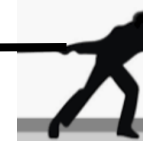




FORCES

What is the effect that forces can have on a moving object?



Y5

Key Vocabulary

- force
- gravity
- air resistance
- water resistance
- friction
- mechanism
- pulleys
- gears
- accelerate
- decelerate
- levers

Gravity

Gravity attracts all matter towards each other.

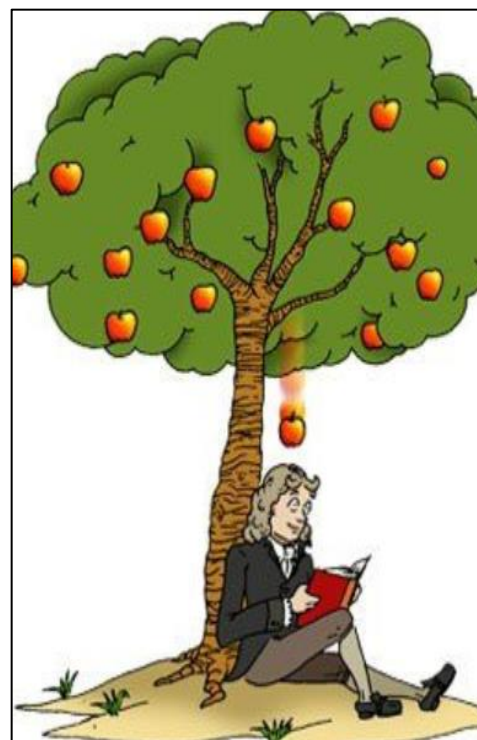
-It has been around since the beginning of the Universe, and applies to all matter in the Universe.

-The bigger an object's mass, the more gravity it will have. The smaller the mass of an object, the less gravity it will be subject to.

-Without gravity we would fly right off the planet! The moon's gravity causes our ocean tides on Earth. The Sun's gravity keeps Earth in orbit around the Sun.

-We don't actually "feel" gravity. We only feel the effects of trying to overcome it by jumping or when we fall.

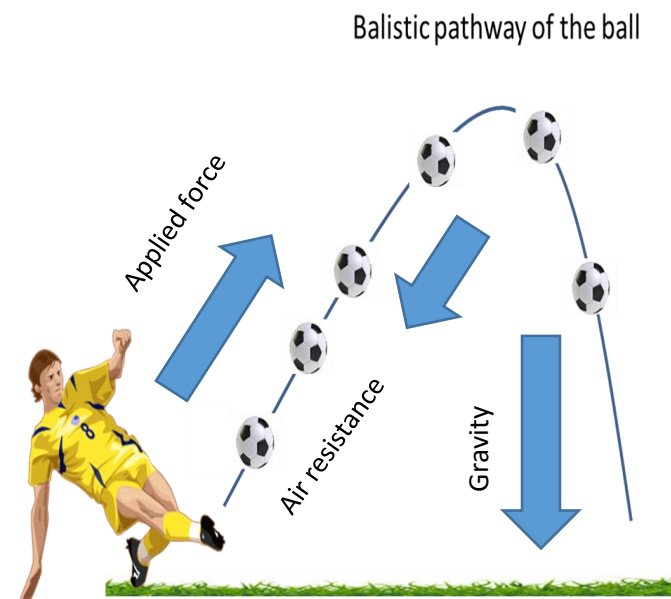
-Sir Isaac Newton discovered gravity around 300 years ago. The tale is that he saw an apple fall from a tree, and wondered what force made it fall to the ground.



Definitions of Forces

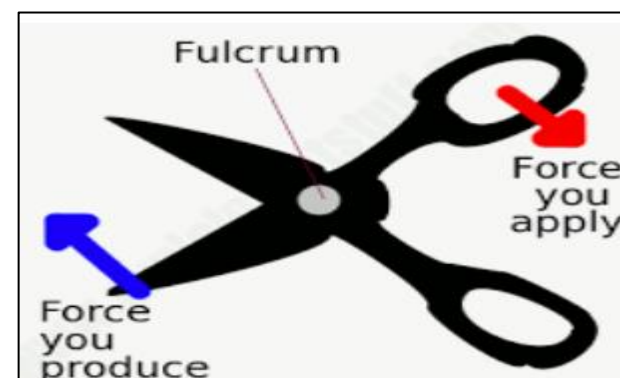
There are a number of different forces that affect us in our daily lives:

- Applied force: The force placed on an object by a living creature.
- Friction: the 'sticking' force that occurs when an object moves over another.
- Air resistance is a type of friction force that pulls against an object travelling through the air. Some objects are more 'streamlined', meaning that the air pulls on them less, and they travel faster.
- Water resistance is the friction force on objects floating or moving in water.
- Surface resistance is the friction force of objects moving across a surface.
- Gravity (see left)



Machines and Mechanisms

-Simple machines and mechanisms include pulleys, gears and levers. They can be used to turn a small force into larger forces. This means that we can use these machines to accomplish things more easily.



- Levers give us extra pushing or pulling force and help us lift greater weights.
- Gears are different sized cogs which work together to give a machine extra force.
- Pulleys are wheels and ropes that work together to lift heavy objects.

Machines and Mechanisms

Scissors Wheelbarrows Fishing rods Shovels Boat Oars Well Exercise Equipment Elevators Window Blinds Brooms