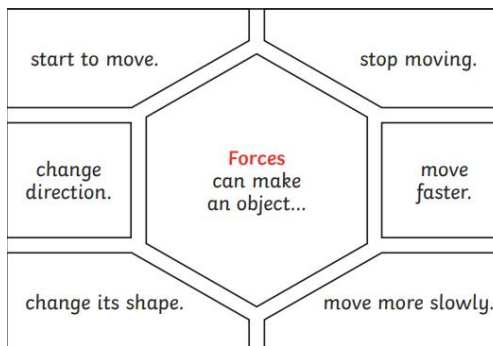


FORCES – RED SQUIREL CLASS

Key Vocabulary	
forces	Pushes or pulls
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
gravity	A 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.
buoyancy	An object is buoyant if it floats.
stream-lined	When an object is shaped to minimise the effects of air or water resistance.
mechanism	Mechanisms are simple machines with moving parts that change input forces and movement into a set of useful output forces.
upthrust	A force that pushes objects up, usually in water.



The Moon has a smaller **mass** than Earth so the **gravitational pull** on the Moon is smaller than it is on Earth.



Jupiter has a greater **mass** than Earth so the **gravitational pull** on Jupiter is stronger than on Earth.



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.

Examples of mechanisms are pulleys, gears and levers.

Pulleys	Gears/Cogs	Levers
<p>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.</p>	<p>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.</p>	<p>Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.</p>

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).

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.

Important people and places:

Sir Isaac Newton



Links to previous learning:

- Famous scientists and inventors
- Space