YEAR 9 CURRICULUM PLAN FOR SCIENCE

TOPIC	KEY LEARNING	ASSESSMENT
Half-term 1 Health Metal Reactions Energy	**Biology**: To know the importance of a balanced diet containing all food groups and the effect of malnutrition and deficiency diseases on the body. To know the effect of exercise smoking, drinking and other drugs on the body. Know the importance of a control group. **Chemistry**: To be aware of the main properties of metals, their reactions with oxygen, water and acids. To be able to use the reactivity series to predict displacement reactions. To know what random errors are and how to reduce the effect of them. **Physics**: To know how types of energy can be transferred and to be able to calculate the efficiency of devices. To know how electricity can be generated by both renewable sources and how electricity bills can be calculated.	**Mid-topic progress test**: Health (Biology) Energy (Physics)
Half-term 2 Disease Obtaining metals Electricity	**Biology**: To know the types of microbe, how they can spread and cause disease. To understand how vaccinations and antibiotics can help protect the body from infections. **Chemistry**: To know the methods used to obtain metals, how we can limit the waste of metals and how we can prevent their corrosion. To know what Alloys and examples of their use. To use data and observations to predict patterns. **Physics**: To know how current behaves in series and parallel circuits, what voltage is and how it can be measured and how resistance of components can be calculated. To know how to read analogue measuring devices and what the resolution of them are.	**Mid-topic progress test**: Metals (Chemistry)
Half-term 3 Variation & Genetics Chemical reactions Speed	**Biology**: To know the types of variation between living things. To have an understanding of what genes are and where they are located with cells. To be able to draw a curved line of best fit **Chemistry**: To know what a chemical reaction is. To be able to define combustion using a word equation **Physics**: To be able to calculate the speed of an object and to interpret motion from a distance time graph. To use a triangle to re-arrange the emphasis of an equation.	**End of topic test**: Health (Biology) Metals & Reactivity (Chemistry) Energy & Electricity (Physics)
Half-term 4 Variation & Genetics Chemical reactions Forces & Motion	**Biology**: To be able to construct genetic cross diagrams to identify inherited characteristics. To know how systematic errors occur. **Chemistry**: To carry out an investigation to find out how much energy a fuel can transfer. To have knowledge of the composition of the earth's atmosphere, and how the burning of fossil fuels can cause the greenhouse effect and the acid rain problem. Know how to plot a bar chart from given data. **Physics**: To know how balanced and unbalanced forces effect the motion of objects, how weight can be calculated and how the changing forces effect the speed of a falling object.	
Half-term 5 Genetics Chemical reactions Pressure	**Biology**: To evaluate the use of selective breeding and cloning. To know what is meant by evolution and have an understanding of the theory of Natural selection and how such theories develop over time. **Chemistry**: To be able to use chemical equations to describe oxidation reactions, to describe what happens when a metal carbonate reacts with an acid. To be able to carry out a simple neutralisation reaction to produce a salt. **Physics**: To know how pressure can be calculated and be aware of the effect of pressure in liquids and the air around us. To Know the difference between repeatable and reproducible results.	**Mid-topic progress test**: Variation & Genetics (Biology) Chemical reactions (Chemistry) Forces & Motion (Physics)
Half-term 6 Classification Chemical reactions Moments	**Biology**: To know how all living things are classified, including the sub-divisions of vertebrates and non-vertebrates and Flowering and non-flowering plants. **Chemistry**: To know what endo and exothermic reactions are and that in a chemical reaction, mass is conserved. To be able to evaluate the suitability of a method and suggest improvements. **Physics**: To know what moments are and how they can be used to explain how levers work and how to balance them through calculation.	**End of topic test**: Variation & Genetics (Biology) Chemical reactions (Chemistry) Forces & Motion (Physics)