



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

SUBJECT:- PHYSICS CLASS:- VIII

CHAPTER:- FORCE AND PRESSURE

TOPIC: CONTACT AND NON CONTACT FORCES

GUIDELINES FOR STUDENTS

Dear Students

* Attempt the assignment questions given in this lesson and the NCERT questions following that in the Physics notebook.

* Suitable video links have been provided with every assignment.

* Do read NCERT for better understanding of these concepts.

NCERT LINK: <http://ncert.nic.in/textbook/textbook.htm?hesc1=11-18>

Note: - Read the chapter from Living Science Book. Link of PDF uploaded.

SUBTOPICS: 1. CONTACT FORCES

2. NON-CONTACT FORCES

Let us explore Contact forces and Non-Contact forces.

1. CONTACT FORCES

A Force that acts only when two interacting objects are in contact with each other.

Types of contact forces:

a) **Muscular Force:** The force executed by the muscles of your body.



Eg. When you pick a ball with your hand, your hand is in contact with the ball.

b) **Frictional Force:** Friction is a force that slows things down or prevents things from moving

E.g When we walk, our feet press the ground while being in contact with it.



A rolling ball comes to rest after some time

For better understanding click on the links below and watch these videos

<https://www.youtube.com/watch?v=nk35aGqJ-F8>

<https://www.youtube.com/watch?v=kUVZIRz7PKs>

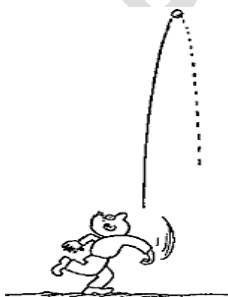
2. NON-CONTACT FORCES

Non-contact forces are the forces which act on the objects without being in contact with them.

Types of non-contact forces:

- a) **Gravitational force :** It is the force of attraction between particles of matter having mass i.e. every object exerts this force on every other object.

E.g. A ball thrown up comes back to ground always due to gravitational pull of earth.



Planets revolve around Sun due to gravitational pull of Sun and Moon revolves around Earth due to gravitational pull of earth.



b) **Magnetic force:** It is the force exerted by a magnet on certain metals such as iron. A magnet can act from a distance because it is surrounded by an invisible field of magnetic force.

- Like poles of magnet repel(push) each other, unlike poles attract each other (pull)
- A magnet attracts magnetic materials.

ATTRACTION



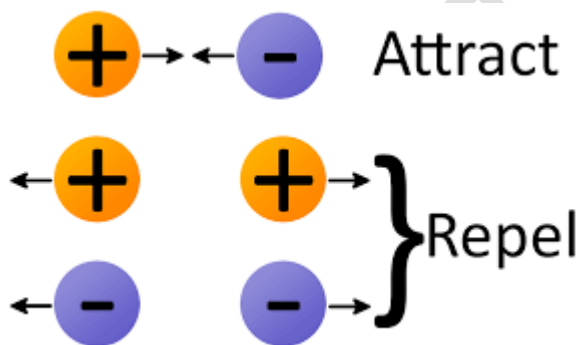
REPULSION



OR



c) **Electrostatic force:** It is the force acting between the charged and the uncharged object. It also acts from a distance hence it is a non contact force.



NOTE:

- THERE ARE TWO TYPES OF CHARGES:

POSITIVE CHARGE (+)

NEGATIVE CHARGE(-)

- LIKE CHARGES REPEL AND UNLIKE CHARGES ATTRACT

A CHARGED OBJECT ATTRACTS AN UNCHARGED OBJECT TOO.

Click on the following links for better understanding:

<https://www.youtube.com/watch?v=SybIX2nEn1E>

<https://www.youtube.com/watch?v=eTuiLNYz7JM>

NOW SOLVE THIS ASSIGNMENT

Assignment

Q1. Frictional force is a contact force. Support the statement by giving two examples from your daily life.

Q2 Identify the type of forces acting in the following cases:

- i) Blood being pushed by our arteries.
- ii) Horse pulling a cart
- iii) A child lifting a school bag
- iv) Kicking a foot ball
- v) During dry weather, clothes made of synthetic fibre often stick to the skin.
- vi) While sieving grains, small pieces fall down.
- vii) Two thermocol balls held close to each other move away when released.
- viii) Force responsible for the downward motion of a man with a parachute.
- ix) Deflection in the compass needle when placed near current carrying conductor.

Q3 .Distinguish between muscular force and gravitational force.

Q4 . Write one point of similarity and one point of difference between:

Gravitational force and magnetic force.

Q5. State the force that acts on all bodies on the earth at all times.

Q6 . Name a force that always opposes motion of an object.

Q 7.If you use a stick to push an object, the muscular force acting on the object is a non contact force since your body is not in contact with the object. True or False? Explain.

NOTE: Also attempt question number 4,7,8 and 9, given on page 143 in the N.C.E.R.T textbook, in your Physics notebook.
