul style="list-style-type: none"> <li>• nakapipigil sa baha at pagguho ng lupa</li> <li>• naiiwasan ang polusyon</li> <li>• nagbibigay ng lilim at sariwang hangin</li> <li>• nagpapaganda ng kapaligiran</li> </ul> </li> </ul>		
<p>Mga batas, lokal na ordinansa, ahensya ng gobyerno at mga non-government organization (NGOs) na tumutulong at serbisyong kanilang naibibigay ukol sa paghahalaman</p> <ul style="list-style-type: none"> <li>• Mga piling batas at lokal na ordinansa ukol sa paghahalaman <ul style="list-style-type: none"> <li>• <i>National Law-RA 10068</i></li> <li>• <i>Organic Agriculture Act of 2010</i></li> <li>• <i>Ecological Solid Waste Management Act</i></li> <li>• <i>Local Ordinances sa komunidad</i></li> </ul> </li> </ul>		<p>5. natatalakay ang mga batas, lokal na ordinansa, ahensya ng gobyerno at mga non-government organization (NGOs), at serbisyong kanilang naibibigay ukol sa paghahalaman</p>

<p align="center"><b>CONTENT</b></p>	<p align="center"><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p align="center"><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<ul style="list-style-type: none"> <li>• Mga ahensiya at organisasyong tumutulong sa paghahalaman at mga serbisyonang kanilang ibinibigay <ul style="list-style-type: none"> <li>• <i>Department of Agriculture (DA)</i></li> <li>• <i>Department of Environment and Natural Resources (DENR)</i></li> <li>• <i>Department of Trade and Industry (DTI)</i></li> <li>• <i>Department of Labor and Employment (DOLE)</i></li> <li>• <i>Department of Science and Technology (DOST)</i></li> <li>• <i>Technical Education and Skills Development Authority (TESDA)</i></li> </ul> </li>   <li>• Mga Non-Government Organization <ul style="list-style-type: none"> <li>• <i>Food and Agriculture Organization (FAO)</i></li> <li>• <i>Agricultural Training Institute (ATI)</i></li> </ul> </li> </ul>		

<p align="center"><b>CONTENT</b></p>	<p align="center"><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p align="center"><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<p>Mga taong matagumpay sa paghahalaman at ang mga katangian na taglay nila</p> <ul style="list-style-type: none"> <li>• Mga taong kilala sa larangan ng paghahalaman <ul style="list-style-type: none"> <li>• Patricio Base (Alicia, Isabela, pakwan, <i>honeydew</i>, at papaya)</li> <li>• Edith Dacuycuy (Ilocos Norte, Refmad <i>Farms Dragon Fruit</i>)</li> <li>• Jose Mercado (Lipa, Batangas, <i>Merlo Agricultural Corporation Coffee bean</i>)</li> <li>• Arsenio Barcelona (Manila, <i>Harbest Agricultural Corp</i>)</li> <li>• Paris Uy (Live Green Metro Manila International Organic Vegetable)</li> <li>• Senen Bacani (La Fuerta Inc) Mindanao, atbp</li> </ul> </li> <li>• Mga katangian na maaaring taglayin ng mga taong matagumpay sa paghahalaman <ul style="list-style-type: none"> <li>• masipag</li> <li>• maparaan</li> <li>• masigasig</li> <li>• matiyaga</li> <li>• may dedikasyon</li> <li>• malakas ang loob</li> <li>• may kakayahan sa pagpapalano</li> </ul> </li> </ul>		<p>6. nakikilala ang mga taong naging matagumpay sa paghahalaman sa komunidad at ang mga katangiang kanilang taglay</p>

<p align="center"><b>CONTENT</b></p>	<p align="center"><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p align="center"><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<p><i>Compost</i>, organikong pataba at natural na pestisidyo</p> <ul style="list-style-type: none"> <li>• Paggawa ng compost <ul style="list-style-type: none"> <li>• paraan sa paggawa ng <i>compost</i></li> <li>• Mga nilalaman ng <i>compost</i></li> <li>• Katangian ng magandang <i>compost</i></li> <li>• <i>vermicomposting</i></li> </ul> </li> <li>• <i>Organic concoctions and extracts o organikong pataba</i> <ul style="list-style-type: none"> <li>• (Hal: <i>FFJ, FPJ, FAA, BOKASHI</i>,</li> <li>• Paggawa ng natural pestisidyo</li> <li>• <i>Oriental Herbal Nutrients 1 (OHN)</i> <ul style="list-style-type: none"> <li>○ white vinegar, bawang, <i>molasses</i></li> </ul> </li> <li>• <i>Oriental Herbal Nutrients 2 (OHN)</i> <ul style="list-style-type: none"> <li>○ luya, sibuyas, bawang, <i>molasses</i>, sili</li> </ul> </li> </ul> </li> <li>• <i>Neem tree oil</i></li> </ul>		<p>7. nakagagawa ng <i>compost</i>, organikong pataba, at natural na pestisidyo na magagamit sa paghahanda ng lupa at pangangalaga ng mga pananim</p>
<p>Mga salik na dapat isaalang-alang sa paghahalaman</p> <ul style="list-style-type: none"> <li>• Mga panuntunang pangkaligtasan at pangkalusugan sa paghahalaman</li> <li>• Kagamitan at kasangkapan sa paghahalaman at paraan ng pag-iingat sa mga ito</li> <li>• Mga halamang maaaring itanim na matatagpuan sa pamayanan</li> <li>• Mga salik na dapat isaalang-alang sa paghahalaman</li> </ul>		<p>8. natatalakay ang mga salik na dapat isaalang-alang sa paghahalaman</p>



