

Key vocabulary	
force	A force is a push or a pull. Forces make objects start moving, stop moving, speed up, slow down or change direction.
gravity	A force which pulls things down towards the center of the Earth.
force meter	Piece of equipment used to measure the size of a force.
Newton (N)	The unit for measuring force.
air resistance	The force that slows down objects that move through air.
water resistance	A force that slows down objects moving through water.
friction	When one surface moves against another, the rubbing force that tries to stop them is called friction. It gives us grip.
mechanism	A device that allows a small force to be increased to a larger force.
simple machines	Lever, pulleys and gears are all types of simple machines.

Forces – Year 5

Knowledge

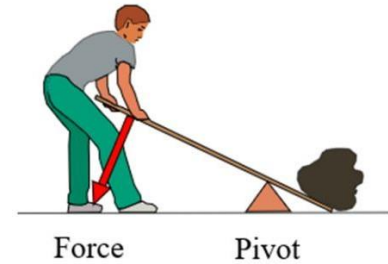
- Unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Air resistance, water resistance and friction are forces that act between moving surfaces.
- Some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Key questions

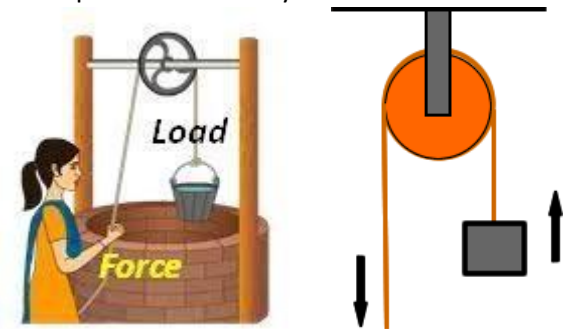
- Describe the effect of simple forces that involve contact (air and water resistance, friction), that act at a distance and gravity.
- Draw simple conclusions, explain and evaluate the methods and findings, communicating these in a variety of ways.

Simple machines

These are used to make tasks easier. This means you need to use less force.



A lever tilts on a pivot which is nearer to the end of the pivot with a heavy load.



Pulleys have a rope or cable which goes over a wheel. This is pulled to lift, lower or move heavy objects.



Gears are toothed wheels which lock together and turn each other to form simple machines.

Real-life examples of forces in action



A parachute uses air resistance to slow down the fall of a skydiver.



Dolphins have a streamlined shape to reduce water resistance.



A non-slip mat uses friction to give us grip.



Seeds fall to the ground because of gravity.