



Jerry Clay Academy  
Subject Knowledge Organiser

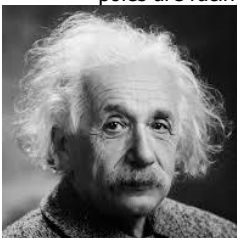
Subject: Science (Forces) Year Group: 5 Term: Summer

### Core Learning of This Unit:

- To find out how forces can make an object start to move, stop moving, change direction, move faster, move slowly and change its shape.
- To know that mass is how much matter is inside an object. It is measured in kilograms (kg).
- To know that weight is how strongly gravity is pulling an object down. It is measured in newtons (N).
- To find out that water resistance and air resistance are forms of friction.
- To find out how pulleys can be used to make a small force lift a lighter load and that gears or cogs can be used to change the speed, force or direction of a motion.
- To know that a lever can be used to make a small force lift a lighter load. A lever always rests on a pivot.

### Prior Learning:

- From Y3 children should be able to : Compare how things move on different surfaces
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance
- Observe how magnets attract or repel each other and attract some materials and not others
- 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
- Describe magnets as having two poles
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.



### National Curriculum Statements:

Pupils should be taught to:

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

### Key Vocabulary:

- Force- A pull or pull upon an object resulting from its interaction with another object
- Friction- The resistance that one surface or object encounters when moving
- Gravity- The force that attracts a body towards the centre of the Earth
- Repel- To force back or away
- Attract -To draw closer by an unseen force
- Resistance -Withstands the action
- Magnet- A piece of iron that attracts objects containing iron and points north and south when suspended
- Streamlined- Designed with a shape that gives little resistance to the flow or air and water
- Buoyancy- Able to float

### Significant People

Albert Einstein was a German-born theoretical physicist who developed the theory of relativity, one of the two pillars of modern physics. His work is also known for its influence on the philosophy of science.