

# Science Knowledge Organiser – Year 5

## Key Vocabulary

**Force** – a push or a pull which causes an object to accelerate, decelerate, stop or change direction

**Accelerate** – speed up

**Decelerate** – slow down

**Exerts** – applies (a force)

**Normal force** – a support force that is exerted on an object that it is contact with another stable object. It stops us being pulled through the floor by gravity.

**Gravity** – the force that attracts an object towards the centre of the earth

**Friction** – a resistance force that is created when one surface makes contact with and moves over another

**Air resistance** – the frictional force air exerts against a moving object

**Water resistance** – the frictional force that occurs when an object moves through water

**Gear** – a toothed wheel that can change the speed or direction of a motion

**Pulley** – used to pull heavy weights by changing the direction of a force.

**Lever** – a simple machine used to lift heavy weight.

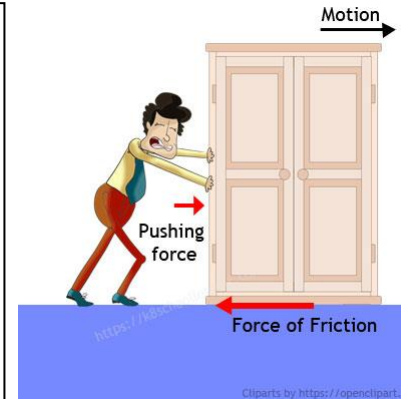
**Fulcrum** – the pivot point of a lever



## Forces

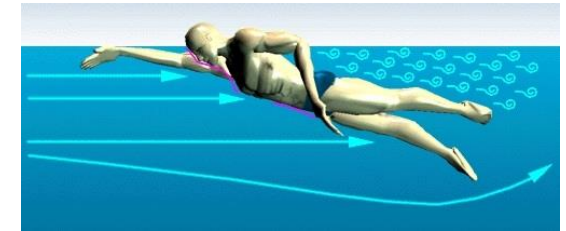
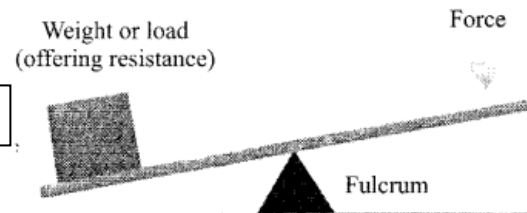
Every force is a push or a pull. We cannot see forces but we can see the effects of them. A force can cause an object to accelerate, to decelerate, to stop or to change direction.

Friction is the resistance force created when two objects rub together. When there is a lot of friction created between two objects, they will be more difficult to move. This happens when the objects rubbing together are rough. When the objects are smooth, less friction is created and the objects are easier to move. Friction slows down a moving object.



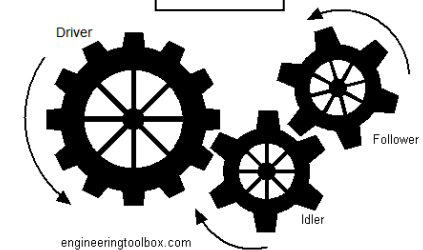
Air resistance is the frictional force that air exerts against a moving object. Air resistance is what slows down someone falling through the air with a parachute. The larger the surface area of an object, the more air resistance is created.

## Lever



Water resistance is the frictional force that water exerts against a moving object in water. Much like air resistance, the larger the surface area of an object, the more water resistance is created. A streamlined object in water will create less water friction.

## Gears



## Pulley

