INTERNATIONAL INDIAN SCHOOL BURAIDAH

CLASS 7 SCIENCE WORKSHEET

Ch#3 Heat

OBJECTIVE-TYPE QUESTIONS

1. Name the device which is used to measure the hotness or coldness of an object:

(a) Thermometer

(b) Barometer

(c) Manometer

(d) Picometer

2. What is a normal temperature of a healthy person?

(a) 370F

(b) 37 K

(c) 370 C

(d) None of these

3. Heat always flows from -

(a) From a colder object to a hotter object.

(b) From a hotter object to a colder object.

(c) In both directions.

(d) Heat never flows from one object to another.

4. Conduction is the method of transfer of heat in –

a) Gases

(b) Vacuum

(c) Liquid

(**d**) **Soli**

5. Heat from the sun reaches us by -

(a) Radiation

(b) Conduction

(c) Convection

(d) All of these

6. At the campsite there are tents of three shades. One is made of black fabric and the other is white

fabric and one is a black-and-white combination. Which will you prefer for resting on a hot

summer afternoon -

(a) Black fabric

(b) White fabric

(c) Combination of both

(d) None of the above

For the following questions, two statements are given- one labelled Assertion (A) and the

other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii),

(iii), and (iv) as given below

i) Both A and R are true and R is the correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true

7. Assertion (A): Woollen clothes keep the body warm in winter.

Reason (R): There is air trapped in between woollen fibres and air is a bad conductor of heat.

i) Both A and R are true and R is the correct explanation of the assertion.

8. Assertion (A): The temperature of boiling water can be measured by a clinical thermometer.

Reason (R): The range of a clinical thermometer is from 35˚C to 42˚C.

iv) A is false but R is true.

9. Assertion (A): All hot bodies radiate heat.

Reason (R): When heat falls on an object, a part of it is reflected, a part is absorbed and a

part may be transmitted.

ii) Both A and R are true but R is not the correct explanation of the assertion.

10. Assertion (A): The materials which allow heat to pass through them easily are conductors of

heat.

Reason (R): Aluminum is a poor conductor of heat.

iii) A is true but R is false.

II. VERY SHORT QUESTIONS (2M):

1. Using two thin blankets rather than one thick blanket is preferred. Explain. [Hint: The two thin

blankets joined together will have a layer of air trapped in between them. Air doesn't

allow our body heat to escape to the cold surroundings and hence keep us warm.]

2. A few sharp jerks are given to a clinical thermometer before using it. Why is it done so?

[Hint: Jerks are given to a clinical thermometer before using it to settle down the

mercury level below normal temperature so that the measurement taken is accurate.]

3. The handle of a pressure cooker is covered with thick plastic. Explain why.

[Hint: Plastic is a bad conductor of heat due to which the heat from the cooker does not

flow to its handle and we can hold it easily].

4. What are the conditions necessary for heat to be conducted?

[Hint: Two bodies should be in solid state, they should be in direct contact with each other

and their temperatures should be different.]

5. How does the heat travel in the air?

[Hint: Heat travels in the air by convection. The air molecules near the heat source get

heated, become lighter, and rise. The air from the sides comes in to take its place. In this

way the air gets heated.]

6. In a mercury thermometer, the level of mercury rises when its bulb comes in contact with a hot

object. Give reason.

[Hint: As the temperature increases, expansion in mercury takes place which leads to a

rise in the level of mercury in the thermometer.]

7. Mention any two examples of insulators as well as conductors. [Hint: Copper and Aluminium

are the examples of conductors which allow heat to pass through them. While wood and

plastic are examples of insulators which do not allow heat to pass through them.

III. LONG ANSWER TYPE QUESTIONS (5M):

1. What are the precautions to be taken while using a clinical thermometer and a

laboratory thermometer?

[Hint: Clinical thermometer –

i) Thermometer should be washed before and after use, preferably with an antiseptic

solution.

ii) Ensure that the mercury level is below 35˚C.

iii) Our eyes should be at the level of mercury while reading the temperature.

iv) Handle the thermometer with care. If it hits some hard object, it can break.

v) Do not hold the thermometer by the bulb while reading it.

Laboratory thermometeri) Handle the thermometer with care. If it hits some hard object, it can break.

ii) Should be kept upright not tilted.

iii) Bulb should be surrounded from all sides by the substance of which the temperature

is to be measured. The bulb should not touch the surface of the container.]

2. Describe different types of thermometers

[Hint: i) Clinical thermometer

The thermometer that measures our body temperature is called a clinical

thermometer. It consists of a long, narrow, uniform glass tube. It has a bulb at one end which contains mercury. A clinical thermometer reads the temperature from 35˚C to 42˚C.

ii) Digital thermometer

Digital thermometers are preferred over clinical thermometers nowadays due to the high toxicity of the mercury present in clinical thermometers and difficulty in its disposal in cases when the thermometer breaks digital thermometers are manufactured that can measure the accurate temperature without the use of mercury.

iii) Laboratory thermometer

A laboratory thermometer is used to measure the temperature of things other than the human body. The range of a laboratory thermometer is generally from -10˚C to 110˚C.

iv) Maximum-minimum thermometer

The daily maximum and minimum temperatures reported in weather reports, are all measured by a thermometer known as the Maximum-minimum thermometer.]

