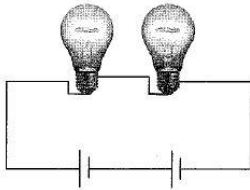




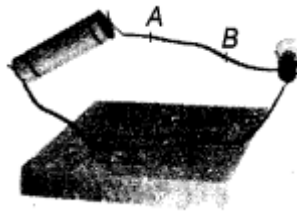
**DR VIRENDRA SWARUP PUBLIC SCHOOL, KALYANPUR**  
**(SESSION :2021-22)**  
**WORKSHEET**  
**CLASS: VII**  
**Subject: Science**

**I. Multiple choice questions:**

1. Which of the following precaution need not be taken while using electric appliances?  
(a) Never touch lighted electric bulb connected to mains  
(b) Never experiment with the electric supply from mains  
(c) Never use any wire to replace fuse wire  
(d) Never turn on the switch in 'ON' position
2. The amount of heat produced in a wire depends on its  
(a) material (b) length (c) thickness (d) all of these
3. Nidhi has two bulbs connected across two cells in a simple circuit as shown. How can she make the bulbs glow dimmer?



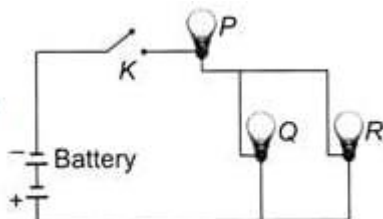
- (a) Replace one cell with a piece of chalk
  - (b) Replace one cell with a piece of wire
  - (c) Replace one bulb with a piece of wire
  - (d) Replace one bulb with another cell
4. When an electric current flows through a copper wire AB as shown in figure, the wire.



- (a) Deflects a magnetic needle placed near it
  - (b) Becomes red hot
  - (c) Gives electric shock
  - (d) Behaves like a fuse
5. When the switch is in OFF position,
- (i) Circuit starting from the positive terminal of the cell stops at the switch.
  - (ii) Circuit is open.
  - (iii) No current flows through it.
  - (iv) Current flows after some time.

Choose the combination of correct answer from the following.

- (a) All are correct
  - (b) (ii) and (iii) are correct
  - (c) only (iv) is correct
  - (d) only (i) and (ii) are correct
6. If the number of turns in the coil of an electromagnet is more, the strength of the electromagnet will be  
(a) lesser (b) greater (c) double (d) same
7. Three identical bulbs namely P, Q and R are connected to a battery as shown. What will happen when the circuit is closed?



- (a) R will glow bright but Q and P will be dim
  - (b) P, Q and R all will glow equally bright
  - (c) Q and R will immediately burnout
  - (c) P will glow bright, but Q and R will be dim
8. In a dark room, when we light a torch, the whole of room is illuminated. Which property of light makes this possible?
- (a) Light travels in a straight line.
  - (b) Speed of light varies in different medium.
  - (c) Light is reflected back from a polished surface.
  - (d) Light is electromagnetic in nature.

9. When a torchlight passing through a slit is incident on a mirror and when the torch is moved slightly to either side, then the reflected ray:
- the reflected ray moves away on the other side
  - the reflected ray moves back on the same side.
  - no change occurs in the path of the reflected ray
  - reflected ray superimposes the incident ray.
10. When an object of height 5 cm is kept at a distance of 20 cm from a plane mirror. The height and distance of image from the mirror respectively are:
- 5 cm, 20cm
  - 10 cm, 20cm
  - 5 cm, 40cm
  - 10 cm, 40cm
11. Which of the following letters A, V, M, N, P, O, R change on looking in a plane mirror?
- A, V, M
  - N, P, R
  - V, M, O
  - A, V, P.
12. Doctors use a mirror to see the enlarged view of ears, eyes, nose and throat. It is also used by dentists to examine teeth. Name the mirror.
- Plane mirror
  - Concave mirror
  - Convex mirror
  - None of these
13. An object is placed in front of a mirror 'X'. The image of the object is always virtual, erect and diminished in size irrespective of where the object is placed. Can you identify the mirror 'X'?
- Concave mirror
  - Convex mirror
  - Plane mirror
  - None of these
14. When an electric current flows through a copper wire AB as shown in Figure, the wire

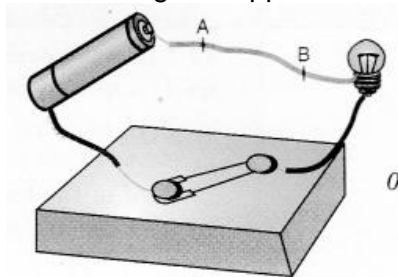
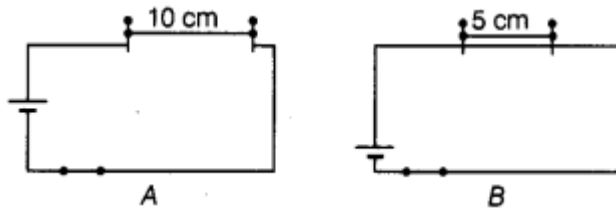


Fig.