<p align="center"><b>CONTENT</b></p>	<p align="center"><b>CONTENT STANDARD</b> Ang mga mag-aaral ay...</p>	<p align="center"><b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...</p>
<ul style="list-style-type: none"> <li>• lugar</li> <li>• uri ng lupa</li> <li>• uri ng halamang itatanim</li> <li>• <i>partial shade, full sun</i> o sikat ng araw</li> <li>• suplay ng tubig</li> <li>• pataba</li> <li>• panahon/kalendaryo ng pagtatanim</li> <li>• pagtatala ng gastos at iba pang kakailanganin sa paghahalaman</li> </ul>		
<p>Pagtatanim ng halaman sa natural na pamamaraan</p> <ul style="list-style-type: none"> <li>• Pagpili ng halamang maaaring itanim na matatagpuan sa komunidad</li> <li>• halamang ornamental <ul style="list-style-type: none"> <li>○ Hal san franciso, bougainvillea, cactus, rose, at santan</li> </ul> </li> <li>• halamang-gulay <ul style="list-style-type: none"> <li>○ talong, kamatis, sili, kalabasa, kamote, kangkong, okra, pipino, pechay</li> </ul> </li> <li>• punong-prutas <ul style="list-style-type: none"> <li>○ manga, santol, rambutan</li> </ul> </li> <li>• Paraan ng pagtatanim ng halaman (tuwiran at di-tuwiran)</li> <li>• Paggamit ng mga kagamitan at kasangkapan nang may pag-iingat</li> </ul>		<p>9. naisasagawa ang pagtatanim ng piniling halaman sa natural na pamamaraan nang may pag-iingat</p>

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<ul style="list-style-type: none"> <li>• Mga hakbang sa pagtatanim ng halaman sa natural na pamamaraan:               <ul style="list-style-type: none"> <li>• gumawa ng plano o <i>layout</i> ng lupang pagtataniman</li> <li>• suriin at linisin ang lugar na pagtataniman</li> <li>• bungkalin ang lupa gamit ang asarol at piko</li> <li>• haluan ng organikong pataba ang lupa</li> <li>• patagin ang lupang taniman gamit ang kalaykay</li> <li>• simulan ang pagtatanim</li> <li>• diligan ang halamang itinanim</li> </ul> </li> <li>• Pagtatanim ng halaman sa natural na pamamaraan</li> </ul>		
<p>Paraan ng Pangangalaga ng mga pananim</p> <ul style="list-style-type: none"> <li>• pagdidilig, pagbubungkal, paglalagay ng pataba, pagsugpo sa insekto, sakit, at peste ng halaman at pagsubaybay ng paglaki ng halaman, pagbubunot ng mga ligaw na damo, pagpapausok, paggamit ng baking soda, bawang, sili atbp</li> </ul>		10. naipakikita ang mga paraan ng pangangalaga ng mga pananim ( <i>pre-care, during, post-care</i> )
<p>Pagpaparami ng halaman</p> <ul style="list-style-type: none"> <li>• Sekswal at asekswal na paraan ng pagpaparami ng halaman</li> </ul>		11. naipakikita ang papagpaparami ng halaman sa paraang sekswal at asekswal

