

CAREER AND TECHNICAL EDUCATION (CTE)

Grade 7

Student Textbook



FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF EDUCATION

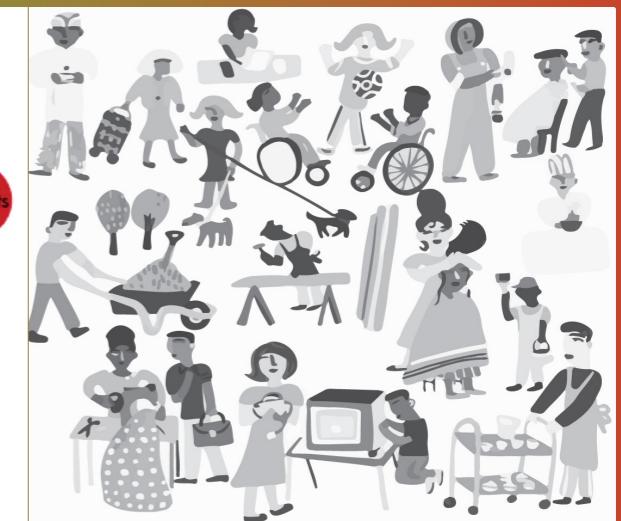
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FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF EDUCATION

IN COLLABORATION WITH
HAWASSA UNIVERSITY

**CAREER & TECHNICAL
EDUCATION (CTE)
STUDENT TEXTBOOK
GRADE 7**

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UNIT

1

INTRODUCTION TO CAREER AND TECHNICAL EDUCATION (CTE)

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☐ Define the concepts of career and job.
- ☐ Describe Career and Technical Education.
- ☐ Differentiate between career and job.
- ☐ Describe the importance of Career and Technical Education.

Key Words

Career: *Career can be briefly defined as the path of progress individuals follow to realize their aspiration.*

Job: *A job is any legal activity that allows an individual to perform a service or produce goods and in return earn money she/he can use to buy things.*

Technical Education: *Education which has a primary focus on practical or technical skills for performing a certain task.*

Career and Technical Education: *The practice of teaching skills-based careers to students.*

I.I. Meaning of Career

Brainstorming Question

In what type of job do you want to engage in the future? Why?

Career can be briefly defined as the path of progress individuals follow to realize their aspiration - life goals (what they want to be in the future) during their education and work life.

For a person on a job, career comprises of the *different jobs a person has held, titles/positions he/she has earned and work he/she has accomplished over a long period of time*. Thus, a career includes *one's choice of field of work and advancement* in the chosen field. A career could mean working as a high school director, teacher, doctor, or hairstylist, etc.

I.2. Job vs Career

As presented above, career describes an individual's journey through learning, work, and other aspects of life. What about a job? Are the concepts "Job" and "Career" the same?

Activity 1

List the types of jobs in your locality and show to your teacher.

It is often said that “job” and “career” are the same. Though they are related, they, however, mean two different things. A career is often confused with a job. Though career and job are related, they are different (see Table 1.1) below.

Table 1.1: Differences between Career and Job

Career	Job
Career is a series of connected employment opportunities.	Job is something that individuals do at a particular period of time.
Career is being engaged in a satisfying and productive activity throughout one's Lifetime.	Job is what a person does at work now to bring home an income (money).
Career involves a long-term view of a series of jobs and work experiences.	Job is a regular activity in exchange of payment.
Career is long-term professional journey determined based on your passions.	Job can be full-time or part-time and may be short-term.
The course of career changes through time as one can move from one job to another.	Relatively stable as one can work for a long time.

UNIT 1

Thus, a career has a goal of improving your skills so you can grow in your job, or move into another job. Career involves not only what one does now but also future advancement in the current field of job, including changing to other jobs.

We often hear people saying: “I have a job as a cleaner.”

“I have a job as a plumber.” “I have a job as a teacher.”

By saying so, they are telling what they are doing at the moment, i.e., their current job. A job to be a career, one has to work on the same job over the years. A career can be one job or series of jobs obtained through advancement.

Do the following statements indicate career or job?

Career or Job	Yes	No
I have worked as a Home Health Aid, a Nursing Assistant, and a Nurse. I am in health care.”		
I am a grade 7 physics teacher.		
I have worked as a recruiting clerk and as an assistant personnel head and now as a personnel manager. I am in Human Resource Management.		

Getting a job is a *one-time event*; a career is a *lifelong process* – progress is like climbing a ladder (see Fig. 1 below). To have a career, think about what type of work you want to do in the future, and what

education you will need to meet your goals.

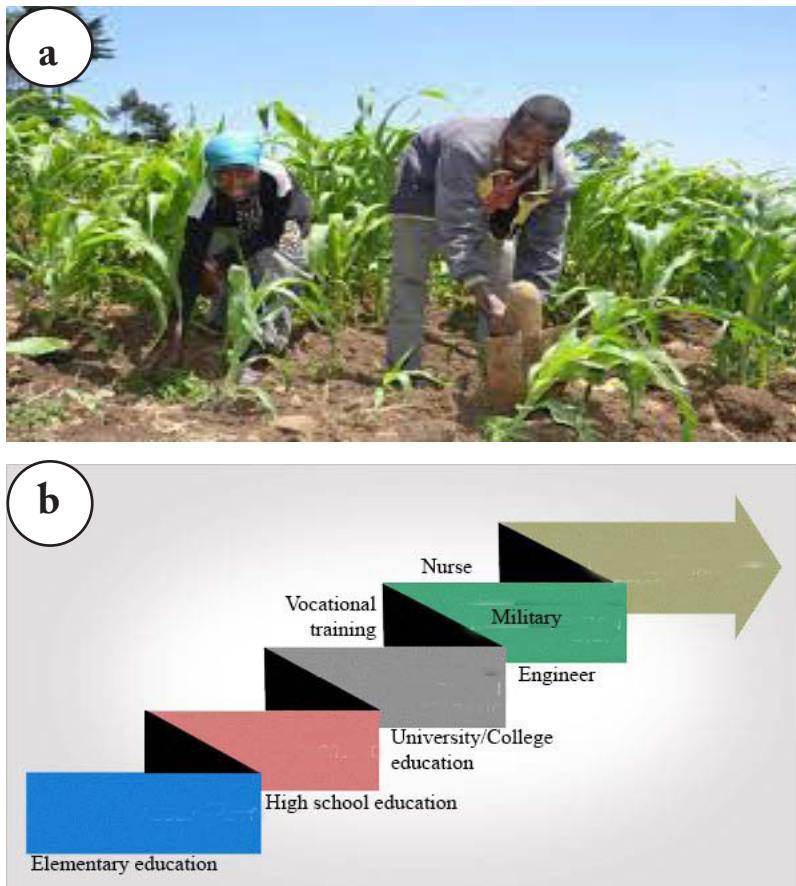


Figure 1.1: Illustrating (a) Job (now) vs (b) Career (future growth)

Thus, any work, paid or unpaid, pursued over an extended period of time can constitute a career. Careers can include schoolwork, homemaking, or volunteer work.

Activity 2

Does having a job contribute to society? Submit your answer to your teacher in writing.

I.3. Meaning of Career and Technical Education

Career and Technical Education (CTE) is a broad term of education that combines academic and technical skills with the knowledge and training needed for further education and employment opportunity. Career and Technical Education is the practice of teaching specific technology-based and career-oriented skills to students. CTE offers skills to begin working in different economic sectors.

CTE combines academic education (education which has learning as its primary purpose) and technical education (education which has a primary focus on practical or technical skills for performing a certain task). For employment opportunity, CTE prepares students for the world of work by introducing them to workplace competencies (knowledge, skills, and attitudes) in a real-world applied context.

Activity 3

Is education from Grade 1 - 6 academic or technical? Why?

I.4. Importance of Career and Technical Education

Career and Technical Education covers courses and programs in agriculture, construction, pottery, leather processing, metal work, pharmacy, crafts, hotel service, business, etc. It plays a vital role in human resource development of a country by creating skilled manpower, enhancing socioeconomic development and improving the quality of life. CTE programs are the primary college and career-readiness programs, providing both technical training and hands-on learning experiences for students to practice and develop cross-cutting skills that all employers value. CTE equips ~~students~~ with the types of technical trainings and practical work experiences that are applicable across a variety of fields.

Activity 4

Does CTE contribute to individual ~~development~~ development? Submit your answer to your teacher in writing.

Career and Technical Education provides the following benefits:

- CTE connects classroom learning with applied knowledge and skills to solve real problems.
- Career and Technical Education offers good opportunities

UNIT 1

for employment by reducing the problem of unemployment.

- Career and Technical Education serves as a base for further education at a higher level and future career development.
- Career and Technical Education provides job and hands-on experiences and help create more engaged members of the workforce. This hands-on experience prepares them for the technical aspects of future careers.

Unit Summary

A career has a goal of improving your skills so you can grow in your job, or move into another job. Career involves not only what one does now but also future advancement in the current field of job, including changing to other jobs.

Getting a job is a *one-time event*; a career is a *lifelong process* – progress is like climbing a ladder. To have a career, think about what type of work you want to do in the future, and what education you will need to meet your goals.

Career and Technical Education provides job and hands-on experiences and help create more engaged members of the workforce. This hands-on experience prepares them for the technical aspects of future careers.

Career and Technical Education offers good opportunities for

employment by reducing the problem of unemployment and serves as a base for further education at a higher level and future career development.

Unit Review Questions

I. Say “True” for the correct statements and “False” for the incorrect ones.

1. Career is a one-time activity.
2. Career and job are not related.
3. CTE does not involve acquiring knowledge.
4. Career is for immediate gain but job is future oriented.
5. CTE focuses more on academic learning.

II. Fill in the blanks with appropriate concepts.

1. ___ is future-oriented and ___ is short-term.
2. What one wants to be in the future is ___.
3. ___ links school learning with the world of work.

III. Answer the following question in writing.

1. Describe the relationship and difference of job and career.

**UNIT
2**

PERSONAL CAREER SELECTION

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☒ Identify the eight Career and Technical Education areas.
- ☒ Describe soft skills.
- ☒ Prepare personal profile appropriately.

Key Words

Soft skills: *are personal attributes of a person for building good interactions, job performance, and career growth.*

Personal profile: *is detail information about a specific person.*

Creative thinking: *is skill of generating new ideas and way of working.*

Problem solving: *is skill of identifying and finding a solution to a problem.*

2.1. Introduction to Career and Technical Education Areas in Ethiopia

Brainstorming Question

Identify the areas in which people could get jobs for a living in your locality.

In the career and technical education program in Ethiopia, eight occupational areas are identified, consisting of sub specializations within each area. The eight CTE areas in Ethiopia are part of CTE secondary school program and you will learn them in detail in Grade 11 and 12. Secondary school CTE programs are categorized in to two: Natural Sciences and Social Sciences. Natural science is a branch of science that deals with the physical world such as physics, chemistry, biology, and mathematics. Social science is the scientific study of human society and social relationships such as economics, politics, history, geography, civics, etc. Occupational areas under natural sciences include manufacturing, agriculture, construction, information technology, and health sciences. Students placed in the natural sciences are to choose among these CTE areas. Areas under social sciences for students placed in the social science stream are business sciences comprising of specializations in accounting,

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banking and insurance, marketing, office management, hotel and tourism, and etc.

These eight CTE areas are briefly introduced below.

1. Manufacturing: Manufacturing is the production of goods through the use of labor, machineries, tools and biological or chemical processing or formulation. Manufacturing involves transforming raw materials into finished goods and services. It also involves product design and material selection. The material is modified during various manufacturing processes to create the finished product.

For example, in sugar production, sugarcane (raw material) is changed into sugar (final product) through various methods and processes. The cloth jacket or sweater (product) you are wearing is made of cotton (raw material) by textile factory. As one area of CTE program in Ethiopia, the manufacturing area consists of the following four sub specializations:

- **Metal Manufacturing** - production of metal sheets, machines and parts, bolts, wires, etc., by converting steel and other metals such as copper, silver, gold, etc. Visit gold/silver smiths that produce ring or jewelry in your area. You can also see the different parts of the grinding mills in your locality to know the value of metal manufacturing.

- **Automotive Technology:** the production of automobiles of different kinds, standard automobiles, sports cars, tractors, lorries, buses, and different parts, involving repairing engines, electrical parts, fixing wheels, breaks, painting activities.
- **Textile and leather garment:** the production of textile products such as clothes, sweaters, threads, etc., by converting natural and man-made fibers. Leather products such as different types of shoes by converting sheep/ox/cow leather as a raw material.
- **Wood Work technology:** Producing wood made products such as tables, chairs, beds, doors, etc., using timber (wood) as a raw material.

Activity 1

Identify how manufacturing assisted you as a student in your learning. Submit your answer to your teacher in writing.

2. **Construction:** comprises a wide range of activities involving plans, designs, constructs, alterations, maintains, repairs and eventually demolishes of buildings, bridges, roads, railways, and other similar works. As one area of CTE in Ethiopia, the following structural construction areas:

- **Electricity:** involves the design, building, electrical installation and maintenance of systems that conduct

UNIT 2

electricity. Electricians test, install, maintain and repair electrical systems.

- **Plumbing:** plumbing work involves the laying, installation, changing, repair or replacement of water pipes, tanks, taps and fittings in the drinking water supply system.
- **Carpentry:** involves the cutting, shaping and installation of wood (timber) for housing, office/business buildings and other structures. Tables, chairs, doors, construction of roofs, floors, walls, etc., are examples of carpentry work.
- **Building finishing works:** the concluding stage of any work such as construction, installation, etc. For example, in construction, finishing work includes plastering, fixing doors, tiling, painting, etc. In table making, polishing to smoothen the surface, sealing, varnish painting are finishing works.

3. Information Technology and Computer Science: involves the use of computers, storages, networks, and other physical devices, infrastructures and processes to create, process, store, secure and exchange all forms of electronic data and designing software (programs) and hardware and telecommunications. These includes:

- **Computer Maintenance and Network:** computer maintenance deals with repairing computer related faults, malfunctions, system failures, and net- working deals with connecting different computers for exchange and sharing

of data.

- **Website Design:** describes the process of creating a website using a computer. A website is a method of putting specific information of a person or organization in a computer so that others could access the information about the person or organization. A website is opened by the name of a person or organization and information are entered into the website for visitors to access it using the computer.
 - **Computer Graphics Design:** Computer graphic design is computer assisted method of blending words, images, pictures, graphs, color, typography and sound for attractive and delivery of messages to viewers. It is usually used in publishing and advertising. In television presentations, you see pictures (images) of people' movements, talking to each other,etc. in advertising products. These are produced through computer graphics skill.
- 4. Agriculture:** Agriculture is the practice of cultivating plants and livestock. It involves crop production, animal production (e.g. poultry), fattening, flower cultivation, preserving natural resources such as forestry, soil fertility, erosion protection, etc., and the use of traditional and modern agricultural technologies.

Activity 2

List out the modern and traditional agricultural technologies used in your locality. Show your answer to your teacher.

5. Health Sciences: Health science is the application of science to health including the study of medicine, nutrition, and personal and community health, childcare and well-being, and reproductive health. It also involves the use of health technologies such as needle, syringe, X-ray, ultrasound, testing tools in hospitals, clinics, and health centers. Medical doctors, nurses, laboratory technicians, and pharmacists are the health science professionals.

You can imagine how HIV-AIDS affected family relations, family income and the country's resources. The COVID-19 pandemic is also affecting the socio-economic development of Ethiopia. These cases highlight the importance of health professionals.

Activity 3

List out health professional advices to prevent the spread of COVID 19. Show your answer to your teacher.

6. Business Science: is about activities involved in doing business (trade) which includes what goods/services to sell, how to make them available, and how to sell goods and services.

It involves:

- Accounting and finance (recording, keeping and analysis of financial information for decision),
- Marketing (what to produce, how to place, sell and buy and promote products and services)
- Banking (use of banks for keeping, withdrawing, and borrowing of money).
- Insurance (mechanism of reducing or avoiding monetary risks as a result of fire damage, accidents, etc.).
- Office Management (planning and organizing office activities, process information and maintaining of office records systematically).
- Hotel and Tourism (managing hotel and tourism services).

Activity 4

List out the major activities of banks and submit your answer to your teacher.

