

Subject Specific Vocabulary

Force	A push or a pull
Gravity	Pulling force exerted by the Earth (or anything else which has mass).
Air resistance	A type of friction caused by air pushing against any moving object.
Water resistance	A type of friction caused by water pushing against any moving object.
Friction	Force that acts between two surfaces or objects that are moving, or trying to move, across each other.
Mechanisms	Mechanisms are simple machines with moving parts that change input forces and movement into a set of useful output forces. Examples of mechanisms are pulleys, gears and levers.
Levers	A lever is a long, sturdy body that rests on a support.
Pulley	A pulley is a simple machine that is used to lift heavy objects.

Sticky Knowledge

A force causes an object to start moving, stop moving, speed up, slow down or change direction. Gravity is a force that acts at a distance. Everything is pulled to the Earth by gravity. This causes unsupported objects to fall.

Air resistance, water resistance and friction are contact forces that act between moving surfaces. The object may be moving through the air or water, or the air and water may be moving over a stationary object.

A mechanism is a device that allows a small force to be increased to a larger force. The pay back is that it requires a greater movement.

The small force moves a long distance and the resulting large force moves a small distance, e.g. a crowbar or bottle top remover. Pulleys, levers and gears are all mechanisms, also known as simple machines.

Year 5— Forces

Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object..

Identify the effects of air resistance, water resistance and friction that act between moving surfaces.

Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

(National Curriculum, 2014)



Websites you could look at if you like this topic

DK kids

<https://www.dkfindout.com/uk/science/forces-and-motion/what-is-force/>

Kids Britannica

<https://kids.britannica.com/kids/article/force/400287>

Bitesize


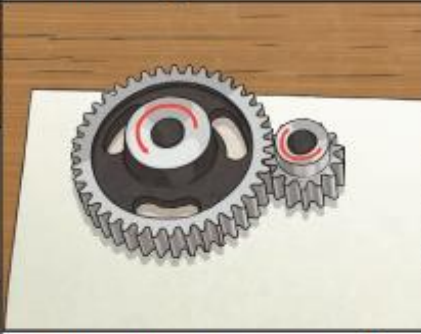

<https://www.bbc.co.uk/bitesize/topics/zvr3nrd>

School Values

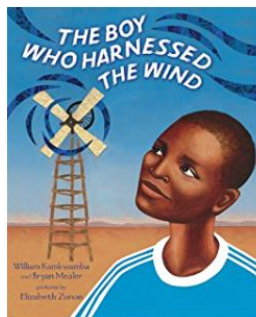
Happiness – Taking part in practical experiments

Responsibility – How to use motions for sustainability

Honesty & Respect – working together on investigations

Pulleys	Gears/Cogs	Levers
		
Pulleys can be used to make a small force lift a heavier load. The more wheels in a pulley, the less force is needed to lift a weight .	Gears or cogs can be used to change the speed, force or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.	Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.

Books you could read if you like this topic



The Boy Who Harnessed the Wind – William Kamkwamba



Powerful Forces – Jon Richards & Rob Colson