

CLASS : VII (CBSE)

WORKSHEET-1

SUBJECT : SCIENCE & TECHNOLOGY

NAME OF THE STUDENT:

SEC:

ROLL NO.

DATE:

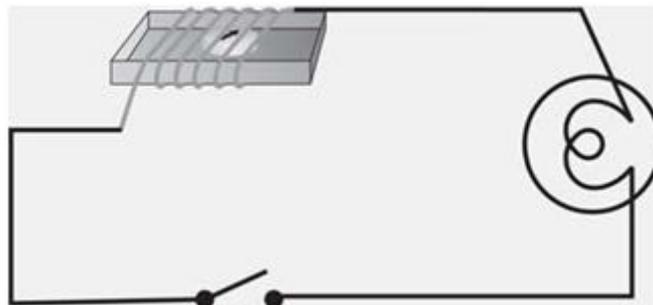
**LESSON: ELECTRIC CURRENT AND ITS EFFECT.**

Q1: Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.

Q2: An electrician is carrying out some repairs in your house. He wants to replace a fuse by a piece of wire. Would you agree? Give reasons for your reasons.

Q3 : Distinguish between (a)cell and battery.(b)An open switch and A close switch.

Q4: Look at the figure given below and answer whether the compass needle will show deflection or not when the switch in the circuit shown is closed?



Q5: What is a solenoid?

Q6: Draw a circuit diagram showing a bulb, a closed switch & a battery of four cells. Also show the direction of current flowing through the circuit.

Q7:. Manav made an electric circuit & placed a magnetic compass near it. (a) On switching on, the needle of the magnetic compass showed a deflection Why? (b) On switching off, the needle came back to its normal north-south direction. Why?

Q8: Boojho made an electromagnet by winding 50 turns of wire over an iron screw. Paheli also made an electromagnet by winding 100 turns over a similar iron screw . Which electromagnet will attract more pins? Give reasons.

Q9: Why do we cover plug pin holes which are within the reach of children with cellotape or a plastic cover when not in use?

Q10: What is the glowing part of a bulb called?

Q11: When is the bulb is said to be fused?

Q12: Paheli does not have a night lamp in her room . she covered the bulb of her room with a towel in the night to get dim light . Has she taken a right step? Give reason to justify your answer.

Q13: Can we use the same fuse in a geyser and a television set.? Explain.

Q14: Write the symbols for the following electric components:

