Year 5 Forces

SCIENCE KNOWLEDGE ORGANISER

Key Vocabulary

Forces	Pushes and pulls that can change the motion and shape of an object.
Balanced forces	When opposing forces are equal so an object remains still or steady.
Gravity	A pulling force exerted by one object on another object.
Mass	A measure of how much matter or stuff that an object is made of.
Weight	A measure of the force of gravity that pulls on an object.
Friction	A pushing force resisting an object when it moves over another object.
Air resistance	Friction caused by air pushing against a moving object.
Water resistance	Friction caused by water pushing against a moving object.
Streamlined	When an object is shaped to reduce the effect of air or water resistance.
Mechanism	Parts in a machine that work together to reduce the effort needed.

Key questions

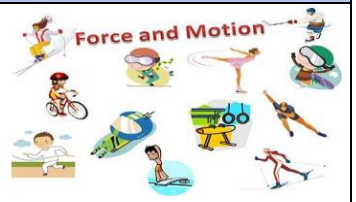
Why is gravity stronger on Earth than the Moon? The greater the mass, the greater the gravity.

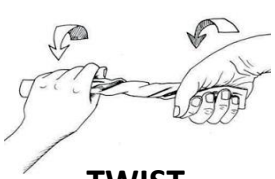
What happens if two opposing forces are unbalanced? There will be a change in the speed, direction or shape of an object.

Name three forces that can slow a moving object? Air resistance, water resistance and friction.

Key Knowledge

Forces can make an object stop or start to **move** and forces can **change** an object's speed, direction or shape.





pushes or **pulls** but they can sometimes be **twists**

Forces can be **Balanced** (still or steady) or **Unbalanced** (causing a change)

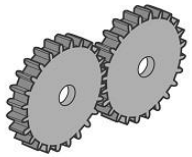
Isaac Newton was a British scientist who is famous for his theories about **gravity** and three laws of motion.

Mass is how much matter an object is made of (kg).

Weight is how strong gravity pulls an object down (N).

Air resistance and **water resistance** are examples of **friction**, which acts between moving surfaces or objects.

Gears change the speed, force or direction of movement.



Mechanisms are parts in a machine that use forces to make tasks easier to do.

Levers and **pulleys** both reduce the forces needed to lift a load.