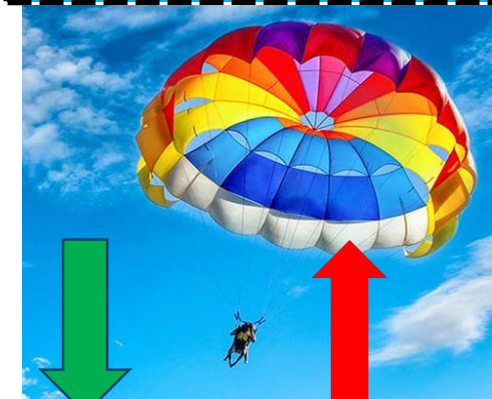


# Year 5 – Forces

## Key Facts



Gravity pulls the parachute to the ground

Air resistance pushes upwards and slows the parachute



Air resistance and water 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 speed. Friction on a bike chain can make the bike harder to pedal so it is unhelpful.



**Pulleys** can be used to make a small force lift a heavier load. The more wheels in the 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 or fulcrum.

## Key Vocabulary

|                  |   |
|------------------|---|
| Air resistance   | A type of friction caused by air 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.   |
| forces           | A push or pull that causes a change in speed, direction or shape.                                       |
| 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)                                  |
| mass             | A measure of how much matter is inside an object, measured in KG  |
| mechanism        | Parts which work together in a machine. Pulleys, gears and levers are examples of mechanisms.           |
| Newton           | The unit in which force is measured. (N)  |
| streamlined      | When an object is shaped to minimise the effects of air or water resistance.                            |
| upthrust         | A force that pushes objects up, usually in water.   |
| Water resistance | A type of friction caused by water pushing against any moving object.                                   |
| weight           | The measure of the force of gravity on an object  |