BIOLOGY

BOOKS - KUMAR PRAKASHAN KENDRA

BIOLOGY (GUJRATI ENGLISH)

NATURAL RESOURCES

Activity

1. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full

of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

Is the temperature reading more in activity (i) or (ii)?

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2. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

Based on the above finding, which would become hot faster - the land or the sea ?

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3. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

Is the thermometer reading of the

temperature of air (in shade) the same as the temperature of sand or water?

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4. Measure the temperature of the following : Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same

time.

Now answer the following questions :

What do you think is the reason for this? And why does the temperature have to be measured in the shade?

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5. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in

bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

Is the temperature of air in the closed glass vessel/bottle the same as the temperature taken in open air?

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6. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

What do you think is the reason for this?

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7. Measure the temperature of the following :

Take (i) a beaker full of water, (ii) a beaker full of soil / sand and (iii) a closed bottle containing a thermometer. Keep them in bright sunlight for three hours. Now measure the temperature of all 3 vessels. Also, take the temperature reading in shade at the same time.

Now answer the following questions :

Do we ever come across this phenomenon in daily life?

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8. Place a candle in a beaker or wide mouthed bottle and light it. Light an incense stick and take it to the mouth of the above bottle.

Now answer the following questions :

Which way does the smoke flow when the incense stick is kept near the edge of the mouth?

View Text Solution

9. Place a candle in a beaker or wide mouthed bottle and light it. Light an incense stick and take it to the mouth of the above bottle.

Now answer the following questions :

Which way does the smoke flow when the incense stick is kept a little above the candle ?

View Text Solution

10. Place a candle in a beaker or wide mouthed bottle and light it. Light an incense stick and

take it to the mouth of the above bottle.

Now answer the following questions :

Which way does the smoke flow when the incense stick is kept in other regions ?

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11. What can you say about direction of wind and movement of air during the day?

View Text Solution

12. What can you say about appearance of areas of low and high pressure in coastal areas at night?

View Text Solution

13. What can you say about the direction in which air would flow at night in coastal areas ?

View Text Solution

14. How does the presence of the Himalayas change the flow of a wind blowing from Allahabad towards the north ?

View Text Solution

15. Take an empty bottle of the sort in which bottled water is sold. Pour about 5-10 mL of water into it and close the bottle tightly. Shake it well or leave it out in the sun for ten minutes. This causes the air in the bottle to be

saturated with water vapour.

Now, take a lighted incense stick. Open the cap of the bottle and allow some of the smoke from the incense sticks to enter the bottle. Quickly close the bottle once more. Make sure that the cap is fitting tightly. Press the bottle hard between your hands and crush it as much as possible. Wait for a few seconds and release the bottle. Again press the bottle as hard as you can.

Now answer the following questions :

When did you observe that the air inside seemed to become 'foggy'?

View Text Solution

16. Take an empty bottle of the sort in which bottled water is sold. Pour about 5-10 mL of water into it and close the bottle tightly. Shake it well or leave it out in the sun for ten minutes. This causes the air in the bottle to be saturated with water vapour.

Now, take a lighted incense stick. Open the cap of the bottle and allow some of the smoke from the incense sticks to enter the bottle. Quickly close the bottle once more. Make sure

that the cap is fitting tightly. Press the bottle hard between your hands and crush it as much as possible. Wait for a few seconds and release the bottle. Again press the bottle as hard as you can.

Now answer the following questions :

When does this fog disappear?

View Text Solution

17. Take an empty bottle of the sort in which bottled water is sold. Pour about 5-10 mL of

water into it and close the bottle tightly. Shake it well or leave it out in the sun for ten minutes. This causes the air in the bottle to be saturated with water vapour.

Now, take a lighted incense stick. Open the cap of the bottle and allow some of the smoke from the incense sticks to enter the bottle. Quickly close the bottle once more. Make sure that the cap is fitting tightly. Press the bottle hard between your hands and crush it as much as possible. Wait for a few seconds and release the bottle. Again press the bottle as hard as you can.

Now answer the following questions :

When is the pressure inside the bottle higher ?

