UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

Khalifa City A School - Cycle 1

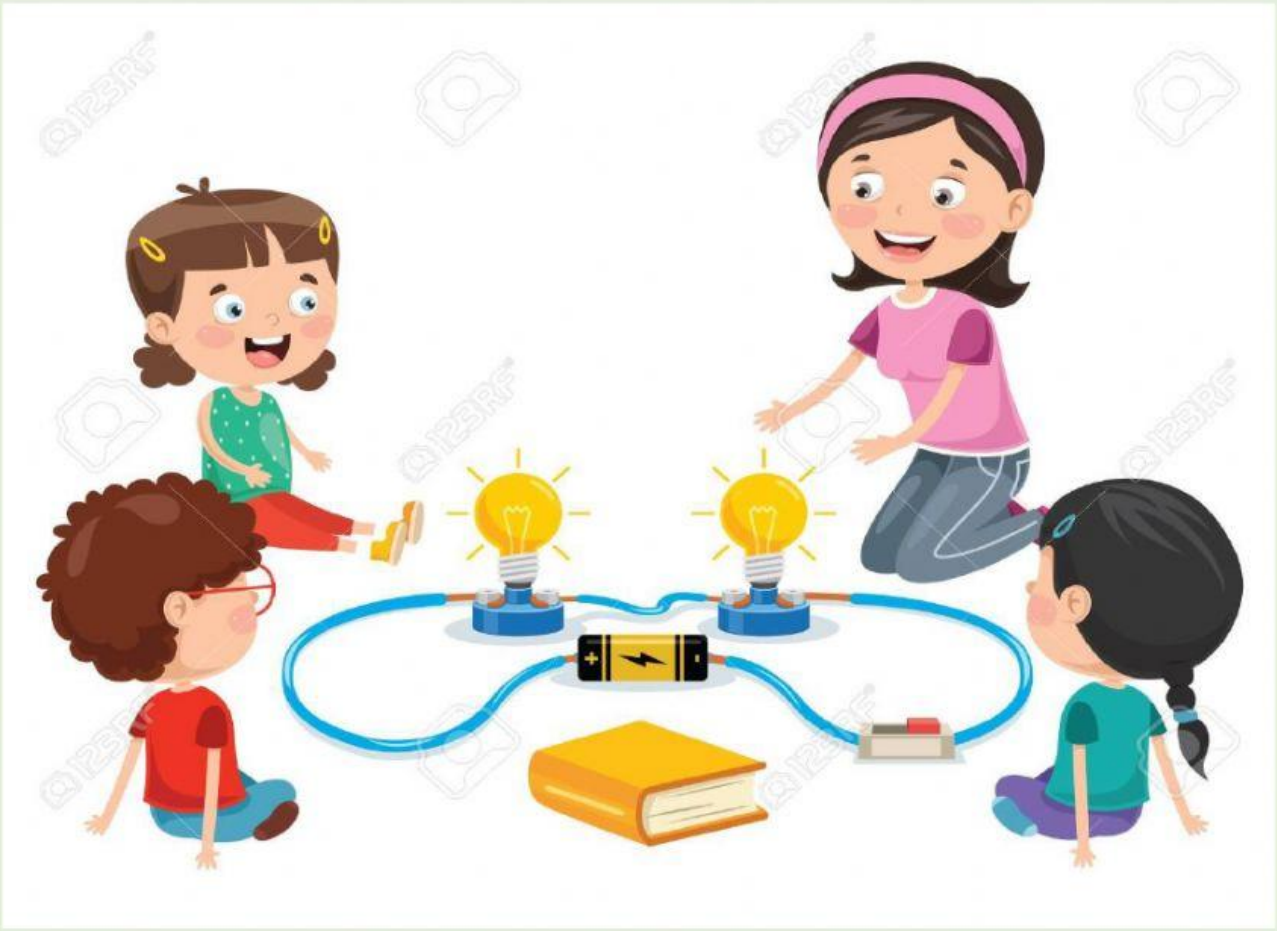
مدرسة مدينة خليفة أ / حلقة أولى

SCIENCE

CHAPTER 7- ENERGY

LESSON 4- ELECTRICITY

PART 1



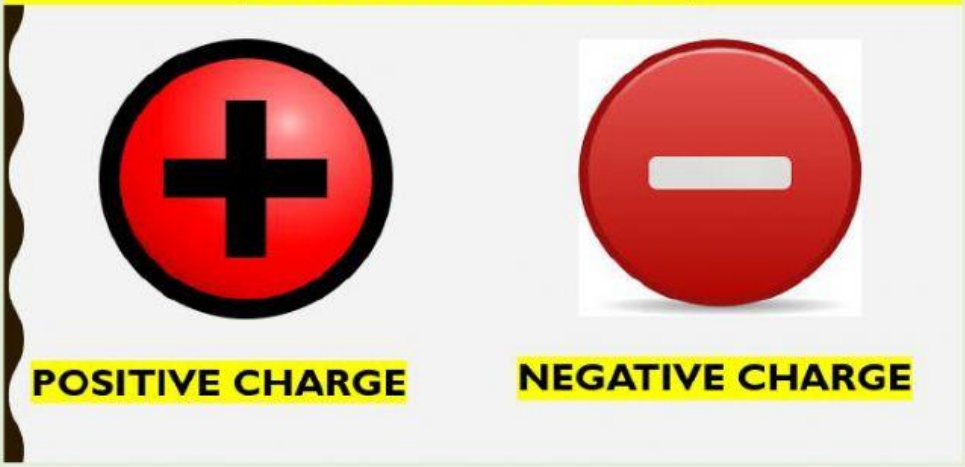
Created by- Nisha Tanwar

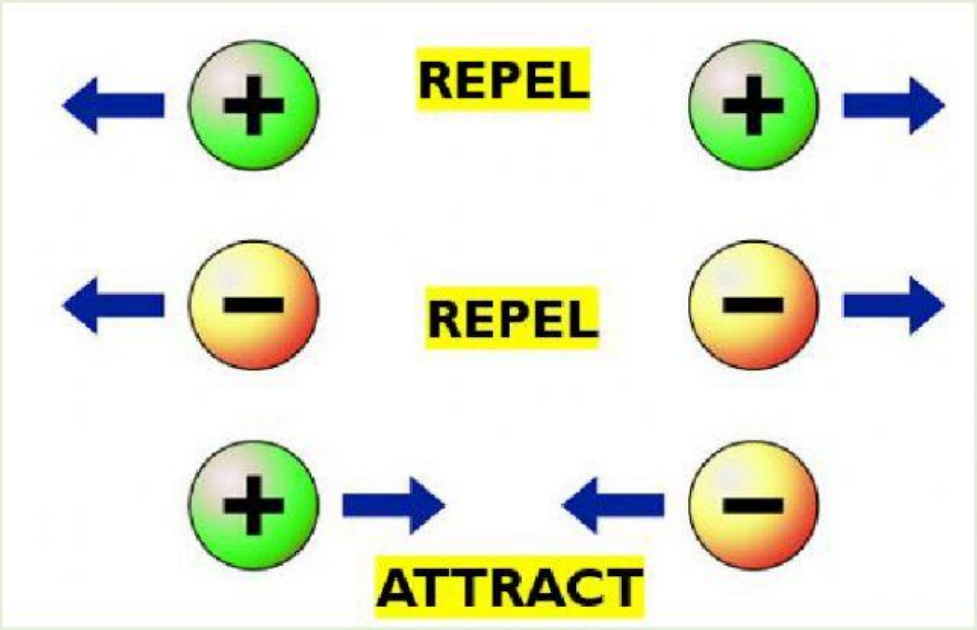
WHAT IS ELECTRICAL CHARGE?

- An electrical charge gives us electricity
- It is a property of matter
- We cannot see it, smell it, or weigh it.

POSITIVE AND NEGATIVE PARTICALS

TYPES OF CHARGES





- A positive charge and a negative charge attract or pull towards each other
- Positive does not attract positive
- Negative does not attract negative
- Neutral charges do not have a buildup of charges

STATIC ELECTRICITY

Buildup of electrical charges on an object

STATIC ELECTRICITY

The build up of electrical charges on an object is called static electricity.

Rubbing objects together produces more static electricity

WATCH VIDEO ABOUT ELECTRIC CHARGE

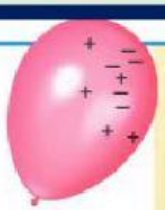
HOW DO CHARGES INTERACT

When two objects touch, charged particles can move from one object to the other. Negative charges move more easily than positive charges do.

Suppose you rub a balloon with a wool cloth. Negative charges move from the wool to the balloon. The balloon is left with a buildup of negative charges. A *buildup* means something has more of one kind of charge than the other. The wool has a buildup of positive charges.

←PLEASE READ

Overall Charge



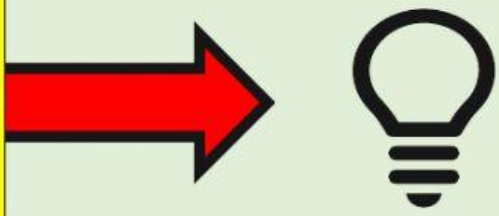
