

<b>Subject</b>	Science
<b>Term</b>	Spring
<b>Duration (Approx)</b>	6 Weeks
<b>Module</b>	Electricity and Magnetism

**Skills and concepts to be developed and assessed (linking to identified AOs)**

- We use electricity in our everyday lives. This topic aims to explain more about the science concepts involved.
- The practical work includes static electricity, making circuit in pairs using a range of components and taking measurements using analogue and digital meters, investigating the magnetic fields around bar magnets and creating an electromagnet.
- The mathematical relationship between voltage, current and resistance is used for calculations of these variables to answer problem-solving questions.

**Factual knowledge to be taught and assessed (including subject specific vocabulary).**

- Static electricity, fields and charges
- Series and parallel circuits
- Measuring electrical current and voltage
- Relationship between voltage, current and resistance
- Magnetic forces and the Earth's magnetic field
- Electromagnets and their uses

**Formative Assessment/key piece of work prior to end of unit:**

- Graded written work with constructive feedback
- Accurate scientific circuit diagrams, tables of results and conclusions
- Calculations

**Summative Assessment:**

- End of unit test



**Building Retention: What prior learning must be built upon/revisited and how will it be assessed?**

- Electricity is studied in year 4 and 6 where pupils make simple circuits. Magnetism is studied in Year 3.
- In KS3: They make their own more complex circuits and take quantitative measurements.

**Spelling-Punctuation-Grammar How will you promote high standards within this module?**

- Literacy: Vocabulary and definitions. Reinforce spellings by sorting out letter arrangement.
- Drafting work
- Accurate vocabulary / glossary use
- Word walls and lists

**Link forward: where next for the learning?**

- Pupils will transfer Scientific skills and knowledge to other topics and subjects in the KS3 curriculum, as well as their GCSE Science.



<b>Subject</b>	Science
<b>Term</b>	Spring
<b>Duration (Approx)</b>	6 Weeks
<b>Module</b>	Forces

### Skills and concepts to be developed and assessed (linking to identified AOs)

- Scientifically, forces (including weight) are measured in Newtons. In this topic we explore forces by experimenting with masses, helium balloons, simple machines and more.
- This topic introduces the use of mathematical formulas in Science. Pupils rearrange equations to solve problems. We also use, and plot, line graphs to represent data and these relationships.

### Factual knowledge to be taught and assessed (including subject specific vocabulary).

- Measuring and representing Forces
- Gravity and Weight
- The relationship between average speed, distance and time
- Balanced and unbalanced forces
- Simple machines
- Turning forces and calculating moments
- Pressure, including for liquids and gases

### Formative Assessment/key piece of work prior to end of unit:

- Graded written work.
- Key 'Working Scientifically' skills such as doing investigations, tables of results, plotting graphs and reaching conclusions.
- Calculations.

### Summative Assessment:

- End of unit test

### Building Retention: What prior learning must be built upon/revisited and how will it be assessed?

- In the latest National Curriculum, Forces are studied as KS2 topics in Years 3 and 6. We build on this learning and the pupil's growing scientific and mathematical skills

### Spelling-Punctuation-Grammar How will you promote high standards within this module?

- Literacy: Vocabulary and definitions. Reinforce spellings by sorting out letter arrangement.
- Drafting work
- Accurate vocabulary / glossary use
- Word walls and lists

### Link forward: where next for the learning?

- Pupils will transfer skills and knowledge to other topics and subjects in the KS3 curriculum and to their GCSE science study