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Now, take a lighted incense stick. Open the cap of the bottle and allow some of the smoke from the incense sticks to enter the bottle. Quickly close the bottle once more. Make sure that the cap is fitting tightly. Press the bottle hard between your hands and crush it as much as possible. Wait for a few seconds and release the bottle. Again press the bottle as hard as you can.

Now answer the following questions :

Is the 'fog' observed when the pressure in the bottle is high or when it is low?

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19. Take an empty bottle of the sort in which bottled water is sold. Pour about 5-10 mL of water into it and close the bottle tightly. Shake it well or leave it out in the sun for ten minutes. This causes the air in the bottle to be saturated with water vapour.

Now, take a lighted incense stick. Open the cap of the bottle and allow some of the smoke from the incense sticks to enter the bottle. Quickly close the bottle once more. Make sure that the cap is fitting tightly. Press the bottle

hard between your hands and crush it as much as possible. Wait for a few seconds and release the bottle. Again press the bottle as hard as you can.

Now answer the following questions :

What is the need for smoke particles inside the bottle for this experiment ?

View Text Solution

20. Take an empty bottle of the sort in which bottled water is sold. Pour about 5-10 mL of

water into it and close the bottle tightly. Shake it well or leave it out in the sun for ten minutes. This causes the air in the bottle to be saturated with water vapour.

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Now answer the following questions :

What might happen you do the experiment without the smoke from the incense stick? Now try it and check if the prediction was correct. What might be happening in the above experiment in the absence of smoke particles?

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21. Collect information from newspapers or weather reports on television about rainfall

patterns across the country. Also find out how to construct a rain gauge and make one. What precautions are necessary in order to get reliable data from this rain gauge ?

Now answer the following questions :

In which month did your city/town / village get the maximum rainfall ?

View Text Solution

22. Collect information from newspapers or weather reports on television about rainfall

patterns across the country. Also find out how to construct a rain gauge and make one. What precautions are necessary in order to get reliable data from this rain gauge ?

Now answer the following questions :

In which month did your state / union territory get the maximum rainfall ?

View Text Solution

23. Collect information from newspapers or weather reports on television about rainfall

patterns across the country. Also find out how to construct a rain gauge and make one. What precautions are necessary in order to get reliable data from this rain gauge ?

Now answer the following questions :

If not, in which season do you get more of thunder and lightning with the rain ?

View Text Solution

24. Find out more about monsoons and cyclones from the library. Try and find out the

rainfall pattern of any other country. Is the monsoon responsible for rains the world over?

View Text Solution

25. Organisms called lichens are found to be very sensitive to the levels of contaminants like sulphur dioxide in the air. Lichens can be commonly found growing on the barks of trees as a thin greenish-white crust. See if you can find lichen growing on the trees in your locality.

View Text Solution

26. Compare the lichen on trees near busy roads and trees some distance away.

View Text Solution

27. On the trees near roads, compare the incidence of lichen on the side facing the road and on the side away from the road.

View Text Solution

28. Many municipal corporations are trying waterharvesting techniques to improve the availability of water. Find out what these techniques are and how they would increase the water that is available for use.

View Text Solution

29. Select a small area (say, 1 m^2) near a water body, it may be a river, stream, lake or pond. Count the number of different animals and

plants in this area. Also, check the number of individuals of each type or species. Compare this with the number of individuals (both animals and plants) found in an area of the same size in a dry, rocky region. Is the variety of plant and animal life the same in both these areas?

View Text Solution

30. Select and mark out a small area (about 1 m^2) in some unused land in or near your

school. As in the above activity, count the number of different animals and plants in this area and the number of individuals of each species. Remember to do this in the same place twice in a year, once during summer or the dry season and once after it has rained.

Now answer the following questions:

Were the numbers similar both times ?

View Text Solution

31. Select and mark out a small area (about 1 m^2) in some unused land in or near your school. As in the above activity, count the number of different animals and plants in this area and the number of individuals of each species. Remember to do this in the same place twice in a year, once during summer or the dry season and once after it has rained.

Now answer the following questions:

In which season did you find more variety of plants and animals?

View Text Solution

32. Select and mark out a small area (about 1 m^2) in some unused land in or near your school. As in the above activity, count the number of different animals and plants in this area and the number of individuals of each species. Remember to do this in the same place twice in a year, once during summer or the dry season and once after it has rained.

