

2020/21 Academic Year 1st Quarter Biology Lesson Note One for Grade 8

UNIT ONE

BIOLOGY AND TECHNOLOGY

1.1 Biology for development

- The study of biology is important for the development of the country in many ways.
- Some of the **major role of biology** for the community are:
 - to improve the health care activities.
 - to increase productivity in agriculture.
 - to improve food production.
 - to protect and conserve the natural environment.
 - to produce natural product.

Health care

- Health professionals such as **medical doctors**, **nurses** and **laboratory technicians** are trained in biology to:
 - ✓ prevent and control diseases
 - ✓ diagnose diseases
 - ✓ treat or cure diseases

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□ **Agriculture**

- Agriculture is an activity of producing crops and raising animals. Our country Ethiopia generates its income by exporting a number of agricultural products like coffee, grains, flowers, fruits, livestock and products of livestock.
- The productivity of agricultural products can be increased in:
 - *Using agro – chemicals
 - *Selective breeding
 - * Genetic modification /Genetic engineering)

a. Agro – chemicals

- Agro – chemicals are chemicals used in agriculture to enhance productivity-of crops (plants).
- Examples of agro-chemicals: - Fertilizers
 - Herbicides (weed-killers) and
 - Pesticides (pest-killers)

b. Selective Breeding

- Selective breeding is a practice during which selected two individuals mate and produce offspring with improved qualities.
- Breeding is a technique of mating organisms to produce organisms that have desired characteristics.

c. Genetic modification/Genetic engineering

- Genetic modification is a transfer (altering) of genetic material from one organism to another.
- GM has various importance in increasing agricultural productivity. These are: -
 - Improvements on growth rate of plants and animals
 - Improved quality of crops
 - To produce crop plants those are resistant to drought, disease, pollutants etc.
 - To produce plants that makes their pesticide chemicals.

HomeWork

Give a short and brief answer for the following questions.

1. List out the examples of agro-chemicals.
2. Write the difference between breeding and selective breeding.
3. What is the importance of genetic modification?