7. Language and Social Sciences: deals with activities, knowledge and skills in the use of language (for example,

story/application writing, translation etc.), social work (community development), anthropology (study of origins and humans, culture, etc.) and citizenship (creating good citizens).

- 8. Performing and Visual Arts:** includes music and dance, theatre, films, painting and sculpture. It also involves playing various musical instruments such as Kirar, Massinquo, Flute, Guitar, Drums, Piano, Dinke (south region), etc.

In performing arts, artists use their voices, and bodies to convey a message or artistic expression. Performing arts are performed in front of a public audience. Performing arts express people's opinion, emotion, feeling, or taste. Activities of performing arts are: theatre, public speech, dance, and music. The visual arts also express feeling, emotion, opinion, or taste through visual means. Visual arts include photography, painting, sculpting and drawing.

2.2. Soft Skills

2.2.I.

Definition of Soft Skills

Brainstorming Question

Can you identify skills that help build good interaction between people?

Soft skills are general abilities that characterize a person's relationships with others; personal attributes that enhance an individual's interactions with others, job performances and career prospects. They are called "soft" because they are not skills that define someone's work, like repairing a car.

Soft skills are abilities that someone can use in any career, enabling everyone to engage in meaningful interactions with others, unlike hard skills. Hard skills tend to be specific to a certain type of task whereas soft skills are broadly applicable in almost every job - they are not job-specific. Soft skills are universal abilities that every person must develop for productive interaction, effective work performance, and good relationship.

2.2.2. Types of Soft Skills

Soft skills include self-awareness, time management, communication, teamwork, good manner, respect for others, self-confidence, listening, collaboration, etc. Soft skills could be personal and interpersonal.

Personal soft skills are attributes in a particular person such as self-decision making, flexibility, attention to details, curiosity, etc. For example, if you develop a study plan by yourself, or perform an activity expected from you without waiting for others to tell you, that is self-decision making. Interpersonal soft skills are those that influence others such as person-person communication, collaboration, teamwork, listening, time management, etc. For example, in a group assignment given by your teacher, you have to work with the other members of the group to accomplish the task. That is collaboration.

Activity 5

Have you ever been late to school? If so, why were you late and what was the penalty for being late? What do you think should you do to avoid being late?

Two important soft skills are presented below.

Creative thinking: Creative thinking is the ability to consider something in a new way. It might be a new approach to a problem, a solution to a conflict, or a new result from a data set. Creative thinking means thinking outside the box - outside the usual way.

Creative thinking might mean devising new ways to carry out tasks, solve problems, and meet challenges. It means bringing a fresh idea and perspective to your work. For example, many scientific discoveries in new technologies such as mobile phones, and musical instruments are the result of creative thinking.

Activity 6

Is the pen or pencil you are using a result of creative thinking? Show your answer to your teacher.

Generally, anything that involves an “aha” moment is considered creative. It could be new way of doing things; new insights and ideas help solve problems or bring better benefits and increase productivity and efficiency. Every technology that we use today such as knives in the kitchen, radio, television, electricity, computers, automobiles, airplanes, machineries, medical, sewing machines, etc. are the results of creative thinking.

UNIT 2

Unsolved problems and curiosity are the main triggers of creative thinking. The effort to solve new problems and to satisfy ones eagerness to know something leads a person to creative thinking.

For creative thinking, you have to:

- Examine things carefully to know what they mean.
- Avoid any biases or wrong assumption and look at things in a completely new way.
- Present your ideas so others will understand and follow through with your understanding.
- Communicate your new idea effectively verbally or in writing in a manner that others understand and accept your creative idea or solution.
- Observe carefully and ask questions to know more.

Activity 7

1. You know that $1+1=2$. But, your friend said $1 + 1=3$. What is your reaction?
2. You know that the number of people infected by communicable diseases such as COVID-19, HIV/AIDS is increasing from time to time. How do you show the rise of the infection other than writing a report?

Problem Solving: Problem solving involves methods and skills to find the best solutions to problems. Problem solving is the act of knowing a problem, identifying the cause of the problem, developing and selecting alternative solution, and applying the selected solution and checking if the problem is solved. The problem may be related to a task, a situation, or even a person. Whatever the case, problem solving is the ability to handle difficult or unexpected situations as well as complex challenges whose solution is unclear.

For example, what situation forced you to cover your exercise books with plastic cover? Why do you choose a plastic cover? You want the exercise book not to be dirty, torn or damaged because of the splash of a liquid, mud, etc. You can cover the exercise books with either paper or plastic. Does the paper cover solve the problem of damage and dirtiness? It doesn't because it accumulates dirt and can easily be damaged if liquid is poured on it. Paper cover is not the right solution. So, the plastic is the best solution. In simple terms, that is what problem solving means.

Activity 8

Identify a certain problem in your locality and think about how you are to solve it individually.

2.3. Personal Profile Development

2.3.I.

What is personal profile?

Brainstorming Question

Write three attributes that you believe will tell who you are, and show your answer to your teacher.

A personal profile is a short introduction which outlines your personal characteristics, telling others what kind of a person you are, the attributes and qualities you possess, your educational level and experience you have. For example, somebody whom you do not know may ask you to tell him/her your name, age, school, grade level, place of birth, religion, etc.

Somebody may even ask you if you have skills such as cooking skill, translating skill, singing skill, good writing skill, etc. In this case, she/he is asking you your personal profile - detail information about you to know who you are and what you possess.

Activity 9

Why is personal profile prepared? Show your answer to your teacher.

Preparing personal profile does not only introduce oneself in personal relationship, but also useful to get a job. In fact, it is a requirement when applying for a job. Before hiring an applicant, the employers require information about the applicant to have some information about the person. The information helps the employers to see

if the applicant has the required skills, knowledge, experience, etc. related to the job. You will learn more about this and related issues in unit 7 and 8.

2.3.2. How to develop a personal profile

Personal profile is written sequentially and briefly, focusing on the most important attributes. The following steps are to be followed in writing personal profile.

➔ Give a brief description of yourself.

Write who you are (name, address, age, sex, etc.), depending on the purpose for developing the personal profile. In your case, you can write your name, home address (region, zone, woreda, city/town, school, etc.).

➔ Mention your skills and abilities.

Write about your strengths and skills you have. For example, translation skill, speaking a certain language, knitting and drawing

UNIT 2

skills, etc. You can also include behavioral statements such as ‘I am hard working and diligent, cooperative’, etc.

➔ **Include education or experience.**

You can write your education level, say primary school complete, grade 7, grade 8 complete, etc. Any kind of experience in performing a task, even if done on voluntary basis, could be included if the personal profile is for a job.

Personal profiles for a job shall be short and concise so that they can be read quickly. Personal profile for a job shall focus on the important aspects that are linked to the specific nature of the job.

Activity 10

Write your personal profile as if you have certain skills and experience. Then, show to your teacher.

Unit Summary

Eight occupational areas with sub-specializations are identified in the career and technical education program in Ethiopia, namely, manufacturing, agriculture, construction, information technology,

health sciences, business sciences, language and social sciences and performing and visual arts. In CTE, soft skills are important for good interaction among people along with technical skills- skills specific to a certain job. Soft skills includes creative thinking- the ability to generate new ideas and practices and looking things in a new ways; problem solving skills- skills to find solutions to problems, involving identifying a problem, analyze it and generate solution.

As a step to prepare for employment and introducing oneself to others, individuals should know how to develop their personal profile, detail information about them. These include who they are, what skills and likes/dislikes they have, educational/work experiences and their characteristics.

Unit Review Questions

I. Identify the incorrect statement and write the corrected one with a reason.

- a. Sewing is a hard skill for a carpenter.
- b. Hard skills are universal while soft skills are specific to a job.
- c. Soft skill alone gets you employment.
- d. Being open mindedness is an obstacle for problem solving.
- e. Innovation and critical thinking are very much related.
- f. Soft skills do not support students to learn.

II. Choose the best answer from the alternatives and circle the letter of your choice.

- 1) skill is specific for a certain job. 1)
a) soft b) hard c) problem solving d) critical thinking

- 2) Information to be included in personal profile for a job is .
a) education b) experience c) name and address
d) all are answers

- 3) Non-verbal communication is the use of for telling information.
a) speaking b) writing c) body language d) talking

III. Answer the following questions in writing.

- i. What information is included in a personal profile?
- ii. Which comes first: Critical thinking or solution to a problem? Why?

**UNIT
3**

3. SELF-EMPLOYMENT OPPORTUNITIES:

GARDENING HORTICULTURE, FATTENING, BEE KEEPING, DAIRY FARM, AND POULTRY

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☒ Describe the activities of gardening in horticulture sector.
- ☒ Identify the activities of animal fattening.
- ☒ Identify the processes involved in beekeeping farming.
- ☒ Describe the activities of poultry farming.

Key Words	<i>Gardening, horticulture, fattening, bee keeping, dairy farm, poultry</i>
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Gardening is the practice of growing and cultivating plants as part of horticulture.

Horticulture is the art or science of growing flowers, fruits, vegetables, and shrubs, especially in gardens or orchards.

Fattening is the production of cattle for meat or consumption based on market demand.

Beekeeping is the practice of honeybee management in hives for pollination and the production of honey and other products.

Dairy farm is a class of agriculture for long-term production of milk, which is processed for eventual sale or personal consumption of a dairy product.

Poultry is the raising of chicken for commercial or domestic meat, egg, and feathers

3.1. Gardening Horticulture as

Self-Employment

Brainstorming Question

What does gardening mean to you?

3.I.I. Definition of Gardening in Horticulture

Horticulture is the art or science of growing flowers, fruits, vegetables, and shrubs, especially in gardens or orchards. Horticulture is subdivision of agriculture which deals with gardening of plants. Agriculture deals with cultivation of crops and also animal farming whereas horticulture deals with cultivation of plants only.

As part of horticulture, gardening is the practice of growing and cultivating plants. It involves the laying out and care of a plot of ground devoted partially or wholly to the growing of plants such as flowers, herbs, or vegetables. Gardening deals with growing and cultivation of plants for their flowers, leaves or overall appearance, for consumption and for use as dyes or for medicinal or cosmetic use.

Activity 1

What herbs in your locality are used for medication purpose? Submit your answer in writing to your teacher.

3.I.2. Types of Garden

There are many types of gardening. In this section, the two most popular types of gardening: vegetable gardens, and container

gardens, are presented.

a. Vegetable Garden

Vegetable garden (see Fig. 3.1 below) is a garden where vegetables are grown. Vegetable gardening consists of selecting a site, planning the garden, preparing the soil, choosing the seeds and plants, planting, and nurturing the plants until they are ready for harvest. The end result is fresh vegetable product such as cabbage, carrots, and potatoes to eat, share, or sell.

Vegetable gardens can be home gardens. Families plant vegetables, fruits, herbs, ornamental and medicinal plants that can serve as a supplementary source of food, income and health care. Vegetable gardening doesn't take a lot of money, time, or talent. Growing vegetables takes some space, but not necessarily large garden. A vegetable garden can be in the ground or in a planting bed.





Figure 3.1: Vegetable gardens

b. Container Garden

Many types of vegetables can be grown in containers that are deep enough to support their root systems. The bigger the container, the easier it is to be successful. Vegetables that do well in containers include beans, beets, carrots, cucumbers, garlic, lettuces, mustard greens, peas, peppers, potatoes, spinach, squash, and tomatoes.

Containers require more frequent irrigation than gardens, especially as the plants grow and require more water. A drip irrigation system connected to a timer is a great addition to a container garden. Containers can be prepared from used materials such as bottles, pots, barrels, and from commercial potters/synthetics (See Fig 3.2, a & b below).



Figure 3.2: Figure 3.2 Container Garden

Gardening is a common activity in both urban and rural areas. Farmers usually have gardens where they plant cabbage, tomato and potato and fruit trees such as lemon, avocado, etc., around their home as supplementary food or for getting money by selling. Families in urban areas have similar gardens in their home compound including flower gardens for the beauty of their compound.

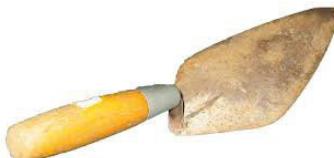
It is a common practice of schools in both urban and rural areas to have vegetable and flower gardens usually prepared by the cooperation of teachers and students. In rural areas, farmers use traditional gardening tools such as hoe (for digging), sickle (for land clearing), etc. (see Table. 3.1) below.

3.1.3. Essential Gardening Tools

Before you start planting, you need to know and prepare the following tools (See Table 3.1 below).

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Table 3.1: Garden tools

Tools	Picture/photo of tools
Gloves	
Pruning Shears (Hand pruners, also called secateurs)	
Loppers	
Garden Fork	
Hand trowel	

Spade	
Rake	
Hoe	
Traditional Hand hoe	

Activity 2

Activity 2

List down the traditional gardening tools in your locality and write the use of each tool and show your answer to your teacher.

3.I.4. Seeds and Transplants

Seeds

A seed is the small, hard part of a plant from which a new plant grows. A seed is sown in a field or garden systematically and germinates after some time into a plant. A greater variety of seeds are available than transplants, and seeds are less expensive. Some seeds can be sown directly into the garden using proper directions.

Transplanting

Transplanting is transferring seedlings from containers into the garden or field. Garden with transplants harvest crops sooner than with seeds. Some plants take so long to mature even if started from seed in the garden at the beginning of the season; they would still not be ready to harvest at the end of the season (See Fig 3.3 below).



Figure 3.3: Transplants

When transplanting, move seedlings from the protected environment to the garden, hardening them off by slowly introducing the transplants into full sun for a longer period each day over a week's time. Except for tomatoes, which can be planted slightly deeper, transplants should be planted in the ground at the same depth they were in the container. Root crops (such as carrots, radishes, and beets) do not transplant well.

3.I.5.**Basic Steps to Start Gardening****Brainstorming Question**

What do you think are the activities to be done to start gardening?

Gardening can be a profitable business and provide a good work/life balance when managed properly. If you are thinking of starting a career as a self-employed gardener, this short and simple guide will help you get a sense of what is involved. To be successful you need to follow the steps listed below.

1. Decide what you like to grow in your home garden.
2. Choose a location to start your garden.
3. Plan your garden beds (See Fig 3.4 below).



Figure 3.4: Different types of garden beds

4. Arrange for appropriate garden tools.



Figure 3.5: Planting seeds

5. Choose the right seeds or transplants.
6. Plant with care (Fig. 3.5) shows careful sowing of seeds).
7. Nurture your garden.
8. Enjoy your harvest (Fig 3.6) illustrating harvested vegetables displayed for selling.



Figure 3.6: Harvest of some vegetables

3.I.6. Garden Care for Healthy

Plant Growth

The most important duty of the gardener is garden care and harvesting the yield depends on effective care of the garden. There may be season fluctuations to get rain water as expected or planned.

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Always the gardener should prepare himself for such scarcity of rain water.

3.I.7.

Pest and Disease Management

Pests harm plants; so keep plants healthy with adequate sun, water, and fertility. The gardener should include flowering plants that attract beneficial insects to control pests and air pollination.

Select disease and pest-resistant seeds or plants. When choosing transplants, look for those that are healthy and free of insects and disease to control pests. The gardener can also use pesticides-chemicals which are sprayed on the soil or pants.

During spraying pesticides, gardeners should have to take safety measures such as wearing hand glove, face masks, and eye glasses because pesticides harm the health of humans.

Activity 3

Create a group of 5 and prepare a different vegetables and flower garden in your schools.

3.2. Dairy Farming

Brainstorming Question

What activities are done in milking a cow in your locality?

3.2.1. Introduction

A **dairy** is a business enterprise established for the harvesting or processing (or both) of animal milk – mostly from cows, but also from goats, sheep, or camels – for human consumption. A dairy is typically located on a dedicated dairy farm or in a section of a multi-purpose farm (mixed farm) that is concerned with the harvesting of milk.

The word dairy refers to milk-based products, and processes, and the animals and workers involved in their production: for example dairy cattle, dairy goat. A dairy farm produces milk and a dairy factory processes it into a variety of dairy products.

Dairy farming is a class of agriculture for long-term production of milk, which is processed (either on the farm or at a dairy plant, either of which may be called a dairy) for eventual sale of a dairy product. Dairies are growing in popularity to produce an alternative milk source for human.