Now answer the following questions:

In which season did you find more number of individuals of each variety?

View Text Solution

33. Take some soil and put it into a beaker containing water. The water should be at least five times the amount of soil taken. Stir the soil and water vigorously and allow the soil to settle down. Observe after some time.

Now answer the following questions :

Is the soil at the bottom of the beaker homogenous or have layers formed ?

View Text Solution

34. Take some soil and put it into a beaker containing water. The water should be at least five times the amount of soil taken. Stir the soil and water vigorously and allow the soil to settle down. Observe after some time.

Now answer the following questions :

If layers have formed, how is one layer different from another?

View Text Solution

35. Take some soil and put it into a beaker containing water. The water should be at least five times the amount of soil taken. Stir the soil and water vigorously and allow the soil to settle down. Observe after some time.

Now answer the following questions :

Is there anything floating on the surface of the water ?

View Text Solution

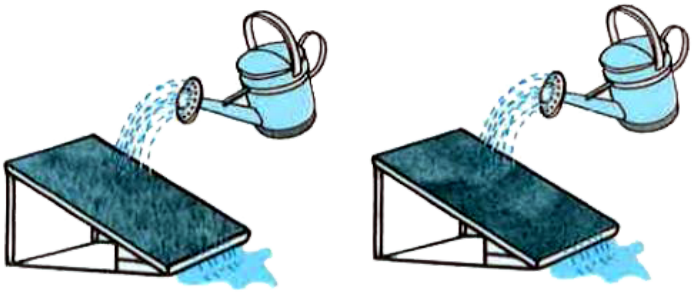
36. Take some soil and put it into a beaker containing water. The water should be at least five times the amount of soil taken. Stir the soil and water vigorously and allow the soil to settle down. Observe after some time.

Now answer the following questions :

Do you think some substances would have dissolved in the water? How would you check ?

View Text Solution

37. Take two identical trays and fill them with soil. Plant mustard or green gram or paddy in one of the trays and water both the trays regularly for a few days, till the first tray is covered by plant growth. Now, tilt both the trays and fix them in that position. Make sure that both the trays are tilted at the same angle. Pour equal amount of water gently on both trays such that the water flows out of the trays.



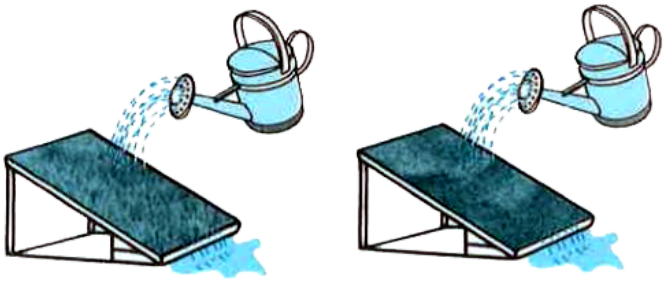
Effect of flowing

Study the amount of soil that is carried out of the trays. Is the amount the same in both the trays?

View Text Solution

38. Take two identical trays and fill them with soil. Plant mustard or green gram or paddy in one of the trays and water both the trays

regularly for a few days, till the first tray is covered by plant growth. Now, tilt both the trays and fix them in that position. Make sure that both the trays are tilted at the same angle. Pour equal amount of water gently on both trays such that the water flows out of the trays.



Effect of flowing

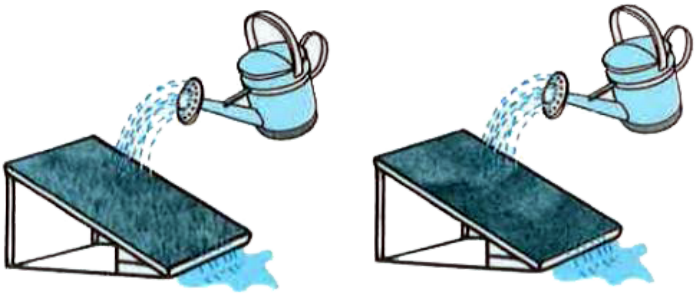
Now pour equal amounts of water on both the trays from a height. Pour three or four the

amount that you poured earlier. Study the amount of soil that is carried out of the trays now. Is the amount the same in both the trays ?

