



Science

Worksheet 1 : 15/08/2020

Class - VII

CHAPTER 10 : PHENOMENA OF ELECTRICITY & MAGNET**Instructions:**

- ✓ Read the chapter in your book - quickly and thoroughly, preferably more than once.
 - ✓ Watch the uploaded video class from school's website/YouTube channel. For becoming more clear about the basics, watch more than once, if needed.
 - ✓ Contact me in case of any difficulty in understanding.
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Cognitive Questions (Mark 1)**1. What is charge?**

Ans.: The basic property of proton and electron contained in an atom of a matter is called charge.

2. Write down the properties of charge.

Ans.: There are two properties of charges -

- i. charges of same nature repel each other.
- ii. charges of opposite nature attract each other.

3. What is conductor?

Ans.: The materials through which electric current can flow very easily are called conductor. For example - copper, silver, aluminium etc.

4. What is insulator?

Ans.: The materials through which electric current cannot flow are called insulator. For example - plastic, rubber, wood, glass etc.

5. What is semiconductor?

Ans.: The materials whose current conduction capacity lies between that of conductors and insulators in normal temperature are called semiconductors. For example - silicon, germanium, gallium etc.

6. What is called static electricity?

Ans.: The electricity that does not flow through a body from one end to another or one matter to another is called static electricity. Static electricity is produced by friction.

7. What is called current electricity?

Ans.: The electricity that flows through a body from one end to another or one matter to another in a definite direction is called current electricity.

8. Why does atom behave neutral?

Ans.: Atom behaves neutral because it contains same number of proton and electron.

Analytical Question (Mark-2)**1. How is charge produced?**

Ans.: We know that elements are composed of atoms. Atoms are composed of electron, proton and neutron. Proton is positively charged, electron is negatively charged and neutron is neutral particle.

An atom contains same number of proton and electron. That is why atom is charge neutral. When two matters are rubbed, electrons from one substance can move into other. Thus the number of electrons can be raised in a substance. So charge is created because of rubbing.

2. Explain the phenomenon of charging a body on the basis of structure of atom.

Ans.: As long as the number of electron and proton are equal in any atom, it is electrically neutral. But if the number of proton and electron is not equal in any atom, then the atom will be charged. If the number of electron decreases, the number of proton increases. This situation is said to be charged positively. Again,

if these scattered electrons are joined with any atom, the number of its electron increases, as a result it is charged negatively. The shortage or excess of electrons in any atom is considered to be changed.

3. Describe how a body can be charged by the friction.

Ans.: An object can be charged by the process of friction as it causes induction. When friction caused between two bodies, the atoms of a body gains electrons from those of the other body. The electron gaining body gets negatively charged while the electron donating body gets positively charged.

4. How does electric bulb spread light?

Ans.: Two thick wires are placed inside the air free or gas filled air tight bulb. There is a coil of very thin tungsten wire inside the electric bulb. The coil is called filament. This bulb produces a lot of heat when it is connected with the electric source and this the filament of bulb emits a huge amount of light.

5. Why metals are conductors of electricity?

Ans.: Metals are good conductor of electricity because the electrons are free to move in a metal atom. Especially in silver, copper and aluminium the electrons can move from one atom to another easily.

6. Write down the difference between static electricity and current electricity.

Ans.: The differences between static electricity and current electricity are as follows:

Static electricity	Current electricity
i. It is produced due to friction.	i. It is produced from battery or generators.
ii. It remains where it is produced, i. e. it cannot flow from one place to another place.	ii. It is not remained where it is produced, i. e. it can flow from one place to another place.
iii. In static electricity, charge is definite.	iii. In current electricity, charge is indefinite.

7. Write down the difference between conductor and non-conductor.

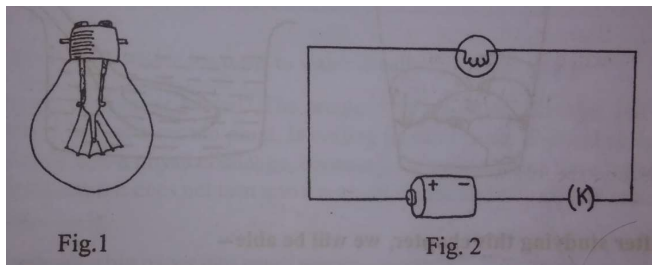
Ans.: The differences between conductor and non-conductor are as follows:

Conductor	Non-conductor
i. Electricity can easily pass along it.	i. Electricity cannot pass along it.
ii. Metals namely silver, copper, aluminium etc are conductors.	ii. Coal, Rubber, plastic, glass etc are non-conductors

Creative Questions

(Solve yourself)

1. Observe the following figures carefully and answer the questions.



- Explain the function of figure 1.
- There are two types of electricity in the second figure. Analyze it by mentioning the areas.

2. Observe the following figures carefully and answer the questions.



Fig. A : Glass Bottle & Woolen Cloth



Fig. B: Plastic Comb & Silk Cloth

- How can you make charge with the help of Fig. A and Fig. B?
- How can you prove the two properties of charge with the help of Fig. A and Fig. B?