Dairy products or milk products are a type of food produced from milk of mammals, most commonly cattle, water buffaloes, goats, sheep, and camels. Dairy products include food items such as yogurt, cheese, and butter (see Fig.3.7 below).



Figure 3.7: Dairy Farming

Large scale dairy farming is only viable where either a large amount of milk is required for production of more durable dairy products such as cheese, butter, etc. or there is a substantial market of people with money to buy milk, but no cows of their own. Farmers could make some extra money on the side by having additional animals and selling the milk in town. The dairy farmers would fill barrels with milk in the morning and bring it to market.

3.2.2. Milking

Milk is a nutrient-rich liquid food produced by the mammary glands of mammals. It is the primary source of nutrition for young mammals, including breastfed human infants before they are able to digest solid food. As an agricultural product, dairy milk is collected from farm animals.

Milking is the act of removing milk from the udder of cows, goats, sheep, and, more rarely camels. Milking may be done by hand or by machine. In local dairy farming, the milking of the cow is done by hand. Traditionally, milking takes place indoors twice a day (in the morning and evening) at home with the cattle tied by the neck or horn including the back legs with ropes or held in place by stanchions or barn. A barn is an agricultural building used as homes for livestock, including cattle as well as equipment and fodder, and often grain.

Activity 4

In light of science, what are the benefits of milk for humans?

3.2.3. Milking Techniques (Methods)

There are two most commonly used techniques or methods for milking namely: hand milking and machine milking.

3.2.3.1 Hand Milking

Hand milking is performed by massaging and pulling down on the teats of the udder, squirting the milk into a bucket (see Fig. 3.8 a & b) below.

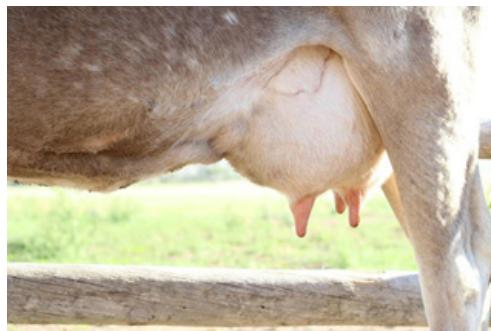


Figure 3.8:

(a) Udder



(b) Bucket

Two main methods used as hand milking are:

1. The top of the teat is pinched shut between fingers and thumb, trapping milk in the lower part, which is then squeezed by the other fingers, squirting the milk out through the hole in the tip of the teat.
2. The top of the teat is pinched shut by the fingers and thumb, which are then slid down the teat, pushing the milk towards the bottom (see Fig. 3.9) below.



Figure 3.9: Hand Milking on a Farm

3.2.3.2 Machine Milking

Machine milking is milking a cow using machines. Teat cups are attached to the cow's teats, and then the cups alternate between vacuum and normal air pressure to extract the milk. The milk is filtered and cooled before it is added to a large bulk tank of milk for storage (see Fig. 3.9 below).

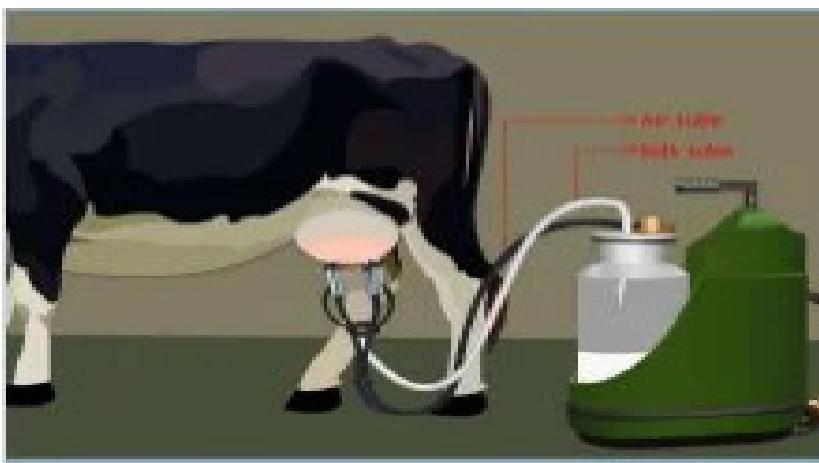


Figure 3.10: Machine Milking

Machine milking is also called automatic milking that is the milking of dairy animals, especially of dairy cows, without human labor (Fig. 3.11) below.



Figure 3.11: An Automatic Milking System

In both hand and machine milking, the hygienic factors during and after the milking process must be carefully treated to protect milk from contamination. In hand milking, the milking person should keep his/her personal hygiene such as washing hand, container and the teats, and care when milking so that hair particles not to enter in the container from the udder.

3.2.4. Milk Preservation Methods

Milk preservation is about keeping milk safely so that it could not be spoiled due to bacterial contamination. If milk is not kept safely, it causes diseases some of which may be deadly. Preservation increases the freshness of the milk for a longer period of time. In preserving milk, cool temperature has been the main method by which milk freshness has been extended. Cooling milk extends its storage life until it is used or transported to the market area.

The naturally cold underground water has been used as a

preservation method. It involves continuously pumped water into a cooling container or barrel. This method of milk cooling was popular before the arrival of electricity and refrigeration.

Refrigeration

Refrigerator is equipment that is used to cool milk. Milk in some kind of container is kept in a refrigerator to cool so that it will not be spoiled as a result of bacteria growth or contamination.

Activity 5

How is milk preserved in your locality to avoid contamination? Report your answer to your teacher.

3.2.5. Management of the Herd

The dairy industry is a constantly evolving business. Management practices change with new technology and regulations that move the industry toward increased economic and environmental sustainability. Management strategies as well as available technologies, local regulations, and environmental conditions manifest in different management of nutrition, housing, health, reproduction and waste.



Figure 3.12: Cows in field

Most modern dairy farms divide the animals into different management units depending on their age, nutritional needs, reproductive status, and milk production status. The group of cows that are currently lactating the milking herd is often managed most intensively to make sure their diet and environmental conditions are conducive to producing as much high quality milk as possible.

3.2.5.1 Housing Systems

Activity 6

Why is housing important for animal fattening?

Dairy cattle housing systems vary greatly throughout the world depending on the climate, dairy size, and feeding strategies. Housing must provide access to feed, water and protection from

bad environmental conditions such as high temperature and cold. Heat stress can decrease fertility and milk production in cattle. Providing shade is a very common method for reducing heat stress. Barns may also incorporate fans for cooling purpose. Overly cold conditions may even kill cattle; so the housing must be kept warm. The housing should also be suitable for feed provision.

3.2.5.2 Nutritional Management

Feed for cattle is the largest expense in animal fattening whether it is the land they graze or crops grown or purchased. Pasture-based dairy producers invest much time and effort into maintaining their pastures and thus feed for their cattle. Pasture management techniques such as rotational grazing are common for animal production. Large fattening businesses may even hire a nutritionist who is responsible for formulating diets with animal health, milk production, and cost efficiency in mind. For good productivity, animal diets must be prepared differently depending on the growth rate, milk production, and reproductive status of each animal.

To meet all of their nutritional requirements cows must eat their entire ration and foods that they favor, containing the required level of nutrients in each feed time.

3.2.5.3 Reproductive Management

Female calves born on a dairy farm will typically be raised as replacement stock to take the place of older cows that are no longer sufficiently productive. The life of a dairy cow is a cycle of pregnancy and lactation starting at puberty. The timing of these events is very important to the production capacity of the dairy. A cow will not produce milk until she has given birth to a calf. Consequently, timing of the first breeding as well as all the subsequent breeding is important for maintaining milk production levels.

3.2.5.4 Lactation Management

Activity 7

What does lactation mean to you?

Lactation describes the secretion of milk from the mammary glands and lactation period is time that a mother lactates to feed her young. After the birth of a calf, the cow begins to lactate. Lactation will normally continue for as long as the cow is milked but production will steadily decline. Dairy farmers are extremely familiar with the pattern of milk production and carefully time the cow's next breeding to maximize milk production. The pattern of lactation and pregnancy is known as the lactation cycle.

3.2.5.5 Animal Waste from CattleDairies

When properly managed, dairy and other livestock waste, due to its nutrient content, makes an excellent fertilizer promoting crop growth; increase soil organic matter, and improve overall soil fertility and tilth (the physical condition of soil) characteristics.

3.2.5.6 How Does One Can Start a Dairy Farm?

Dairy farming set up needs some requirements well before establishing it. The following are some of the requirements needed to start dairy farm.

1. Space/shelter requirements of dairy farming animals
2. Improved dairy breeds (even local breeds can be used)
3. Fodder management of the dairy farm
4. Daily dairy farm management
5. Disease control and management
6. Dairy farming reproduction/breeding management

Activity 8

Ask agricultural extension agents in your locality about lactation period and report to your teacher.

3.3. Animal Fattening

Brainstorming Question

What does animal fattening mean to you?

3.3.1. Introduction

Humans require meat as a source of protein which is essential for growth. Meat could be obtained from animals such as cow, ox, chicken, goats, sheep, etc. High quality meat is obtained through animal fattening. Animal fattening is a continuous feeding of animals for a certain period of time by keeping them in a specific place to obtain the greatest quantity of high-quality meat. For example, bulls (Ox) which are kept for fattening are not allowed to move far and do not engage in any kind of farming activity for rapid fattening.

Fattening makes bulls (oxen) to give more meat with good quality than ordinary bulls (see Fig. 3.13 below). The demand for meat is high and increasing each year. This sector, however, is not supplying the market as the producers could not match the consumers. Therefore, fattening is a career and brings profit within short time.



Figure 3.13: (a) Bull before being fattening, (b) Bull after fattening

Animals for fattening are usually home grown young bulls/oxen, sheep, goats, etc., or those purchased from local markets. Animal fattening requires thinking about the type of animal (breed), gender, maturity type, and age of the animal. This is because different types of cattle react differently to the meat fattening process. Some cattle breeds are more fitting for cattle fattening than other breeds.

Cattle fattening practices in Ethiopia is categorized in to three major fattening systems:

- 1) Traditional fattening system: In traditional system, farmers usually sell oxen after the ploughing season when they are in poor body condition and too old to resist draught. In this case, the main feeds are grass and some cereals.
- 2) By product-based fattening system: by-product-fed are typically raised on maize, soy and other types of feed. Some by-product-fed cattle are raised in concentrated animal feeding operations known as feed lots.
- 3) Hararghe fattening system.

Activity 9

What are the important feeds for fattening of cattle in your locality?

3.3.2. Site Selection

It will be highly profitable if feeds are obtainable within the locality. Feed components like rice straw, corn Stover, copra meal, rice bran, and molasses should be copious in stock. Grass supply must be adequate for the cattle to graze throughout the year.

3.3.3. Housing

Proper housing and equipment are vital during a successful backyard cattle rising. Cattle must be shielded from extreme hot or cold conditions. The shade is extremely necessary.

**3.3.4. Important Criteria for Selection of
Fattening Cattle**

To ensure a profitable income from fattening cattle, these below factors are to be considered:

- **Age of Cattle:** Younger animals need an extended feeding period. The feed is employed for maintenance, growth,

and cattle fattening. Older animals get a shorter time for fattening. The preferred age of cattle is two to three years old.

- **Sex of Cattle:** Steers (castrated males) are chosen over heifers due to their inherent capacity to realize weight, grow faster and easier to manage.
- **Disposition/character:** A lively yet mild, quiet, and simply handled steer generally grow fast and fattens easily. Restless, nervous and erratic cattle waste an excessive amount of energy.
- **Constitution and Vigor:** These factors are determined by the dimensions and quantity of the vital organs. An outsized feeding capacity, a robust appetite, an enormous heart girth, well-sprung ribs, and a good, depend upon full chest show good constitution and vigor.
- **Breed:** Improved breeds gain weight quicker with less feed than native animals.
- Before we start raising cattle, it is good to know and identify the kinds of cattle which will be fattened, to make it easier for us to understand where it comes from and the way to boost the kinds of cows that exist.

Feed and Types of Feeds

What is the simplest feed for fattening cattle? Barley is the best grain for lot feeding cattle, but wheat, triticale, sorghum, maize, and oats are often used. Oats is not a perfect grain on its own for cattle fattening but are often used with any of the opposite grains. Hay or

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silage might be used because of the roughage source

There are two major categories of feed: concentrates (grains) and roughages (pasture, hay, silage). Roughages are usually high in fiber. Concentrates are usually high in protein or carbohydrates.

- **Hay:** Hay is forage that has been mowed and dried for use as livestock feed. It is usually the primary source of nutrients during the winter.
- **Silage:** Silage is the term used for the feed produced by controlled fermentation of high moisture herbage. Silage can be made from forage or grain crops.
- **Vitamin and minerals supplements:** Producers mixing their own simple rations should use supplements that contain vitamins and minerals. These supplements can easily be combined with whole grains or by-product feeds to create a balanced concentrate ration.
- **By-product feeds:** There are numerous by-products available as a result of processing a traditional feed ingredient to generate another product. By-product feeds can often be economical sources of nutrients.

Activity 10

How do cattle are selected for fattening in your locality and report your answer to your teacher.

3.4. Poultry Production

Brainstorming Question

List down the activities involved in producing a chicken from egg?

3.4.1. Introduction

Chickens are widespread and almost every rural family owns chicken, which provide a valuable source of protein and income for family. Poultry are the smallest livestock investment a village household can make.

Chicken's products are among the major source of animal protein, aside from beef, pork and fish. Chickens are already an integral part of human life. Small scale poultry production fulfills the animal nutrition demand for a family. Income generation is the primary goal of family poultry keeping. Eggs can provide a regular, even though small, income while the sale of live birds provides a more flexible source of cash as required (See Fig 3.14 below).

Poultry production is an important and integral part of most Ethiopian households in rural, urban and semi-urban areas.

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Poultry can play a key role in poverty alleviation, nutrition and food security.



Figure 3.14: Supply to market

Activity 11

Observe poultry farm in your locality. List down the major activities involved and show to your teacher.

3.4.2. Types of Poultry Production

There are four poultry production systems in developing countries and in Africa, in particular, in Ethiopia. These include the free-range system or traditional village system, the backyard or subsistence system, the semi intensive system, and the small-scale intensive system.

1) Free-Range Extensive Systems

Under free-range conditions, the chickens are not confined in

a specific area and can search for food over a wide area. Simple shelters may be provided, and these may or may not be used. The chickens may stay outside, usually in the fields, and nest in the bush.



Figure 3.15: Free range of poultry housing

2) Backyard Extensive Systems

Poultry are housed at night but allowed free-range during the day. They are usually fed a handful of grain in the morning and evening to supplement scavenging (see Fig 3.16 below).



Figure 3.16: Backyard Extensive Systems

3) Semi-Intensive Systems

These are a combination of the extensive and intensive systems where chicken are confined to a certain area with access to shelter with a fence (see Fig. 17 below). They are commonly found in urban and semi-urban as well as rural situations.



Figure 3.17: Poultry housing in semi urban area

4) Intensive Systems

These systems are used by medium to large-scale commercial

enterprises, and are also used at the household level. Chickens are fully confined either in houses or cages (see Fig. 18 below). Capital outlay is higher and the birds are totally dependent on their owners for all their requirements.



Figure 3.18: Intensive poultry production

Activity 12

What is the difference between the four poultry production systems? Submit your answer to the teacher.

Traditional chicken production system is an appropriate system that makes the best use of locally available resources. Chicken provide major opportunities for increased protein production and incomes for smallholder farmers because of short generation interval, high rate of productivity, the ease with which its products can be supplied to different areas, the ease with which its products can be sold due to their relatively low economic values, its minimal association with religious taboos and its complementary role played in relation to

other crop–livestock activities.

3.4.3. Chicken Selection Criteria

There are some criteria you need to follow in order to select the best chicken for the poultry production.