**Electric component**

i) Electric cell



iv) Switch in ON position



ii) Electric bulb



v) Battery



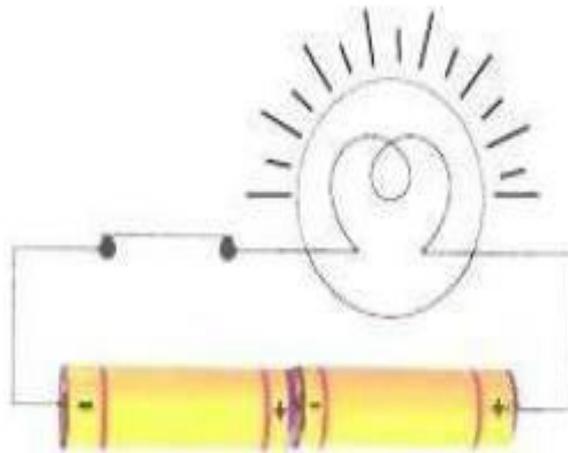
iii) Switch in OFF position



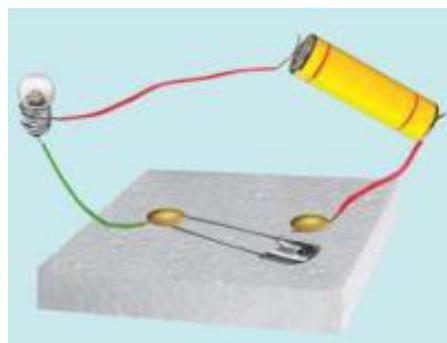
vi) Wire



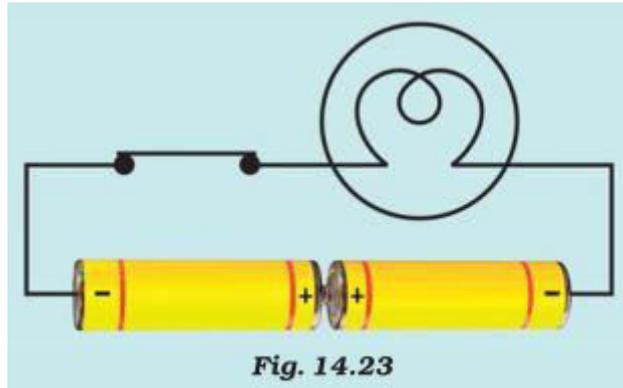
Q15. The bulb in the circuit shown below is glowing. Can you make necessary changes in the circuit to Make the bulb off ?



Q16 Draw the circuit diagram to represent the circuit shown in the figure below.



Q17. The bulb in the circuit shown below does not glow . can you identify the problem ? make necessary changes in the circuit to make the bulb glow.

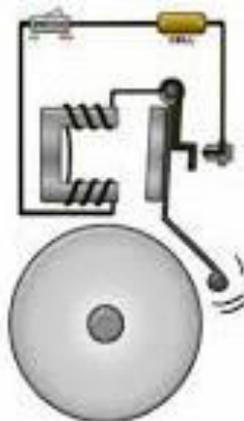


Q18 When the circuit is switched on through a wire, a compass needle kept nearby gets deflected from its north south position . Explain.

**19. FILL IN THE BLANKS:**

- a) Longer line in the symbol for a cell represents its ----- terminal.
- b) When current is switched 'on' in a room heater, it -----.
- c) Our body is a -----of electricity.
- d) An electric cell produces electricity from the ----- in it.
- e) In an electric circuit a fuse is a ----- to prevent possible fire.
- f) A fuse is said to blow when the circuit is -----.
- g) For an electric current to flow, the wires should not have any -----.
- h) In an electric bell, it is the ----- that strikes the gong.
- i) The filament in an electric bulb is made up of -----.
- j) When an electric current flows through a wire , it behaves like a -----.

20. Identify the diagram and label the parts.



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WORKSHEET-2

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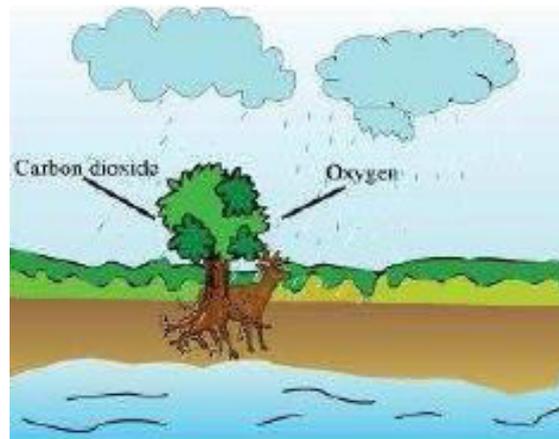
DATE:

**I. ANSWER THE FOLLOWING QUESTIONS:**

1. Paheli while moving in a forest observed that there was no noise pollution , though lots of heavy vehicles were passing from the nearby highway .Explain why?
  
2. Paheli wrote a food chain in the following way:  
Frog → eagle → insects → grass → snake  
The food chain is not in the correct order .Help her to write the food chain correctly.
  
3. What is a canopy in a forest?
  
4. “A bunch of seedlings were seen sprouting on a heap of animal dropping in a forest .” How do you think is the seedling benefited from the animal dung?
  