View Text Solution

39. Take two identical trays and fill them with soil. Plant mustard or green gram or paddy in one of the trays and water both the trays regularly for a few days, till the first tray is covered by plant growth. Now, tilt both the

trays and fix them in that position. Make sure that both the trays are tilted at the same angle. Pour equal amount of water gently on both trays such that the water flows out of the trays.



Effect of flowing

Is the amount of soil that is carried out more or less or equal to the amount washed out earlier ?

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40. Find out what the consequences of global warming would be. Also, find out the names of some other greenhouse gases.

View Text Solution

41. Find out which other molecules are thought to damage the ozone layer.

View Text Solution

42. Newspaper reports often talk about the hole in the ozone layer.

Find out whether the size of this hole is changing and in what manner scientists think this would affect life on earth.

View Text Solution

Intext Questions And Answers

1. How is our atmosphere different from the atmospheres on Venus and Mars ?

View Text Solution

2. How does the atmosphere act as a blanket?

View Text Solution

3. What causes winds ?

View Text Solution

4. How are clouds formed ?

View Text Solution

5. List any three human activities that you think would lead to air pollution.

View Text Solution

6. Why do organisms need water?

View Text Solution

7. What is the major source of fresh water in the city/town / village where you live?

View Text Solution

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

View Text Solution

9. How is soil formed?

View Text Solution

10. What is soil erosion ?

View Text Solution

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

View Text Solution

12. What are the different states in which water is found during the water cycle ?

View Text Solution

13. Name two biologically important compounds that contain both oxygen and nitrogen.

View Text Solution

14. List any three human activities which would lead to an increase in the carbon dioxide content of air.

View Text Solution

15. What is the greenhouse effect?

View Text Solution

16. Write a short note on Greenhouse effect.

View Text Solution

17. What are the two forms of oxygen found in the atmosphere?

View Text Solution

Questions And Answers Answer The Following Questions In Very Short

1. What is the effect of uneven heating of the atmosphere in different regions of the earth?

View Text Solution

2. What are the two additional factors that affect winds ?

View Text Solution

3. What happens when the temperature of the air is low at the time of precipitation ?

View Text Solution

4. What decides the rainfall patterns ?

View Text Solution

5. What reduces the visibility in the big cities?

View Text Solution

6. What is smog ?

View Text Solution

7. Why there is smog during winter season?

View Text Solution

8. How is acid rain causing harm to Taj Mahal ?

View Text Solution

9. Which is a major resource that determines the life on land ?

View Text Solution

10. What are the factors deciding the type of soil ?

View Text Solution

11. What are the factors of soil that decide the plant life?

View Text Solution

12. In which type of plants is nitrogen fixing bacteria present?

View Text Solution

13. How is carbon dioxide fixed in the atmosphere?

View Text Solution

14. Why step farming is common in hills ?

View Text Solution

15. What are biogeochemical cycles ?

View Text Solution

16. What is a water cycle ?

View Text Solution

Questions And Answers Name Of The Following

1. Three physical phenomena that are responsible for rainfall.

View Text Solution

2. Two fossil fuels.

View Text Solution

3. Two pollutant gases.

View Text Solution

4. Two elemental forms of carbon.

View Text Solution

5. Processes by which atmospheric oxygen is used up.

View Text Solution

Questions And Answers Give Definition Of The Following

1. Lithosphere

View Text Solution

2. Hydrosphere

View Text Solution

3. Atmosphere

View Text Solution

4. Biosphere

View Text Solution

5. Ammonification

View Text Solution

6. Nitrification

View Text Solution

7. Denitrification

View Text Solution

8. Biological nitrogen fixation

View Text Solution

