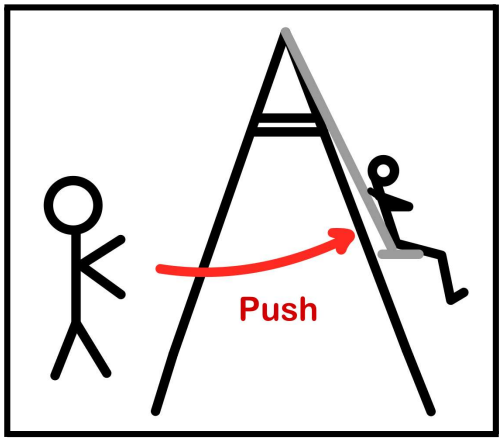
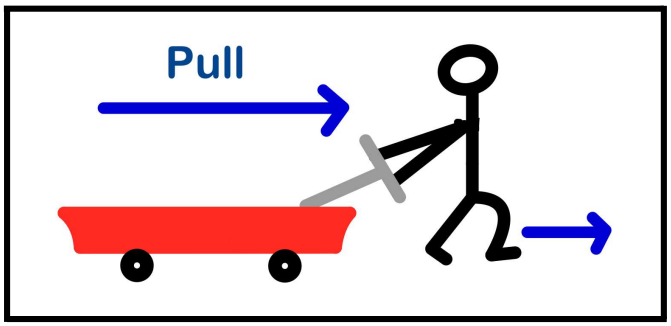
A. INTRODUCTION

Forces: Contact & Non-Contact

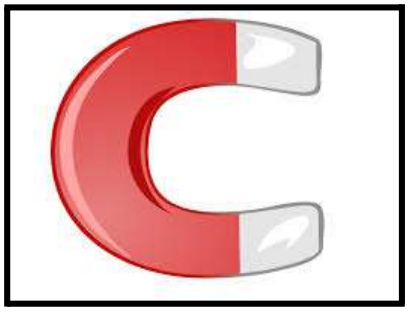
Have you ever wondered why things move? Well, the secret lies in something called **forces**! Forces are like invisible hands that can make objects go fast or slow. Let's dive into the world of forces and learn more about **pushes**, **pulls**, **contact force**s, and **noncontact** forces.

A force is a power that can make objects move. There are **2** types of forces: **pushes** and **pulls**. When you push something, you are using force to make it move away from you. Imagine pushing a swing to make it go higher and higher. On the other hand, when you pull something, you are using force to bring it closer to you. For example, when you pull a wagon, you are making it move towards you.





Sometimes, to make an object move, you need to touch it directly. These forces are called **contact forces**. Pushing a toy car or pulling a door to open it are examples of contact forces. You apply a force by physically touching the object. It's like when you give a friend a high-five, and you both feel the force of the contact!



But wait, there's something really cool! Some forces can make things move without even touching them. These forces are called **noncontact forces**. One example is the force of magnetism. Have you ever played with magnets? When you bring two magnets close together, they either pull towards each other or push away from each other without touching. That's a noncontact force!

Another noncontact force is **Gravity**. Gravity is what keeps us grounded on the Earth. It pulls everything towards the ground. That's why when you drop a ball, it falls down

instead of floating up into the sky. Even though you can't see gravity, it's always working, making sure everything stays in place.

Answer the following questions:

1. What is a force?
    A) A type of food
    B) A power that can make objects move
    C) A type of toy
2. Which of the following is an example of a push force?
    A) Pulling a wagon
    B) Pushing a swing
    C) Holding a ball
3. What are contact forces?
    A) Forces that require touching an object
    B) Forces that don't require touching an object
    C) Forces that make objects float
4. What is an example of a noncontact force?
    A) Bumping into a wall
    B) Playing catch with a friend
    C) Magnetism
5. Which force makes things fall to the ground?
    A) Gravity
    B) Magnetism
    C) Push force
6. Can a force make objects move without touching them?
    A) Yes, always
    B) No, never
    C) Sometimes, depending on the force
7. What type of force is pulling a door to open it?
    A) Push force
    B) Noncontact force
    C) Contact force
8. What does gravity do?
    A) Makes objects float
    B) Pulls objects towards the ground
    C) Pushes objects away

Answers:

1. B) A power that can make objects move
2. B) Pushing a swing
3. A) Forces that require touching an object
4. C) Magnetism
5. A) Gravity
6. C) Sometimes, depending on the force
7. C) Contact force
8. B) Pulls objects towards the ground

Explanations:

1. A force is a power that can make objects move.
2. Pushing a swing is an example of a push force.
3. Contact forces require touching an object to make it move.
4. Magnetism is an example of a noncontact force.
5. Gravity is the force that makes things fall to the ground.
6. Some forces, like magnetism, can make objects move without touching them.
7. Pulling a door to open it is an example of a contact force.
8. Gravity pulls objects towards the ground.