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<p>Paraan ng pag-aani, pag-iimbak at pangangalaga sa mga inaning tanim</p> <ul style="list-style-type: none"> <li>• Mga palatandaan o indikasyon na dapat isaalang-alang sa pag-aani</li> <li>• Mga paraan ng pag-aani</li> <li>• Iba't ibang paraan ng pag-iimbak at pangangalaga sa mga inaning tanim</li> </ul>		<p>12. natutukoy ang mga palatandaan o indikasyon na dapat isaalang-alang sa pag-aani</p> <p>13. naipakikita ang mga paraan ng pag-aani</p> <p>14. naisasagawa ang mga paraan ng pag-aani, pag-iimbak, at pangangalaga ng inaning tanim</p>
<p>Pagbebenta ng mga inaning tanim</p> <ul style="list-style-type: none"> <li>• Mga paraang maaaring gamitin sa pagbebenta (<i>online</i> at tradisyunal na pamamaraan)</li> <li>• Pagbebenta ng mga inani sa paraang pakyawan, tingian, por kilo, tali, naka-paso at iba pa</li> <li>• Pagtutuos ng kinita at tubo gamit ang manwal na pagkukwenta o <i>electronic spreadsheet tool</i></li> </ul>		<p>15. naisasagawa nang wasto ang pagbebenta ng mga inani</p> <p>16. naisasagawa ang pagtutuos ng kinita at tubo gamit ang manwal na pagkukwenta o <i>electronic spreadsheet tool</i></p>
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay naisasagawa ang natural na pamamaraan nang pagtatanim, pangangalaga, pagpaparami, pag-aani, at pagbebenta ng halamang ornamental, halamang-gulay, at punong-prutas	

**QUARTER III - FAMILY AND CONSUMER SCIENCE (FCS)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<p><b>Tungkulin sa Sarili</b></p> <ul style="list-style-type: none"> <li>● Kahalagahan ng pag-aayos at pangangalaga sa sarili</li> </ul> <hr/> <ul style="list-style-type: none"> <li>● Angkop na pagkilos sa panahon ng pagdadalaga at pagbibinata</li> </ul> <hr/> <ul style="list-style-type: none"> <li>● Angkop na pananamit</li> </ul>	<p>naipamamalas ang pag-unawa sa kahalagahan ng pag-aayos, pangangalaga sa sarili, angkop na pagkilos at pananamit sa panahon ng pagdadalaga at pagbibinata</p>	<ol style="list-style-type: none"> <li>1. natutukoy ang mga pagbabagong pisikal sa sarili</li> <li>2. naipaliliwanag ang mga kagamitan at <i>consumables</i> at gamit nito sa pangangalaga ng sarili</li> <li>3. naisasagawa ang mga paraan sa pag-aayos at pangangalaga ng sarili</li> <li>4. naipakikita ang tamang pagkilos sa panahon ng pagdadalaga at pagbibinata</li> <li>5. nakapipili ng angkop na pananamit sa panahon ng pagdadalaga at pagbibinata</li> </ol>
<p><b>PERFORMANCE STANDARD</b></p>	<p>Ang mga mag-aaral ay naipapakita ang pag-aayos, pangangalaga sa sarili, angkop na pagkilos, at pananamit sa panahon ng pagdadalaga at pagbibinata</p>	
<p><b>Tungkuling Pantahanan</b></p> <ul style="list-style-type: none"> <li>● Kagamitan sa pagsasaing</li> </ul> <hr/> <ul style="list-style-type: none"> <li>● Mga hakbang sa pagsasaing</li> <li>● Mga panukalang pangkaligtasan at pangkalusugan</li> </ul> <hr/> <ul style="list-style-type: none"> <li>● Mga kagamitan at <i>consumable</i> sa paghuhugas ng pinaglutuan at pinagkainan</li> </ul> <hr/> <ul style="list-style-type: none"> <li>● Mga hakbang sa paghuhugas ng pinaglutuan at pinagkainan</li> <li>● Mga panukalang pangkaligtasan at pangkalusugan</li> </ul>	<p>naipamamalas ang pag-unawa sa mga tungkuling pantaha</p>	<ol style="list-style-type: none"> <li>6. natutukoy ang mga kagamitan sa pagsasaing ng bigas (conventional at makabagong pamamaraan)</li> <li>7. naisasagawa ang mga hakbang sa pagsasaing nang may pag-iingat</li> <li>8. natutukoy ang mga kagamitan at <i>consumable</i> sa paghuhugas ng pinaglutuan at pinagkainan</li> <li>9. naisasagawa ang mga hakbang sa paghuhugas ng pinaglutuan at pinagkainan nang may pag-iingat</li> </ol>