3 The negative charges on the balloon attract the positive charges on the wall. The balloon sticks to the wall.

2 By rubbing the balloon with the wool, negative charges build up on the balloon.

1 A balloon and a wool cloth are neutral. Each has as many negative charges as positive charges.

WATCH VIDEO ABOUT INTERACTION OF CHARGES

CLICK ON BULB ICON TO EXPLORE LAB ABOUT INTERACTION OF CHARGES

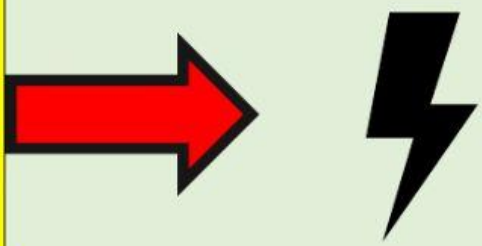


ELECTRICAL DISCHARGE

When you move across a carpet, negative charges rub off the carpet onto you. Your body gets a buildup of negative charges.

The charges keep building until you touch something. Then they move to whatever you touch. This fast movement of charge is called a **discharge**. You might feel the discharge as a small **shock**. You might even see or hear it.

CLICK ON ICON TO EXPLORE LAB ABOUT ELECTRICAL DISCHARGE



LIGHTNING

It is the discharge of static electricity during storm

- Inside the storm cloud, ice, and water rub against each other.
- Some pick up positive charges and move to the top of cloud.
- Negative charges move to the bottom.
- If the build up gets large enough, charges move to the ground as lightning.

QUESTIONS FROM BOOK

1. Like charges _____ each other.

2. Unlike charges _____ each other.

3. Fast movement of charge is called

_____

4. Build up of electrical charge on an object is called_____ electricity.

5. Electrical charge gives us _____.

6. When you rub your foot on carpet,

_____ charges build up inside your body.