

# Year 5 Forces Knowledge Organiser



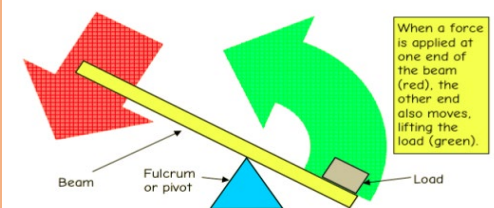
## Star Vocabulary

friction	The resistance that one surface or object encounters when moving over another.
mechanisms	A system of parts working together in a machine.
Simple machines	Any of the basic mechanical devices for applying a force.
levers	A rigid bar resting on a pivot.
pulleys	A wheel with a grooved rim around which a cord passes.
gears	A simple machine with teeth that increases the force needed to push or pull something.

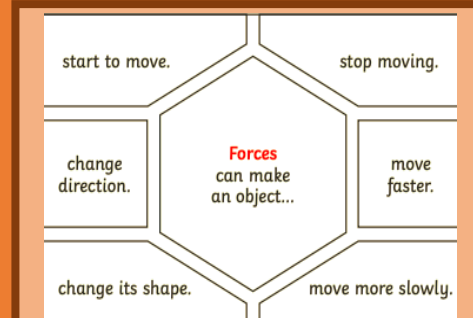
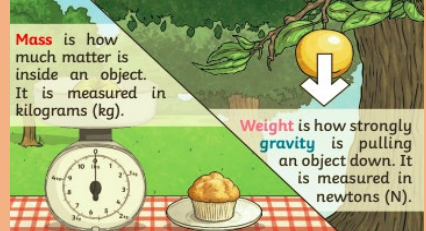
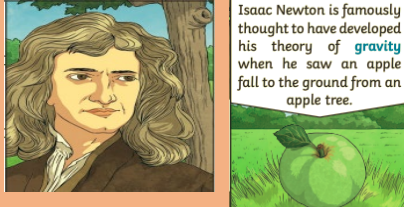
Compare how things move on different surfaces and notice that some forces need contact between two objects.

Using force arrows in diagrams, adding forces in one dimension and balanced and unbalanced forces.

-A force causes an object to start moving, stop moving, speed up, slow down or change direction.  
 -Gravity is a force that acts at a distance. Everything is pulled to the Earth by gravity and this cause unsupported objects to move.  
 -Air resistance, water resistance and friction are contact forces that act between moving surfaces. The object may be moving through the air or water, or the air and water may be moving over a stationary object.



A lever is one of the oldest and simplest machines used by humans. A lever consists of just two parts – a beam (the long part) and a fulcrum or pivot (hinge). The beam rotates along the fulcrum. Levers are useful because they allow humans to lift heavy weights by applying a smaller force.

## Progression

Understand what forces are and how gravity works between the earth and falling objects.

Investigate if levers and pulleys allow a smaller force to have a greater effect.

Describe if the weight of an object changes in water.

Explain which forces we experience in our everyday life.

Observe the effects of water and water resistance.

Explain what effect forces have on an object.