1. **Good hatching ability:** select hens with good egg incubating behavior.
2. **Mothering behavior:** flightiness/ability to escape/and protect chicks and herself from predators.
3. **High growth rate:** maintain chicks with fast growth rate and cull chickens showing poor growth and any dwarf birds. Birds with delayed sexual maturity or surplus cocks that reach slaughtering age should be culled.
4. **Select eggs for hatching:** average size, good shell quality (without any deformity or cracks), and clearly defined shape (broader bottom with sharper tip).
5. **Hatched chicks (day-old chicks; DOCs):** good body condition, without deformity in the legs or eyes. Also, chicks should be keen to eat and drink.
6. **Disease resistance:** Select chickens with good disease resistance – i.e. breed from those that survive disease outbreaks.

3.4.4. Feed Sources

There is a clear relationship between egg production and feed/nutrient intake. These feedstuffs were mostly by-products of home food processing and agro industries.

The feed resources for chickens include:

- Household cooking waste,
- Cereal and cereal by-products,
- Roots and tubers,
- Oilseeds,
- Trees and shrubs,
- Animal proteins, and
- Commercially prepared feed.

Activity 13

List down the types of local feeds for chicken in your locality.

3.4.5. General Management

1. Housing

Some village households keep their few chickens inside the house

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or even under their bed at night, to discourage theft. The basic requirements for poultry housing are:

- Space,
- Ventilation,
- Light, and
- Protection (from weather and predators).

2. Incubation and Hatching

Brainstorming Question

What does incubation related to chicken egg mean to you?

A. Natural Incubation

The hen chosen for natural incubation should be large to cover and thus keep more eggs warm, healthy and preferably vaccinated, with a good hatching and mothering record. Eggs usually become fertile about four days after the rooster has been introduced to the hens.

Feed and water provided in close proximity to the hen will keep her in better condition and reduce embryo damage due to the cooling of the eggs if she has to leave the nest for food. In very dry regions, slightly damp soil can be placed under the nesting material to assist the hen in maintaining the correct humidity (between 60 and 80

percent).

B. Artificial Incubation

There are many commercial artificial incubators of varying capacities. Most of them depend on electricity, but some use gas or kerosene for heating. All use a thermostatic switching device to keep the temperature constant within one celsius degree.

Activity 14

What is the difference between natural and artificial incubation?

3.4.6. Poultry Health

Infectious diseases are major problems that may be introduced easily into the flock through contaminated materials and sick birds. This is the main reason why poultry producers should not buy chickens from live bird markets or from uncertified or unknown sources, especially during outbreaks of disease. When birds are purchased or gifted from an outside source, it is important to place them in quarantine for two weeks in a room/shed or cage, so that they do not mix with the host flock and to observe the new birds for any signs of sickness.

These infections become more of a problem in domestication,

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which usually involves some degree of increase in stock density – even if only for overnight accommodation – and thus increases the risk of cross-infection.

Inadequate ventilation of poultry houses results in a build-up of ammonia gas from poultry faeces, which contain urea. This can predispose the poultry to respiratory disorders, such as sneezing, running eyes and mucous discharges from the mouth. Providing good ventilation easily prevents this.

Activity 15

Visit a poultry site and ask the major poultry diseases and their cure.

3.4.7. Common Diseases

The common diseases and disorders of free-range poultry may be either infectious or noninfectious, and are caused by a wide range of organisms or deficiencies. The common infectious diseases are viral, bacterial, and parasitic diseases. The non- infectious diseases are feed deficiencies, and toxicity.

3.4.8. Disease Control in Family Flocks

The most economical and effective means of preventing non-viral

diseases is improved management and nutrition, of which the most important aspects are hygiene, housing, flock structure, and young chick care and feeding. Simple medical control measures appropriate for free-range village flocks include: vaccination, deworming for internal parasites and treatment for external parasites.

Activity 16

Visit a poultry site, and report to your teacher the common poultry diseases and control methods in your locality.

3.5. Bee Keeping

Brainstorming Question

What are the benefits obtained from honey? Show your answer to your teacher.

Bee keeping (Apiculture) is the practice of honeybee management in hives for pollination and the production of honey and other products, such as wax, royal jelly, propolis and pollen. In addition, the production of live material, such as bees and queens, may represent other outputs of beekeeping. Honey bees are social insects. By working together the survival of all members of the colony are improved. There are three different sorts of bee in one colony each with their own work to perform (see Fig 3.19. below).

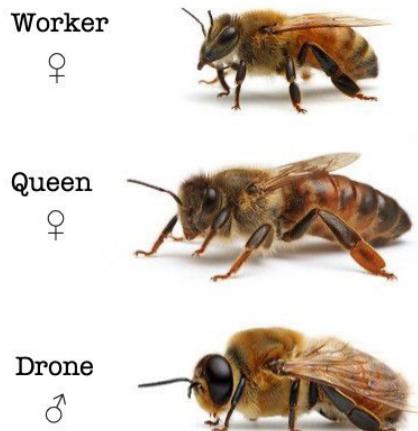


Figure 3.19: Sorts of bee

1. Queen Bee

There is only one queen bee in a colony. She is the mother of the hive. Her work is to lay eggs that will develop into new bees. She can lay 1000 eggs every day at sometimes of year.

2. Male Bee or Drone

The male bee job is to mate with a young queen. There are about 500 drones in a hive when there is plenty of food. They are driven out during the dry period.

3. Worker Bee

She is a female but cannot lay eggs. She does all the work in the hive. There may be as many as 40,000 workers in the main honey gathering season.

Activity 17

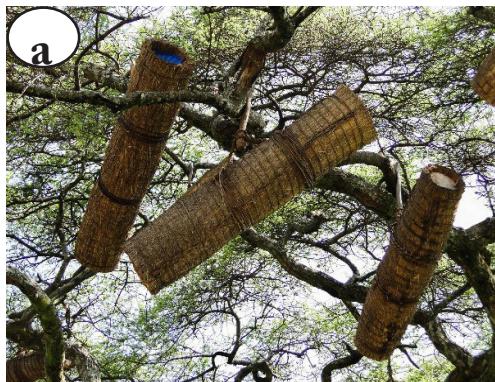
Discuss the importance of bee products for human health.

3.5.1. Important Steps to Start Beekeeping

- 1) Establish beekeeping site
- 2) Colonies of honeybees
- 3) Basic equipment, materials and tools required to establish apiary.
- 4) Clear and fenced apiary/beekeeping site

1) Site selection

Productive beekeeping depends on good bee management and choice of suitable area. Areas with good potential for beekeeping must be located and evaluated. Successful site selection is important to promote sustainable bee culture development and to save time, energy, and money. Choosing a site often involves balancing the needs of the bees against with the sites available (see Fig 3.20 below).



a



b

Figure 3.20: Apiary site: (a) Traditional beehives, (b) Modern beehives

Activity 18

Ask beekeepers in your locality or your parents how honey is made and show your answer to your teacher.

3.5.2. Beekeeping Equipment and Tools

Beekeeping equipment is materials used in beekeeping and honey production. Besides the hive, there are several pieces of equipment that are important for beekeeping. If a person is to work with bees successfully, there should be some protection from bee stings. Protective clothing worn by the beekeeper prevents most stings. A tool producing smoke allows for some control over the bees to minimize biting. A hive tool allows the beekeeper to climb up to the hives (see Table 3.2 below).

Table 3.2: Beekeeping Equipment and Tools

Equipment/Tools	Picture
Veil	
Clothing	
Smoker	
Sprayer	

UNIT 3

Hive tool	
Queen excluder	
Honey extractor	
Honey presser	
Wax extractor	

Honey sieve



Uncapping fork



Activity 19

List down local Beekeeping equipment and tools used in your area and show your answer to your teacher.

3.5.3. Apiary Management

A good apiary management starts with choosing a good site to hang or place hives. If you choose a poor site, people and animals may be stung. If the site is insecure, honey and hives can be stolen. The following are recommended practices for a good apiary site.

The site must be easy to get to and from in order for you to check the hives regularly.

- ✓ A high hedge or fence should be put around the apiary to

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separate the bees from people and animals, as bees can be aggressive. The apiary should be away from human and livestock dwelling areas, roads and public areas.

- ✓ It should be safe from strong direct sunshine, be shaded during the hot part of the day but have sun in the morning. Shade must be constructed if none is available at the site.
- ✓ It should be safe from strong direct wind and allow good air circulation.
- ✓ It must be near a fresh water supply; this can be a river, pond or even a dripping tap.
- ✓ Putting hives in a bee house/shed, which can be locked to prevent thieves stealing the honey, is one option. But there must be holes in the wall to allow the bees to get enough fresh air in and out of their hives.
- ✓ The bees will also appreciate being away from smoke, fire, and unfriendly neighbors.

Select a suitable location, considering the following conditions.

- ✓ Sunrise set
- ✓ Wind direction
- ✓ Away from human settlements
- ✓ Free from air and water pollution
- ✓ Free from bee diseases
- ✓ Provision of clean water source
- ✓ Site should be open and at dry place having shade

- ✓ It should have natural/artificial wind breaks
- ✓ Area should be rich in bee flora

Activity 20

Why is selecting a suitable location is important in beekeeping? Show your answer to your teacher.

Unit Summary

In developing country, like Ethiopia, agriculture plays great role in employment creation and means of living. Among agricultural occupation horticulture is one of the employment sectors. But this sector is not yet exploited and labor is not deployed efficiently. Horticulture is the art or science of growing flowers, fruits, vegetables, and shrubs, especially in gardens or orchards. Horticulture is subdivision of agriculture which deals with gardening of plants.

As part of horticulture, gardening is the practice of growing and cultivating plants. It involves the laying out and care of a plot of ground devoted partially or wholly to the growing of plants such as flowers, herbs, or vegetables.

There are many types of gardening. The two most popular types of gardening are vegetable gardens, and container gardens. The most important duty of the gardener is garden care and harvesting the yield depending on effective care of the garden.

A dairy is a business enterprise established for the harvesting or processing (or both) of animal milk – mostly from cows, but also from goats, sheep, or camels – for human consumption. There are two most commonly used techniques or methods of milking

namely: hand milking and machine milking.

Most modern dairy farms divide the animals into different management units depending on their age, nutritional needs, reproductive status, and milk production status. When properly managed, dairy and other livestock waste, due to its nutrient content, makes an excellent fertilizer promoting crop growth; increase soil organic matter, and improve overall soil fertility and tilth (the physical condition of soil) characteristics.

Cattle fattening practices in Ethiopia are 1. Traditional fattening system, 2. By-product-based fattening system and 3. Hararghe fattening system. As the demand for meat is increasing, this sector of business is profitable.

Poultry production is an important and integral part of most Ethiopian households in rural, urban and semi-urban areas. Poultry can play a key role in poverty alleviation, nutrition and food security. The production yields significant income in a small area of poultry farm.

Beekeeping is the practice of honeybee management in hives for pollination and the production of honey and other products, such as wax, royal jelly, propolis and pollen. The sorts of bee in one colony are queen bee, worker bee and male or drone bee each with their own work.

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Based on the skills that you acquired, you may be interested to start a micro/small business. For this purpose, consider the ideas stated below.

Important ideas to start micro/small business:

1. The product or service you want to offer to the market that is useful for the customer. Be sure that there are buyers to your product or service and create good relationship with your customers.
2. Select good location for your business. Be sure the location is accessible to the buyers or suitable to provide the service to the customers.
3. Know the physical, human and financial resources to produce products or services. Eg. employees, bee hives, clippers, scissors, horticultural equipment, seeds, land, sewing machine, thread, measuring tape, cash and other tangible assets
4. Explore how you distribute your products and services to the customer. You can distribute the products by yourself or through others using different local transport depending on the nature of the products.
5. Know the various activities to be carried out in the production and marketing of goods and services such as poultry, beekeeping ... etc. based upon what you have learned in the

unit.

6. Set reasonable price that covers your costs and generate profit.
7. Record your income (I) generated and costs (C) for buying different inputs to run the business, compare the revenue and cost to know whether your business is profitable (P). Note that Profit is equal to income minus cost ($P= I - C$). If Income is less than cost, it is lose, and if income is greater than cost, it is profit.

Unit Review Questions

I. Part I: Say “True” for the correct statements and “False” for the incorrect ones.

1. Small scale poultry production fulfills the animal nutrition demand for a family.
2. Under free-range conditions, the chickens are not confined and can scavenge for food over a wide area.
3. The size and productivity of the village flock ultimately depend on the human population and balanced nutrition.
4. Under undomesticated conditions, poultry lay eggs in simple nests, perch in trees and spend much of the day scavenging for feed.
5. Viral diseases are some of the most important bacterial diseases affecting poultry.
6. Male bee or drone is the father of the hive.
7. A good apiary management starts with choosing a good site to hang or place hives.

II. Part II: Give short answer to the following questions

1. List down the essential garden tools.
2. What are the differences among in-ground garden, raised beds garden and container gardens?
3. List down the major pests and diseases of horticultural plants.
4. Explain the types of cattle based on the purpose of production.
5. What are the transmission ways for cattle diseases?

6. List down the factors that determine for selection of fattening cattle.

Part III: Multiple Choice Questions

1. Gardening deals with
 - A. growing and cultivation of plants
 - B. growing plants for their flowers
 - C. Growing plants foliage for overall appearance
 - D. Growing of plants for consumption for medicinal or cosmetic use
 - E. All are correct
2. The two most popular types of gardening are
 - A. vegetable gardens
 - B. container gardens
 - C. Farm garden
 - D. A and B are correct
3. _____ is a class of agriculture for long-term production of milk
 - A. Dairy farming
 - B. Cattle
 - C. Cow
 - D. Fattening

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4. _____ describes the secretion of milk from the mammary glands.
- A. Lactation
 - B. Diary
 - C. Milking
 - D. All are correct
5. Poultry can play a key role in _____.
- A. poverty alleviation
 - B. nutrition
 - C. food security
 - D. All are correct
6. The sorts of bee in one colony are_____.
- A. Worker Bee
 - B. Male Bee
 - C. Drone
 - D. Queen Bee
 - E. All

UNIT

4

SELF-EMPLOYMENT OPPORTUNITIES

Hair Care, Nail Care, Sterilization and Disinfectant

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☐ Define hair styling and hair care
- ☐ List the basic hairstyling techniques for men and women.
- ☐ Identify the basic blow drying techniques for women's hair.
- ☐ Describe the basic hand and nail care treatments.
- ☐ Identify sterilizing and disinfecting tools and equipment.
- ☐ Identify how shampoo and conditioner, and drying hair are applied.
- ☐ Describe the basic skin care treatment practices.

4.I. Hair Care

Brainstorming Question

What does hair care mean to you?

What do you do to take care of your hair?

Hair care is an overall term for parts of hygiene and cosmetology involving the hair on the human head. Hair care is keeping hair clean, healthy-looking, and attractive using different methods and tools. Hair care will differ according to one's hair type and various processes that can be applied to hair. All hair is not the same; indeed, hair is a manifestation of human diversity.

Hair care routines differ according to an individual's culture and the physical characteristics of one's hair. Hair care services are offered in salons, barbershops and day spas and products are available commercially for home use. Hair care is one of the career opportunities that helps for income generation and supports livelihoods.

Activity 1

Are there people in your area who do hair styling and care? List the activities they perform and show your answer to your teacher.

4.I.I. Men's Hair styling

Hairstyling is an occupation of arrangement of hair to create an attractive presentation; it is the process of making an individual beautiful by cleaning, adding and changing the shape of hair through washing, straitening, smoothening, or cutting or curling, or dying or a combination of some or all based on the preference of the client. Its main purpose is to make the person attractive to the satisfaction of the person. A hairstyle is the way hair is cut and styled.

For example, in Ethiopia, different people use different hairstyles (see Fig. 4.1) below.



Figure 4.1: Hairstyles of some Ethiopian peoples

In modern hairstyling, barbers apply different styles of hair shapes usually using style guides (see Fig 4.2 below) as an example.



Figure 4.2: Men's hairstyle guides

Activity 2

List down Ethiopian hair cutting styles for men and submit your answer for your teacher?

To be able to provide an exceptional haircut for men, there are basic techniques and principles that the best barbershop should be aware of. The barber should master the foundation of men's haircuts – the four basic techniques of haircutting.

A) The Four Basic Haircutting Techniques

These techniques will make use of a pair of scissors, scissors combs, clippers, clipper blades, and clipper combs.

1. Scissors over Fingers Haircutting Technique

The scissors over fingers technique is used in layering with horizontal or vertical sections of the hair (see Fig.4.3 below).



