



St Andrew's C of E Maghull Science Knowledge Organiser



Year 5 –Autumn 2 – Forces including simple machines

Key Knowledge

I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces.

I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.



Vocabulary

Earth - Earth is the planet that we live on.

Force - A force is a push or a pull. Forces can make objects move, slow down, change direction or change shape.

Gravity - Gravity is the force that attracts objects to Earth.

Air resistance - Air resistance is a type of friction force which acts between the air and the surface of an object.

Water resistance - Water resistance is a type of friction force which acts between a liquid and the surface of an object.

Friction - Friction is a type of force that acts between surfaces.

Mechanism - A mechanism is something which performs a task.

Simple machine - A simple machine is something which performs a task and has no, or few, moving parts.

Lever - A lever is a simple mechanism or machine which is useful for lifting things.

Pulley - A pulley is a simple mechanism or machine which is useful for lifting things.

Gear - A gear is a simple machine which is useful for turning things.



Lesson Sequence

Lesson 1

I can explain why unsupported objects fall towards Earth.

Lesson 2

I can measure pushes and pulls using a force meter.

Lesson 3

I can plan an investigation to measure the effects of friction.

I can carry out an investigation into friction and evaluate results.

Lesson 4

I can plan an investigation to measure the effects of air resistance.

I can carry out an investigation into air resistance and evaluate results.

Lesson 5

I can plan an investigation to identify the effects of water resistance.

I can carry out an investigation into water resistance and evaluate results.

Lesson 6

I can describe how levers, pulleys and gears can make difficult work easier.

Lesson 7

End of Unit celebration of knowledge.