Year 8 Science Academic Year

The study of Science fires pupils' curiosity about phenomena in the world around them and offers opportunities to find explanations. It engages pupils at many levels, linking direct practical experience with scientific ideas. Experimentation and modelling are used to develop and evaluate explanations, encouraging critical and creative thought. Pupils learn how knowledge and understanding in Science are rooted in evidence. They discover how scientific ideas contribute to technological change and lead to improving the quality of life. They trace the development of Science worldwide and recognise its cultural significance. They learn to question and discuss issues that may affect their own life and the future of the World.

The principal focus of science teaching in Key Stage 3 is to develop a deeper understanding of a range of scientific ideas in Biology, Chemistry and Physics. Pupils will begin to see the connections between these subject areas and become aware of some of the key ideas underpinning scientific knowledge and understanding. The teaching programme consists of individual topics which will develop scientific knowledge and understanding and use scientific enquiry to help pupils answer specific questions about the world around them.

Term 1	**Topic**	**Details**
1	**Introduction working scientifically Plants - Biology**	Working Scientifically Photosynthesis, Leaves,
2	**Plants - Biology**	Investigating Photosynthesis, Roots, transporting water and minerals
3	**States of Matter - Chemistry**	Particle Theory, Diffusion, Investigating Diffusion
4	**States of Matter - Chemistry**	Brownian Motion, Gas Pressure
5	**Measuring Motion - Physics**	How fast, measuring speed, speed check, speed calculations, patterns of movement, distance /time graphs
6	**Food and Digestion - Biology**	Nutrients, A balanced diet, Digestion and absorption
7	**Food and Digestion – Biology**	The Human digestive system, Teeth, Enzymes
8	**Mid Term Test and Review**	Mid Term Test and Review

9	**Elements and compounds – Chemistry**	Atoms, Atoms and Elements, The Periodic Table,
10	**Element and Compounds – Chemistry**	Compounds, Formulae
11	**The circulatory System - Biology**	The Human circulatory system
12	**The circulatory System - Biology**	The heart, blood, blood vessels
13	**Mixtures - Chemistry**	Compounds and mixtures, more about mixtures, separating mixtures
14	**Mixtures – Chemistry**	Chromatography, solutions
15	**Mixtures – Chemistry**	Solutions and solubility
16	**End of Term Test and Review**	

Term 2	**Topic**	**Details**
1	**Light - Physics**	How light travels, How shadows form, How reflections form
2	**Light – Physics**	How light bends, The spectrum of white light, coloured light
3	**Respiration – Biology**	The human respiratory system, Gas exchange
4	**Respiration – Biology**	Aerobic respiration, keeping fit, cigarettes and health
5	**Materials Change – Chemistry**	Physical and chemical changes, Burning
6	**Materials Change – Chemistry**	Reactions with acids, rearranging atoms
7	**Materials Change – Chemistry**	More about conservation of mass, detecting chemical reactions, Rusting
8	**Mid Term Test and Review**	

9	**Magnetism - Physics**	Magnets and magnetic materials, magnetic poles
10	**Magnetism – Physics**	Magnetic field patterns
11	**Magnetism – Physics**	Making an electromagnet, a stronger electromagnet
12	**Sound – Physics**	Changing sounds, looking at vibrations, how sound travels, sound on a screen, how we hear
13	**Reproduction and Development – Biology**	Gametes, The Human Reproduction system
14	**Reproduction and Development – Biology**	What happens to the egg cell?, From embryo to baby
15	**Reproduction and Development – Biology**	Growth and Development, Lifestyle and health
16	**End of Term Test and Review**	