Questions And Answers Answer The Following Questions In One Word Or One Sentence

1. What is the percentage proportion of nitrogen in air?

View Text Solution

2. Which bacteria reside in the root nodules of legimus plants?

View Text Solution

3. What is the direction of wind at night in coastal regions ?

View Text Solution

4. How do lichens help in soil formation ?

View Text Solution

5. How is the transfer of matters in biogeochemical cycle ?

View Text Solution

6. Which are the basic elements in the constitution of all organic compounds forming living body structure ?

View Text Solution

7. What is the temperature on the surface of the moon ?

View Text Solution

8. Which is the only major process by which oxygen is returned to the atmosphere?

View Text Solution

9. What is the effect showing the increase in average temperature worldwide ?

View Text Solution

10. From which salts are the endoskeletons and exoskeletons of various animals formed ?

View Text Solution

11. Due to burning of what on a very large scale is the percentage of CO_2 increased in the atmosphere?

View Text Solution

12. Which practice in farming is necessary to stop the fertile soil turning barren?

View Text Solution

13. On which planets the carbon dioxide constitutes up to 95 % to 97% of the atmosphere?

View Text Solution

Questions And Answers Choose The Correct Option From Those Given Below Each Question

1. What is the chemical formula of ozone ?

A. CO

B. O_3

C. O_2

D. O_4

Answer: C

View Text Solution

2. Who plays an important role in converting nitrites and nitrates into free nitrogen ?

A. Bacteria

B. Lichen

C. Moss

D. All the given

Answer: A::B::C

View Text Solution

3. Solar radiations .....

A. heat up land faster than water bodies.

B. heat up land slower than water bodies.

C. heat up equally both land and water bodies.

D. heat up neither land nor water bodies.

Answer: A::B::D

View Text Solution

4. To what is greenhouse effect related ?

A. Terrace gardening

B. Global warming

C. Kitchen garden

D. Eutrophication

Answer: A::B

View Text Solution

5. Which of the following gases plays major role in global warming?

A. Carbon monoxide

B. Nitrous oxide

C. Carbon dioxide

D. Sulphur dioxide

Answer: A::B::C::D

View Text Solution

6. What is the importance of ozone layer in the atmosphere?

A. Absorption of harmful radiation of the sun

B. Regulation of temperature on the earth

C. Absorption of heat reflected from the earth

D. Maintenance of the proportion of O_2 in the air

Answer: A::B::D

View Text Solution

7. Due to difference in what is the movement of air caused ?

A. Temperature

B. Rain

C. Moisture

D. Wind

Answer: A

View Text Solution

8. Which physiological process controls the CO_2 in the atmosphere?

A. Respiration

B. Photosynthesis

C. Excretion

D. Combustion

Answer:

View Text Solution

9. Which biotic factor is related to the soil formation?

A. Bacteria

B. Algae

C. Lichen

D. Protozoan

Answer: C

View Text Solution

10. The life does not exist on the planets Venus and Mars, because the major constituent in their atmosphere is .....

A. Oxygen

B. Carbon dioxide

C. Nitrogen

D. Ozone

Answer: A::B::C::D

View Text Solution

11. What is an air a mixture of?

A. Nitrogen, oxygen, methane, carbon dioxide

B. Nitrogen, oxygen, carbon dioxide, water vapour

C. Nitrogen, carbon dioxide, methane, ozone

D. Nitrogen, oxygen, carbon monoxide, water vapour

Answer: A::B::C::D

View Text Solution

12. To which levels in the air are lichens very sensitive ?

A. Carbon dioxide

B. Ozone

C. Nitric acid

D. Sulphur dioxide

Answer: D

View Text Solution

13. What is the main source of soil formation ?

A. Stones

B. Snow-covered mountains

C. River bank

D. Seashore

Answer:

View Text Solution

14. Which of the following diseases is used by polluted (contaminated) water?

A. Tuberculosis

B. Cholera

C. Syphillis

D. All the given

Answer: A::C

View Text Solution

15. Through what does soil erosion take place?

A. Strong winds

B. Heavy rain

C. A and B

D. Roots of the plants

Answer: A::B::D

View Text Solution

16. Above which region(s) of the earth are the holes in ozone layer discovered ?

A. Equator

B. Tropic of Cancer

C. Tropic of Capricorn

D. Antarctica

Answer: A::C

View Text Solution

17. What is made by the plants using amino acids?

A. Protein

B. Lipid

C. Carbohydrate

D. Nucleic acid

Answer:

