Curriculum intent (overview) – To deepen students' skills and knowledge through a broad and balanced curriculum which prepares students for adulthood.

8.1 - Navigator Curriculum – *Long Term Plan*

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Year	2025 – 2026 Autumn 1	2025 – 2026 Autumn 2	2025 – 2026 Spring 1	2025 – 2026 Spring 2	2025 – 2026 Summer 1	2025 – 2026 Summer 2
	Topic: (1) Health & Lifestyle B2.1 (2) The Periodic Table C2.1 **Suggested Key Questions:** **What do we need to maintain a healthy lifestyle?** **What does the periodic table show?** **Key Skills and Knowledge:** Health & Lifestyle B2.1 • Name some nutrients in a given diet. • Name the nutrients required by the human body. • State that food can be tested for starch, lipids, sugar, and protein. • State that food tests show colour changes. • State one potential problem for someone with an unhealthy diet.	**Topic:** (1) Electricity P2.1 **Suggested Key Questions:** **How is electricity generated and what measurements can be taken in a circuit?** **Key Skills and Knowledge:** Electricity P2.1 • Describe how to charge insulators. • State the two types of charge. • State what surrounds charged objects. • Name what flows in a circuit. • Name the equipment used to measure current. • Name the equipment used to measure current. • State the unit of potential difference.	**Topic:** (1) Ecosystem processes B2.2 **Suggested Key Questions:** **What is and ecosystem and what processes take place in an ecosystem?** **Key Skills and Knowledge:** Ecosystem processes B2.2 • State where photosynthesis .occurs in a plant • State the products of photosynthesis. • Carry out an experiment to test for the presence of starch in a leaf. • Name the main structures of a leaf. • State the function of the chloroplasts in a leaf. • Name the minerals required by plants.	**Topic:** (1) Separating Techniques C2.2 (2) Energy P2.2 **Suggested Key Questions:** **How can we separate various mixtures?** **What is energy and how is it transferred?** **Key Skills and Knowledge:** Separating Techniques C2.2 • State that parts of mixtures are not joined together. • State that different substances in mixtures have their own melting points. • Choose a simple separation technique with help. • Identify a solvent, solute, and solution in a given scenario.	**Topic:** (1) Adaptation & Inheritance B2.3 (2) Metals & Acids C2.3 **Suggested Key Questions:** **How have organisms adapted over time?** **What products are formed when metals react with acids?** **Key Skills and Knowledge:** Adaptation & Inheritance B2.3 • State some resources that plants and animals compete for. • State what is meant by the term adaptation. • Name an environmental change. • Give a possible reason for adaptation or extinction.	**Topic:** (1) Motion & Pressure P2.3 (2) The earth C2.4 **Suggested Key Questions:** **How can we calculate the speed of an object?** **What are the different layers of the Earth?** **Key Skills and Knowledge:** Motion & Pressure P2.3 • State the equation for speed. • Define relative motion. • Describe simply what a distance-time graph shows. • Use a distance-time graph to describe a journey qualitatively. • State two things that can affect gas pressure. • State the cause of atmospheric pressure.

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	• State that different people require different amounts of energy. • Name the main parts of the digestive system • State what is meant by digestion • Label a diagram of the digestive system by identifying correct information in text • Name some enzymes used in digestion. • State where bacteria are found in the digestive system. • Name some recreational and medicinal drugs. • State one effect of a drug on health or behavior. • Name one effect of alcohol on health or behaviour • State whether alcohol affects conception and pregnancy • Name an effect of tobacco smoke on health • State whether or not tobacco smoke affects the development of a fetus The Periodic Table C2.1 • State some common properties of	• Name the equipment used to measure potential difference. • Describe the effect of a larger potential difference. • State one difference between series and parallel circuits. • State how current varies in series and parallel circuits • Identify the pattern of current in series and parallel circuits • State the unit of resistance. • Compare simply the resistance of conductors and insulators. • List examples of conductors and insulators. • Describe features of a magnet. • Draw the magnetic field lines around a bar magnet. • State the Earth has a magnetic field • Record the shape of field lines round a magnet. • State the main features of an electromagnet. • State one difference between permanent magnets and electromagnets. • Test the effect of changing an electromagnet.	• State that nitrates are essential for plant growth. • Record measurements of plant growth. • Name an organism which carries out chemosynthesis. • State the energy source for chemosynthesis. • State how the scientific community view the discovery of Chemosynthesis. • State the requirements for aerobic respiration. • Give the name of the process where energy is released in cells. • Explain the uses of the products from anaerobic respiration. • Explain the differences between the two types of respiration. • State the definition of a food chain • State the definition of a food web. • State that one population of organisms can affect another. • State that toxic material can get into food chains. • State that different organisms can co-exist.	• State a solution contains dissolved particles. • Describe what happens when a solute dissolves. • Describe how temperature affects solubility. • Name the filtrate and residue in given situations. • State some situations in which filtering is used. • Draw a labelled diagram of the apparatus needed to filter a solution. • State some mixtures that can be separated using evaporation. • State some mixtures that can be separated using distillation. • Label distillation apparatus. • State what happens to mixtures when they undergo chromatography. • Describe what a chromatogram looks like. • Identify the pen used to write a forged cheque by comparing chromatograms. Energy P2.2	• State what is meant by the term variation. • State that variation is caused by the environment or inheritance. • State that there are two types of variation. • State the two types of graphs that can be drawn when representing the two types of variation. • Sate what is meant by a gene. • State that more than one scientist was involved in discovering the structure of DNA. • State that the different teams of scientists produced different pieces of evidence. • State how survival rates differ for successful adaptation. • State organisms have changed over time, giving examples. • Create a simple evolutionary sequence. • State what is meant by the term extinct. • State how scientist try to prevent extinction.	• Describe the effects of atmospheric pressure. • State simply what happens to pressure with depth. • Describe characteristics of some objects that float and some that sink. • State the equation of pressure. • Use ideas of pressure to describe familiar situations qualitatively. • State the law of moments. • State the equation to calculate a turning force. The earth C2.4 • Name the layers of the Earth. • Name the main components of the atmosphere. • Design a simple model of the Earth using information about its structure. • State a property of sedimentary rocks. • Describe simply how sedimentary rocks are made. • State the processes shown by different models of the stages in sedimentary rock formation.

