

YEAR 7 CURRICULUM PLAN FOR SCIENCE



TOPIC	KEY LEARNING	ASSESSMENT
Half-term 1 Particles in Action	To know how all matter can be classified as a Solid, Liquid or Gas. To know properties of each of these and use this to identify substances. To know how particles are arranged in each state of matter and be able use these to explain their properties. To know what happens when we heat or cool a liquid and be able to name the changes of state. To know what a mixture is and to know details of the following separation techniques: Sieving, Filtering, Chromatography, Evaporation, Distillation and Chromatography. To evaluate risks before an investigation and identify anomalous results	End of unit test: Particles
Half-term 2 Forces & Energy	To know the effects of forces on objects, examples of common forces and that they act in pairs. To be able to use a Force meter to measure the size of forces in Newtons and conduct an experiment to investigate the effect of forces on the extension of a spring. To know what friction is and instances when it can occur. To be able to calculate density and know why objects float or sink. Know that energy is measured in Joules and how to compare the energy content of different foods or Fuels. How Energy wastage can be reduced, the consequences of using fossil fuels and details of renewable energy sources. To be able to identify the independent and dependant variables in an experiment and to correctly label the axes on a graph.	End of unit test: Forces & Energy
Half-term 3 Elements & Compounds	To know how materials can be grouped and what is an element. To be to classify a material as a metal or non-metal. To be able to use the Periodic table to find the name or symbols of elements. To know what a compound is and be able to name them in a reaction as represent them as a formula. To be able to produce a compound and write a word equation and symbol equation for its production. To know what mixtures are and be familiar with the terms ceramics, polymers and composites. Know that mass is conserved in a chemical reaction. To be able to use data to identify patterns and draw conclusions. To be able to calculate the mean of the result	End of unit test: Elements & Compounds
Half-term 4 Chemical Changes	To know how to describe chemical changes and classify a change as reversible or irreversible. To know examples of acids and alkalis and how to create and use indicator to determine the pH of a substance. To know what happens when an acid is neutralised. To know the properties of metals what happens in the reactions between acids and Metals/Metal Carbonates. To know how to test a gas for Hydrogen, Oxygen or Carbon dioxide. To know what happens in a combustion reaction and be able to conduct an experiment to produce Oxygen. To identify control variables and be able to plot data on a line graph.	End of unit test: Chemical Changes
Half-term 5 Cells, Tissues and Organs	To know where the majority of major body organs are and what they do. To be able to use the light microscope. To identify the parts of both plant and animal cells. To know examples of specialised cells and unicellular organisms. To be familiar with the term tissues and organ systems. To know the major bones in the skeleton and its use, and to know how the joints and muscles work to allow us to move. To know the different types of microbe, how they can be both useful and cause disease. To know how cultures of bacteria can be grown. To be able to draw a conclusion from a set of results and plot data on a bar chart.	End of unit test: Cells, tissues & Organs
Half-term 6 Reproduction	Where fertilisation happens in animals. To know the structure and function of the human reproductive organs. To know the processes in human fertilisation, Pregnancy and Birth. To be aware of the changes to the body that occur during puberty and details of the menstrual cycle. To know how reproduction occurs in plants including types of pollination and seeds dispersal. To be able to suggest improvements to a method and create suitable headings for a table of results.	End of unit test: Reproduction

NB: The order of topics may be different for some classes in order to reduce the demand for scientific apparatus at any one time.