5. List the five products we get from forests.
  
6. Which part/parts of a tree is/are helpful in purifying air?
  
7. What do you understand by crown of a tree?



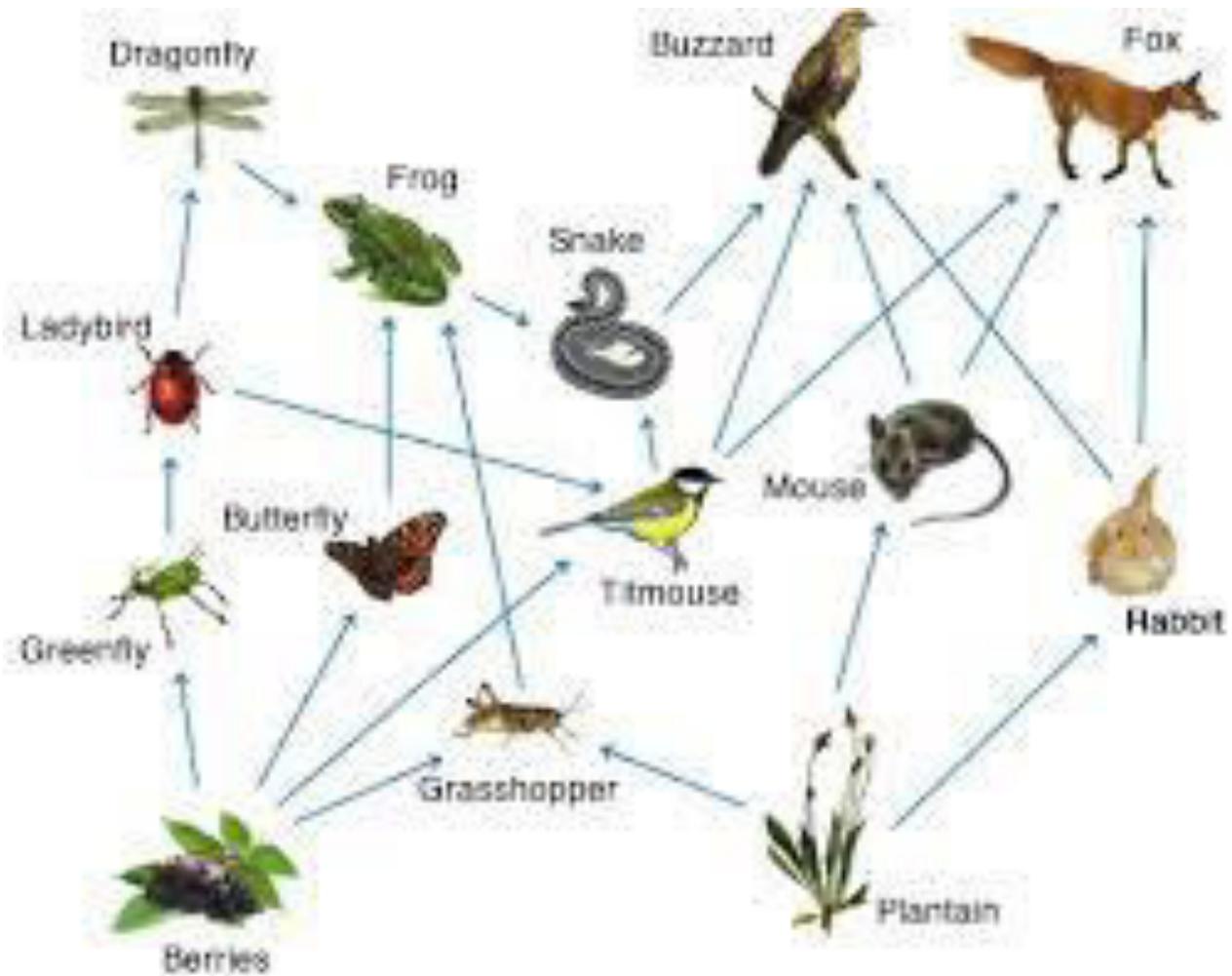
17. Why are forests called “green lungs”?
18. Why is energy lost at every step of a food chain?
19. People say that nothing goes waste in forest. Can you explain.
20. In figure , the artist has forgotten to put the labels and directions on the arrows. Mark the directions on the arrows and label the diagram using the following labels: clouds, rain, atmosphere, carbon dioxide, oxygen, plants, animals , soil, roots, water table.



**21. FILL IN THE BLANKS :**

1. A forest is a purifier of \_\_\_\_\_ and \_\_\_\_\_
2. There is an ..... transfer through the food chain.
3. .... control floodsby holding water in the roots.
4. Herbs form the ..... Layer in the forest.
5. If forests disappear , the ..... level in the air will increase, resulting in the increase in earth’s temperature.
6. Green plants are called.....
7. Organisms are interconnected and form the ----- community

8. Food chains are simple representations of ..... in nature.
9. Physical features of a place are called its .....
10. Forests have been cleared for .....
11. Write the possible food chains from the food web given below.