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	metals and non-metals. • Use position on the Periodic Table to suggest if an element is a metal or a non-metal. • Identify changes in properties between elements of the same group or period. • Describe in simple terms what pattern is shown in a given property of a group or period. • Describe, in simple terms, how one property changes for the elements of Group 1. • State the products of the reaction between two Group 1 metals with water. • State a pattern shown by the Group 7 elements. • State simply what happens in a displacement reaction. • State what hazards are associated with the Group 7 elements. • State a chemical and a physical property of Group 0 elements. • Describe the reactivity of Group 0 elements.	• State some uses of electromagnets. • State the main parts of a motor.	• State the definition of the term niche.	• Identify energy values for food and fuels. • Describe energy requirements in different situations. • State the definition of the conservation of energy. • State how energy is transferred • State how energy and temperature are measured. • Describe how energy is transferred through solids, liquids, and in air. • Identify a source of error. • Describe simply what happens in conduction and convection. • State that insulators reduce heat loss compared to conductors. • State the pattern in conduction shown in results. • State some properties of infrared radiation. • Name renewable and non-renewable energy resources. • State one advantage and one disadvantage of fossil fuels.	Metals & Acids C2.3 • Describe what happens when metals react with acids. • State that hydrogen gas makes a squeaky pop when lit. • State which metals produce bubbles when reacting with acid. • State the product of the reaction between metals and oxygen. • Identify state symbols from an equation. • State the products of the reaction between metals and water. • State whether a metal is more or less reactive than another metal. • State which metal is more reactive in a pair of named metals. • State where different metals are found in the reactivity series. • State where carbon is found in the reactivity series. • Calculate the percentage of waste material in a metal ore.	• State one difference between igneous and metamorphic rocks. • Describe very simply how igneous and metamorphic rocks are formed. • State what you expect to see when a substance representing lava is cooled. • Give simple facts about how a rock can be changed from one type to another. • State what happens to wax in a model rock cycle. • State the changes in levels of carbon dioxide over time. • Name one place carbon dioxide may be stored. • State a cause of global warming. • State one impact of global warming. • Describe how aluminium is recycled. • Give one advantage and one disadvantage of recycling. • Describe how aluminium is recycled. • Give one advantage and one disadvantage of recycling.

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	Key Skills: EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring instrument, and use it correctly. ● Carry out the method carefully and consistently. ● Identify risks and hazards, and control measures.	**Key Skills:** EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring instrument, and use it correctly. ● Carry out the method carefully and consistently.	**Key Skills:** EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring instrument, and use it correctly. ● Carry out the method carefully and consistently.	• State the definitions of energy and power. • State that power, fuel used, and cost are linked. • State how work is calculated. • State machines conserve energy. • State one way the experiment can be improved. **Key Skills:** EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring	• State simple observations during a metal extraction. • List the properties of ceramics • List some uses of ceramics. • State the definition of a polymer. • State some uses of polymers. • Identify a suitable polymer to use when given simple information about the polymer. **Key Skills:** EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring instrument, and use it correctly.	**Key Skills:** EP1 Asking scientific questions ● Identify an observation that could be recorded or measured over time. ● Begin to identify a dependent variable, an independent variable, or two variables which may show a correlation. EP2 Planning investigations ● Begin to test suitability of measuring instrument, and use it correctly. ● Carry out the method carefully and consistently. ● Identify risks and hazards, and control measures.

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	EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.	● Identify risks and hazards, and control measures. EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.	● Identify risks and hazards, and control measures. EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.	instrument, and use it correctly. ● Carry out the method carefully and consistently. ● Identify risks and hazards, and control measures. EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.	● Carry out the method carefully and consistently. ● Identify risks and hazards, and control measures. EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.	EP3 Collecting, recording, and presenting data ● Begin to calculate means from data. ● Begin to record observations you want to explain. EP4 Analysing patterns in data ● Identify a pattern in data from a results table or bar chart with some support and guidance. ● Make a conclusion and begin to explain it with some support. EP5 Evaluating data and methods.
Links to Gatsby Benchmarks:	Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 4 – Linking Curriculum to learning	Benchmark 4 – Linking Curriculum to learning Students to consider what skills are needed to be an electrician. Why is it	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance

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	Students to consider what skills are needed to be a doctor / Otorhinolaryngology / dietician / Exercise physiologist., Fitness Centre manager. Personal trainer, Sport therapist … lead onto looking at what skills are needed for different roles they are interested in and what qualifications.	important to be safe around electrical wires / equipment? To understand the importance that all live parts of electrical equipment are inaccessible during operation.	Students to consider what skills are needed to access the opportunities they are interested in. Research.	Students to consider through research what jobs exist in the field of energy procurement, generation and supply.	Students to consider what qualifications that are needed to access the opportunities they are interested in. Looking at careers in science	Benchmark 6 – Students to consider both skills and qualifications that are needed to access the opportunities they are interested in. Looking at careers in science.