WORKSHEET 2/3

Class - IX **Subject - Science**

Chapter 14 – Natural Resources

Q1. Why do organisms need water?

Answer: Organisms need water because:

(i) Cellular processes need water for their functioning.

(ii) Substances dissolve in water for reactions to take place within the cells.

(iii) Transportation of substances within the body need water.

(iv) Water helps in digestion of food and its absorption in the blood.

(v) It helps to maintain body temperature.

Q2. What is the major source of freshwater in the city/town/village where you live?

Answer: In city/town/village, the major source of water is underground water. It is drawn withthe help of hand pumps and tube-wells. The other nearby sources are rivers, lakes and ponds.

Q3. Do you know of any activity which may be polluting this water source?

Answer: The activities which may be polluting the water bodies are:

(i) Disposal of garbage or sewage from cities/towns and from factories.

(ii) Hot water may be released from the industries which may disturb the temperature of waterbody leading to death of many aquatic organisms.

Q4. How is soil formed?

Answer: The formation of soil takes place in the following ways:

(i) Rocks near the surface of Earth are broken down by various physical, chemical and somebiological processes. This process takes millions of years.

(ii) This weathering leads to the formation of fine particles called soil.

(iii) Some other factors also lead to the formation of soil.

These are:

(a) Sun causes heating of rocks that causes cracking and breaks down them into smallparticles.

(b) Water dissolve rocks by freezing and fast flowing.

(c) Wind causes erosion of rocks by fast blowing.

(d) Liches and mosses grow on rock surfaces and break them into powder down and form athin layer of soil. The big trees sometimes enter into cracks in the rocks and force them tobreak further during their growth.

Q5. What is soil erosion?

Answer: Soil erosion is the process of removal of top soil.

It is rich in humus and nutrients.The agents of soil erosion are mainly flowing water or wind. If soil erosion is continued for along time, the land becomes infertile and barren due to the loss of its valuable nutrients.

Q6. What are the methods of preventing or reducing soil erosion?

Answer: Preventive methods of soil erosion

(i) Afforestation- Planting more trees reduces soil erosion.

(ii) Ploughing land in furrows across the natural slope of the land helpstrap water and prevent the washing away of top soil along with it.

(iii) Step (terrace) Farming -Farmers form a series of steps by making horizontal stripssupported by walls to catch the descending water. It gives the water sufficient time topercolate into the soil and nourish the crop.

(iv) Soil Cover After harvesting a crop, soil is covered with dried vegetation to prevent itserosion.

(v) Grasses tend to bind soil particles to prevent their erosion. If overgrazing isallowed, the grasses are uprooted and soil gets eroded.

Q7. Why is water essential for life?

Answer: Water is essential for life because of these reasons:

(i) It provides medium to carryout all the cellular processes.

(ii) All the reactions that occur in our body and within cells occur between substances that are dissolved in water

(iii) It is required for the transportation of materials from one part of the body to the other.

(iv) It helps to maintain body temperature.

(v) Water makes up about 70% of body weight of all the living organisms.

Q8. How are living organism's dependent on soil? Are organisms that live in water totally independent of soil as a resource?

Answer: Living organisms depend on soil in the following ways:

(i) It provides natural habitat for various living organisms, e.g., bacteria, fungi, algae,earthworms, etc. These help to maintain the fertility of soil.

(ii) Earthworm performs all its activities in the soil. It maintains the fertility of soil by releasingnitrogen rich excreta.

(iii) Many animals like rats, rabbits, etc., make their home in the soil.

(iv) Soil helps to bind the roots of plants to provide them anchorage. The nutrients in soil areabsorbed by the plants for their growth and development.

All organisms that live in water are totally dependent on soil because the mineral nutrients arepresent in water in the dissolved form. But, their recycling depends on the decomposers whichare present in soil beds. For this, all water bodies have soil beds which contain decomposersfor the recycling of nutrients.

Q9. You have seen weather reports on television and in newspapers. How, do you thinkwe are able to predict the weather?

Answer: Meteorologists collect information regarding the pattern of temperature, speed ofwind, air pressure and all other features which influence weather. All this information is collected by remote sensing and weather forecast satellites. This information is then compiled in meteorological departments which prepare a weather report that is displayed on the maps.

This information is further transmitted through radio, television and newspaper.

10. _____ is a major factor in deciding the soil structure because it causes the soil to become more porous and allows water and air to penetrate deep underground.

11. Ozone hole was first detected over _____.

12. The eggs and larvae of various aquatic animals are particularly susceptible to_____ changes.

13. Why do organisms need water?

14. In which regions is soil erosion very difficult to revert?

15. What would happen, if all the oxygen present in the environment is converted to ozone?

(a) We will be protected more

(b) It will become poisonous and kill living forms

(c) Ozone is not stable, hence it will be toxic

(d) It will help harmful sun radiations to reach earth and damage many life forms.

16. One of the following factors does not lead to soil formation in nature

(a) The sun

(b) Water

(c) Wind

(d) Polythene bags

17. Name the process in which water vapour changes to a liquid.

18. Which gas is the chief component of Earth's atmosphere?

19. Mention any two human activities which are responsible for water pollution.

20. How addition of undesirable substances and change in temperature affect the water life.

21. Name the substance that reduces the amount of dissolved oxygen in water.

22. Which gas is formed in the layers of Earth due to bacterial decomposition in the absence ofoxygen?

23. Name the elements present in fossil fuels, which cause air pollution.

24. In a coastal region, what would be the direction of wind during the day?

25. When clouds cool down, water droplets fall to the land as rain, hail or snow. Name thephenomenon.

26. Name the organisms found to be very sensitive to the levels of contaminants like sulphurdioxide in the air.

27. What percentage of nitrogen and oxygen is present in air?

28. Give two examples of exhaustible natural resources.

29. Name two atmospheric gases responsible for causing acid rain.

30. List any two consequences of global warming.

31. What portion of our country's geographical area is covered by forest?

32. Name any two examples of inexhaustible natural resources.

33. How much air is required by a normal human being in one day?

34. What is conversion of ammonia into nitrates called?

35. State the role of the atmosphere in climate control?

36. What causes acid rain? Mention any damage caused by it on living organisms.

37. Give reason Lichens do not grow in Delhi whereas they commonly grow in Manali or Darjeeling.

38. What is atmospheric fixation of Nitrogen?

39. What is soil erosion? State any one way by which it can be prevented.

40. What is humus? What is the role of earth worms in increasing the quantity of humus?