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WORKSHEET-3

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**ANSWER THE FOLLOWING QUESTIONS:**

1. What is the function of the bar screen used in a Wastewater Treatment Plant?
2. What is sludge? What are its uses?
3. What is clarified water? Explain.
4. Differentiate between aerobic and anaerobic bacteria?
5. What is Biomagnification? How it effect our lives?
6. Name the substances that cause chocking of drainage?
7. Classify the following as biodegradable and non-biodegradable wastes.
8. DDT, Fruit peels, polythene, plastics, cotton, paper, tin cane, tea leaf glass, wood.
9. Mention some importance of drainage system.
10. Why are open drains harmful?

**II. Name the following :**

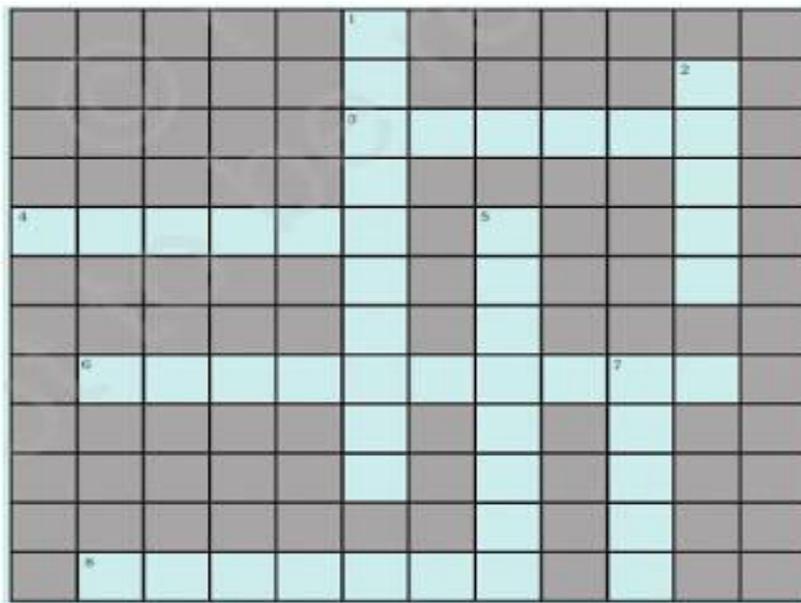
1. The nutrient present in sewage.
2. By products of waste water treatment.

3. A plant which can absorb waste water rapidly and release pure water vapour to the atmosphere.
4. Solid waste extracted in sewage treatment.
5. Any two water borne disease.
6. Expand WWTP.

**III. VALUE BASED QUESTIONS:**

1. A man travelling in a train threw an empty packet of food in the platform. Do you think this is a proper waste disposal method? Elaborate.
  
2. Animal waste, oil and urea are some of the organic impurities present in sewage. Name two more organic impurities present in sewage.
3. Why should we not throw
  - a) used tea leaves into sink?
  - b) cooking oil and fats down the drain?

**IV. Lets learn more with crossword puzzle.**



Across

3. Liquid waste products
4. Solid waste extracted in sewage treatment
6. A word related to hygiene
8. Waste matter discharged from human body

Down

1. Used water
2. A pipe carrying sewage
5. Micro-organisms which causes cholera
7. A chemical to disinfect water

**V. FILL IN THE BLANKS**

1. An excessive growth of algae causes .....
2. All waste water released from various sources forms the .....
3. .... chemical is used to disinfect water.
4. Drains get blocked by ..... and .....
5. Dried ..... Is used as manure.
6. The discharge of liquid wastes into a river or sea is called .....
7. Improper management of sewage results in .....
8. .... removes the largest impurities of sewage.

9. A channel system of pipelines used to carry sewage is called .....
10. The water that comes out of sedimentation tanks is called .....

**VI. Identify the pictures given below.**



**What for these methods are used as? Explain them.**

- (a) .....
- .....
- .....
- (b) .....
- .....
- .....

