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

7N - Navigator Curriculum – *Science 6 Lessons Weekly*

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Year	2023 – 2024 Autumn 1	2023 – 2024 Autumn 2	2023 – 2024 Spring 1	2023 – 2024 Spring 2	2023 – 2024 Summer 1	2023 – 2024 Summer 2
	Topic: Intro to Lab **B1** Cells, **B2** Structure and function of body systems. **Suggested Key Questions:** **What are cells? What are the various systems within the body and what do they do?** **Key Skills and Knowledge:** **B1** - Describe what a cell is. - Explain how to use a microscope to observe a cell. - Describe the similarities and differences between plant and animal cells. - Describe the functions of the components of a cell. - Describe examples	**Topic:** **B3** Reproduction (plant – focus), **C1** The particle model. **Suggested Key Questions:** **How do plants reproduce? What are particles and how are they used to model behavior in the states of matter?** **Key Skills and Knowledge:** **B3** - Name the parts of a flower. - State what is meant by pollination. - Name two methods of pollination. - Describe the process of fertilisation in plants. - Describe how seeds and fruits are formed. - State what is	**Topic:** **C2** Elements, atoms and compounds, **C3** Reactions **Suggested Key Questions:** **What are elements, atoms and compounds? What is a chemical reaction?** **Key Skills and Knowledge:** **C2** - State what an element is. - Recall the chemical symbols of six elements. - State what atoms are. - Compare the properties of one atom of an element to the properties of many atoms. - State what elements and compounds are	**Topic:** **C4** Acids and alkalis **P1** Forces **Suggested Key Questions:** **What are acids and alkalis? What do forces do and are the different types of forces?** **Key Skills and Knowledge:** **C4** - Name some common properties of acids and alkalis. - Describe, in simple terms, what the key words 'concentrated' and 'dilute' mean/ - Describe broad colours of universal indicator for acids, alkalis, and neutral solutions. - State that	**Topic:** **B3** Reproduction - *Link to PSHE during this half term.* **P2** Sound. **Suggested Key Questions:** **How do humans reproduce? What are the properties of sound?** **Key Skills and Knowledge:** **B3** - State the definitions for adolescence and puberty. - State changes to the bodies of boys and girls during puberty. - Name the main structures of the male and female reproductive system. - State a function of the main structures	**Topic:** **P3** Light, **P4** Space – *Link to man on the moon.* **Suggested Key Questions:** **What are the properties of light? What do we know about the solar system?** **Key Skills and Knowledge:** **P3** - Describe what happens when light interacts with materials. - State the speed of light. - Describe the features of a mirror image. - Identify examples of specular reflection and diffuse scattering. - Describe and explain what happens when

