

Class 7th Living science solution 2017-18

Chapter 18. WATER—A NATURAL RESOURCE

P. 206 Oral Questions For Formative Assessment

1. a renewable resource 2. sea water, frozen water, groundwater
3. Yes. I do agree.
4. No, water evaporates at all temperatures.

P. 209 Oral Questions For Formative Assessment

1. The depth of the water surface in the well from the surface of the earth.
2. Yes. Because forest and vegetation slows down the flow of rainwater on land and increases the absorption of water by the soil which in turn recharges the groundwater.
3. conservation 4. Rainwater harvesting

P. 210 For Formative and Summative Assessment

- A. 1. b 2. c 3. a 4. b 5. a 6. c 7. a 8. d
- B. 1. both 2. false 3. false 4. true 5. absorption 6. false 7. conservation
8. water table 9. true 10. true

- C. 1. There is shortage of water even though three-fourths of the earth is covered with water because it is not evenly spread throughout the earth, and also because most of it is not in a usable form.
2. The three states of water are ice, water and steam. The state of water can be changed by heating or cooling.
3. The rainwater falling on land may drain into rivers and streams or seep through the soil and gather underground as groundwater, or fall on high mountains and get frozen.
4. The level at which all the spaces between the soil particles and the gaps between rocks are filled with water is known as the water table.
5. The groundwater may run along the surface of the non-porous rocks and come out of the surface at some places to form a natural spring.
6. Drip irrigation is a method of irrigation where water is supplied to the roots of plants drop by drop instead of filling the entire field with water.
7. Trees and vegetation slows down the flow of rainwater on land and increases the absorption of water by the soil. Also, planting trees helps in soil conservation which in turn helps in groundwater conservation.

- D. 1. (i) Renewable resources are those that will never run out or are replaced through natural processes.

They are of two types:

- a. inexhaustible, like sunlight, air, water b. exhaustible, like soil, forests, groundwater

(ii) Non-renewable resources are those that once used up cannot be replaced in a reasonable period of time.

They are of two types:

- a. can be recycled like minerals b. cannot be recycled like topsoil, fossil fuels

2. a. Groundwater is a renewable resource However, today we are using it, at a faster rate than the rate at which it is renewed which leads to the depletion of the water table.

b. Forests are destroyed increasingly by cutting or burning of trees to obtain wood, land, etc. due to which they are disappearing at a, faster rate and getting exhausted.

3. It is seen that the water table in our cities is constantly going down and there is shortage of groundwater.

The reasons are as follow:

Rising population leads to an increase in the water consumption. There is also a need for more number of houses, offices, shops and roads, and this means more construction work which uses a lot of water, mostly groundwater. Also as the build-up areas increase and open areas reduce, there is a reduction in the amount of water seeping into the ground. For these reasons, the water table in the cities constantly decreases.

4. The water in seas, rivers, lakes and streams evaporates due to the heat of the sun. The water vapour rises up. The air higher up is cooler. This cools the water vapour and it condenses to form tiny drops of water. These drops of water unite together to form clouds. As the clouds get cooled further, more water drops unite together and become bigger. When they become too heavy, they fall on the earth as rain.

5. Conservation of resources means avoiding their wasteful use. This definition does not cover the other aspects of conservation, i.e. it means not only wasting the resources, but also maintaining their quality. The natural resources today are getting used up and depleted much faster which leads to an imbalance in nature. So the main purpose of conservation is to use resources wisely and carefully so that a balance in nature is maintained.

6. Four methods of conserving water are:

(i) Rainwater harvesting: It is done by allowing rainwater, falling on roofs of buildings, to flow into a deep trench in the ground. It, thus, replenishes groundwater.

(ii) Using better methods of irrigation, such as drip irrigation in which water is supplied to the root of plants drop by drop.

(iii) Using less water and avoiding wastage at home, for example, turning off the tap while brushing teeth, etc.

(iv) Better management of water by the civic authorities, e.g. preventing leakage from pipes.

7. Rainwater harvesting is being encouraged by the government these days as an important method of conserving groundwater. It is a method of storing rainwater for future use. In houses, it is done by allowing rainwater, falling on roofs of buildings, to flow into a deep trench in the ground. It, thus, replenishes groundwater, instead of flowing off into drains that empty into rivers.

HOTS Questions

1. Renewable resource (but exhaustible if we use it faster than it is replenished) as 10 years is a reasonable period of time for the resource to be replaced.

2. We feel greater need for conservation today because with increase in population, and with advancement in science and technology, we are using up much more resources than our ancestors did.

3. Wells go dry because of decrease of the water table to below the depth to which the wells were dug. Either the well should be dug to a greater depth, or we should recharge groundwater by using rainwater harvesting to increase the water table.

4. The density of air is less high up in the atmosphere. It can therefore not retain heat and is cooler.

5. When the humidity is high and the temperature is low, condensation takes place because of which fog forms.