V. SOURCE-BASED/ CASE STUDY-BASED QUESTIONS

Read the passage and answer the following questions:

Some things feel hot when touched while others feel cold. So, our sense of touch tells us whether a thing is hot or cold. But does it always give us accurate results? A reliable measure of the hotness of an object is its temperature. Temperature is measured by a device called a thermometer. The thermometer used to measure human body temperature is known as clinical thermometer. A

clinical thermometer is made up of a long and narrow glass tube. It has a special feature called a

kink just above the mercury bulb. This kink prevents immediate backflow of the mercury from the

tube to the bulb, thus allowing us to read the temperature conveniently. The normal body

temperature of a healthy person is 370C or 98.60 F.

i) Define temperature? [Hint- A reliable measure of the hotness of an object is its temperature.]

ii) What is a clinical thermometer? [Hint- The thermometer used to measure human body

temperature is known as a clinical thermometer.]

iii) What is the normal temperature of the human body? [Hint: The normal temperature of the

human body is 37 ˚C.]

iv) What is the use of kink in a clinical thermometer? [Hint: Kink prevents immediate backflow

of mercury from the tube to the bulb, thus it allows us to read the temperature conveniently.]

Ch#12 Forests :Our Lifeline

VERY SHORT ANSWER TYPE QUESTIONS (1M):

1. Define forests.

[Hint: An area or a part of the land that is covered with trees and a wide variety of

plants. They are natural habitat to many animals too.]

2. Name some animals found in the deeper areas of the forests.

[Hint: boar, bison, jackal, porcupine and elephant.]

3. Name some common trees found in the forests.

[Hint: sal, teak, semal, sheesham, neem, palash, fig, khair, amla, bamboo and

kachnar.]

4. What is meant by understoreys?

[Hint: The different layers in the forest that consist of plants which grow above the forest floor, but lower than the canopy.]

5. Describe the term deforestation.

[Hint- The cutting down of trees on a large scale for clearing forest land for cultivation, industrial development, increasing demand of wood, construction of houses, roads and dams.]

6. Give the reason behind variations found in forests of different regions.

[Hint-The variation in the type of plants and animals in different forests is due to the climatic conditions of that particular area.]

7. Why is it dark inside a forest?

[Hint-Sun rays are hardly able to penetrate through the dense covering of leaves. The canopy of tall trees forms a roof over the other plants.]

8. What is the effect of deforestation on soil?

[Hint- Roots of trees normally bind the soil together. In their absence, the soil is washed away or eroded.]

9. What is humus?

[Hint-A dark coloured organic substance made up of decayed plant and animal matter.

10. What is afforestation?

[Hint-The planting of trees in an area where there was no tree cover.]

For the questions that follows, two statements are given- one labelled Assertion (A) and the other labelled Reason(R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below:

i) Both A and R are true and R is the correct explanation of the assertion.

ii) Both A and R are true but R is not the correct explanation of the assertion.

iii) A is true but R is false.

iv) A is false but R is true.

11. Assertion (A): There is no waste in the forest.

Reason (R): Decomposers convert all the dead bodies of the plants and animals into the humus.

i)Both A and R are true and R is the correct explanation of the assertion.

12. Assertion (A): Forests protect the soil from erosion.

Reason (R): Soil helps forests to grow and regenerate.

ii) Both A and R are true but R is not the correct explanation of the assertion.

13. Assertion (A): Animals dwelling in the forest help it to grow and regenerate.

Reason (R): If the trees of a forest are removed, only herbivores would be affected.

iii) A is true but R is false.

II. PASSAGE BASED QUESTIONS:

Read the given passage and answer the following questions.

Green plants produce food. All animals, whether herbivores or carnivores, depend ultimately on plants for food. Organisms which feed on plants often get eaten by other organisms and so on. For example, grass is eaten by insects, which in turn is taken by the frog. The frog is consumed by snakes. This is said to form a food chain. Many food chains can be found in the forest. All food chains are linked. If any one food chain is disturbed, it affects other food chains. Every part of the forest is dependent on the other parts. If any one component is removed, all other components would be affected.

1. In a food chain, the green plants are the:

a. Producers

b. Consumers

c. Decomposers

d. All of these

2. Animals that depend on plants and other animals for food are known as:

a. Decomposers

b. Producers

c. Consumers

d. Herbivore

3. Find the missing part from the food chain:

Grass →insects → --------- → snake → eagle

a. Peacock

b. Crow

c. Frog

d. Deer

4. What is a food chain?

[Hint- The chain of organisms being dependent on each other for their food is called a food chain.]

