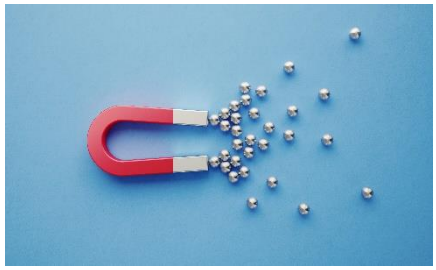
FORCES



UNDERSTANDING FORCES

Forces are pushes or pulls that make things move or change direction. They are all around us, and we experience them every day. Forces can make objects speed up, slow down, or change shape. There are different types of forces, and they can act in different ways. In this article, we will learn about some of the most common types of forces.

TYPES OF FORCES

There are many types of forces that can affect objects. Some of the most important ones include:

1. **Gravity** Gravity is a force that pulls objects towards the Earth. It is what keeps us on the ground and makes things fall when they are dropped. Gravity pulls everything towards the centre of the Earth, no matter how big or small the object is.
2. **Friction** Friction is the force that stops objects from sliding easily. It occurs when two surfaces rub together. For example, when you walk, the friction between your shoes and the ground stops you from slipping. Friction can be helpful, but it can also slow things down, such as when you try to push a heavy box across the floor.
3. **Magnetic Force** A magnetic force is the pull or push felt by magnets. Magnets can either attract or repel each other. For example, if you have two magnets and bring them close together, they may pull towards each other, or they may push away from each other, depending on which sides are facing each other.
4. **Air Resistance** Air resistance is a force that acts against objects moving through the air. It slows things down, like when you ride a bike or when a parachute falls from the sky. The faster an object moves, the more air resistance it faces.

HOW FORCES AFFECT MOTION

When a force is applied to an object, it can change the way the object moves. If the force is strong enough, it can make the object start moving or stop moving. Forces can also change the speed or direction of an object. For example, when you push a ball, you are applying a force that makes the ball move. If you stop pushing the ball, it will eventually slow down and stop because of friction.

BALANCED AND UNBALANCED FORCES

When two forces act on an object in opposite directions, they can either cancel each other out or cause the object to move. If the forces are equal in size and act in opposite directions, the forces are said to be balanced. This means that the object will not move.

However, if the forces are not equal, they are unbalanced. Unbalanced forces cause objects to move or change direction. For example, when you push a toy car, the force you apply is greater than the force of friction, so the car moves.

THE IMPORTANCE OF FORCES

Forces are important because they help us understand how things move and how we can control them. From pushing a shopping trolley to playing sports, forces are involved in nearly everything we do. By learning about forces, we can design better machines, build safer structures, and explore the world around us.

In conclusion, forces are powerful and essential to the way the world works. Understanding how forces act on objects helps us to make better decisions and solve problems in many areas of life.

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Forces Year 5 - BBC Bitesize

EXAMPLE QUESTIONS:

1. What is gravity and how does it affect objects?
2. Explain how friction can be both helpful and harmful.
3. What happens when two magnets are brought together?
4. How does air resistance affect the motion of objects?
5. What is the difference between balanced and unbalanced forces?