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**WORKSHEET-4**

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**DATE:**

**I. ANSWER THE FOLLOWING QUESTIONS:**

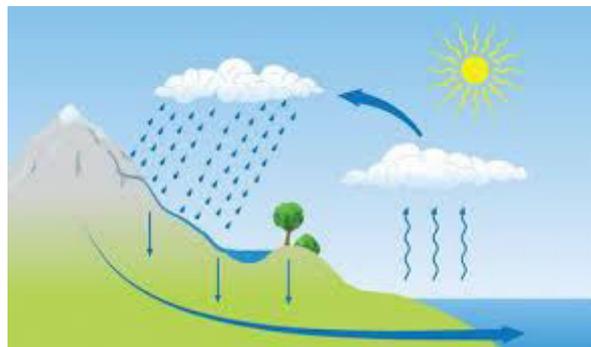
**I. NAME THE FOLLOWING**

- a) The process of seeping of water into the ground.
- b) The upper layer of water under the ground
- c) Groundwater stored between layers of hard rocks below the water table.
- d) Technique of watering plant by making use of narrow tubings.
- e) Storing of rain water

**II. ANSWER THE FOLLOWING**

1. When is world water day celebrated? .....
2. Why is ocean water not used for irrigation?.....
3. How can we draw water from aquifer?.....
4. What percentage of earth surface is covered with water? .....
5. Which process recharges ground water?.....
6. Why are we left with only tiny fraction of water for use even if about 75% of earth is covered with water?
7. Explain how increase in population is leading depletion in water table
8. You have been asked to maintain a garden ?what measures do you take to minimize usage the loss of water?
9. What is the main objective of celebrating “Water day”?
10. How much amount of water is recommended by UN for daily use by a person?

**III . Name the different processes of water cycle and define them.**



- (a) .....
- (b) .....
- (c) .....
- (d) .....

**IV. Identify the different methods of water conservation given below.**



**How are they useful in conserving water? Explain.**

- (a)
- (b)
- (c)

**V. FILL IN THE BLANKS :**

1. People obtain ground water through ..... and .....
2. Three forms of water are .....and .....
3. 97.4% of the earth's surface is covered with .....
4. Underground water is also called as an .....
5. The topmost level of underground water is called the .....
6. The method of watering the roots of plants drop by drop is called .....
7. Water freezes to ice at .....
8. Water in the industrial sector is used as .....
9. Water lost during floods can be conserved by building .....
10. .... are built on rivers to regulate water flow and distribute water more evenly.

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WORKSHEET-5

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LS-14

**I. Answer the following questions.**

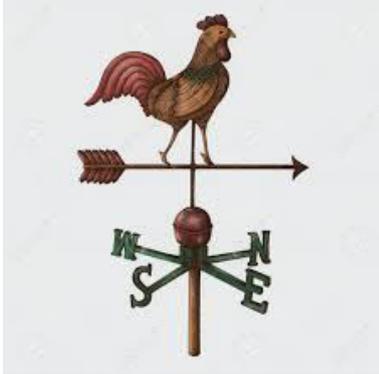
1. Why is Chandigarh unlikely to be affected by cyclone?
2. What is the 'eye' of a cyclone?
3. Why holes are made in hanging banners and hoardings?
4. Why does a balloon taken near a candle burst?
5. Why bicycle tube burst when they are overfilled?
6. Paheli kept an empty bottle made of plastic inside a refrigerator. After few hours, when she opened the refrigerator she found the bottle had collapsed. Explain the possible reason.
7. State two experiences that made you think that air exerts pressure.
8. Why is it advisable not to shut all the doors and windows during a storm?

**II. FILL IN THE BLANKS:**

1. Wind is .....air
2. Air around us exerts .....
3. Winds are generated due to .....heating on the earth
4. A very strong wind is called.....
5. Cool air is ..... Than warm air.

6. As air gets warmer, it .....
7. Cyclones develop over .....
8. Tornadoes formed over the sea are called .....
9. Everything is calm at the ..... Of a cyclone.
10. Monsoon winds carry .....

