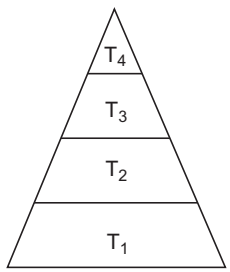
WORKSHEET 2

CHAPTER 6 – OUR ENVIRONMENT

A. Tick (✓) the correct option.

1. The percentage of solar radiation absorbed by all the green plants for the process of photosynthesis is about
   a. 10% b. 1% c. 8% d. 5%
2. The decomposers in an ecosystem
   a. convert inorganic material to simpler forms.
   b. convert organic material to inorganic forms.
   c. convert inorganic material into organic compounds.
   d. do not break down organic compounds.
3. In the given figure, the various trophic levels are shown in a pyramid. At which trophic level is maximum energy available?



   a. T_4 b. T_2 c. T_1 d. T_3
4. In an ecosystem, there is a flow of
   a. energy only. b. nutrients only. c. water only. d. energy and nutrients.
5. In which form is the 10% energy available for transfer from one trophic level to the next in an ecosystem?
   a. Light energy b. Mechanical energy c. Heat energy d. Chemical energy

B. Fill in the blanks.

1. If the energy available at a trophic level is 100 units, the energy available at the level just below it will be about _____ units.
2. The ozone layer protects us from _____ radiation.
3. Those who feed directly on the producers in an ecosystem are called _____ consumers.
4. Gardens and _____ are artificial ecosystem.
5. The various components of ecosystem are _____

C. State true (T) or false (F).

1. Pesticides enter the food chain at producer level.
2. A network of interconnected food chain is called food web.

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3. Chlorofluorocarbons are mainly responsible for acid rain.
4. The concentration of DDT decreases at each trophic level.
5. Tertiary consumers form the fourth trophic level.

D. Match the following.

1. Chlorofluorocarbons	(*a*) skin cancer
2. Physical environment	(*b*) metal
3. Non-biodegradable substance	(*c*) ozone depleting substance
4. Exposure to UV rays	(*d*) abiotic component
5. Biomagnification	(*e*) accumulation of chemicals at successive trophic level

E. Answer the following questions.

1. What is UNEP agreement of 1987?
2. What is a food chain? Write the common food chain of a pond ecosystem.
3. Why can the pesticides not be removed from food grains by washing?
4. What is ten per cent law? Explain with an example.
5. What is ozone hole? Where is it located? How is it formed?

ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. b
2. b
3. c
4. d
5. d

B. Fill in the blanks.

1. 1000 units
2. Ultraviolet radiation
3. Primary
4. Crop lands
5. Interdependent

C. State true (T) or false (F).

1. T
2. T
3. F
4. F
5. T

D. Match the following.

1. (*c*)
2. (*d*)
3. (*b*)
4. (*a*)
5. (*e*)

E. Answer the following questions.

1. In 1987, the United Nations Environment Programme had an agreement to freeze CFC production at 1986 levels. It was decided that all the signing nations would take necessary steps to decrease CFCs. This agreement is called Montreal Protocol.
2. Food chain is a sequential process in which one organism consumes another organism to transfer food energy.

   Phytoplankton → Zooplankton → Small fish → Large fish
3. Pesticides are non-biodegradable substances. These chemicals cannot be broken down by plants, so they accumulate in their bodies and hence cannot be removed from food grains by washing.
4. According to the ten per cent law, only 10% of the total energy enters a particular trophic level of a consumer, and out of this, only 10% is available for transfer to the next trophic level.

   For example, suppose 1000 J of solar energy is received by green plants, then only 1% of solar energy available on earth is utilized by plants. So, only 10 J is trapped by plant. Next, only 10% of 10 J energy of plants, that is, 1 J is available to the herbivorous animals. Again, just 10% of 1 J of energy of herbivorous animals is utilized by carnivorous animals. Thus, carnivorous animals have only 0.1 J of energy.
5. Decline in thickness of ozone layer over a restricted area is called ozone hole. Ozone hole is located in Antarctica region.

   It is caused by certain substances called ozone depleting substances. One such ozone depleting substance is chlorofluorocarbons, widely used in refrigerator and air conditioner as coolants. Once released in the air, these harmful chemicals produce active chlorine in the presence of UV radiations. These radicals then destroy the ozone by converting it into oxygen. Due to this, the ozone layer in the upper atmosphere has become thinner resulting in ozone hole.