

YEAR 7 CURRICULUM PLAN FOR SCIENCE



TOPIC	KEY LEARNING	ASSESSMENT
Half-term 1 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.	Mid-topic progress test: Forces Burning Crisp assessment End of unit test: Forces & Energy
Half-term 2 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 make predictions before an investigation and identify anomalous results	Mid-topic progress test: Particles End of unit test: Particles in Action
Half-term 3 Reversible and Irreversible 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 identify patterns in data from a graph.	Mid-topic progress test: Acids & Alkalis End of unit test: Chemical Changes
Half-term 4 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.	Mid-topic progress test: Cells End of unit test: Cells, tissues & Organs
Half-term 5 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.	Mid-topic progress test: Human Reproduction End of unit test: Reproduction
Half-term 6 Electricity and Magnetism	To be able to draw simple circuit diagrams using the correct symbols. To have an understanding what electric current is and how it can be measured. To know how current behaves differently in series and parallel circuits and be able to predict ammeter readings. To know how electricity can be dangerous. To know the magnetic materials and the interaction between magnetic poles. To know how a magnetic field can be observed and conduct an experiment to make a magnet. To know how electric current can produce a magnetic field and some uses of Electromagnets. To evaluate the risks when conducting an investigation and plot data on line graph.	Mid-topic progress test: Electricity End of unit test: Electricity & Magnetism

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