**III. Observe the pictures given below and write its use.**



**IV. Identify the picture and write two damages and safety measures taken.**



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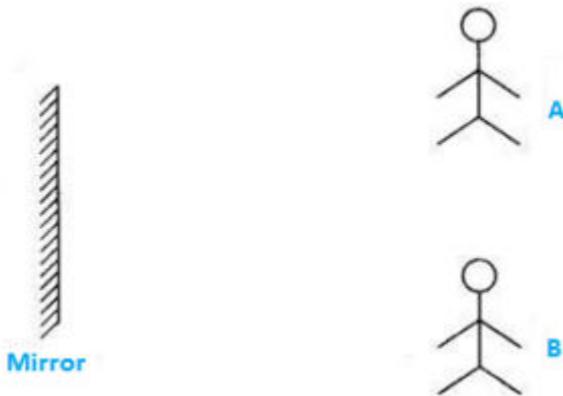
**ANSWER THE FOLLOWING QUESTION**

1. Where is the image formed in a convex mirror, when the object is anywhere in front of it ?
2. A person uses concave mirror for shaving, where should he position his face in front of it ?
3. A ray of light is incident on a concave mirror along its principal axis. What will be the angle of reflection?
4. What will happen to ray of light when it travels from rarer medium to a denser medium ?
5. Name the lens which always gives an erect and diminished image?
6. Which mirror is used as rear view mirror in vehicles and why .?
7. Write two uses of concave mirror.
8. Which phenomenon occurs when light falls on  
(a) highly polished surface (b) a transparent medium ?
9. What will happen to a ray of light when it falls normally on a surface ?

10. Find out the letters of English alphabet or any other language known to you which the image formed on a plane mirror appears exactly like the letter itself. Discuss your findings.
11. Can you think of creating a shape that would give a circular shadow if held in one way and a rectangular shadow if held in another way?

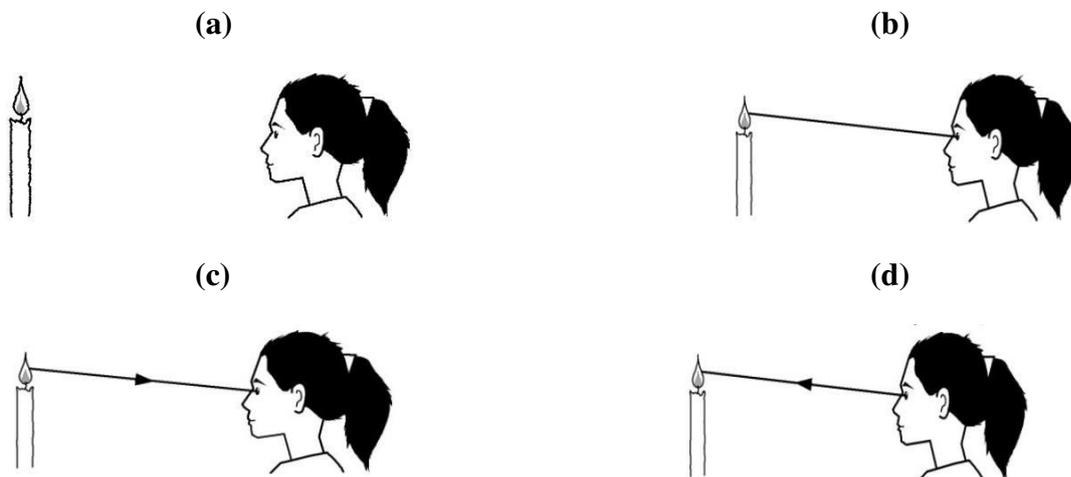
**II. Observe the following pictures and answer the questions:**

1. A and B are facing the mirror and standing in such a way that A can see B and B can see A. Explain this phenomenon.



2. If you have ever seen an ambulance, the word 'AMBULANCE' is written in the form of mirror image in vehicles. Why is it so?

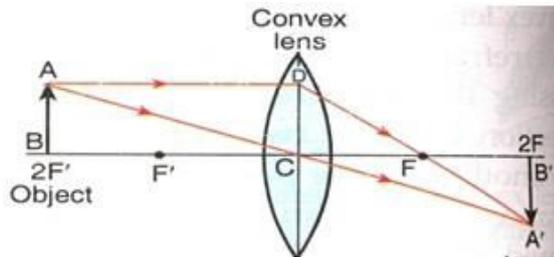
3. Which diagram shows how Rachel can see a candle



**III. Fill in the blanks:**

1. An image that cannot be obtained on a screen is called -----.
2. Image formed by a convex ----- is always virtual and smaller in size.
3. The inner surface of a steel spoon acts as a ----- mirror.
4. An image formed by a concave ----- cannot be obtained on a screen.
5. White light is composed of ----- colors.
6. When white light is passed through a -----, it splits up into its constituent colors.
7. A magnifying glass is a -----.
8. A lens is made of a ----- material.
9. Rectilinear propagation of light means light travel in a ----- line.
10. A plane mirror forms an ----- image.