View Text Solution

18. What is responsible for global warming ?

A. Depletion of ozone layer

B. Greenhouse effect

C. Acid rain

D. Lightening

Answer: C

View Text Solution

19. Select the correct pair with reference to soil formation:

A. Solar heat $\rightarrow$ Conversion of stones into soil particles

B. Wind $\rightarrow$ Widens the cracks of the stones

C. Water $\rightarrow$ Induces the contraction and relaxation of stones

D. Lichens $\rightarrow$ Convert the stone (rock) surface into small particles

Answer: A::B::C::D

View Text Solution

20. Which of the following is helpful in formation of humus ?

A. Lichen

B. Moss

C. Earthworms

D. All the given

Answer: A

View Text Solution

21. In which process is the atmospheric oxygen used ?

A. Respiration

B. Combustion

C. Formation of nitrogen oxide

D. All the given

Answer: A::B::C::D

View Text Solution

22. In whose presence do some nitrogen fixing bacteria not perform nitrogen fixing action ?

A. Oxygen

B. Carbon dioxide

C. Water

D. Humus

Answer:

View Text Solution

23. What is the process of converting ammonia into nitrites and nitrates called ?

A. Ammonification

B. Nitrification

C. Nitrogen fixing

D. Denitrification

Answer: A::C

View Text Solution

24. What happens in denitrification process ?

A. Conversion of nitrogen into ammonia

B. Conversion of nitrogen into nitric acid

C. Conversion of nitrates into free nitrogen

D. Conversion of ammonia into nitrites

Answer: A::C

View Text Solution

25. Movement of air is .....

A. from high-pressure area to low-pressure area.

B. from low-pressure area to high-pressure area.

C. from high-pressure area to low temperature area.

D. from low temperature area to high-pressure area.

Answer: A

View Text Solution

Questions And Answers Fill In The Blanks

1. ..... is the main constituent of the atmosphere on Venus and Mars.

View Text Solution

2. ..... covers the entire earth like a blanket.

View Text Solution

3. ..... keeps the average temperature of the earth fairly steady during the day and even the

whole year.

View Text Solution

4. Air, soil and water get heated by .....

View Text Solution

5. Dust and other suspended particles in air act as a ..... for water drops.

View Text Solution

6. At coastal area, the direction of winds is from ..... to .....

View Text Solution

7. The suspended unburnt carbon particles or substances are called .....

View Text Solution

8. Lichens belong to ..... plant group.

View Text Solution

9. During lightening, at high temperature and pressure nitrogen gets converted into .....

View Text Solution

10. The nitrogen-fixing bacteria present in root nodules of leguminous plant make a specific structure called as .....

View Text Solution

11. The exoskeletons and endoskeletons of various animals are formed from ..... salts.

View Text Solution

12. Carbon occurs in the elemental form as ..... and .....

View Text Solution

Questions And Answers Fill In The Blanks By Selecting The Correct Alternative From Those Given In The Bracket

1. The proportion of ..... gas is the highest in the air. (oxygen, carbon dioxide, nitrogen)

View Text Solution

2. Water occupies .....% of area of the earth's surface. (60, 75, 90)

View Text Solution

3. ..... is the basic process to incorporate carbon into life forms. (Photosynthesis, Respiration, Condensation)

View Text Solution

4. Smog in the atmosphere is a visible indication of ..... (air pollution, precipitation of water, purity of water)

View Text Solution

5. Lichens are very sensitive to the level of ..... in the air. (nitrogen oxide, carbon dioxide, sulphur dioxide)

View Text Solution

6. A sudden marked change in ..... of water would affect the breeding of aquatic animals. (increase in temperature, increase in level, increase in flow)

