

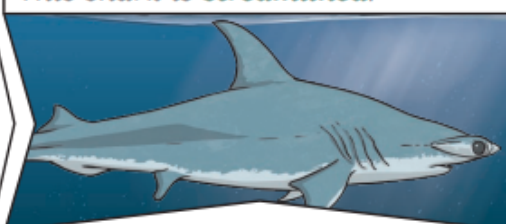
# Year 5 - Forces and Magnets

## Key Vocabulary

<b>friction</b>	A <b>force</b> that acts between two surfaces or objects that are moving, or trying to move, across each other.
<b>air resistance</b>	A type of <b>friction</b> caused by air pushing against any moving object.
<b>water resistance</b>	A type of <b>friction</b> caused by water pushing against any moving object.
<b>buoyancy</b>	An object is buoyant if it floats. This is because the weight of the object is equal to the <b>upthrust</b> .
<b>streamlined</b>	When an object is shaped to minimise the effects of <b>air</b> or <b>water resistance</b> .
<b>mechanism</b>	Mechanisms are simple machines with moving parts that change input forces and movement into a set of useful output forces. Examples of <b>mechanisms</b> are pulleys, gears and levers.
<b>upthrust</b>	A <b>force</b> that pushes objects up, usually in water.

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.

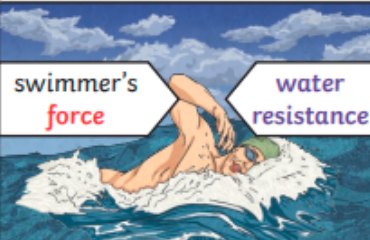
This shark is **streamlined**.




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

## Key Knowledge


Examples of **forces** in action:



swimmer's **force**      **water resistance**


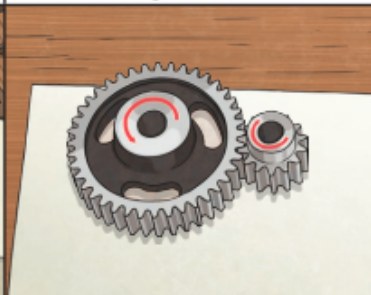



**gravity**  
**air resistance**



cyclist's **driving force**      **friction**

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