

Learning Question- How do levers allow a smaller force to have a greater effect?

Prior Knowledge and Overview: Children will learn about gravity, air resistance, water resistance and friction through carrying out different investigations. They will also recognise that some mechanisms allow a smaller force to have a greater effect.

Key Vocabulary

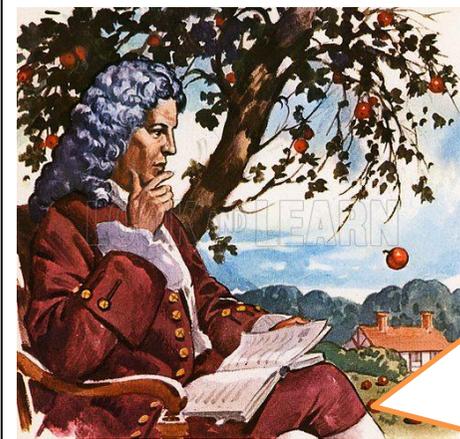
Gravity	Earth's gravity is what keeps us on the ground and makes things fall.
Force	Is an action that changes or maintains the motion of a body or object.
Air resistance	It is the opposing force that the object experiences as it passes through the air.
newtons	A newton is a measurement that we use to measure force.
Water resistance	Is a type of force that uses friction to slow things down that are moving through water. Often called a drag.
Friction	is a force between two surfaces that are sliding, or trying to slide, across each other.



$$\text{Acceleration} = \frac{\text{Speed}}{\text{Time}}$$

$$\text{Force} = \text{Mass} \times \text{Acceleration}$$

$$\text{Mass} = \frac{\text{Force}}{\text{Acceleration}}$$



Sir Isaac Newton- discovered that gravity pulls objects towards each other. The bigger an object is, then the more gravity it has. He then used this theory about gravity to explain that gravity keeps the moon orbiting around the earth.

You can use a device called a force meter to measure the size of a force. Most force meters have a hook that you can use to hang or pull on something. This will cause a spring to move and show you how much force is being applied. We measure forces using a unit called Newtons.

Kinetic energy	is the energy an object has due to its motion.
Mechanical energy	is the moving energy (kinetic energy) of an object plus that object's stored energy (potential energy).



Water resistance is a type of force that uses friction to slow things down that are moving through water.