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<ul style="list-style-type: none"> <li>• Kagamitan at <i>consumable</i> sa paglilinis ng tahanan</li> </ul>		10. natutukoy ang mga kagamitan at <i>consumable</i> sa paglilinis ng tahanan
<ul style="list-style-type: none"> <li>• Pagliligpit ng mga kagamitan at <i>consumables</i> sa paglilinis ng tahanan</li> </ul>		11. naipaliliwanag ang mga pamamaraan ng pagliligpit ng mga kagamitan at <i>consumable</i> nang may pag-iingat
<ul style="list-style-type: none"> <li>• Mga hakbang sa paglilinis ng silid-tulugan, sala, kusina at bakuran</li> <li>• Mga panukalang pangkaligtasan at pangkalusugan</li> </ul>		12. naisasagawa ang mga hakbang sa paglilinis ng tahanan at iba pang bahagi nito nang may pag-iingat
<ul style="list-style-type: none"> <li>• Kagamitan at <i>consumables</i> sa paglalaba (<i>conventional</i> at makabagong pamamaraan)</li> </ul>		13. natutukoy ang mga kagamitan at <i>consumables</i> sa paglalaba ( <i>conventional</i> at makabagong pamamaraan)
<ul style="list-style-type: none"> <li>• Mga hakbang sa paglalaba</li> <li>• Mga panukalang pangkaligtasan at pangkalusugan</li> </ul>		14. naisasagawa ang mga hakbang sa paglalaba nang may pag-iingat
<ul style="list-style-type: none"> <li>• Kagamitan sa pamamalantsa (<i>conventional</i> at makabagong pamamaraan)</li> </ul>		15. natutukoy kagamitan sa pamamalantsa ( <i>conventional</i> at makabagong pamamaraan)
<ul style="list-style-type: none"> <li>• Mga hakbang sa pamamalantsa</li> <li>• Mga panukalang pangkaligtasan at pangkalusugan</li> </ul>		16. naisasagawa ang mga hakbang sa pamamalantsa nang may pag-iingat at gabay ng nakatatanda
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay naisasagawa ang mga gawaing pantahan nang may pag-iingat	

## QUARTER IV - INDUSTRIAL ARTS (IA)

CONTENT	CONTENT STANDARD Ang mga mag-aaral ay...	LEARNING COMPETENCIES Ang mga mag-aaral ay...
Kasangkapan at materyales sa pagguhit	naipamamalas ang mga kaalaman sa mga kasangkapan at materyales sa pagguhit	1. nakikilala ang mga kasangkapan at materyales sa pagguhit
Kasangkapan at materyales sa pagbuo ng proyekto <ul style="list-style-type: none"> <li>• Panukat</li> <li>• Panggupit</li> <li>• Pambutas</li> <li>• Pangkulay</li> <li>• Pandikit</li> </ul>	naipamamalas ang mga kaalaman sa mga kasangkapan at materyales sa pagbuo ng proyekto mula sa <i>recyclable materials</i>	2. nakikilala ang mga kasangkapan at materyales sa pagbuo ng proyekto
<i>System of Measurement</i> <ul style="list-style-type: none"> <li>• Dalawang sistema ng pagsukat (<i>English at Metric System</i>)</li> <li>• Pagbasa ng gradwasyon</li> <li>• Unit conversion (<i>English sa metric at metric sa English</i>)</li> </ul>	naipamamalas ang kaalaman sa pagsusukat	3. naisasagawa ang kasanayan sa pagsusukat
<i>Free-hand Drawing</i> <ul style="list-style-type: none"> <li>• <i>Basic Sketching Techniques</i></li> <li>• <i>Outlining</i></li> <li>• <i>Shading</i></li> </ul>	naipamamalas ang pang-unawa sa <i>basic sketching, outlining, and shading</i>	4. naisasagawa ang hakbang sa pagguhit ng larawan gamit ang <i>basic sketching, outlining, and shading</i>
<i>Lettering Styles</i> <ul style="list-style-type: none"> <li>• Iba't ibang <i>lettering styles</i></li> <li>• Hakbang sa pagsulat ng iba't ibang <i>lettering styles</i></li> </ul>	naipamamalas ang pang-unawa sa pagsulat ng letra gamit ang mga <i>lettering styles</i> at pagguhit ng <i>alphabet of lines</i>	5. naisusulat ang mga letra gamit ang <i>lettering styles</i>
<i>Alphabet of lines</i> <ul style="list-style-type: none"> <li>• Iba't ibang <i>alphabet of lines</i></li> <li>• Hakbang sa pagguhit ng <i>Alphabet of lines</i></li> </ul>		6. naiguguhit ang <i>alphabet of lines</i>

