KEY STAGE THREE CURRICULUM MAP 2021

SUBJECT: Science

			Autumn Spring 1			Spring 2 Summer			End of Year Project
YEAR 7	CURRICULUM RELATED EXPECTATIONS	KNOWING WHAT (information, facts & content)	**Cells and Digestion** Structure of cells and specialised cells. Diets, food groups and the digestive system.	**Particles** Changes of state. Simple particle model. Linking the particle model to physical properties, including: diffusion, pressure and density.	**Forces and Space** Contact and non-contact forces. Balanced and unbalanced forces. Weight and mass. The Solar System and the Universe.	**Atoms and Elements** Chemical symbols and formulae for elements and compounds. Identifying elements and compounds. Naming compounds. Writing chemical formula. The pH scale and neutralisation.	**Energy 1** Methods of heat transfer. The conservation of energy. Methods of generating electricity.	**Reproduction** The menstrual cycle. Human reproduction from fertilization to birth. Plant reproductive structures. Plant reproduction mechanisms.	**Biodiversity and Ecology** Local biodiversity. Factors that impact local biodiversity.
		KNOWING HOW (methods and processes)	Describe patterns in data. Use data to make predications. Interpret graphs and bar charts.	Make measurements. Use models. Assess risk and work safely.	Interpret graphs, identify patterns in data and draw conclusions from data.	Plot graphs and interpret results.	Interpret graphs and recognise trends and patterns in data. Develop arguments from evidence to support an idea. Energy calculations and algebra skills.	Describe patterns in data. Use data to make predictions. Interpret graphs and bar charts.	Field work skills. Describe patterns in data. Use data to make predictions. Create graphs and bar charts. Interpret graphs and bar charts.
		ASSESSMENT opportunities	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task.

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YEAR 8			Autumn Spring 1			Spring 2 Summer			End of Year Project
	CURRICULUM RELATED EXPECTATIONS	KNOWING WHAT (information, facts & content)	**Electricity** Circuit components. Series and parallel circuits. Current, potential difference and resistance. Ohm's Law.	**Respiration and Bioenergetics** Structure respiratory system. Aerobic and anaerobic respiration in a range of life forms. Photosynthesis in plant cells. Factors affecting the rate of photosynthesis.	**Chemical Reactions 1** Energy changes in reactions. Thermal decomposition. Metals and acids. The reactivity series and displacement. Conservation of mass. Balancing equations. Acids, alkalis and pH. Neutralisation.	**Separation Techniques and Rocks** Chemical purity. Dissolving and solutions. Separation techniques including: • Filtration • Evaporation • Distillation • Chromatography Conservation of mass. The Rock Cycle.	**Interdependence** Relationships shown in food webs, and pyramids of biomass. Detritivores and decomposition. Bioaccumulation. The Carbon Cycle. Global warming.	**Magnetism 1** Magnetic and non-magnetic materials. Magnetic fields. Static electricity. Electromagnetism.	**Chemical Reactions Project** Variables. Scientific method. Extrapolation of results.
		KNOWING HOW (methods and processes)	Use models. Make predictions. Identify hazards. Plan practical procedures.	Interpret graphs and recognise trends and patterns in data.	Write a word equation. Write a balanced chemical equation. Predict, describe and explain observations in chemical reactions. Recognise patterns in results.	Use scientific vocabulary, terminology and definitions. Interpret graphs to draw conclusions. Develop arguments from evidence to support an idea.	Interpret graphs and recognise trends and patterns in data. Develop arguments from evidence to support a theory.	Using models. Making predications. Identifying hazards. Planning practical procedures.	Plan investigations. Carry out investigations. Test a hypothesis.
		ASSESSMENT opportunities	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task.

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YEAR 9			Autumn Spring 1			Spring 2 Summer			End of Year Project
	CURRICULUM RELATED EXPECTATIONS	KNOWING WHAT (information, facts & content)	**Variation, Evolution and Inheritance** Variation between individuals of the same species. Inherited and environmental variation. Natural selection and biodiversity. Chromosomes, DNA and genes.	**Chemical Reactions 2** The Periodic Table Atomic structure and electron configuration. Rates of reaction and balancing equations. Global warming.	**Waves** Properties and features of longitudinal or transverse waves. Variations in sound and light waves. Reflection and refraction of light. Colour filters.	**Cells and Microscopes** Cell theory. Microscopy and magnification. Cell specialisation. Standard form.	**Atomic Structure** Atomic structure. Atomic theory. Chemical formulae. Chemical reactions.	**Magnetism 2** Magnetic and non-magnetic materials. Magnetic fields. Electromagnetism.	**Astronomy** Student and teacher led.
		KNOWING HOW (methods and processes)	Interpret graphs and recognise trends and patterns in data. Develop arguments from evidence to support a theory	Make predictions. Make measurements and draw graphs. Use scientific vocabulary, terminology and definitions. Develop arguments.	Use models. Make predictions. Make measurements. Use scientific vocabulary, terminology and definitions.	Apply knowledge. Make measurements. Use scientific vocabulary, terminology and definitions. Use specialist equipment. Use formulae to calculate unknowns. Use standard form.	Evaluate models. Use scientific vocabulary, terminology and definitions. Make predictions.	Use models. Make predications. Plan practical procedures.	Create research questions. Plan investigations. Use secondary data.
		ASSESSMENT opportunities	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Christmas assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task. End of unit quiz. Summer assessment.	Marking of application based task.

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