**IV. Observe the image formed by a convex lens and write its characteristics.**



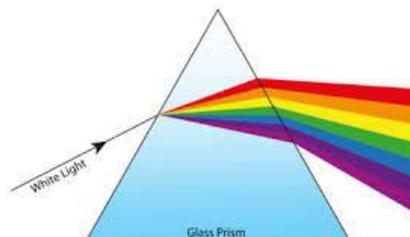
.....

.....

.....

.....

**V. Observe the figure and name the colours in an order.**



- (a) What do we call this band of colors?.....
- (b) Why it is called as visible spectrum?.....
- (c) How could we split white light into its constituent colors?.....
- (d) What is persistence of vision?

.....

.....

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WORKSHEET-7

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**LS-6 TEMPERATURE AND HEAT**

1. Identify the following diagram and Label the different parts of it.



2. Identify the three different modes of heat transfer and define them.



(a) .....

.....

(b) .....

.....

(c) .....

.....

**3. HIGH ORDER THINKING QUESTIONS:**

1. Which will cool faster- water kept in a black pot or kept in a silver pot?
2. In places of hot climate it is advised that the outer walls of houses be painted white. Explain.
3. Why does mercury not fall or rise in a clinical thermometer when taken out of the mouth?
4. Why do gases expand more than liquids?
5. A few sharp jerks are given to clinical thermometer before using it . Why is it done so?

**6. Fill in the blanks:**

1. Temperature is measured in degree .....
2. The hotness of an object is determined by its .....

3. A cold spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of -----  
-----.
4. No medium is required for transfer of heat by the process of -----.
5. The SI unit of heat is -----.
6. Heat energy will flow from body 'A' to body 'B' if -----.
7. An instrument used to measure temperature is -----.
8. The terms hot or cold are ----- terms.
9. ----- is the only form of heat transfer that does not necessarily need a medium.
10. In a thermos flask, there is a minimization of heat loss due to -----.

**11. Numericals:**

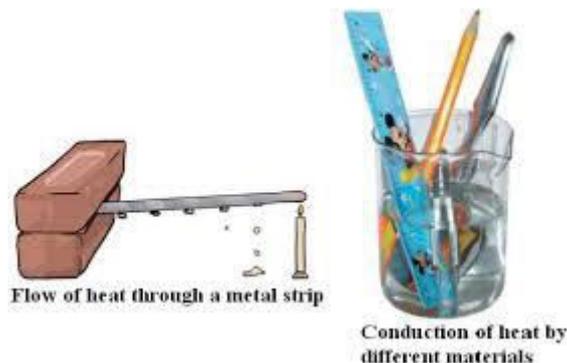
1. Convert 8 degree C to degree F.
- 

2. Convert 90 degree F to degree C
- 

3. Identify the fig given below and write its use.



4. (a) Identify the different materials given below and classify them as conductors and insulators.



- (b) Name the process which is depicted in the first process and explain the process.



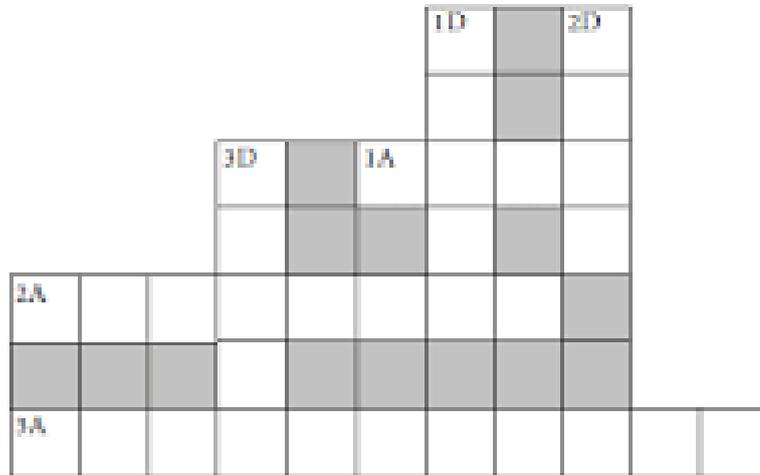
4. Solve the crossword puzzle with the clues given.

