

Subject Name:	Science
Curriculum Intent Statement	
<p>As Science teachers, it is our intent is to provide a science curriculum, which will develop scientific knowledge, skills and conceptual understanding through the disciplines of Biology, Chemistry and Physics. Our teaching of science must encourage students to be scientifically literate, think critically about the world, so that in their futures they will recognise the impact of science on their everyday lives.</p>	
Autumn Term 1	
<p>Chemistry - The Periodic Table and Materials</p> <ul style="list-style-type: none"> • The Periodic Table • History of the Periodic Table • Metals and non-metals • Alloys (higher) • Ceramics (EXT) • Polymer (EXT) • Composites (EXT) • Atomic structure • Electron configuration 	<ul style="list-style-type: none"> • Relative atomic mass and formula mass • Alkali metals • Halogens • Noble gases • Reactivity in group 1 and 7 • Naming compounds • Writing formulae • Endothermic and exothermic reactions • Gas tests
Autumn Term 2	
<p>Chemistry - Chemical reactions and the environment</p> <ul style="list-style-type: none"> • Metals and oxygen • Metals and acids • Acids and hydroxides • Acids and carbonates • Conservation of mass • Word and symbol equations • Balancing equations • Combustion • Reactivity series • Displacement reaction (EXT) 	<ul style="list-style-type: none"> • Extracting metals (EXT) • Reaction profiles (EXT) • Calculating reaction rates • Factors affecting reaction rates • Catalysts • Rate of reaction – concentration • Fossil fuel formation • Climate change • The greenhouse effect • Carbon cycle • Recycling

Spring Term 1

Physics - Waves and pressure

- Energy transfers
- Transverse and longitudinal waves
- Producing sound
- How sound travels
- Hearing sounds
- Waves calculations
- Electromagnetic spectrum
- Introduction to light
- Comparing light and sound waves
- The eye
- Reflection
- Refraction
- Seeing colour
- Pressure over area
- Pressure in liquids
- Pressure in gases

Spring Term 2

Electricity and magnetism

- Static electricity (EXT)
- Conductors and Insulators
- Electrical circuits
- Current
- Potential difference
- Measuring potential difference
- Series and Parallel circuits
- Resistance in a circuit (EXT)
- Power in a circuit (EXT)
- Magnets
- Making Magnets
- Drawing magnetic fields
- Earth's magnetic field
- Electromagnets (EXT)
- Using Electromagnets (EXT)

Summer Term 1

Energy from food

- Food groups
- Balanced and unbalanced diets
- Energy in food
- Tissues and organs of the digestive system
- Digestion
- Absorption – diffusion, active
- Transport, osmosis (EXT)
- Enzymes in the digestive system
- Photosynthesis
- Leaf adaptations – Gas exchange
- Root adaptation - Absorption of water
- Transpiration/translocation (EXT)
- Testing for starch

Summer Term 2

Keeping Healthy

- Sub cellular structures (recap)
- Cells, tissues, organs and systems
- The lungs
- Breathing
- Gas exchange
- The heart and blood
- The circulatory system
- The skeletal & muscular system
- (EXT)
- Aerobic respiration
- Anaerobic respiration
- Exercise and respiration
- Communicable vs non communicable diseases
- Microorganisms
- Pathogens
- Antibiotics
- Human defences
- Vaccination (EXT)
- Drugs & lifestyle choices (EXT)