Year 8

Year 8 science focuses on exploring the key scientific concepts which were introduced in year 7 as well as continuing to build the foundation of knowledge and skills needed for KS4.
In year 8 we introduce analysis skills the students will use to help deepen their understanding of the concepts covered.

Knowledge overview	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6
Topic	Working Scientifically 2	Digestion and breathing	Resources from Earth	Properties of waves	Evolution and inheritance	Magnetism
Theme	Working scientifically	Organisms 2	Earth's resources 2	Electromagnetism 3	Genes and Evolution 2	Electromagnetism 4
Overview	In this topic we will introduce the analysis skills the students will use to further explore their experimental findings. They will learn how to interpret line graphs, draw conclusions and explain them using their scientific understanding	In this topic students will consider what makes a balanced diet as well as explore the digestive system. Students will use models to represent the process of digestion and they will investigate the role of enzymes in digestion.	In this topic students will use scientific models to explain natural processes such as the greenhouse effect and will consider the scientific theories of how the atmosphere of the Earth as evolved over millions of years.	In this topic students will investigate the properties of magnets and electromagnets. Students will use their understanding of scientific equipment to build their very own electromagnets and use scientific concepts to explain how they work.	In this topic students will consider how organisms have changed over millions of years. Students will review the theories presented and interrogate the sources given to explain evolution.	In this topic students will investigate how waves interact with matter. Students will use their knowledge of waves to develop a working understanding of appliances such as speakers and microphones.

Knowledge overview	Topic 7	Topic 8	Topic 9	Topic 10	Topic 11	Topic 12
Topic	Building blocks of Chemistry	Work and Heating	Energy in an Ecosystem	Energy in Reactions	Forces and their interactions	Space and Seasons
Theme	Matter and the periodic table 2	Energy and Particles 2	Ecosystems 2	Chemical reactions 2	Forces and motion 2	Forces and motion 3
Overview	In this topic students will review how the theories and organisation of the periodic table has changed over the years. Students will retrace the steps of pioneers like Mendeleev in their quest to understand the building blocks of the universe.	In this topic students will gain an understanding of heat transfers and apply this to the concept of insulation. Students will investigate the ideas of conduction, convectional and radiation and deduce ways to reduce heat transfers from these processes.	In this topic students will relate the process of respiration and photosynthesis. Students will design experiments to investigate the factors which affect both of the biochemical processes.	In this topic students will gain an understanding of the role energy plays in chemical reactions. Students will devise hypotheses, plan variables, evaluate risks and collect data to help gain a better understanding of chemical reactions.	In this topic students will consider what are forces and how they interact with objects around us. Students will use equations and units to represent the effects of forces on everyday objects.	In this topic students will take an in depth look at how forces act on objects. Students will use algebraic equations to calculate the effects of forces as well identify how forces can be used in real world applications.