



What Makes Things Move in Different Ways

KS2

KS3

Ages 9-14 ⌚ 3 min read

What Exactly Is Movement?

Movement happens when something changes position—when it goes from one place to another. But not everything moves the same way. A ball rolls smoothly across the ground, a rocket shoots up into the sky, and a pendulum swings back and forth. Why are all these movements so different? The answer lies in **forces**.

Forces Are What Make Things Move

A **force** is a push or pull that makes something move, stop, or change direction. Every movement you see around you is caused by at least one force. When you throw a ball, your hand pushes it through the air. When a car stops, friction (a force between surfaces rubbing together) slows it down. Even when you stand still, **gravity**—the force that pulls everything toward Earth—is working on you.

Think of it like a video game controller: pressing a button (the force) makes your character move in different ways depending on how hard you press and which direction you push.

Different Forces Create Different Movements

Gravity pulls objects downward, which is why a dropped ball falls straight down instead of floating sideways. **Friction** slows things down by creating resistance when two surfaces rub together—this is why a skateboard eventually stops rolling. **Air resistance** works similarly, slowing down fast-moving objects like skydivers. Even **magnetism** can cause movement, pulling metal objects toward magnets.

The strength of a force matters too. A gentle push makes something move slowly, while a hard push makes it move quickly. The heavier something is, the more force you need to move it. A tennis ball is easy to throw, but a bowling ball requires much more effort.

Think of it like pushing your friends on a swing: a tiny push keeps them going slowly, but a big push makes them fly higher and faster.

Speed, Direction, and Spin

Forces don't just start movement—they control how fast things move, which direction they go, and even whether they spin. When you hit a soccer ball straight on, it flies forward. When you kick it at an angle, it curves through the air. A spinning top keeps moving in circles because the spinning force keeps it balanced. **Newton's Laws of Motion** explain all of this: objects need a force to start moving, and they keep moving in a straight line until another force stops them or changes their direction.

Understanding how forces create movement helps engineers design better cars, athletes improve their skills, and scientists predict how objects will behave. Every jump, throw, roll, and spin in your life is physics in action!