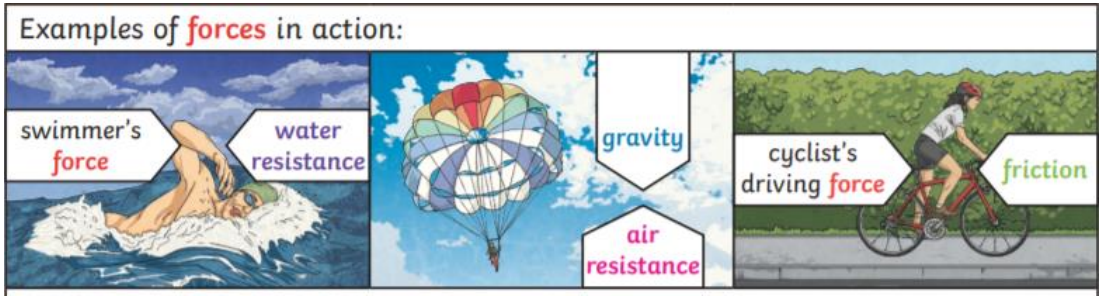
Meadow Vale Primary School		
Topic: Forces	**Subject(s):** Science	**Year:** 5

What should I already know?

- That some forces need contact between two objects
- That objects can move at different speeds over different surfaces
- That gravity is what causes objects to stay on the ground

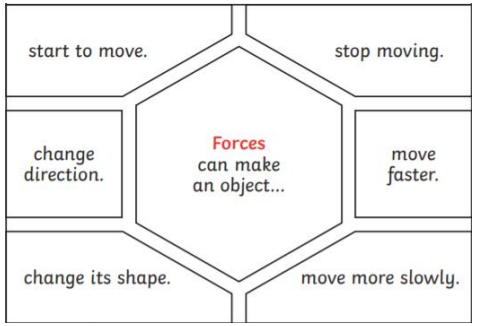
General vocabulary

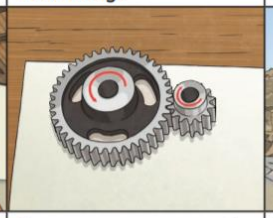
forces	A force is a push or pull on an object
gravity	A pulling force exerted by Earth
weight	The measure of the force of gravity on an object
mass	A measure of how much matter ('stuff') is inside an object
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other
air resistance	A type of friction caused by air 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. This is because the weight of the object is equal to the upthrust.
streamlined	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. Examples of mechanisms are pulleys, levers and gears.
upthrust	A force that pushes objects up, usually in water



Scientific enquiry and skills

- To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- To identify the effects of air resistance, water resistance and friction, that act between moving surfaces.
- To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.



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