<b>CONTENT</b>	<b>CONTENT STANDARD</b> Ang mga mag-aaral ay...	<b>LEARNING COMPETENCIES</b> Ang mga mag-aaral ay...
<i>Orthographic Drawing</i> <ul style="list-style-type: none"> <li>• <i>Orthographic views</i></li> <li>• Hakbang sa pagguhit ng <i>Orthographic Drawing</i></li> </ul>	naipamamalas ang pang-unawa sa <i>orthographic at isometric drawing</i>	7. nakikilala ang orthographic views 8. naisasagawa ang orthographic drawing
<i>Isometric Drawing</i> <ul style="list-style-type: none"> <li>• Hakbang sa pagguhit ng <i>Isometric Drawing</i></li> </ul>		9. naisasagawa ang pagguhit ng isometric drawing
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay naisasagawa ang pagguhit ng <i>free-hand drawing, orthographic, at isometric drawing</i>	
<b>Recycling</b> <ul style="list-style-type: none"> <li>• Kahalagahan ng <i>pagre-recycle</i></li> <li>• Materyales na maaaring i- <i>recycle</i></li> </ul>	naipamamalas ang pang-unawa sa <i>pagre-recycle</i> at pagtutuos ng nabuong proyekto	10. naipaliliwanag ang kahalagahan ng <i>pagre-recycle</i>
<b>Pagbuo ng malikhaing proyekto mula sa <i>recyclable materials</i></b> <ul style="list-style-type: none"> <li>• Hakbang sa pagkalap ng mga materyales</li> <li>• Paghahanda ng mga kasangkapan</li> <li>• Hakbang sa pagbuo ng proyekto</li> </ul>		11. nakagagawa ng plano ng proyekto 12. nakabubuo ng <i>recycled project/s</i> nang may pag-iingat
		13. natutuos ang gastos, presyo, at posibleng kita ng nabuong proyekto <i>manually</i> o gamit ang spreadsheet
<b>PERFORMANCE STANDARD</b>	Ang mga mag-aaral ay nakagagawa ng proyekto mula sa <i>recyclable materials</i> na maaring pagkakitaan	

**TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE)  
GRADE 7**

**QUARTER I - INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Sectors of ICT and Its Career and Business Opportunities <ul style="list-style-type: none"> <li>• computer programming - programmer/web and game developer</li> <li>• visual arts – animator/illustrator/ graphic designer</li> <li>• computer system servicing – computer/ Network technician</li> <li>• telecommunication – call center agents/ outbound and inbound agents/ contact center services</li> </ul>	demonstrate an understanding of ICT sectors, as well as the potential career and business opportunities these sectors offer in relation to their chosen career in the future	1. analyze the various sectors of ICT and evaluate the potential career and business prospects relevant to their future career choices
Trends and Issues in ICT	demonstrate an understanding of current trends and emerging issues in ICT	2. discuss the emerging trends and issues in ICT
Qualities of Successful Entrepreneurs in the Field of ICT	demonstrate an understanding of the qualities of successful entrepreneurs in the field of ICT	3. discuss the qualities of successful entrepreneurs in the field of ICT
Occupational Safety and Health (OHS) Standards in ICT <ul style="list-style-type: none"> <li>• hazards and risks management</li> <li>• 5s (sort, standardize, set in order, shine, sustain)</li> <li>• safety regulations</li> </ul>	demonstrate an understanding of the Occupational Safety and Health (OSH) standards in ICT environments	4. discuss Occupational Safety and Health (OSH) standards in ICT environments
Computer Number Systems <ul style="list-style-type: none"> <li>• binary</li> <li>• octal</li> <li>• decimal</li> </ul>	demonstrate an understanding of the computer number systems	5. differentiate the various computer number systems



<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<ul style="list-style-type: none"> <li>hexadecimal</li> </ul>		
Conversion of Computer Number Systems <ul style="list-style-type: none"> <li>binary</li> <li>octal</li> <li>decimal</li> <li>hexadecimal</li> </ul>	demonstrate an understanding of conversion of computer number systems	6. apply conversion of computer number systems
<b>PERFORMANCE STANDARD</b>	The learners convert number systems in practical scenarios	
Word Processing Software <ul style="list-style-type: none"> <li>page breaks</li> <li>auto tables of contents</li> <li>mail merge</li> <li>references</li> </ul>	demonstrate an understanding of using productivity software	7. create word documents with page breaks, auto tables of contents, mail merge, and references
Presentation Software <ul style="list-style-type: none"> <li>rules in creating presentations</li> <li>master slide</li> <li>animation (motion path)</li> <li>animation pane</li> <li>hyperlink</li> <li>action buttons</li> </ul>		8. create presentations with a master slide, motion paths, hyperlinks, and action buttons
Spreadsheet Software <ul style="list-style-type: none"> <li>conditional formatting functions</li> <li>data analysis</li> </ul>		9. create spreadsheets with conditional formatting and data analysis
<b>PERFORMANCE STANDARD</b>	The learners perform the utilization of productivity tools in a safe and responsible manner	

