Science – Year 5
Forces

(Previous knowledge – refer to Knowledge Organiser Year 3 – Forces and Magnets)

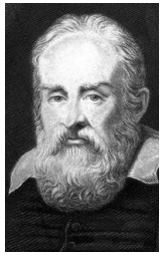
Vocabulary		
Tier 1	Tier 2	Tier 3
Force	Gravity	Buoyancy
Surface	Mechanisms	Water resistance
Gears	Levers	Air resistance
Speed	Pulleys	Friction
Direction	Weight	Streamline
Opposing	Mass	Force meter

Useful Resources

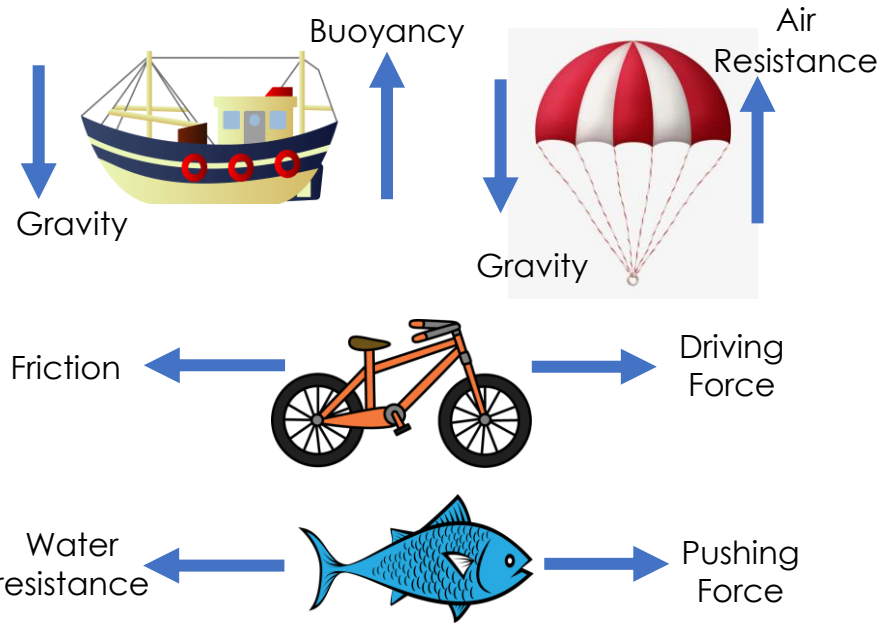
- Force meters.
- Different materials to investigate the effects of friction, such as sandpaper, stone, grass and ice.
- Different mechanisms, including levers, pulleys and gears.

Key Scientists:

Galileo Galilei (1564-1642) – was an Italian physicist who is famous for his concept of inertia. This states that a moving object will continue to move unless an external force acts upon it.



Examples of Opposing Forces Acting on Objects:



Types of Mechanisms

1. Levers
2. Pulleys
3. Gears

Key Questions/Facts

What are forces?

- Forces affect the movement or shape of an object.
- They can make an object start to move, stop moving, move faster or move more slowly.
- They could also make an object change its shape or cause a moving object to change direction.

What is gravity?

- Gravity is a pulling force exerted by the Earth. The gravitational force from the Earth pulls in a direction towards the centre of the Earth.
- All objects exert a gravitational pull. However, the strength of an object's gravitational pull depends on its mass.

What is friction?

- Friction is a force between two surfaces that are sliding, or trying to slide, across each other.

What is the difference between mass and weight?

- Mass is how much matter is inside an object. It is measured in kilograms (kg).
- Weight is how strongly gravity is pulling an object down. It is measured in newtons (N).

How can we reduce the affects of friction?

- Objects that do not experience much water or air resistance are described as streamlined.