Down

- (D) 1 : Thorough washing  
2 : Animal fibre  
3 : Long thread like structure

Across

- (A) 1 : Keeps warm  
2 : Its leaves are eaten by silkworms  
3 : Hatches from egg of moth



5. Fill in the blanks:

- and ----- fibres are obtained from animals.
- Hair trap a lot of -----, which is a poor----- of heat.
- Silkworms secrete fibre made of -----.
- Reeling of silk is -----.
- The rearing of silkworms for obtaining silk is called -----.
- A larva transforms into -----.
- Wool is actually the -----on the body of some animals.
- The----- gives the best quality wool.
- The -----wool is obtained from rabbit.
- Angora goat gives us-----wool.

6. Given below is a sequence of steps in the processing of wool. Which are the missing steps? Add them.

Shearing, -----, sorting, -----, -----, -----.

7. What is meant by the following terms?  
(a) Rearing (b) Shearing (c) Reeling (d) filature (e) sorting (f) scouring.

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WORKSHEET-9

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**8. SOIL Worksheet**

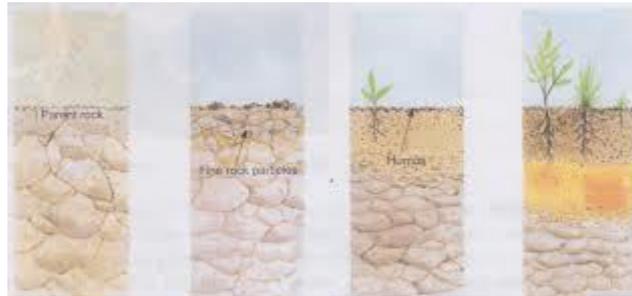
1. What are the constituents of soil?
2. How is clayey soil useful for crops?
3. What is soil profile?
4. A man digging a pit found that he could dig with ease initially but digging became difficult as he went deeper. He could not dig beyond a depth of 5 feet . why?
5. List 2 harmful effects of soil erosion.
6. Rani conducted an experiment in the field related to rate of percolation. She observed that it took 40 min for 200 ml of water to percolate through soil sample. Calculate the rate of percolation.
7. Why are earthworms called as farmer's friend?



12. Why do we need to plough the soil?

13. What do you understand by porosity of soil?

14.



(a) Identify the stages of soil formation

(b) How is humus formed?

(c) Define weathering?

(d) What is the main agent of chemical weathering?

(e) Name the factors that affect the soil formation.

15. What happens to water when it falls on cemented ground?

**16. FILL IN THE BLANKS :**

1. The water holding capacity is the highest in -----.
2. Disintegration of parent rocks is called as -----.
3. Which type of soil dries out quickly after rain -----.
4. Removal of trees on a large scale is called as -----.
5. Decayed plant and animal remains is called -----.
6. A fertile soil should have -----pH
7. Hilly areas generally have a -----layer of soil.
8. ----- farming should be adopted in hilly areas.
9. Higher the absorption of water by soil,-----is its availability to plants.
10. ----- of soil depends on the size and number of pores in the soil.

11. Unscramble the following jumbled words related to soil.

- (a) SUHUM -----
- (b) ILOSFIPOLE -----
- (c) ZOINORH -----
- (d) MOIL -----
- (e) GINRHETWEA -----
- (f) ATONIERPCL -----

12. Read the following statements and give the appropriate terms for each of them.

- (a) The process of breakdown of rocks by the action of wind, water, sunlight. -----  
-----
- (b) Removal of topsoil during heavy rains or strong winds. -----
- (c) Accumulation of wastes in the soil generated by human activities which alter features of soil.  
-----.
- (d) The process of movement of water into deeper layers of soil.-----.