**QUARTER II – AGRICULTURE AND FISHERY ARTS (AFA)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Career Opportunities <ul style="list-style-type: none"> <li>● agriculturist</li> <li>● farm technician</li> <li>● farm owner</li> </ul> Business Opportunities <ul style="list-style-type: none"> <li>● traders</li> <li>● entrepreneurs</li> </ul>	demonstrate an understanding of the concepts and skills in agri-crops and animal production	1. discuss career and business opportunities in agriculture
Agricultural Tools, Implements, and Equipment <ul style="list-style-type: none"> <li>● agricultural tools, implements, and equipment and their uses</li> <li>● precautionary measures</li> <li>● safety procedures in using tools and equipment</li> </ul>		2. differentiate agricultural tools, implements, and equipment  3. identify different tools and equipment used in agriculture  4. discuss safety procedures in farm operations
Agricultural Hazards and Risks in Farm Operations		5. discuss hazards and risks in farm operations
Agricultural Practices in Crop Production <ul style="list-style-type: none"> <li>● site selection</li> <li>● land preparation</li> <li>● crop selection</li> <li>● planting</li> <li>● transplanting</li> </ul>		6. perform agricultural practices in crop production
Care and Maintenance of Crops <ul style="list-style-type: none"> <li>● weeding and cultivating</li> <li>● irrigation/water supply</li> <li>● fertilizing</li> </ul>		7. discuss care and maintenance of crops

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<ul style="list-style-type: none"> <li>● mulching using organic materials</li> <li>● natural prevention and control of common pests and diseases (using natural farming/organic farming)</li> </ul>		
Farm Waste Processing <ul style="list-style-type: none"> <li>● composting (basket composting) and fermentation (foliar fertilizer)</li> </ul>		8. explain farm waste processing 9. perform basket composting and foliar fertilizer fermentation
Agricultural Practices in Harvesting Crops <ul style="list-style-type: none"> <li>● harvesting</li> <li>● post-harvesting</li> </ul>		10. discuss harvesting and post-harvesting practices
<b>PERFORMANCE STANDARD</b>	The learners perform agricultural practices in crop production based on industry standards	
Breeds of Farm Animals <ul style="list-style-type: none"> <li>● poultry animals               <ul style="list-style-type: none"> <li>○ poultry chicken (layer and broiler)</li> <li>○ quail</li> <li>○ ducks</li> </ul> </li> <li>● livestock animals               <ul style="list-style-type: none"> <li>○ swine</li> <li>○ rabbit</li> <li>○ small ruminants (dairy- and meat-type such as goat and sheep)</li> <li>○ large ruminants (dairy- and meat type- such as cattle and buffalo)</li> </ul> </li> </ul>	demonstrate an understanding of the concepts and skills in agri-crops and animal production	11. determine the breeds of farm animals

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Materials, Tools, and Equipment for Poultry and Livestock Animals		12. determine poultry and livestock materials, tools, and equipment and their uses based on industry standards
Housing Requirements for Poultry and Livestock Animals <ul style="list-style-type: none"> <li>● site selection</li> <li>● types of housing</li> <li>● design and layout</li> </ul>		13. illustrate housing requirements for poultry and livestock based on industry standards
Feeding Management for Poultry and Livestock Animals <ul style="list-style-type: none"> <li>● types of feeds</li> <li>● feed ingredients</li> <li>● feed mensuration and calculation</li> <li>● feeding frequency</li> <li>● OSH in feeding operations</li> </ul>		14 discuss feeding management according to the Philippine National Standard (PNS) for poultry and livestock animals
Farm Waste Management in Animal Production		15. discuss farm waste management in poultry and livestock production according to Republic Act No 9003 or the Ecological Solid Waste Management Act of 2000
Products and Byproducts of Poultry and Livestock Animals <ul style="list-style-type: none"> <li>● raw products</li> <li>● processed products</li> </ul>		16. identify products and byproducts of poultry and livestock production
<b>PERFORMANCE STANDARD</b>		The learners illustrate the housing requirements for poultry and livestock based on industry standards

**QUARTER III – FAMILY AND CONSUMER SCIENCE (FCS)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Fundamentals of Hospitality and Tourism Industry	demonstrate an understanding of the fundamentals of the hospitality and tourism industry	1. differentiate hospitality and tourism
Tourism <ul style="list-style-type: none"> <li>• kinds of tourists</li> <li>• types and forms of tourism               <ul style="list-style-type: none"> <li>○ based on the point of origin</li> <li>○ based on the purpose of travel</li> </ul> </li> </ul>		2. distinguish the types and forms of tourism and the kinds of tourists
Hospitality <ul style="list-style-type: none"> <li>• scope of hospitality industry               <ul style="list-style-type: none"> <li>○ accommodation and lodging</li> <li>○ travel services</li> <li>○ food and beverage services</li> <li>○ recreation and entertainment</li> <li>○ clubs</li> <li>○ conventions and events management</li> <li>○ cruise</li> </ul> </li> <li>• types of accommodations and their characteristics</li> <li>• hotel types and classification</li> </ul>		3. explain the scope of the hospitality industry
Career Opportunities in Hospitality and Tourism Industry		4. identify career and business opportunities in the hotel and tourism industry

