

# Eagle Owls

# FORCES - Knowledge Organiser

## Key Vocabulary

**FORCES** - pushes or pulls

**GRAVITY**- a pulling force exerted by the Earth

**WEIGHT** - measure of the force of gravity acting on an object

**MASS** - a measure of how much matter is inside an object

**FRICTION** - a force that acts between two surfaces or objects that are moving, or trying to move, across each other

**AIR RESISTANCE** - a type of friction caused by air moving across an object

**WATER RESISTANCE** - a type of friction caused by water moving across an object

## Famous Scientists

**Isaac Newton:** he famously is thought to have developed his theory on gravity when he saw an apple fall from a tree to the ground.



## Useful Websites

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

<https://www.bbc.co.uk/bitesize/topics/znmmn39>

It has a pointed nose to cut through the water, and a smooth, low, curved back to allow the water to flow over and around it.

This shark is **streamlined**.

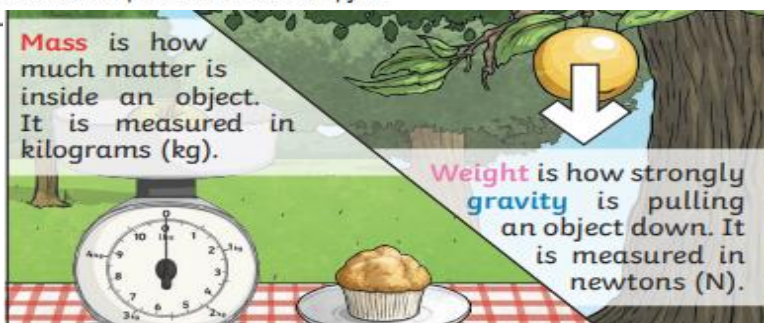


It does not create much **water resistance** so it can move through the water quickly.

Examples of **forces** in action:



**Water resistance** and **air resistance** are forms of **friction**. **Friction** is sometimes helpful and sometimes unhelpful. For example, **air resistance** is helpful as it stops the skydiver hitting the ground at high speed. **Friction** on a bike chain can make the bike harder to pedal so it is unhelpful.



## Pulleys



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/Cogs



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



Levers can be used to make a small **force** lift a heavier load. A lever always rests on a pivot.