

Year 5		
Term	Topic	
Autumn 1	How Science Works	A range of practical skills and investigation skills to prepare them for the other topics.
Autumn 1	Materials	Properties of solids, liquids and gases. Classify materials according to solubility, magnetism and thermal and electrical conduction. Factors affecting the rate of dissolving. Changes of state Methods of separation including filtering, sieving, evaporation and distillation.
Autumn 2	Staying Alive	The location and function of major body organs. The structure and function of the circulatory system including the heart and blood vessels. The implications of a healthy diet and lifestyle. The implications of smoking.
Spring 1	Forces	The effects of balanced and unbalanced forces. The accurate measurement of forces. The effects of friction, up thrust, air resistance, magnetism and gravity.
Spring 2	Space	The relative positions of the Earth, Sun and Moon. The time taken for the Earth to orbit the Sun and the time taken for the Moon to orbit the Earth. The planets and their position in the solar system The development of the heliocentric model of the solar system.
Summer 1	Growing up and getting old	To describe the human timeline in the right order. To describe what gestation means. To describe the changes that happen to girls' and boys' bodies at puberty. To describe how our height changes as we grow up.
Summer 2	Life Cycles	The processes of pollination, fertilisation, seed dispersal and germination. The growth and development of plants. The life cycles of frogs, butterflies and honey bees.

Summer 2	Filling in the gaps / misconceptions after the GL test.	
----------	---	--

Year 6		
Term	Topic	
Autumn 1	Practical Skills and How Science Works	A range of practical skills and investigation skills to prepare them for the other topics.
Autumn 2	Electricity	Common circuit symbols. How to construct series and parallel circuits. Effects of increasing the number of components in a series circuit.
Spring 1	Classification	Grouping living things into categories and explaining why they are in certain groups. Vertebrates and invertebrates.
Spring 2	Evolution	How living things change over time. Why living things change over time. How giraffes evolved to have long necks.
Summer 1	Light	To explore how light travels in different mediums. To explore how shadows are created.
Summer 2	Earth and Space	The relative positions of the Earth, Sun and Moon. The time taken for the Earth to orbit the Sun and the time taken for the Moon to orbit the Earth. The planets and their position in the solar system The development of the heliocentric model of the solar system.
Summer 2	Sound	Explaining pitch and volume in terms of the frequency and amplitude of waves respectively.

Year 7		
Term	Topic	
Autumn 1 and 2	1. Cells 2. Light 3. Particles	1. Plant and animal cells. Specialised cells. Unicellular organisms. Using a microscope. 2. Laws of reflection and refraction. The effect of convex and concave mirrors. The effect of lenses 3. The properties of the different states of matter (solid, liquid and gas) in terms of particle model. Changes of state in terms of particle model. Changes with temperature in motion and spacing of particles. Diffusion in terms of particle model. The concept and identification of a pure substance.
Spring 1 and 2	4. Elements, Atoms and Compound 5. The Periodic Table 6. Reactions 7. Forces	4 and 5. The Dalton model of the atom. The work of Demetri Mendeleev and the formation of the periodic table. The formation of compounds including the reactions of group 1 metals and water. The Law of conservation of mass during a chemical reaction. 6. Exploring different chemical reactions and representing them as word and symbol equations. Exploring the conservation of mass and exothermic and endothermic reactions. 7. Exploring different everyday forces; squashing, stretching, twisting, turning. Exploring the causes of friction. Investigating balanced and unbalanced forces.
Summer 1 and 2	8. Structure and Function of Body Systems	8. Gas exchange in the lungs and breathing. The skeleton, movement and joints. Exploring how muscles work in antagonistic pairs.

	<p>9. Reproduction</p> <p>10. Acids and Alkalis</p>	<p>9. Reproduction in humans and mammals. Menstrual cycle. Reproduction in plants.</p> <p>10. Acids and alkalis, the pH scale and neutralisation. Exploring the use of indicators. Making salts.</p>
--	---	--

Year 8		
Term	Topic	
Autumn 1 and 2	1. Adaptation and Inheritance	<p>1. How and why animals and humans show variation. Competition between living organisms. Inheritance of characteristics. Natural selection. Extinction of animals.</p>
	2. Ecosystems	<p>2. Interdependence of organisms with an ecosystem. Food webs and pyramid of numbers and biomass. Variation and adaptations within an ecosystem.</p>
	3. Separation Techniques	<p>3. Definition of mixtures. Exploring how to separate different mixtures and solutions by filtration, evaporation, distillation and chromatography.</p>
Spring 1 and 2	4. Health and Lifestyle	<p>4. Food groups and the tests for starch, glucose, fat and protein. The role of enzymes within digestion. The function of the digestive organs. Respiration as the release of energy from glucose. The circulatory and respiratory system. The effects of smoking, drug use and an unbalanced diet.</p>
	5. Metals and Acids	<p>5. Exploring the reactions between metals and acids, metals and oxygen, and metals and water. Extracting metals from their metal ores.</p>

	<p>6. Electricity and Magnetism</p>	<p>Uses for ceramics, polymers and composites.</p> <p>6. Exploring the similarities and differences between parallel and series circuits. Investigating potential difference and its effects. Investigating resistance and its effects. Investigating magnets and magnetic fields. Uses of electromagnets.</p>
<p>Summer 1 and 2</p>	<p>7. Motion and Pressure</p> <p>8. Energy</p> <p>9. The Earth</p>	<p>7. Creating and interpreting distance-time graphs. Exploring pressures in gases and liquids. Investigating pressure on solids. Investigating moments and turning forces.</p> <p>8. Investigating food as a fuel. Exploring conduction, convection and radiation as ways of transferring energy. Creating energy transfer diagrams. Renewable and non-renewable energy resources.</p> <p>9. Investigating the Earth and its atmosphere. The rock cycle and the formation of sedimentary, igneous and metamorphic rocks. Exploring the carbon cycle. Climate change and recycling.</p>