- Deflects a magnetic needle placed near it
  - Becomes red hot
  - Gives electric shock
  - Behaves like a fuse
15. David is observing his image in a plane mirror. The distance between mirror and his image is 4 m. If he moves 1 m towards the mirror, then the distance between David and his image will be:
- 3 m
  - 5 m
  - 6 m
  - 8 m

## II. Higher order thinking questions:

- 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 the right step? Give one reason to justify your answer.
- 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 reason.
- Batteries used in tractors, trucks and inverters are also made from cells. Then why is it called a battery?
- One day, Pinki was ironing the clothes in her room. After half an hour of ironing, the light went off and Pinki went outside to the lobby of her house to check it there was any problem in the household circuit. At the same time, she listened the voice of her 4 year old daughter from the same room where she was ironing the clothes. Her daughter was about to touch the hot electric iron but at the same moment, Pinki entered in the room and pushed her daughter back from that place.
  - On which effect of electric current, does the electric iron work ?
  - Mention the values showed by Pinki here.
- Paheli took a wire of length 10 cm and Boojho took a wire of 5 cm of the same material and thickness. Both of them are connected with the wires as shown in the circuit given in figure. The current flowing in both the circuits is the same.



- (a) Will the heat produced in both the cases be equal? Explain.  
 (b) Will the heat produced be the same, if the wires taken by them are of equal lengths but of different thickness? Explain.

6. Last Sunday, Palvit was playing videotape in his room. While playing, the electricity of his house went off due to which he was not able to see anything around him. Anyhow, he managed to get his mobile in his hand and with the help of its light, he went outside his room to check if there was any problem in the electric circuit board of his house.

At the same time, his father suggested him to maintain the distance from the circuit board and decided to call some electrician to check the problem.

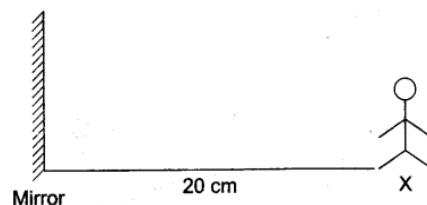
- (a) Explain what happens when live wire and neutral wire touch each other directly.  
 (b) State the values here showed by Palvit's father.

7. Rajesh, for observing the dispersion of light used light from laser torch to fall on a prism. Will he be able to observe a band of seven colours?

8. Vinita thought to make a solar cooker and she shared her idea with Ankita. Ankita felt very excited that Vinita is using one of the renewable sources of energy. Ankita suggested Vinita to use concave mirror instead of plane mirror as reflector to get the maximum heat. Vinita liked the idea of Ankita and thanked her for valuable suggestion.

- (a) What is a solar cooker? What is its use?  
 (b) Why concave mirror is better than plane mirror for getting maximum heat?  
 (c) Can you name other such devices which are sources of energy and are eco-friendly.  
 (d) What values of Ankita and Vinita are shown here?

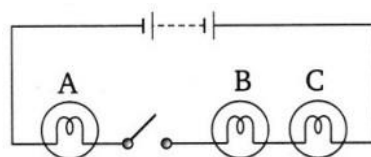
9. 'X' is 20 cm away from the mirror. If he moves few steps closer to the mirror, what will happen to the image?



10. After taking bath Rahman went to his room. As soon as he raised his hand to switch on the light, his mother shouted loudly. He was very astonished at the strange behaviour of his mother. His mother came to him and explained him the reason why he shouldn't be touching the electrical items with wet hands. Rahman made up his mind to spread this awareness in the school, so he decided to give a small speech on this topic during the school assembly.

- (a) What are electrical appliances?  
 (b) What would have happened if Rahman touched the switch with his wet hand?  
 (c) What value of Rahman is shown here?

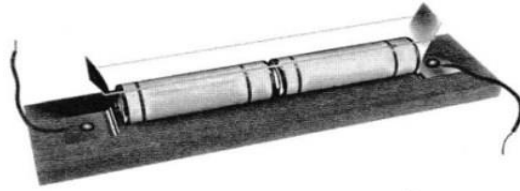
11. In the circuit given below



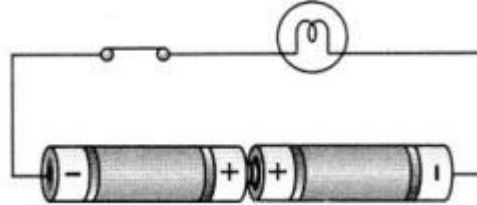
- (i) Would any of the bulb glow when the switch is in the 'OFF' position?  
 (ii) What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'ON' position?

12. Zubeida made an electric circuit using a cell holder shown in Fig. involving a switch and a bulb. When she put the switch in the 'ON' position, the bulb did not glow. Help Zubeida in identifying the possible

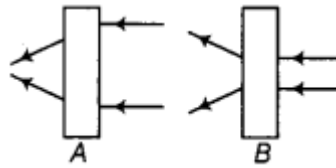
defects in the circuit.



13. The bulb in the circuit shown in the figure does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow.



14. Observe the given figures carefully.



The given figures show the path of light through lenses of two different types represented by rectangular boxes A and B. What is the nature of lenses A and B?

15. It was observed that when the distance between an object and a lens decreases, the size of the image increases. What is the nature of this lens? If you keep on decreasing the distance between the object and the lens, will you still be able to obtain the image on the screen? Explain.