



Knowledge Organiser

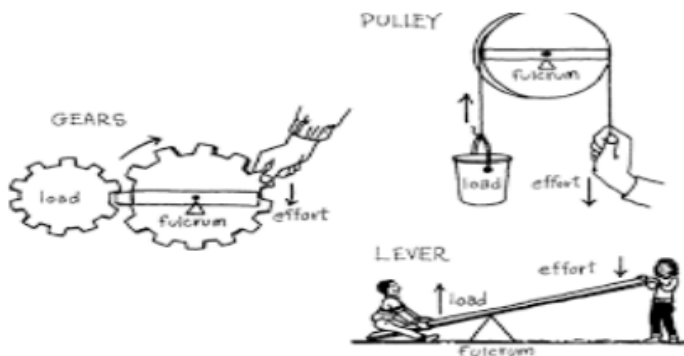
Science—
Forces
Year 5

Types of Mechanisms

Pulleys - they are used to reduce the amount of force needed to lift a load. The more wheels in a pulley the less force is needed to lift the weight.

Gears or cogs - are used to change speed, direction or force of a motion. When 2 gears are connected they always turn in the opposite direction to one another.

Levers - can be used to make a small force lift a lighter load. A lever always rests on a pivot or fulcrum.



Forces

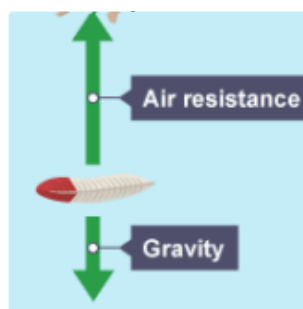
Gravity - the force that pulls things to the ground. Gravity also holds Earth and other planets in their orbits around the sun.

Friction - friction is a force between 2 surfaces that are sliding or trying to slide across each other. Friction works in the opposite direction to which the object is moving. It slows down the moving object and also produces heat. It can be helpful in certain situations but not helpful in others.

Air resistance - a type of friction between air and another material. Aeroplanes and cars are streamlined so that they can move through the air as easily as possible.

Water resistance - a type of friction between water and another material. When you go swimming there is friction between your skin and the water particles.

Force Meter - is marked in Newtons and measures the weight of an object



Key Vocabulary

Force	A push, pull, twist or turn.
Gravity	A pushing force exerted by the Earth, it attracts objects towards the centre of the Earth.
Air resistance	The force that air exerts on a moving
Water resistance	The force that water exerts on a moving object.
Friction	The force between 2 moving surfaces.
Mechanisms	Machines or devices which help to achieve a
Weight	The measure of the force of gravity on an object, measured in
Mass	The measure of how much matter is inside an object, can be measured

What I can do at home

Learn	Can you find any items at home which have a mechanism?
Investigate	Find out a little more about resistance. Investigate air and water resistance with toys at home.
Explore	Isaac Newton is considered by some as one of the most important scientists in history. What can you find out about

Communicate

Talk to an adult at home about the things below. You don't need to record this.

Faith and Belief is something we cannot see. Does this make it a force?

We sometimes say that someone is a 'force for good'. What does this mean?