View Text Solution

7. The process of ..... occuring in plants plays the role in water cycle. (photosynthesis, respiration, transpiration)

View Text Solution

8. The most important nutritive cycle in the ecosystem is ..... (water cycle, oxygen cycle, nitrogen cycle)

View Text Solution

9. By ..... water vapour accumulated in the air fall down in the form of rain. (condensation, evaporation, expansion)

View Text Solution

Questions And Answers State Whether The Following Statements Are True Or False

1. The cycle, converting saline seawater into potable water, is called water cycle.

View Text Solution

2. Biosphere is made of only biotic components.

View Text Solution

3. Underground water is also considered in hydrosphere of the earth.

View Text Solution

4. The direction of winds during the day is from land to the sea.

View Text Solution

5. Smog is the indication of air pollution.

View Text Solution

6. All organisms need to maintain the level of water within their bodies in order to stay alive.

View Text Solution

7. In dry and rocky area, plants and animals are found in large number.

View Text Solution

8. Fertilizers and pesticides used in farming are causative agent for water pollution.

View Text Solution

9. For acid rain, oxides of nitrogen and sulphur are responsible.

View Text Solution

10. The roots of large trees widen the cracks of the rocks, thus they play an important role in soil erosion.

View Text Solution

11. During lightening, at low-pressure the sulphur gets converted into its oxide.

View Text Solution

12. In living organisms, amino acid is used to prepare protein.

View Text Solution

13. As the use of fossil fuel is increased in burning, the percentage of oxygen also increased in the atmosphere.

View Text Solution

Questions And Answers Answer The Following Questions In Short

1. Why is the atmosphere essential for life?

View Text Solution

2. What are the two ways in which the carbon dioxide is fixed ?

View Text Solution

3. Why does moon have very cold and very hot temperature variations e.g., from - $190^{\circ} C$ to $110^{\circ} C$ even though it is at the same distance from the sun as the earth is?

View Text Solution

4. What is peculiarity of rainfall in India ?

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5. What are effects of air pollution on human beings?

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6. Why is water essential for life?

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7. What are the factors that decide the sustainability of life in a particular region ?

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8. Name the two ways to prevent air pollution.

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9. State two causes and two effects of depletion of ozone layer.

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10. You have seen weather reports on television and in newspapers. How do you think we are able to predict the weather ?

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11. We know that many human activities lead to increasing levels of pollution of the air, water bodies and soil. Do you think that isolating these activities to specific and limited areas would help in reducing pollution ?

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Questions And Answers

1. Sketch and label the following diagrams:

Water cycle

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2. List four main processes involved in water cycle.

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3. Match the following propertly:

'A' (Responsible for soil formation)	'B' (Effects)
1. Solar heat	a. The rock surface in powdery form
2. Wind	b. Widening the crevices of the rocks
3. Water	c. Carrying away small particles from one place to another
4. Lichens	d. Cracks formed in rocks

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4. Match the following propertly:

'A'	'B'
1. Ammonification	a. Formation of nitrogen oxide
2. Nitrification	b. Formation of ammonia
3. Photochemical process	c. Releasing nitrogen in the atmosphere
4. Denitrification	d. Formation of NO_2, NO_3

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5. Match the following propertly:

'A'	'B'
1. Carbonate	a. Toxic for certain bacteria
2. Nitrogen	b. In alkaloid and urea
3. CFC	c. Exoskeleton of certain marine animals
4. Elemental O_2	d. Refrigerator and Air-conditioner

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6. Match the following propertly:

'A'	'B'
1. Air pollution	a. Global warming
2. Water pollution	b. Killing earthworms
3. Soil pollution	c. Decrease of soluble oxygen
4. Greenhouse effect	d. Acid rain

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7. Match the following propertly:

'A'	'B'
1. Root nodule	a. Indicator of air pollution
2. Earthworms	b. Nitrogen fixing
3. Lichen	c. Small plant
4. Moss	d. Helpful in formation of humus

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8. Distinguish between the following:

Bidegradable and Non-biodegradable

substances

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9. Distinguish between the following:

Air pollution and Water pollution

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10. Distinguish between the following:

Greenhouse effect and Depletion of ozone layer

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Questions And Answers Give Scientific Reasons For The Following Statements

1. During the day, the direction of the wind would be from the sea to the land.

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2. Water sources need to be easily accessible for animals and plants to survive on land.

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3. Lichens are not seen in Delhi whereas they commonly grow in Manali or Darjeeling.

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4. Root nodules are useful for plants.

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5. Carbon dioxide is necessary for plants, but still it is considered as a pollutant.

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6. The proportion of CO_2, in the atmosphere, is quite less, although it is continuously added to the atmosphere, through various processes.

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7. Moon and earth are at equidistance from the sun. Yet, there is vast difference of average temperature on the earth and moon.