Figure 4.3: Scissors over Fingers Haircutting

2. Scissors over Comb Haircutting Technique

This technique is used for layering the horizontal and vertical sections of your hair except that this is done on shorter hair. It is also used to define shapes on side area. A softer hairstyle is achieved with the scissors over comb technique (see Fig.4.4 below).



Figure 4.4: Scissors over Comb Haircutting

3. Clipper over Comb Haircutting Technique

This is the fundamental skill in cutting men's hair. This technique is almost the same with the scissors over comb except that a clipper

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is used in this method. While the use of scissors over comb results in a softer hairstyle, this technique, on the other hand, results in a shaved look.

The barber will choose the right size of the clipper and comb depending on the area of the head he is going to work on (see Fig.4.5 below).



Figure 4.5: (a) Clipper over Comb Haircutting, (b) Using Clipper for Haircut

4. The Blade on Skin Haircutting Technique

This haircut technique is usually used in outlining and finishing a haircut with a pair of scissors or a clipper. This technique works on faded or tapered haircuts and a clipper blade or attachment is used. The blade on skin technique is also used in the haircut's perimeter, and it includes shaving the hair at the back of your neck. The barber can also use this technique to shorten the hair length of the bangs. This technique can also be used around the ears to achieve a clean outline (see Fig.4.6 below).

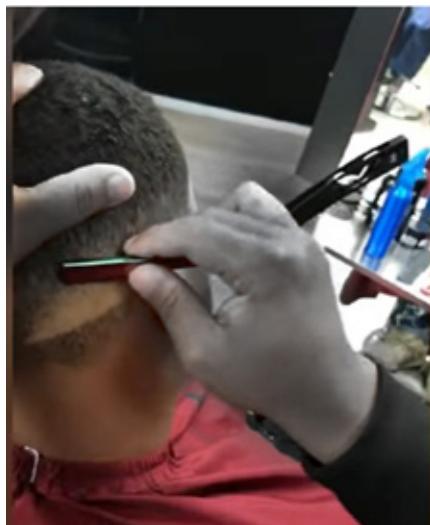


Figure 4.6: Blade on Skin Haircutting

Activity 3

Observe a nearby men's beauty salon and report to your teacher the steps of men's hair cutting.

4.I.I.1 Factors that Influence Styling

Previous chemical services, percentage of grey, client requirements, tools and equipment, presence of added hair, maintenance of style suitability are the factors which influence hair styling.

- Hair condition – dry, greasy, normal, virgin, chemically treated, elasticity (strength of hair), porosity (damage to cuticle layer, the ability to absorb moisture)
- Hair cut/style – uniform layer, one length, short graduation, long graduation
- Temperature – body heat, salon temperature, added heat
- Texture – fine, medium, coarse
- Length – short, medium, long
- Density – fine, medium, thick
- Growth patterns – cowlick, widow's peak, nape whorl, double crown, male pattern baldness
- Skin tone – fair, medium, olive, dark
- Face shape – oval, round, square, oblong, heart, pear.
- Head size – large, medium, small
- Existing curl – tight, soft, wave
- Lifestyle – job, family, and financial issue

4.I.I.2 Appropriate Men's Hair Safety

Working in the men's beauty salon, following appropriate safety

measures and maintaining hygienically practices and procedures is one of the most important hair styling activities.

1. Hair Washing for Cleaning

Washing hair removes excess sweat and oil, as well as unwanted products from the hair and scalp. Often hair is washed as part of a shower or bathing with shampoo. Shampoos work by applying water and shampoo to the hair. Conditioners are often used after shampooing to smooth down the cuticle layer of the hair, which can become roughened during the physical process of shampooing. Conditioners can also provide a physical layer of protection for the hair against physical and environmental damage (see Fig.4.7 below).

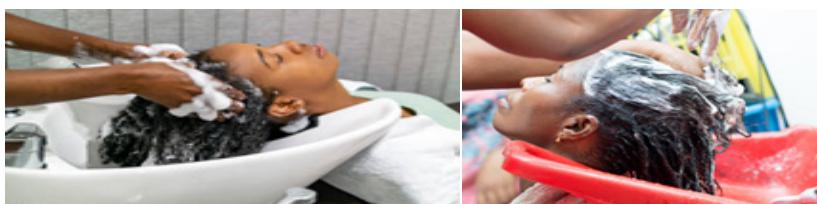


Figure 4.7: Hair cleaning

Activity 4

What is the difference between shampooing and conditioning of hair? Show the answer to your teacher.

2. Hair Coloring

Hair coloring is the process of adding pigment to or removing pigment from the hair shaft. Hair coloring processes may be referred to as coloring or bleaching, depending on whether pigment is being added or removed. Most permanent color changes require that the cuticle of the hair be opened so the color change can take place within the cuticle. This process, which uses chemicals to alter the structure of the hair, can damage the cuticle or internal structure of the hair, leaving it dry, weak, or prone to breakage (see Fig.4.8 below).



Figure 4.8: Hair Coloring

3. Perms and Chemical Straightening

Perms and relaxation using relaxer or thermal reconditioning involve chemical alteration of the internal structure of the hair in order to affect its curliness or straightness. Hair that has been subjected to the use of a perm is weaker due to the application of chemicals, and would be treated gently and with greater care than hair that is not

chemically altered (see Fig.4.9).



Figure 4.9: Hair with Perms

4. Breakage and Other Damage

Hair can be damaged by chemical exposure, prolonged or repeated heat exposure. Oil is harmful for rough hair and for dry scalp as it decreases nourishment for hair leading to split and hair fall.

Scalp skin can suffer from infestations of mites, lice, infections of the follicles or fungus. There could be allergic reactions to ingredients in chemical preparations applied to the hair, even ingredients from shampoo or conditioners. An odor that persists for a few weeks despite regular hair washing may be an indication of a health problem on the scalp skin.

5. General Hair Loss

Some choose to shave their hair off entirely, while others may have an illness (such as a form of cancer - note that not every form of

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cancer or cancer treatment necessarily means one will lose their hair) that caused hair loss or led to a decision to shave the head.

Activity 5

Ask the barber man around your school to tell you men's hair safety and hygienically styling.

4.I.2. Products, Tools and Equipment

Hairstyling tools, equipment and products include barber chair, hair clipper, barber cloth or wrap, barber powder, hairbrush, comb, barber neck paper/tape, barber mirror or back mirror, hair brilliantine, disinfectant, hair cream, hair dryer, hair blower or blow drier hair gel, hair scissors, hair spray, hair tonic, hair wax, shave brush, shaving oil, straight razor, barber strop, station mat, wax and shaving soap or shaving cream (see Fig.4.10 below).



Figure 4.10: Tools and Equipment

Activity 6

List down the tools and equipment used for men hairstyle in your locality.

4.1.3. How to Cut Men's Hair

Trimming a man's hair is relatively simple if you pay attention and take your time. You can use hair-cutting scissors, electric clippers, or a combination of the two. Ask the man how short he wants his hair, how evenly he wants it cut, and how he plans to style his hair afterward. Be confident and trust your intuition. Practice is the best way to improve your skills.

The following are steps needed in order to prepare for styling men's hair.

Step 1: Preparing to cut

- Ask the man how he wants his hair.
- Choose a haircut.
- Make sure that you have plenty of time.
- Set up the work area; always start with clean hair.
- Detangle his hair by running a comb through it.

Step 2: Trimming with clippers

- Choose a clipper attachment.
- Hold the clippers firmly between your thumb and first two fingers.
- Start clipping at the base of his head.
- Line up the back of the head.
- Line up the sides.

Step 3: Trimming the top and bangs

- Dampen the top of the man's head.
- Trim the top.
- After cutting your entire line, comb the hair.
- Blend the top of the head.
- Trim his bangs.

Step 4: Blending and finishing the cut

- Blend scissor cuts with a clipper cut.
- Trim his neck and sideburns.
- Comb one last time.
- Wash or spritz his hair one more time,
- Sweep the floor before you let him out of the chair.

Activity 7

Visit the barber and report to your teacher the procedures of hair trimming.

4.1.4. Women's Hair Styling

Hair styling is the treatment involved washing the hair using shampoo, applying styling lotion to the hair and placing the hair on hair rollers, and then drying it gently before shaping it into a soft curl style.

4.1.4.1 Basic Styling Techniques for Women's Hair

Some of the basic styling techniques for women's hair are blow drying (flat, root lift, movement), straightening, smoothing, curling (waves, curls), finger drying (natural look, spiky effect), hair up (plait, pleat, rolls, curls) (see Fig.4.11 below).





Figure 4.11: Women Hairstyle

Preparation procedures for styling women's hair:

- Preparation of self
- Preparation of client
- Preparation of work area

Activity 8

Discuss in group the types of women's hairstyle in Ethiopia and specifically your locality.

4.1.4.2 Blow Drying Techniques for Women's Hair

This part will help students to acquire the skill and knowledge of identifying the condition and the thickness of the hair they are working on to be able to choose a product that will support your

blow-dry. You will know what hair problems may occur and how to deal with them (see Fig.4.12 below).



Figure 4.12: Blow Drying

Activity 9

Discuss in group blow drying for women's hair.

4.1.4.3 Factors that Influence Styling

Previous chemical services, percentage of grey, client requirements, tools and equipment, presence of added hair, maintenance of style suitability are the factors which influence hair styling.

- **Hair condition** – dry, greasy, normal, virgin, chemically treated, elasticity (strength of hair), porosity (damage to cuticle layer, the ability to absorb moisture).
- **Hair cut/style** – uniform layer, one length, short graduation, long graduation

- **Temperature** – body heat, salon temperature, added heat
- **Texture** – fine, medium, coarse
- **Length** – short, medium, long
- **Density** – fine, medium, thick
- **Growth patterns** – cowlick, widow's peak, nape whorl, double crown, male pattern baldness
- **Skin tone** – fair, medium, olive, dark
- **Face shape** – oval, round, square, oblong, heart, pear
- **Head size** – large, medium, small
- **Existing curl** – tight, soft, wave
- **Lifestyle** – job, family, and financial

4.1.4.4 Products, Tools and Equipment for Women Hair Styling

Hairstyle products are used to change the texture and/or shape of hair, or to hold a hairstyle in place. Some of the products used in hairstyle are: Lotions, mousses, activators, gels, moisturizers, and heat protectors (see Fig.4.13 below).



Figure 4.13: Products

Hand held dryer, hood dryer, diffuser, nozzle, round brushes, flat brushes, rollers secured with pins, pin curl clips, straighteners, curling tongs, heated rollers, feathers, ribbons, combs, brushes, rollers (short, medium, or long), clips (duckbills, double-pronged, single-pronged), pins and clamps (see Fig.4.14 below)



Figure 4.14: Equipment for Human Hair

Activity 10

Visit individually the women's beauty salon in your area and
List down the steps used for hair styling, and
Write tools, equipment, and products used by the beautician.

4.2. Hand/Nail Care

Keeping nails trimmed and filed can help reduce the amount of fungus in the nails. This also provides pain relief when thickened nails cause pressure-related pain (See Fig.4.15 below).

Nail care tools and equipment are articles used in any nail care service which are durable or permanent and are hand-held.

- 1) Preparation of the beautician/worker
- 2) Prepare the model
- 3) Prepare the work area
- 4) Prepare products, tools and equipment

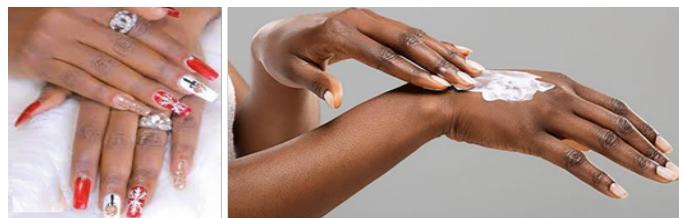


Figure 4.15: Hand/Nail Care

Activity 11

Write down the hand/nail care tools and equipment in your locality and submit to your teacher.

4.3. Sterilization and Disinfection

4.3.I. Sterilization

This is the strongest form of cleaning. Sterilization removes all forms of bacteria, fungi, and viruses. This is most important for tools that have been used.

Sterilizing equipment and products:

- Alcohol-based hand rub
- Liquid soap
- Disposable hand towels
- Disposable gloves
- Labeled, rigid, airtight washable containers to hold used equipment (see Fig.4.16 below).



Figure 4.16: Cleaning

4.3.2. Disinfection

Disinfection kills most but not all bacteria and fungi present on the surface of your tools. Not all disinfectants have the same level of effectiveness and they won't be able to destroy highly resistant bacterial spores or viruses.

Tools should always be sanitized and disinfected between every client to prevent the spread of bacteria. Many salons choose to use barricade solution to disinfect their tools. However, this alone is not enough. Tools should be regularly sanitized with hot soapy water before they are disinfected. They should then be dried thoroughly and stored somewhere clean. Detergents that can be used include:

- dishwashing liquid,
- liquid soap, and
- shampoo

Detergent must be thoroughly rinsed from all items after cleaning.

Activity 12

Identify the differences among disinfection and sterilization.

4.4. Shampooing and Conditioning

The shampoo or conditioner is a product of cosmetic generally in the form of liquid, cream, solid or powder, made from substances surfactant to clean the hair and optionally treating the hair (See Fig. 17 below).

The basic washing is done with water. But water alone does not mix with a fatty substance; it is necessary to add a dispersing agent (detergent), allowing it to dissolve the dirt of the hair and the scalp. The shampoo is applied by massaging into wet hair, which mechanically increases the effectiveness of washing. To facilitate washing, it is recommended to use hot water; however, the heat dilates the pores and stimulates.



Figure 4.17: Shampoo

Activity 13

Visit the hair dresser/beautician and list down the techniques of Shampooing and conditioning.

4.5. Skin Care

Skin care is the range of practices that support skin integrity, enhance its appearance and relieve skin conditions. They can include nutrition, avoidance of excessive sun exposure and appropriate use of emollients. Practices that enhance appearance include the use of cosmetics.

Skin care is a routine daily procedure in many settings, such as skin that is either too dry or too moist, and prevention of dermatitis (inflammation of the skin) and prevention of skin injuries. Skin care is a part of the treatment of wound healing, radiation therapy and some medications.

i. Types of skin care

There are different types of skin care. One of them is facial skin care. A facial skin care is a family of skin care treatments for the face, including steam, exfoliation (physical and chemical), extraction, creams, lotions, facial masks, peels, and massage. They are normally

performed in beauty salons. They are used for general skin health as well as for specific skin conditions (See Fig. 18 below).

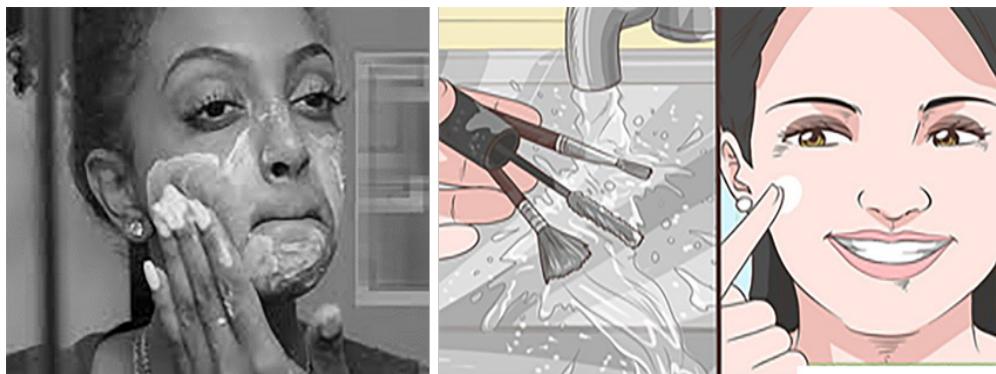


Figure 4.18: Facial skin care

ii. Products required for a basic skin care treatment

Cosmetics are constituted mixtures of chemical compounds derived from either natural sources, or synthetically created ones. Cosmetics have various purposes. Those designed for personal care and skin care can be used to cleanse or protect the body or skin. Cosmetics designed to enhance one's appearance (makeup) can be used to conceal blemishes, enhance one's natural features (such as the eyebrows and eyelashes), add color to a person's face, and can be used to change the appearance of the face entirely to resemble a different person, creature or object. Cosmetics can also be designed to add fragrance to the body (See Fig. 19 below).



