

PARAGON CONVENT SCHOOL

SECTOR : 24 B, CHANDIGARH

LESSON - 15

WATER

Summary :

- Water is essential for the survival of living organisms.
- 70% of the Earth's water is in oceans. Only 3% of freshwater is available to us.
- Water is needed for human use, farming, industrial use and to generate electricity.
- Water is the only substance that we use in all three states of matter.
- Water has a unique property of dissolving a large number of substances.
- Water is recycled through water cycle in which water evaporates, condenses and then again falls as rain. .
- When there is excessive rainfall, it causes flood which washes away human establishments with it.
- When a place does not get rainfall for a long time, it is said to be under drought. It affects the crops and can cause famine.
- Water pollution is caused when human activities lead to contamination of water with harmful substances.

Multiple Choice Questions (Page No. 180)

1. (a) 2. (a) 3. (d) 4. (d) 5. (a)

Multiple Choice Questions (Page No. 182)

1. (a) 2. (a) 3. (a) 4. (b) 5. (d)

SECTION A

Oral Questions

Q1.- Name three states of water with examples.

Ans.- Solid : Ice Liquid : Water Gas : Steam

Q2.- How are clouds formed?

Ans.- After condensation, the water droplets floating in the air along with dust particles form clouds.

Q3.- What is water cycle?

Ans.- A continuous movement of water from the Earth's surface and water bodies as water vapour to the atmosphere and from atmosphere back to the Earth's surface as rain is called water cycle.

Science Quiz

Q1.- What are the two important processes through which water vapour enters the atmosphere?

Ans.- Evaporation and transpiration

Q2.- Which substances makes the sea water unfit for drinking or other purposes?

Ans.- Soluble salts or high salt content of water

Q3.- What is the process of changing water into water vapour known as?

Ans.- Evaporation

Q4.- Which one will evaporate first, water in a saucer or water in a cup?

Ans.- Water in saucer evaporates first because in saucer the water gets large surface area for evaporation.

Q5.- What is the process of collecting rainwater from roofs and streets and storing it for further use called?

Ans.- Rooftop and roadside rainwater harvesting

WORKSHEET

Tick (✓) the correct options

1. (d) 2. (c) 3. (b) 4. (a)

Circle the odd ones. Give reasons for your choice

1. River Lake Pond Sea

Ans.- Sea → It contains salty water, whereas others are sources of fresh water.

2. Temperature Humidity Lightning Surface area

Ans.- Lightning → It does not affect evaporation, whereas others are factors affecting evaporation.

3. Ice Water Nitrogen Steam

Ans.- Nitrogen → It is not a state of water, whereas others are states of water.

4. Dew Fog Ice Hail

Ans.- Ice → It does not form on condensation of water vapour, whereas others are formed on condensation of water vapour.

Fill in the blanks

1. solid 2. water 3. transpiration 4. drought

State whether the following statements are true (T) or false (F)

1. True 2. False 3. True

SECTION B

Multiple Choice Questions

1. (b) 2. (c) 3. (c)

Very Short Answer Questions

Q1.- What is formed on - a) melting of ice, b) freezing of water and c) evaporation of water?

Ans.- (a) water (b) ice (c) steam

Q2.- Name a water borne disease.

Ans.- Jaundice / dysentery / cholera / typhoid

Q3.- Name the process by which wet clothes dry up when they are spread on a rope or a wire.

Ans.- Evaporation

Q4.- How is water helpful in transport of nutrients from soil to different parts of a plant?

Ans.- Water acts as a medium for the transportation of minerals and other nutrients from one part of plant to another.

Short Answer Questions

Q1.- Define transpiration.

Ans.- The process of releasing of extra water by plants into the air in the form of water vapour through stomata is called transpiration.

Q2.- What is drought?

Ans.- The severe shortage of water due to absence of rain in a particular region for a long time is called drought.

Q3.- One day, there occurs a shortage of water in Pooja's colony. She has a hand-pump in her house. She allows everyone to take water from there.

A) Why do you think the problem of water shortage is increasing day by day?

B) What value is shown by Pooja?

Ans.- (a) The problem of water shortage is increasing day by day due to the increasing population.

(b) Pooja cares for her neighbourhood. She is helpful.

Q4.- What is groundwater?

Ans.- The reservoir of water collected over the hard, non-porous rocks below the surface of the Earth is called groundwater or underground water.

Long Answer Questions

Q1.- How is rain useful to us? Give any three reasons.

Ans.- Rain is useful to us because -

- (i) It brings relief by cooling the environment especially after hot summer days.
- (ii) It is important for irrigating the crops in fields.
- (iii) It maintains the supply of water on land by filling streams, lakes, ponds and raising the water table.

Q2.- How do the animals living in soil get affected by heavy rain?

Ans.- The life of animals living in soil gets affected by heavy rains as the land gets covered with water. The animals like (snake and earthworm) that live in soil come out in search of air and food.

Q3.- What is the advantage of rainwater harvesting?

Ans.-The main purpose of rainwater harvesting is not only to hold rainwater on the surface of the Earth but also to make rainwater percolate under the ground more efficiently so as to recharge groundwater. This ground water can then be taken out through tube wells, hand-pumps, etc., as and when required. The advantage of rainwater harvesting is that it increases the availability of groundwater and helps in overcoming water shortage. The other advantages of rainwater harvesting are-

- (i) Soil erosion can be checked by rainwater harvesting.
- (ii) It helps to control floods.
- (iii) During dry months one can also avail water supply for irrigation and other purposes.
- (iv) It reduces the loss of rainwater.

Q4.- a) How are trees helpful in the process of water cycle?

b) How does flood affect vegetation?

c) What are the possible problems faced by the people of a country after floods?

Ans.- (a) The trees absorb water from the soil through their roots. They release excess water as water vapour by the process of transpiration. This water vapour goes into the air and forms clouds. The roots of trees also help in deep percolation of rainwater and enriches the water table.

(b) The flood water submerges the standing crops, grasslands and forests. Due to this, the plants do not get sufficient amount of air and nutrients and they die.

(c) The problems faced by people after floods are -

(i) Flood in city areas leads to water-logged roads and streets. This disrupts the traffic on road and causes inconvenience to the people.

(ii) Floods cause extensive damage to crops. This may cause acute food shortage and deaths due to hunger.

(iii) Floods cause serious injuries or death of domestic animals by drowning.

(iv) When flood water recedes, it causes the spread of diseases like malaria, dengue, cholera, dysentery and diarrhoea.

(v) Floods wash away the top layer of the soil, thus, reduces the fertility of soil.

(vi) Floods also affect the animals living in the soil. Animals like earthworms and snakes are exposed.

Q5.- a) Why should we conserve water?

b) What are the different methods of water conservation?

c) What are the types of rainwater harvesting?

Ans.- (a) With increasing population, the demand of water has also increased. Apart from drinking and using water for different household works water is also used in agriculture for producing food and industries for manufacturing a large variety of products. Since the freshwater is available in limited amount, thus we should conserve water.

(b) The ways to conserve water are -

(i) Plant more and more trees.

(ii) Use a bucket and a mug instead of shower while taking bath.

(iii) Close the taps tightly after using them.

(iv) Avoid cleaning utensils under running water.

(v) Check overflowing of water tanks.

(vi) Recycle waste water.

(vii) Adopt rainwater harvesting to store the rainwater.

(viii) Repair leaking pipelines and water taps immediately.

(c) The two main types of rainwater harvesting are :

(i) Rooftop rainwater harvesting

(ii) Roadside rainwater harvesting