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Issues, Challenges, Trends and Innovations in Hospitality and Tourism		5. examine the issues, challenges, trends, and innovations in the hospitality and tourism industry
Fundamentals of Food Preparation and Service <ul style="list-style-type: none"> <li>• different food service operations               <ul style="list-style-type: none"> <li>○ commercial</li> <li>○ institutional</li> </ul> </li> <li>• basic rules in food preparation and service</li> <li>• kitchen layout</li> </ul>		6. discuss the fundamentals of food preparation and service
Seven Principles of Hazard Analysis Critical Control Point (HACCP)		7. recognize the seven principles of HACCP in food preparation and service
Tools and Equipment in Food Preparation <ul style="list-style-type: none"> <li>• kitchen</li> <li>• food service</li> <li>• care and maintenance</li> </ul>		8. identify the common tools and equipment used in food preparation and service industry  9. discuss the care and maintenance of tools and equipment used in food preparation and service industry
Table Napkin Fold <ul style="list-style-type: none"> <li>• uses of table napkin</li> <li>• table napkin sizes</li> <li>• basic table napkin fold</li> </ul>		10. demonstrate table napkin folds

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
Food Selection, Preparation and Cooking <ul style="list-style-type: none"> <li>• guidelines in food selection</li> <li>• guidelines in food preparation</li> </ul> Principles of Cooking <ul style="list-style-type: none"> <li>• heat transfer</li> <li>• effects of heat</li> </ul> Kitchen Math <ul style="list-style-type: none"> <li>• English and metric system</li> </ul>		11. discuss the principles of food selections and preparation  12. convert units of measurement
<b>PERFORMANCE STANDARD</b>	The learners apply skills in food preparation and services following safety precautions	

**QUARTER IV – INDUSTRIAL ARTS (IA)**

<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<p>Services in Industrial Arts</p> <ul style="list-style-type: none"> <li>• construction services (woodwork, metal works, masonry, construction painting, plumbing, tile setting)</li> <li>• electrical-electronics services (electronics product assembly and services, electrical installation and maintenance, domestic refrigeration and air condition services)</li> <li>• automotive and small engine (automotive servicing, motorcycle/ small engine servicing)</li> </ul> <p>Career and Business Opportunities</p>	<p>demonstrate an understanding of the concepts in industrial arts services</p>	<p>1. discuss the services in industrial arts</p> <p>2. determine career and business opportunities in industrial arts</p>
<p>Codes and Standards in Industrial Arts Services</p> <ul style="list-style-type: none"> <li>• National Building Code of the Philippines or Republic Act No 6451 (residential construction)</li> <li>• Philippine Electrical Code (residential wiring)</li> <li>• Philippine Electronics Code</li> <li>• traffic and road signs</li> </ul> <p>Hand Tools, Power Tools, Instruments, and Equipment Used in Industrial Arts Services</p> <ul style="list-style-type: none"> <li>• power tools               <ul style="list-style-type: none"> <li>○ hydraulic tools</li> <li>○ pneumatic tools</li> </ul> </li> </ul>	<p>demonstrate an understanding of the codes and standards in industrial arts services</p> <p>demonstrate an understanding of the uses and maintenance of hand tools, power tools, instruments, and equipment</p>	<p>3. discuss the codes and standards for industrial arts services</p> <p>4. identify the uses and maintenance of hand tools, power tools, instruments, and equipment</p>



<b>CONTENT</b>	<b>CONTENT STANDARD</b> The learners...	<b>LEARNING COMPETENCIES</b> The learners...
<ul style="list-style-type: none"> <li>• instruments (analog, digital, and computer-based)               <ul style="list-style-type: none"> <li>○ measuring</li> <li>○ calibrating</li> <li>○ testing</li> </ul> </li> <li>• equipment and accessories               <ul style="list-style-type: none"> <li>○ construction services</li> <li>○ electro-mechanical services</li> <li>○ electrical services</li> <li>○ automotive and small engine services</li> </ul> </li> </ul> <p>Preventive Maintenance</p> <ul style="list-style-type: none"> <li>• handling</li> <li>• storing</li> </ul>		
<p>Scale Reading</p> <ul style="list-style-type: none"> <li>• volt-ohm-milliammeter</li> <li>• tachometer</li> <li>• oscilloscope</li> <li>• ampere meter</li> </ul>	<p>demonstrate an understanding of the concepts and principles in performing mensuration and calculations</p>	<p>5. interpret the readings in different measuring instruments</p>
<p>Mensuration and Calculations</p> <ul style="list-style-type: none"> <li>• linear measurement</li> <li>• ratio and proportion</li> <li>• Ohm's Law</li> <li>• Power Law</li> </ul>		<p>6. demonstrate mensuration and calculations following safety precautions</p>
<b>PERFORMANCE STANDARD</b>	The learners perform mensuration and calculations following safety precautions	