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8. There is a large difference of temperature during daytime and night on the moon, while on the earth, such a large difference is not found.

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9. It is necessary to decrease the use of fossil fuel instantly.

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10. It is not necessary to add nitrogeneous fertilizers to leguminous plants for their growth.

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11. The destructive effects of the abiotic factors of the environment play an important role in the formation of soil.

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12. In big cities, the accidents of vehicles happen more in the winter during morning time.

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13. The process of respiration and photosynthesis are most important in carbon cycle and oxygen cycle.

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Questions And Answers Answer The Following Questions In Brief

1. Describe the water sources present on the earth.

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2. What are the different sources of water pollution ?

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3. How are living organisms dependent on the soil ? Are organisms that live in water totally independent of soil as a resource ?

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4. What is the greenhouse effect and what is its consequence ? Also name two elemental forms of carbon.

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5. People often bemoan that quality of air has gone down since their childhood.

(a) How is quality of air affected ?

(b) How does this quality affect us and other life forms?

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6. In what different forms does the carbon exist on the earth?

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Questions And Answers Answer The Following Questions In Detail

1. Explain the process of formation of rain.

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2. Write a note on how forests influence the quality of our air, soil and water resources.

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3. How does forest play an important role in maintaining water cycle?

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4. What are the major effects of water pollution ?

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5. Draw neat labelled diagram of nitrogen cycle in nature. Also name two biologically important compounds that contain both oxygen and nitrogen.

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6. Give the diagrammatic representation of nitrogen cycle in nature.

Nitrogen cycle in nature

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7. Describe carbon cycle with a welllabelled diagram.

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8. Describe oxygen cycle with a welllabelled diagram.

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Value Based Questions With Answers

1. Reeta was a student of Class IX. She stayed at a distance of about 3 km from her school. Earlier her father used to drop her to school by car. While studying about the conservation of natural resources she realised the importance of minimizing the use of fossil fuels and decided to go to school by bicyle. She started feeling healthy and more energetic. She also encouraged other students and in a short span of time a large number of students started going to school by bicyle.

Now answer the questions:

Mention the values depicted by Reeta's behaviour.

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2. Reeta was a student of Class IX. She stayed at a distance of about 3 km from her school. Earlier her father used to drop her to school by car. While studying about the conservation of natural resources she realised the importance of minimizing the use of fossil fuels and decided to go to school by bicyle.

She started feeling healthy and more energetic. She also encouraged other students and in a short span of time a large number of students started going to school by bicyle.

Now answer the questions:

Why should we save our fossil fuels ?

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3. Reeta was a student of Class IX. She stayed at a distance of about 3 km from her school. Earlier her father used to drop her to school

by car. While studying about the conservation of natural resources she realised the importance of minimizing the use of fossil fuels and decided to go to school by bicyle. She started feeling healthy and more energetic. She also encouraged other students and in a short span of time a large number of students started going to school by bicyle.

Now answer the questions:

State the benefits of using bicycle.

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4. Col. Dalvie always travelled by train whenever he had to commute from Mumbai to Ahmedabad. He never used flights or car for his travel. On the way at a particular place near Maharashtra - Gujarat border, he always threw handful of seeds during rainy season. All these seeds were from the fruits that his family had consumed. In next 7-8 years a green patch was developed where he used to throw seeds.

Now answer the questions :

What must be motive of Col. Dalvie when he threw seeds on a barren patch of land ?

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5. Col. Dalvie always travelled by train whenever he had to commute from Mumbai to Ahmedabad. He never used flights or car for his travel. On the way at a particular place near Maharashtra - Gujarat border, he always threw handful of seeds during rainy season. All these seeds were from the fruits that his family had consumed. In next 7-8 years a green patch was developed where he used to throw seeds.

Now answer the questions :

Why did he always travelled by train and refused to go by plane or car ?

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6. Col. Dalvie always travelled by train whenever he had to commute from Mumbai to Ahmedabad. He never used flights or car for his travel. On the way at a particular place near Maharashtra - Gujarat border, he always threw handful of seeds during rainy season. All

these seeds were from the fruits that his family had consumed. In next 7-8 years a green patch was developed where he used to throw seeds.

Now answer the questions :

What are the values present in Col. Dalvie ?

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