St Peter's Catholic Primary School

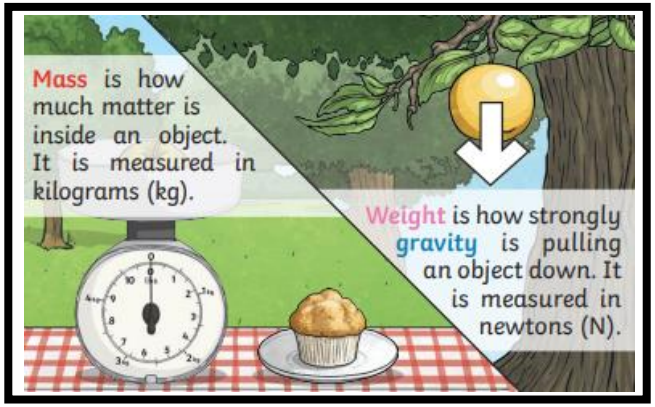
Year 5 Science Forces

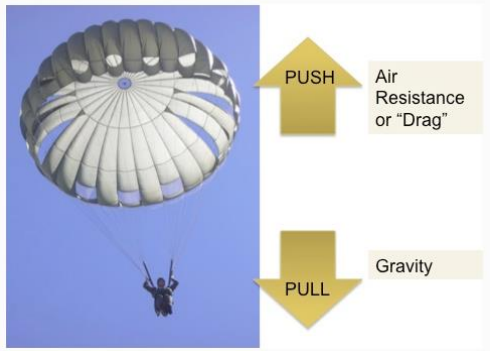
What I should already know:

- how things move on different surfaces
- that some forces need contact between 2 objects, but magnetic forces can act at a distance
- how magnets attract or repel each other and attract some materials and not others
- how to compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- whether 2 magnets will attract or repel each other, depending on which poles are facing

At the end of this topic, I will know:

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





Key Facts:

Forces can make an object: start to move; stop moving; change direction; move faster; change shape; move more slowly

Isaac Newton is famous for supposedly developing his theory of gravity when he observed an apple falling from a tree.

The Moon's gravitational pull is less than Earth's because it has a smaller mass.

Jupiter has a greater mass than Earth, so has a stronger gravitational pull.

Vocabulary

Force	Pushes or pulls.
Gravity	A pulling force exerted by the Earth (or anything else which has mass).
Earth	Our planet, which has its own gravitational pull. This keeps us on the ground.
Air resistance	type of friction caused by air pushing against any moving object.
Water resistance	type of friction caused by water pushing against any moving object.
Friction	force that acts between two surfaces or objects that are moving, or trying to move, across each other.
Mechanism	simple machines with moving parts that change input forces and movement into a set of useful output forces.
Weight	The measure of the force of gravity on an object.
Mass	A measure of how much matter (or 'stuff') is inside an object.
Levers	used to make a small force lift a heavier load. A lever always rests on a pivot.
Pulleys	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	used to change the speed, force or direction of a motion