5. What is the term given for a network of food chains which are naturally interconnected?

[Hint: Food web]

III. CASE STUDY BASED QUESTIONS

1. Y and Z are two types of organisms which are found in the forests. Y eats up dead animals while Z breakdown the body of the dead animals into simpler substances.

(i) What is the general name of organism Y?

(ii) Write one example of Y type organism.

(iii) What is general name of organism Z?

(iv) Write one example of Z type organism.

[Hint-(i) Scavenger (ii) Vulture (iii) Decomposers (iv) Fungi (mushroom)]

2. Boojho, during his trip to the forest, noticed that even after heavy rains, water did not stagnate in the forest. Which among the following options explain it well?

a. The uppermost layer of the forest canopy intercepted the flow of raindrops.

b. The closed canopy and many layers of vegetation slow down the speed of raindrops.

c. The root system helps water to seep down in the ground.

d. All of the above reasons.

IV.a) SHORT ANSWER TYPE QUESTIONS: (2M)

1. Differentiate the terms crown and canopy.

[Hint: The branchy part of a tree above the stem is known as the crown. The uppermost branches and leaves of tall trees (the crowns) that appear as a roof over the forest is called a canopy.]

2. List the main products we get from forests.

[Hint- (i)We get medicines, gum, oils and spices from forests. (ii) We get wood which is used for many purposes like making furniture, paper etc. (iii) We get fodder for animals from forests.]

3. Lots of trees are seen growing in the forests. Why?

[Hint- In nature, trees produce enough seeds. The forest floor provides favourable conditions for them to germinate and develop into seedlings and saplings.]

4. How is forest beneficial for the people living nearby?

[Hint- Due to the surrounding forests, they receive good rainfall. The air remains cool. The noise pollution too is less, because the forest absorbs the noise of highways nearby.]

5. How animals dwelling in the forest help it to grow and regenerate?

[Hint: The animals disperse the seeds of certain plants and help the forest to grow and regenerate. The decaying animal dung also provides nutrients to the seedlings to grow.]

IV b) SHORT ANSWER TYPE QUESTIONS: (3M)

1. Why are forests called green lungs?

[Hint- Plants release oxygen through the process of photosynthesis. They provide oxygen for animal respiration. They also maintain the balance of oxygen and carbon dioxide in the atmosphere.]

2. What are decomposers? Give examples. Mention the role played by them in the forest?

[Hint- Decomposers are the microorganisms which feed on the dead bodies of plants and animals. Bacteria and fungi are examples of decomposers. They clean the forests by decaying the dead bodies and replenishing the nutrients back to the forest soil in the form of humus.]

3. Mention the role of forests in providing a steady supply of water.

[Hint-Forests act as a natural absorber of rainwater and allow it to seep. It helps to maintain the water table throughout the year. And also help to maintain the flow of water in the streams so that we get a steady supply of water.]

4. Explain how forests prevent floods?

[Hint- Forests can absorb a lot of water. The roots of the trees absorb the water and prevent it from flowing away. Roots of trees also help in percolation of water into the soil. This helps in preventing floods.]

5. What would happen if forests disappear?

[Hint: If forests disappear, the quantity of carbon dioxide in the air would rise, leading to an increase in the earth’s temperature. In the absence of trees and plants, the animals would lack food and shelter. In the absence of trees, the soil would not hold water which may lead to soil erosion, landslides and floods.]

6. Explain why is there a need for a variety of animals and plants in forests.

[Hint- All plants and animals sustain the forest life and also carbon dioxide – oxygen cycle goes on due to animals and plants. Microorganisms convert the dead and decaying matters into humus and increase the fertility of soil, thus

enhancing plant growth. All food chains and food webs need variety of plants and animals.

LONG ANSWER TYPE QUESTIONS. (5M)

1. Nothing goes waste in a forest. Explain.

[Hint: Forests work as a self-sustaining system in nature. Whatever is produced in the forest is utilised by different components of the forest and is naturally recycled. All animals depend ultimately on plants for their food. Herbivores eat plants. Carnivores eat herbivores. Omnivores eat both plants and animals. When plants and animals die, their dead remains are decomposed by microorganisms (bacteria and fungi) into nutrients, which are released back into soil. From the soil, these nutrients are absorbed by the roots of living plants. This is called recycling of nutrients due to which nothing goes to waste in a forest.]

2. Explain the role of forests in maintaining the balance between oxygen and carbon dioxide

in the atmosphere.

[Hint- Plants release oxygen in the atmosphere during the process of photosynthesis. This oxygen is inhaled by the animals for respiration. During respiration, they release carbon dioxide which is absorbed by plants. In this way, the oxygen and carbon dioxide cycles go on. Since forests contain a large number of plants, they help much in this cycle and maintain balance in nature.]

3. ‘Forests are our lifeline’. Explain.

[Hint-Forests provide us with oxygen. They maintain the balance of carbon dioxide and oxygen in the atmosphere. They protect soil and provide habitat to a large number of animals. Forests help in bringing good rainfall in neighbouring areas. They help in maintaining the groundwater level. Forests are the source of medicinal plants, timber and many other useful products.