#### IV References:

- Autor, D H, Levy, F, & Murnane, R J () *The skill content of recent technological change : an empirical exploration* National Bureau of Economic Research
- American Association Of Colleges For Teacher Education Committee On Technology And Innovation (2008) *Handbook of technological pedagogical content knowledge (TPCK) for educators* Routledge For The American Association Of Colleges For Teacher Education
- Bransford, J D, Brown, A L, & Cocking, R R (2000) *How people learn : brain, mind, experience, and school* National Acad Press
- Critical Skills Survey Executive Summary* (nd) <https://www.amanet.org/assets/1/6/2012-critical-skills-survey.pdf>
- Darling-Hammond, L, Fickel, L, & Al, E (2006) *Powerful teacher education : lessons from exemplary programs* Jossey-Bass, Cop
- Duncan, A () *Teacher preparation : reforming the uncertain profession : address by the Secretary of Education to the Teachers College of Columbia University* US Dept of Education
- Emas, R (2015) *The Concept of Sustainable Development: Definition and Defining Principles* [https://sustainabledevelopmentun.org/content/documents/5839GSDR%202015\\_SD\\_concept\\_definiton\\_rev.pdf](https://sustainabledevelopmentun.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev.pdf)
- [https://www.google.com/url?q=https://www.wted.gov.ph/Uploads/File/TRCode/Promulgated%2520Training%2520Regulations%2520as%2520of%2520March%25202016.pdf&sa=D&source=editors&ust=1633048951784000&usg=AOvVaw05Ss5fT2\\_qgtbvt-zrbS3t](https://www.google.com/url?q=https://www.wted.gov.ph/Uploads/File/TRCode/Promulgated%2520Training%2520Regulations%2520as%2520of%2520March%25202016.pdf&sa=D&source=editors&ust=1633048951784000&usg=AOvVaw05Ss5fT2_qgtbvt-zrbS3t)
- <https://www.google.com/url?q=https://teacherofscicom/learning-theories-in>
- [https://www.google.com/url?q=https://asean.org/wp-content/uploads/2012/05/ASEAN-MRA-TP-Handbook-2nd-Edition-2018.pdf&sa=D&source=editors&ust=1633048951764000&usg=AOvVaw0y3WGbGBAz9kMCdTiuJag\\_](https://www.google.com/url?q=https://asean.org/wp-content/uploads/2012/05/ASEAN-MRA-TP-Handbook-2nd-Edition-2018.pdf&sa=D&source=editors&ust=1633048951764000&usg=AOvVaw0y3WGbGBAz9kMCdTiuJag_)
- <https://www.google.com/url?q=https://ched.gov.ph/wp-content/uploads/2018/03/CMO-62-BS-Hospitality-Tourism-Management.pdf&sa=D&source=editors&ust=1633048951762000&usg=AOvVaw1ZezQI76kzjNlXVlloqMaA>

[https://www.researchgate.net/figure/21-st-Century-Skills-Education-Competitiveness-Partnership-for-the-21-st-Century-2008\\_fig4\\_314029289](https://www.researchgate.net/figure/21-st-Century-Skills-Education-Competitiveness-Partnership-for-the-21-st-Century-2008_fig4_314029289)

Levine, A () *Educating school teachers* Education Schools Project

Lim, C P, Chai, C S, & Churchill, D () *Leading ICT in education practices : a capacity-building toolkit for teacher education institutions in the Asia-Pacific* Microsoft Partners-in-Learning (Asia-Pacific)

*Office of Educational Technology* (2015) Office of Educational Technology <https://teched.gov/netp/>

Tomson, O (nd) The Spiral Progression Approach in the K to 12 Curriculum *Wwwacademiaedu* Retrieved September 9, 2022, from [https://www.academia.edu/34849755/The\\_Spiral\\_Progression\\_Approach\\_in\\_the\\_K\\_to\\_12\\_Curriculum](https://www.academia.edu/34849755/The_Spiral_Progression_Approach_in_the_K_to_12_Curriculum)

Unleashing the Future: Educator (2010) In *ERIC Project Tomorrow* <https://ericed.gov/?id=ED536063>

Wiggins, G P, & McTighe, J () *The Understanding by design guide to advanced concepts in creating and reviewing units* ASCD