Figure 4.19: Cosmetics

Activity 14

Visit the Skin care centers/shop in your locality and write down the equipment and procedures used by the beautician.

Based on the skills that you acquired, you may be interested to start micro/small business. For this purpose consider the ideas stated at the end of chapter 3.

Unit Summary

Men's and women's hair styling business is a means of income for rural and urban workers. A hairstyle is the way hair is cut and styled. When hair styling, barbers usually look at style guides that show different styles of hair shapes.

Working in the men's beauty salon, following appropriate safety

measures and maintaining hygienically practices and procedures is one of the most important hair styling activities.

Hair care is keeping hair clean, healthy-looking, and attractive using different methods and tools. The basic styling techniques for women's hair are blow drying, straightening, smoothing, curling, finger drying and hair up. Hairstyle products are used to change the texture and/or shape of hair, or to hold a hairstyle in place.

Keeping nails trimmed and filed can help reduce the amount of fungus in the nails. Nail care tools and equipment are articles used in any nail care service which are durable or permanent and are hand-held.

Sterilization removes all forms of bacteria, fungi, and viruses. Disinfection kills most but not all bacteria and fungi present on the surface of your tools.

The shampoo or conditioner is a product of cosmetic generally in the form of liquid, cream, solid or powder, made from substances surfactant to clean the hair and optionally treating the hair.

Skin care is the range of practices that support skin integrity, enhance its appearance and relieve skin conditions. They can include nutrition, avoidance of excessive sun exposure and appropriate use of emollients. Practices that enhance appearance include the use of cosmetics.

Unit Review Questions

Part I: Say true for the correct statements and false for the incorrect ones.

1. Hair care routines differ according to an individual's culture and the physical characteristics of one's hair.
2. A barber's place of work is known as a beauty salon.
3. Washing hair removes excess sweat and oil as well as unwanted products from the hair and scalp.
4. Oil is harmful for rough hair and for dry scalp as it decreases nourishment for hair leading to split and hair fall.
5. Hairstyle products are used to change the texture and shape of hair.
6. Cleaning kills bacteria, viruses, or fungi, which are generally referred to as germ.
7. Sanitizers kill more germs than disinfectants.
8. In cosmetics, skin toner or simply toner refers to a lotion or wash designed to cleanse the skin.
9. To give nail care treatment, the workers should have clean, ironed uniform, flat, closed-in shoes, and no jewelry.

Part II: Choose the best answer among the given alternatives.

1. Which of the following is correct?
 - A. All hair is not the same.
 - B. Hair is a manifestation of human diversity.
 - C. Hair care routines differ according to an individual's culture and the physical characteristics of one's hair.
 - D. Hair care services are offered in salons, barbershops and day spas.
 - E. All are correct.

2. A barber is a person whose occupation is mainly to _____ except
 - A. cut men's and boys' hair or beards.
 - B. dress, men's and boys' hair or beards.
 - C. groom, men's and boys' hair or beards.
 - D. style and shave men's and boys' hair or beards.
 - E. blow men's and boys' hair or beards.

3. Hair can be damaged by _____.
 - A. by chemical exposure
 - B. by prolonged or repeated heat exposure
 - C. A and B are correct
 - D. No Answer

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4. Which of the following is false about preparing to cut?
 - A. Make sure that you have plenty of time.
 - B. Choose a haircut style.
 - C. Ask the man how he wants his hair to be.
 - D. No answer
5. Hairstyle products are used to _____.
 - A. change the texture and/or shape of hair
 - B. hold a hairstyle in place
 - C. disinfect bacteria
 - D. A and B are correct

Part III: Give short answer to the following questions.

1. Write the process of curling hair.
2. Write the factors that influence styling of women's hair.
3. Explain the difference between clean tools, sanitized tools, or disinfected tools.
4. Explain basic haircutting techniques of men's hair.
5. List down the women hair styling products.

**UNIT
5**

SELF EMPLOYMENT OPPORTUNITIES

GARMENT MAKING, CLOTH COLOURING, AND SEWING

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☒ Describe the garment making process
- ☒ Identify and use a range of sewing equipment and machine.
- ☒ Select materials and prepare effectively to make a garment.
- ☒ Use simple painting techniques.
- ☒ Apply basic needle/textile crafts.

Key Words

Garment: *a piece of clothing*

Painting: *applying some kind of paint to some kind of surface*

Cloth Coloring: *applying some kind of color to a piece of cloth*

Sewing Machine: *machine used for sewing cloths used by tailors*

5.1. Garment Making

Brainstorming Question

Describe how traditional Ethiopian clothes are prepared?

Garment is a piece of clothing (see Fig. 5.1) and garment making is all the processes, activities and technologies of making cloths. Garment making involves many processing steps, beginning with the idea or design concept and ending with a finished product. Activities in garment making involves sequential processes of choosing the fabric, design, cutting, stitching, sewing, checking, pressing (ironing) and packaging for delivery.



Figure 5.1: A sample wrapped garment

Activity 1

There is a saying, "Measure 10 times and, then cut". What does it mean to you? Give your answer to your teacher in writing.

5.2. Sewing and Sewing Machines

Garment making includes sewing cloths using sewing machines after the design and cloth fabric is selected and the design (the form of the cloth) is completed.

Sewing is a craft that involves stitching fabrics together with a thread and needle (Fig. 5.2) either by hand or with a machine. Its use is nearly universal among human populations and dates back to ancient times. Sewing is used primarily to produce cloths such as coats, trousers, shirts, dresses, and household furnishings such as curtains, bedclothes, table linens, etc.



Figure 5.2: Illustration for sample (a) Thread and (b) Needles

5.2.1. Uses of Sewing Machine

Before the introduction of modern sewing machines in Ethiopia, cloth sewing (stitching clothes) was done by hand using needle and thread. Modern garment/cloth making is done through sewing machines. A sewing machine is a machine used to stitch fabric and other materials together with thread (See Fig.5.3 below).

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Sewing machines come with a vast variance in options but the basic operation of a sewing machine is the same from machine to machine, whether new or old. Newer machines have some additional parts and some parts are hidden, unlike the old ones.

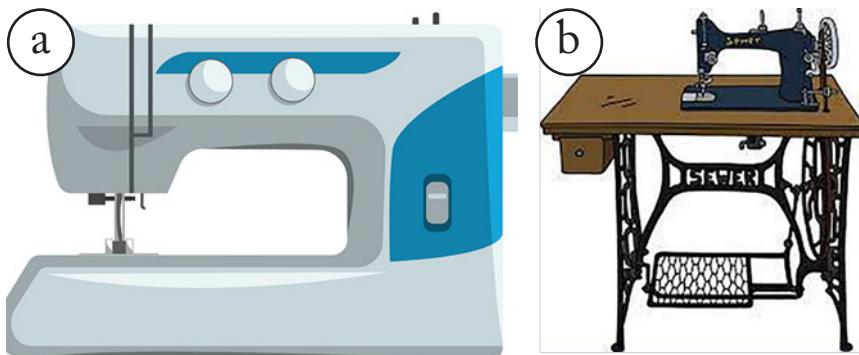


Figure 5.3: Illustration of (a) modern sewing machine (b) older sewing machine

Activity 2

List down the steps a tailor follows when sewing clothes using a sewing machine and report to your teacher.

5.2.2. Parts of a Sewing Machine

Knowing how to operate a sewing machine is not that much difficult and can easily be learned. Many sewing machines have guidelines called *manual*, showing the different parts, with the function of each and how to operate the machine. What is required is following the manual correctly and carefully. The different parts of

a sewing machine are operated one after the other, thus, knowing the sequential flow of the activities is critical to get the desired quality clothing.

A sewing machine has different parts performing different functions. Each part has its own specific function. Knowing the different parts and their specific function is very important in operating a sewing machine. The parts of a sewing machine and their respective functions are briefly described below.

1. **Spool pin:** holds the spool of thread.

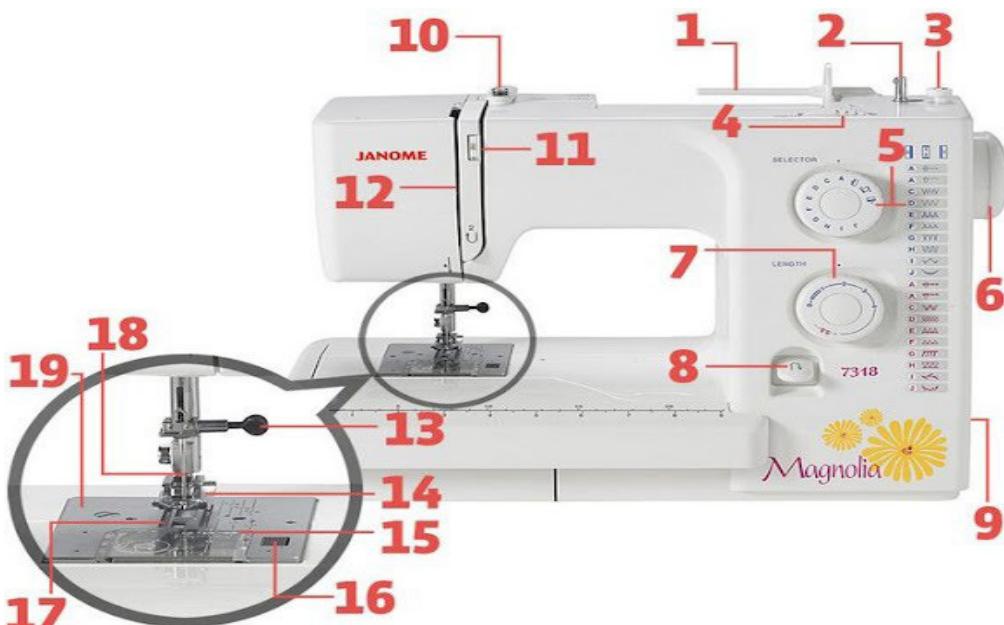


Figure 5.4: Parts of a sewing machine

2. **Bobbin binder spindle:** During winding, the bobbin is placed on the spindle. A bobbin is a small metal, wood,

or plastic wheel or reel design that holds thread. The thread is wrapped around a small cylinder that is attached to thin wheels on either end.

3. **Bobbin winder stopper:** When the bobbin reaches its optimum capacity, then the bobbin winder stopper stops the bobbin winding.
4. **Stitch width dial:** The main purpose of the stitch width dial is to control the zigzag stitch.
5. **Pattern selector dial:** The pattern selector dial is to set the symbol of the desired stitch pattern.
6. **Hand-wheel:** The hand-wheel is used to raise and lower the needle, and is situated on the right side of the sewing machine.
7. **Stitch length dial:** Stitch length dial is used to control the length of the stitch.
8. **Reverse stitch lever:** The machine will sew in the reverse while the lever is pushed.
9. **Power switch:** Power switch means the off-on office of the electrical sewing machine. Normally power switch is located on the right side of the machine.

10. **Bobbin winder thread guide:** These types of thread guides are used during bobbin winding.
11. **Thread tension dial:** A thread tension dial is used to control the tension on the top thread.
12. **Thread take-up lever:** During sewing, the top thread passes through the thread take-up lever. Thread take-up lever moves up and down with the needle.
13. **Needle clamp screw:** The needle clamp screw holds the needle in its actual place.
14. **Presser's foot:** Presser's foot holds the fabric in its definite place.
15. **Bobbin cover:** During sewing, the bobbin cover protects and covers the bobbin holder.
16. **Bobbin cover release button:** used to release the cover for entrance to the bobbin.
17. **Feed dog:** During sewing, the feed dog pulls the fabric forward.
18. **Needle:** The needle is used to form a stitch in the garments.

19. **Needle plate:** A needle plate is a metal plate that is situated under the needle and presser foot. It helps to move the fabric forward during sewing.

Activity 3

What do you think will happen if the hand wheel is broken? Give your answer to your teacher in writing.

5.2.3. Garment Equipment (Tools)

Tailors use different kinds of tools along with sewing machines with specific usage and application techniques in the process of making the final clothing. Here under, some of the frequently used sewing equipment (tools) are presented with their brief functions.

Scissors: are needed to cut the fabric and thread. (See Fig. 5.5 below).



Figure 5.5: Different Kinds of Scissors

Measuring Tape (ruler): is used to measure size, width, curves, etc. with centimeters or inches on different sides (see fig. 5.6 below).



Figure 5.6: Measuring Tape

Needles: used to fix the fabric stiches together using tread (see Fig. 5.7 below). The type of needle varies depending on the nature of the fabric such as thickness. Needle size is generally determined by fabric weight. Lighter fabrics require smaller needles, and heavier fabrics require bigger needles.

a)



b)

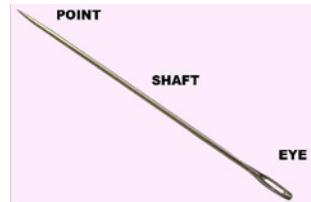


Figure 5.7: Various types of needles: (a) Sewing machine needles, (b) hand sewing needle

Pins and pincushion: Pins are meant to keep the fabric in place while cutting or sewing; pins could be metal kind or the ones with the colored head. Pins are different both in length and thickness, so choose the appropriate one for the purpose. Pincushion holds the pins (see Fig. 5.8 below).

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a)



b)



Figure 5.8: Sample of (a) Pins and (b) pincushion

Iron and water spray: used to stretch the fabric before or while sewing so that it is easy to move in the machine and avoid unnecessary bends on the cloth. Ironing may require water spray to pour water on the cloth when ironing to smoothen the unnecessary curls on the cloth. Ironing may also require a press cloth to avoid burning or bleaching, and iron board on which to iron the cloth standing (See fig. 5.9 below).

a)



b)



Figure 5.9: Illustration for (a) iron (b) iron board

Thimble and Needle Threader: These sewing tools are needful for sewing by hand or a machine. A thimble is a small pitted cup worn on the finger to push the needle. It protects the finger from being pricked or poked by a needle while sewing (see Fig. 5.10). Thimble

is used while thread tails left from sewing machine. The needle threader is useful for threading any kind of needle (for sewing by hand or by machine): put in the eye of the needle, then thread it and pull it back, so it threads the needle.

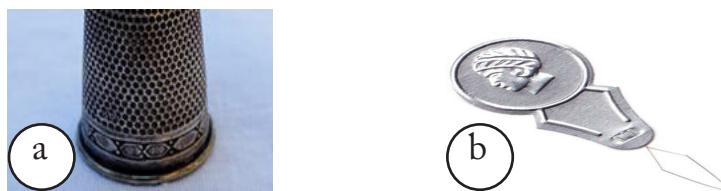


Figure 5.10: Sample illustration for (a) Thimble and (b) Needle Threader

Threads: a kind of thin yarn used for sewing. Threads is of various kinds; Cotton (for woven fabrics) or polyester (better for knits), nylon and woolly nylon (see Fig. 5.11 below).



Figure 5.11: Sample of Cotton Threads

Activity 4

Observe your uniform in the classroom. Are they made from the same garment? Are the thread of the sweater and trousers the same?

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Frixion Pens: they are marking tools useful for transferring pattern notches onto light colored fabrics such as ballpoint pen gel which are erasable (see Fig. 5.12 below).



Figure 5.12: Frixion Pen

Lubrication Oil: sewing machines require regular care to extend their usage time. It is necessary to lubricate gears in or on the sewing machine. Oiling and lubricating is preventative maintenance. It reduces friction between moving parts of the machine (see Fig. 5.13 below).



Figure 5.13: Lubrication oil for sewing machine

Tailor's Chalk: Tailor's chalk (see Fig. 5.14 below) allows the tailor to easily mark the fabric when measuring the fabric and preparing

to cut it. It will work on most materials and is easily removed, making it a popular tool in the sewing world. The normal teaching chalk can also serve the purpose.



Figure 5.14: Tailors' chalks

Activity 5

Bring a colored piece of cloth to the classroom and draw a five-pointed star using a white chalk and show to the class.

5.2.4. Select Materials and Preparing to

Make Garment

Selecting the right material and equipment is one of the most important activities in making garment. The quality of the material from which the cloth is made determines the quality of the final garment. The use of proper tools also affects the quality of the final product.

- 1) **Fabric matters when making clothes:** The choice of the fabric to use for any type of clothing is a very crucial step in garment making. The weight of fabric and the extent to which the fabric stretches matters.
- 2) **Using perfect sewing tools and equipment:** In order to achieve attractive, professional looking fabric, it is imperative to possess right kind of quality tools.
- 3) **Preparation for garment making:** Garment making requires organization of garment makers. It is not done by chance or carelessly. It requires thoughtful action and adequate preparation mentally and physically. Prior assortment of all the necessary materials and tools is important. Putting tools in proper places is also important to get them when wanted. For example, the tailor must be very attentive when measuring, cutting, and ironing, to prevent damages which cannot be corrected.

5.3. Textile Coloring

Textile coloring is applying color on a fabric surface. It is graphic art consisting of an artistic composition made by applying colors to a surface. Fabric coloring is the application of specialized colors to fabric, i.e., on a piece of cloth.

Activity 6

Observe the cloths of students in the class and identify those cloths with different colors and discuss the differences.

Fabric coloring can be used to decorate clothing and home furnishings like curtains and tablecloths (see Fig 5.15 below). It opens all sorts of possibilities for creative expression, allowing creating unique works of art. Fabric coloring makes cloths attractive and appealing.



Figure 5.15: Piece of clothes painted with variety of colors

Activity 7

Identify table cloths at your home and draw them on paper with colors and show to the teacher.

5.3.1. Preparing the Surface for Coloring

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Fabric (cloth) coloring requires preparation before coloring to make the coloring attractive and appealing. The following guidelines may help in preparing the surface for coloring.

- 1. Choose the appropriate fabric to color on:** Fabric coloring can be successful only if the correct kind and type of fabric is used. Choosing the right fabric is important. There are many kinds of synthetic and natural fabrics, and some work better than others as surfaces for coloring.
- 2. Prepare the fabric for coloring:** Firstly, a fabric needs to be pre-washed to erase dirt, smoothing shrinkage, if any, chemicals and starch present is washed off. Secondly, the fabric would have to be dried and ironed.
- 3. Setting up the fabric coloring area:** A flat surface is one of the most important setup requirements. It could be the dining room table or a kitchen counter or any flat and smooth surface.
- 4. Setting and selecting the color:** There are various kinds of coloring using different colors. The choice of color depends on the kind of fabric and need of the person for whom the coloring is done.

Activity 8

Visit a fabric coloring shop and ask for the criteria to select color and report to your teacher.

5. Actual Coloring

As for different techniques, there are different tools that are used. Coloring techniques are of importance as it finally makes the artwork.

5.3.2. Basic Fabric Coloring Techniques

Freehand coloring: cloth coloring made by hand without the use of guiding or measuring instruments (see Fig. 5.16 below).



Figure 5.16: Free hand coloring

Activity 9

Draw a leaf on a piece of paper using your pencil and shade it with green color.

Dot coloring: If you have a pencil, you can do this easy technique. The back end of the pencil, when dipped in color can give you

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good dots. You can also use ear buds – materials to clear the ear (see Fig.5.17 below).

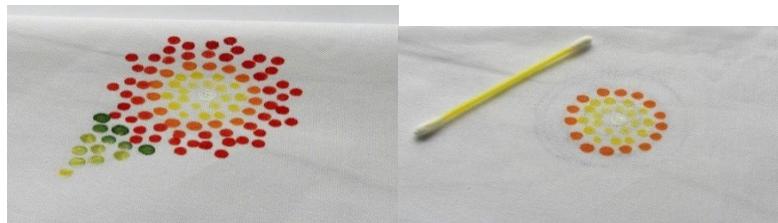


Figure 5.17: Dot coloring with colors using ear buds

Activity 10

Get an ink and practice dot coloring on a piece of cloth using an ear bud.

Outliner painting: This is a method in which you simply do the outline to work the whole design. This can be done with a thin liner brush (00 brush) or an outliner (see Fig.18 below).



Figure 5.18: Outliner painting

Spray coloring: Fill a small sprayer bottle with color and splash away or use a straw to blow designs on the fabric (see Fig. 5.19 below). One can either buy spray fabric color or add a special

additive to color which will make the color sprayable. Protect your nose and mouth with a cover since sprays contain chemicals that affect health.



Figure 5.19: Spray coloring and sprays

Block coloring: Block coloring is done with stamps. You apply color on stamps and this stamp is imprinted on the fabric. Vegetable block coloring is the easiest way you can do at home. Who does not have vegetables at home? Simply cut vegetables like potato and can be used as stamps. Wooden blocks with either letters, patterns, or any symbol can serve the purpose. They are then dipped in either natural dyes or pigments but nowadays in fabric colors and pressed neatly on fabric that needs to be adorned or printed (see Fig. 5.20 below).





Figure 5.20: Block coloring

Activity 11

Prepare a stamp from wood material and practice block coloring by ink.

Stencil coloring: This is the most preferred method of fabric coloring. Stencils make fabric coloring easy. Simply place ready-made stencils on the fabric and use a brush or sponge to fill in colors. Repeat making similar designs with the same stencil all over. For example, to print a picture on the front side of a T-shirt, a picture design is made on the stencil; a hard surface is entered in

the T-shirt to avoid color sinking on the back side of the T-shirt. Then, the stencil is fixed on the T-shirt carefully (see Fig. 21 below).



Figure 5.21: A cloth T-shirt by stencil technique

Then, spray the back of the stencil with spray to make it sticky and color the stencil. After coloring, remove the stencil carefully, holding the T-shirt by the other hand.



Figure 5.22: Finger coloring

Finger coloring: This is applied if there are no brushes. The fingers can create beautiful art work literally. Using one's fingers to color directly on to fabric is a very entertaining act (see Fig. 22 below).

Activity 12

Make finger coloring on a piece of cloth in the classroom.

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One-stroke coloring: This is a very beautiful technique – even a beginner can easily master this method of fabric coloring and create beautiful designs, especially floral ones. Simply load a flat brush with color and use it in one stroke to color petals, leaves, and other designs (see Fig.23 below). A single color or more shades of colors can be loaded on the brush to create a shaded effect.



Figure 5.23: One-stroke coloring

Sun coloring: Sun coloring is a very natural and basic way of coloring with cloth colors. It uses the energy of the sun, to get the final result. Color the fabric with a cloth color using feathers, leaves, and flowers (see Fig. 24 below).



Figure 5.24: Sun coloring

Then, spread it directly under the sun; place the elements over it attractively or according to the design. Leave it be in the sun till it

dries completely. When the elements are removed, the areas which were colored would be seen highlighted and the impressions of the elements would appear in a faded and faint manner.

5.3.3. Materials and Equipment suitable for Fabric Coloring

One of the most common styles of fabric coloring is using a color-brush to apply color to a fabric just as one might do on paper. Some people find that stenciling or transferring the design onto the fabric in advance can be helpful when attempting to draw complex designs. Some people use tools other than brushes to apply paint to fabric, and sponges, rollers, and stamps can all be used. Among the fabric coloring tools used, few of them are listed below:

- **Color-brushes** – Both flat and round tip, in various sizes can be used (see Fig. 5.25 below).



Figure 5.25: Flat and round color-brushes

- **Foam Brushes/Sponges (to clean or wash)**



Figure 5.26: ponge brushes

Tooth brushes



Figure 5.27: Tooth brush used for spraying

- **Water Container** (to mix color or soaking the cloth) - any open container can serve the purpose.



Figure 5.28: Water container

- **Plastic covering** to protect the work surface: any flat plastic-made cover can serve the purpose.



Figure 5.29: Plastic covers

- **Apron** to protect the cloth from the coloring drops while coloring.



Figure 5.30: Apron to be worn

- **Color Palette** (a surface to mix color)



Figure 5.31: Color palette

- **Paper Towels** (cleaning purpose) - ordinary tissue (toilet) towels can serve the purpose.



Figure 5.32: Paper towels

After painting, there are few fabrics that can be hand washed, while others can safely be machine washed. Always wash fabrics inside out and never expose them while drying to direct sunlight. Keep in mind to never soak the fabric in hot water or even wash in hot water.

5.4. Needle/Textile Crafts

Brainstorming Question

What activities do you do using needle and thread?

5.4.1. Needle or Textile Crafts

What is a good home textile business idea?

Home textiles, a significant part of the total garment market, encompass a diverse variety of categories, from furnishing materials, curtains, carpets, kitchen furniture, table covers, bedspreads, and bath linen to much more.

There are many benefits of being in the home textile business. Let's look at the advantages:

- Consistent revenue generation with a full-time business opportunity.
- Every day, the smallest expenditure yields the highest business returns.
- Possibility of your small business as a brand, expanding nationally.
- It's simple to create a social media profile and build a respectable customer base.
- It's simple to contact wholesalers and suppliers to boost revenue.
- Long-term and never-ending business. (See Fig. 5.33 below)

Activity 13

What needle/textile crafts do you know in your locality?
Take a photograph of some and show to the class.

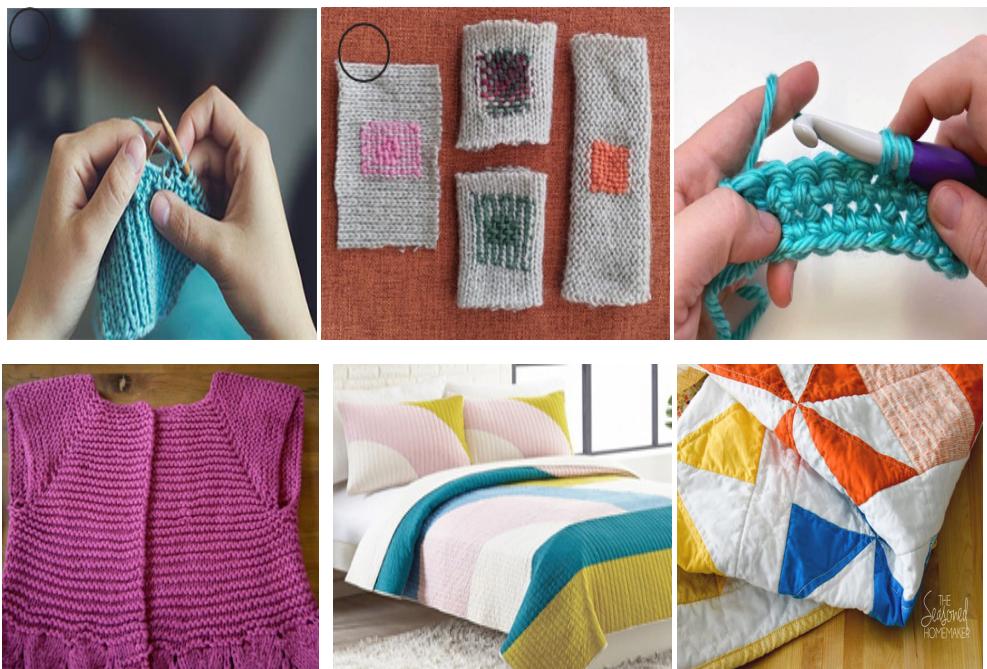


Figure 5.33: Different textile products

Unit Summary

Part one of the unit is about garment making. Garment making is about making cloth products from garment of different kinds involving designing and making the final cloth products. It involves choosing the fabric, designing, cutting, stitching, sewing, dying, checking, pressing (ironing) and packaging. Garment/cloth making involves sewing through sewing machines with different parts to stitch fabric and other materials with thread. Sewing also involves using tools such as needles, measuring tapes, pins, thread, pens, chalks, and other materials. Proper use of these tools is important.

Cloth making requires thoughtful action and adequate mental and physical preparation. In garment making, selecting the material (the fabric) is also important because it decides the quality of the final cloth product.

Garment making also includes coloring - the application of specialized colors on a piece of cloth. Coloring could be used to beautify everything from clothing to home use curtains, tablecloths, etc. Preparation for coloring involves choosing and preparing the cloth and coloring area, selecting the color and care when coloring.

There are different kinds of colorings. The most known are - freehand, dot, outliner, spray, block, stencil, finger, sun and one-stroke coloring. Each type of coloring has its own specific technique and using the specific techniques appropriately is important for quality coloring. Coloring tools includes different kinds of brushes, water containers, coverings, aprons, pallets, and paper/cloth towels.

Part two of the unit is about needle/textile crafts. Needle/textile crafts are made by hand using needle and thread on a textile product such as a piece of cloth. Needle/textile crafts are for decorative and attractive purpose.

Unit Review Questions

I. Say true for the correct statements and false to the incorrect statement.

1. Garment making involves sewing the cloth and using sewing machines.
2. Sewing is a craft that involves stitching fabrics together only with a machine.
3. Many sewing machines have guidelines.
4. Selecting the right material and equipment is not important in making garment.
5. During fabric coloring, choosing fabric is important.
6. The kind of fabric does not affect choice of color.
7. Fabric softeners are spongy brushes used to color a fabric.

II. Choose the best answer from the given alternatives by circling the letter of your choice.

1. Scissors are used for _____.
a) Sewing b) cutting c) drawing d) coloring

2. Which one of the following coloring method does not use brushes?
a) one-stroke b) finger c) stencil d) outliner

3. The words ‘stamp, wooden blocks, carved potatoes....’ are associated with ____.
a) Tie-die coloring b) finger coloring c) block coloring d) sun coloring

4. ____ is used to raise and lower the needle in a sewing machine.
a) Hand-wheel b) bobbin c) Power switch
d) Winder

III. Answer the following questions in writing.

1. List at least four activities in garment making.

2. What activities are performed by a tailor before sewing the cloth?

UNIT

6

RECOGNISING EMPLOYMENT OPPORTUNITIES

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☒ Define employment
- ☒ Describe the concept of the labor market.
- ☒ Define self-employment
- ☒ Distinguish between national and local market.

Key Words

Employment: is getting a job for earning a living.

Self-employment: working for oneself rather than for a specific employer

Labor market: mechanism where potential employers and employees meet with each other for employment purpose

Voluntarism: performing something of value of freely with no payment

6.1. Employment

Brainstorming Question

List the types of jobs people are engaged in your locality and the benefits they get from their jobs.

Show your answer for your teacher.

Employment simply means getting a job to earn income for a living. If a person is engaged in some kind of productive work – activity or set of activities done to produce something useful – could be products or services – and, in return, the person gets some kind of income in terms of money or in kind, we say the person is in employment.

Activity 1

In your understanding, is self-employment better for a living?

Employment is of two kinds: salary/wage-based employment and self-employment. Both kinds of employment are very useful for individuals and society. Self-employment refers to working for oneself rather than working for a specific employer who pays a wage or salary. It is the act of a person or group of persons generating one's income directly from those who buy their outputs, as opposed to being an employee of others.

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One of the most notable advantages of self-employment is perhaps the *large degree of freedom and flexibility* involved. It allows the individual to do things that they love, set flexible working hours, decide what work to do or not to do, and can change and stop at any time fulfilling legal requirements. Among the benefits of self-employment is being able to create jobs for one self and also for the unemployed. By being self-employed, the owner gets an earning for a living, and become financially independent

6.1.1. Labor Markets

Activity 2

What does the concepts Labor and Market mean to you?
Show your answer to the teacher in writing.

Labor market is a mechanism where potential employers and employees meet with each other. Thus, the labor market involves employers and employees. In the labor market, employers seek people with knowledge and skills for work and people with knowledge and skills also seek for job to do for their living.

Local labor market represents the set of jobs for which an unemployed worker in a particular location applies for the job without traveling much distance. Your town or city may be considered as local labor market if there are different jobs and people with skills to fill the

jobs in the town or city.

Now a day in Ethiopia, the establishment of flower plantation, large scales farming, the expansion of manufacturing enterprises such as sugar factory, rural road construction, telecommunications, electricity, use of tractors and harvesting machines, etc. have opened an attractive job opportunity both in urban and rural areas.

Activity 3

What self-employment opportunities are there in your locality?

6.2. Voluntary Work

Brainstorming Question

What does Voluntary work mean to you?

6.2.1. What is Voluntary Work or Volunteerism?

When a person gives his/her time, energy, talent willingly to help the community or certain groups or individuals or organization without financial gain, we say the person is engaged in voluntary

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work or volunteering. It is to perform or offer to perform a service of value of one's own free will, done free of charge. Voluntary work is also called voluntary service.

Volunteers support communities using a wide variety of skills, knowledge and experience. For example, we often see young people by their own initiative willingly reconstruct old houses of elders. We also observe medical doctors visit hospitals once or twice a year to give free medical service for the needy. We also see lawyers provide volunteer service in legal centers for low-income people. There are young boys and girls who come together on their own will to support HIV patients going to the patients' home. These are examples of voluntary work provided willingly to support the needy and community development without financial gain.

6.2.2. Why Voluntary Work?

Volunteering has many benefits. It gives those involved in voluntary work satisfaction, the ability to use previously possessed skills or develop new skills. It also provides a chance to gain experience useful for employment. It gives self-confidence for those who give voluntary service in applying their skill and knowledge gained in school. It is also useful for employment as employers consider voluntary service as sign of commitment, loyalty and a strong desire to contribute to the success of society. Besides, volunteering

provides an opportunity to meet new people and make new friends and learn new skills from the real work setting. Through volunteer service, citizens can participate in development activities of their community.

Unit Summary

Employment is being employed or having a job to get money in the labor market. The labor market consists of employers (persons/ organizations that hire people for money) and employees (people with skills and knowledge searching for a job). The labor market brings employers and employees together. The labor market could be local (limited in a narrow geographical area) and national (covering the whole country). The labor market is a source of job opportunity.

There are two kinds of employment opportunities: paid and self-employment which are important for individuals' life and social growth. Self-employment is doing a job by one self instead of working for others to earn money. Self-employment could be obtained by being a sole trader (business owned by a single person), a member of a partnership (business established by two or more persons), and private limited company (business owned by one or group of persons with shares and limited debt payment obligation),

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and individually contracting of a certain work.

Self-employment makes individuals to be their own boss; provides opportunity to work with people based on their choice, and a sense of pride for personal achievement. Individuals can also get work experience through voluntary work - providing service freely to support communities.

Unit Review Questions

I. Write True for the correct statements and False for the incorrect ones.

- 1) Employment is an income earning condition for a living.
- 2) The goods and services that people use are results of productive work.
- 3) Self-employment is working for others on salary or wages.
- 4) Labor market does not involve buying and selling of talents, abilities, and experiences.

II. Choose the best answer from the alternatives and circle the letter of your choice.

- 1) Volunteerism is ___.
 - a) Paid employment for community service
 - b) Self-employment for community service
 - c) Free service for community
 - d) Done for salary
- 2) ____ labor market is a specific narrow geographical area.
 - a) Local
 - b) National
 - c) Urban
 - d) Rural

UNIT 6

III. Answer the following questions in writing.

- 1) Write at least two differences between paid employment and self-employment.
- 2) State at least two differences between urban and rural labor market.

UNIT**7****EMPLOYABILITY****LEARNING OUTCOMES****At the end of this unit, learners will be able to:**

- ☐ Define employability.
- ☐ Describe employability skills needed.
- ☐ Demonstrate employability skills in job application.
- ☐ Prepare Curriculum Vitae (CV).
- ☐ Write good covering letter.

Key Words

Employability: *building one's capability to choose and gain initial employment.*

Employability skills: *Employability skills are a set of non-technical skills, needed to get and continue in employment.*

Curriculum Vitae: *is document highlighting ones professional and academic achievements for consideration for employment.*

7.1. Definition of Employability

Brainstorming Question

If a person says 'I am ready for employment', what does he/she mean?

You remember that in unit 6 we described employment as getting a job to earn a living in the form of both paid or self-employment. To be employed, individuals must possess knowledge; technical and soft skills to the level required and also work related experiences.

Employability is building one's capability that makes individuals *more likely to choose and gain initial employment*. Employability involves a mix of skills, abilities and personal qualities, which will make an individual competitive and excel others. Employability builds self-confidence, spirit to excel and high achievement.

Employability depends on knowledge possessed (what you know: information and understandings you have), skills developed (what you do with what you know - technical skills), attitudes (how a person approach things- positive or negative; likes or dislikes) and the way one presents the capabilities to potential employers (communication - oral and written).

7.2. Employability Skills

As discussed in the previous units, individuals who aspire for employment must have technical skills and a wide range of soft skills to gain and continue in employment.

Activity 1

Write the differences between employability and employment and submit your answer to your teacher.

Employability skills are a set of non-technical skills, knowledge and understandings needed to get and continue in employment. Employability skills are useful across all employment sectors that enable a person to succeed in a workplace and any life activity. They include essential skills such as communication, personal qualities such as patience and commitment and values such as respect, trust, etc.

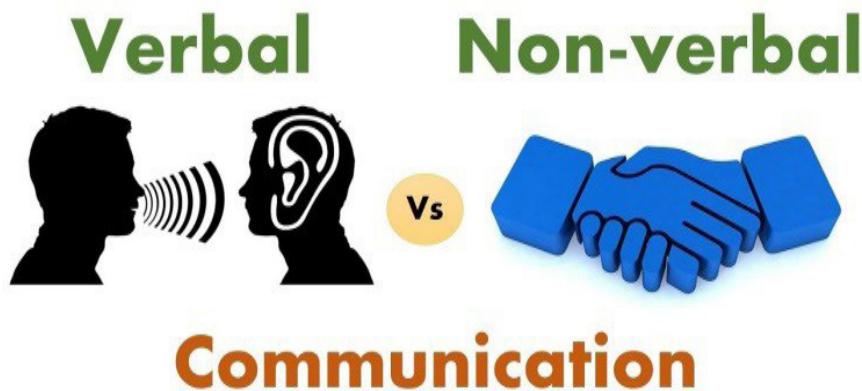
There are a lot of employability skills essential to succeed in employment and build one's career among which the following eight are presented below.

1. **Personal development:** is getting the most from yourself and others. It involves developing your goals, assessing your

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skills and qualities, comparing with career requirements, identifying the gap and filling the gap to attain the goals.

2. **Communication:** it is about how to transmit or receive messages accurately to and from other people through spoken or written form, or movement, or signs, for mutual understandings. It is about meaning sharing. Communication includes verbal and non-verbal communication and listening.



Key Differences

Figure 7.1: Differences in verbal and non-verbal communication

Activity 2

What is the difference between the sentences '**Do it as soon as possible**' and '**Do it immediately**'?

3. **Teamwork:** is the ability to work with others together in groups and teams harmoniously to accomplish something (see Fig. 7.2).



Figure 7.2: Illustration of Teamwork

Activity 3

Is playing football a team work? If so, what makes it a team work?

4. **Problem solving:** it is about determining why a problem is happening and how to resolve that problem.
5. **Initiative:** it deals with the power or opportunity to act or take charge before others do.
6. **Ability to use new technologies:** Familiarizing someone with available technologies and acquiring skills to productively use available technology is a fundamental skill for life.

Activity 4

Why is the ability to use technologies important in life?
Show your answer for your teacher.

7. **Planning and organizing:** Planning and organizing skill requires identifying tasks, prioritizing them, creating schedules for them and completing them on time. You can develop organizational and planning skills by developing a timetable for your daily activities, participating in organizing an event such as parent days, having a study plan on paper, etc.

Activity 5

Is the school teaching/learning time table a plan? Develop your study plan and show it to the teacher.

8. **Self-management:** is the ability to regulate one's emotions, thoughts, and behaviors effectively in different situations. Self-management begins from knowing oneself - one's potential, strengths and weaknesses, likes and dislikes, values and beliefs, feelings, etc.

Activity 6

How is the spread of HIV-AIDS related to self-management skill?

Curriculum Vitae is a detailed document highlighting one's professional and academic achievements given to an employer for consideration for employment. CVs typically include information like personal information such as who the person is (the name of the person, age, sex, address, email address, phone number, etc.), qualification (education level) work experience, and other achievements.

7.3. Curriculum Vitae(CV)Writing

Table 7.1: Sample CV for a Primary School Student

Curriculum Vitae (CV)

Name: _____

Address: Addis Ababa

Telephone number: _____

Email: Johnnnnne@gmail.com

Skill highlights:

- Gardening, poultry, family support activities at home, etc.

Education:

- Elementary school, Grade 7 at ABC Primary School

Hobby

- Playing football, Morning exercise, playing tennis, pool, etc.

Reference:

- Mr./Ms _____ - home room teacher, mobile no. _____

Activity 7

Based on the above sample CV, write a simple curriculum vitae of your own.

7.4. Cover Letter Preparation

A cover letter (job application letter) is sent along with a resume when applying for a job. It introduces in short a job seeker's work history, professional skills, and personal interest in applying for a job. The main purpose of a cover letter is to support the content of your CV and to persuade the reader to open the CV.

7.4.I. Cover Letter

Application to the vacant position advertised

Dear/Sir or Madam,

This is an application to the position solicited by the website/newspaper for the position of XYZ. My name is Adanech Hussein. I have completed grade 7 and I want to improve my working skill. In addition to the school learning, I have practical skills in gardening, maintenance of home appliances like stoves, etc.

I am very much interested to the vacant position and can produce fruitful results at the position.

Kind regards,

Adanech

Unit Summary

Employability deals with preparing oneself for employment in terms of possessing skills, knowledge, attitudes and desirable behaviors to choose and get employed. Building one's capability for employment leads to self-confidence, spirit to excel and high achievement. Having both technical and soft skills (employability skills) are critical for employment.

Employability skills are useful in all employment areas as they are not specific to a particular sector. They include essential skills such as communication, personal qualities such as patience and commitment and values such as respect, trust, etc. Personal development, communication, team work, problem solving, initiating, use of technology, self-management and planning are important employability skills that every individual need to develop for successful living and employment.

For paid employment, writing Curriculum Vitae (CV) is important. A curriculum vitae describes one's professional and academic achievements for employers to employ. CV includes information like personal information, qualification (education level) work experience, and other achievements. CV is submitted to employers with a covering letter.

Unit Review Questions

I. Write True for the correct statements and False for the incorrect ones.

1. Employability is building one's capability to gain employment.
2. Employability skills are used only in some employment sectors.
3. The capacity to take personal responsibility is not related to self-management skill.
4. Teamwork involves working in collaboration with others for a purpose.

II. Multiple choice questions: choose the best answer from the given alternatives and circle the letter of your choice.

1. Non-verbal communication is .
 - a) The use of words to share information
 - b) Using body language
 - c) Communication in writing
 - d) Speech communication.

2. A curriculum vitae is for .
 - a) Leaving a job
 - b) Applying for employment
 - c) Knowing oneself
 - d) Teamwork
3. Employability refers to .
 - a) Getting employment
 - b) Applying for a job
 - c) Writing CV
 - d) Readiness for employment
4. The word collaboration is related to soft skill.
 - a) Team work
 - b) Self-management
 - c) Initiative
 - d) Personal development

III. Assignment to be reported to the teacher

- 1) Form a group of four and each group visits a particular work site (hospital, school, any government office) in your locality and identify one person, ask for all information for a CV and prepare his/her CV.
- 2) Write a short covering letter that accompany the CV you prepared and show both of them to your teacher.

UNIT 8

PREPARING FOR EMPLOYMENT

LEARNING OUTCOMES

At the end of this unit, learners will be able to:

- ☐ Describe the characteristics of recruitment interview.
- ☐ Identify the common interview questions.
- ☐ Identify skills that help to be successful in job interview.

Key Words

Job interview: *a question-answer session conducted to select appropriate persons for a job.*

Mock interview: *practicing answering interview questions that may be asked before the actual interview.*

Brainstorming Question

What does interview mean to you?

8.1. Importance of Job Interview

An interview is a conversation between two or more persons for gathering information for a certain purpose. The interviewer (employer) asks questions the interviewee (candidate employee) to obtain information. Like the interview between the employer and the candidate, interview is also conducted between a doctor and a patient. This type of interview is called a job interview.



Figure 8.1: Conversation between employee and employer

Activity 1

What is the purpose of job interview?

A job interview is important for both the potential employer and employee. Interview is important because it connects both the employers as well as job seekers. It provides an opportunity for both to decide if the individual's skills and character align with the firm's needs and culture. A job interview enables a company to learn more

about an applicant. Interviews are conducted when the employer wants to gather useful knowledge, skill and qualities about the potential employee that he/she cannot get out of one's resume.

Activity 2

Indicate the benefits of a job interview for the job seeker and the employer in a two-column table. Then, show your work for your teacher.

8.2. Common Interview Questions

Employers will start with some open-ended questions aimed at getting to know you, your work experience, skills and interest to the job. There are a lot of questions to be asked in a job interview depending on the nature of the job, the employer, situation, etc. Job interview questions also vary from job to job as the skills and quality required by different jobs are different. Some of the common most frequently asked questions for job interview are presented below as examples.

- Will you tell us about yourself?
- What do you think are your greatest strengths?
- How did you hear about this job?
- Why should we hire you?
- Why do you want this job?

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- What can you do for us that other candidates cannot?
- What are your weaknesses?

Remember that doing well in a job interview cannot be taken as presenting all your strengths and skills. It is about speaking to the employer that you have skills and knowledge. You can follow these four steps to help you answer any interview.

Step 1: Know the job description: Before your interview, you should take some time to know more about what the employer is looking for by reading job descriptions. Once you have understood the job description, the role and organization, you can reflect this awareness in your answers to interview questions.

Step 2: Give specific examples: Employers look to your past experience to get a sense of your future intention. They also want to see how the interviewee's skills and experiences express themselves learning in concrete actions.

Step 3: Address follow-up questions: Beyond the initial interview question, your interviewer may ask you to elaborate on something you said or know more about your answer.

Step 4: Pay attention to the job and organization: Finally, the candidate should relate his/her answers to the job and organization.

At the conclusion, the interviewee can ask when results of the

interview will be announced. You can express your interest to work for the organization. You need to thank the interviewer at the end of the interview.

8.3. Reasons why Applicants Fail in Job Interview

An interview is a vital step to obtaining a career position and often depends on your skills. But sometimes candidates fail to respond to the interviewers' questions because of the following conditions:

- Inability to express oneself clearly - poor voice, or grammar mistakes, etc.
- Poor personal appearance
- Not prepared for interview
- Uncertainty about future goals and career plans
- Asks no questions or asks poor questions about the position
- Lack of confidence - nervousness, failing to look at an interviewer's eye
- Overemphasis on money - too interested in salary

Activity 3

What should the job-seeker do to be successful in a job interview?

8.4. Preparing for a Job Interview

During the preparation for an interview, one must know what he/she wants to achieve from the interview. There are a number of steps you can take before the interview to get positive impression on your potential employer.

- Know the job
- Match what is required with what you possess
- Know the employer (company)
- Study your CV and know everything about it
- Practice interviewing (Mock interview)
- Know what to wear, and bring to the interview

Activity 4

Why is preparing for a job interview important? Present your answers to the class.

Unit Summary

Once the job seeker identifies the opportunity to be a new recruit, he/she has to prepare for interview. A job interview is important for both the potential employer and employee. Interview is important because it connects both the employers as well as job seekers.

Interviews are conducted when the employer wants to gather useful knowledge, skills and qualities about the potential employee that he/she cannot get out of one's resume. There are a lot of questions to be asked in a job interview depending on the nature of the job, the employer, situation, etc. During the preparation for an interview, one must know what he/she wants to achieve from the interview.

Unit Review Questions

I. Say True for the correct statements and False for the incorrect one.

1. A person is interviewed means the applicant get employment.
2. Job posting is done for employment.
3. It doesn't matter if applicants chew gums when interviewed.
4. Job interview comes before giving a CV for potential employers.
5. Eye contact is not recommended for job interview.

II. Fill in the blanks with appropriate concepts.

1. A mock interview is done by ____.
2. Job Interview involves ____.
3. The ____ answering a phone calls while on a job interview is acceptable.

III. Choose the best answer from the given alternatives and circle the letter of your choice.

1. Preparation for a job interview does not include _____.
 - a. Knowing what the job requires
 - b. Knowing the employing company
 - c. Practicing before the interview
 - d. Ignoring what one wears on an interview

2. Mock interview is performed _____.
 - a. At the time of the actual job interview
 - b. After the actual job interview
 - c. Before the actual interview
 - d. With the interviewer presence

3. Identify a reason for a failure in a job interview.
 - a. Knowing the job
 - b. Lack of expressing oneself
 - c. Good grooming
 - d. Punctuality