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	of specialised animal cells. - Describe examples of specialised plant cells. - Name some substances that move into and out of cells. - Describe the process of diffusion. - Name an example of a unicellular organism. - Identify some structures in an amoeba. **B2** - Name the parts of the gas exchange system. - State that the parts of the gas exchange system are adapted to their function. - Describe the processes of inhaling and exhaling. - Describe how a bell jar can be used to model what happens during breathing. - Describe the structure of the skeleton. - Describe the functions of the skeletal system. - Describe the role of joints in movement.	meant by seed dispersal. - Name the methods of seed dispersal. **C1** - Describe how materials are made up of particles. - Use the particle model to explain why different materials have different properties. - Describe the properties of a substance in its three states. - Use ideas about particles to explain the properties of a substance in its three states. - Use the particle model to explain changes of state involving solids and liquids. - Use the particle model to explain boiling. - - Describe changes of state involving gases. - Use the particle model to explain evaporation, condensation, and sublimation. - Use the particle model to explain diffusion. - Describe evidence for diffusion.	different. - Identify elements within compounds. - State how many different elements are in a compound by looking at a chemical formula. - Name the elements in a compound. **C3** - State what a chemical reaction is. - State what happens to the reactants in a chemical reaction. - State some signs of a chemical reaction. - Identify reactants and products in word equations. - Write word equations to represent chemical reactions. - State what a fuel is. - State what fuels react with when they burn. - State simply what a decomposition reaction is. - Describe the products of a decomposition reaction. - State what happens to the mass of the reactants and products in	indicators will be different colours in acids, alkalis, and neutral solutions. - State simply what happens during a neutralisation reaction. - Give one example of a neutralisation reaction. - State the type of chemical made when an acid and alkali react. - Match the type of salt that will form from the type of acid used. **P1** - Explain what forces do. - Describe what is meant by an interaction pair. - State an example of a force deforming an object. - Recognise a support force. - Describe the effect of drag forces and friction. - Explain why drag forces and friction arise. - Describe the effects of a field. - Describe the effect of gravitational forces on Earth and in space. - Identify familiar	of the male and female reproductive system. - State the definition of gametes. - State what is meant by fertilisation. - State the definition of gestation. - State how long a pregnancy lasts. - State a simple definition of the menstrual cycle. - State the main stages in the menstrual cycle. - Present key pieces of information in a sequence. **P2** - State some features of waves. - State what happens when waves hit a barrier. - State that waves in the same place affect each other. - Name some sources of sound/ - Name materials that sound can travel through. - State that sound travels more slowly than light. - Describe the link between loudness and amplitude. - Describe the link between frequency	light is refracted. - Describe what happens when light travels through a lens. - Name parts of the eye. - Describe how the eye works. - Explain what happens when light passes through a prism. - Describe how primary colours add to make secondary colours. **P4** - Name some objects seen in the night sky. - Place some objects seen in the night sky in size order. - Name the objects in the Solar System. - Describe some similarities and differences between the planets of the Solar System. - Describe differences between seasons. - Describe the motions of the Sun, stars, and Moon across the sky. - Describe the phases of the Moon. - Explain why you see phases of the Moon.

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	- Explain how to measure the force exerted by different muscles. - State the function of major muscle groups. - State the definition of antagonistic muscles. **Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a	- Describe simply what gas pressure is. - State examples of gas pressure in everyday situations. **Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a results table or bar	chemical reactions. - Describe how to find out the mass of a reactant or product. - State simply what happens in endothermic and exothermic changes. - Identify a reaction as endothermic or exothermic. **Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a	situations of balanced and unbalanced forces. - Define equilibrium. - Identify when the speed or direction of motion of an object changes. **Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a	and pitch. - Describe how the ear works. - Describe how your hearing can be damaged. - Describe what ultrasound is. - Describe some uses of ultrasound. **Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a	**Key Skills:** EP1 Asking scientific questions ● Begin to identify an observation that could be recorded or measured over time. EP2 Planning investigations ● Carry out the method carefully and consistently. ● Begin to identify risks and hazards. EP3 Collecting, recording, and presenting data ● Record observations. EP4 Analysing patterns in data ● Begin to identify a pattern in data from a results table or bar

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	results table or bar chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.	chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.	results table or bar chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.	results table or bar chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.	results table or bar chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.	chart with support and guidance. ● Begin to make a conclusion with some support. EP5 Evaluating data and methods.
Links to Gatsby Benchmarks:	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Students to consider what skills are required to be a paramedic, doctor, nurse, vet that leads onto looking at what skills are needed for different roles they are interested in and what qualifications.	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 4 – Linking Curriculum to learning Benchmark 8 – Personal Guidance Students to consider what skills are required for waiters, builders, mechanics, to access the opportunities they are interested in. Going into work places/remote visits. Research. Writing C.Vs and cover letters.	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 5- Encounters with employers and employees Students to consider what skills are required to be an electrician, technician, games designer to access the opportunities they are interested in. Research.	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 5- Encounters with employers and employees Students to consider what skills are required to be a dietician, nutritionist, health care assistant to access the opportunities they are interested in. Research.	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 6 – Experience of Work places Students to consider what skills are required to be a chemist, pharmacist, cleaner, paramedic, to access the opportunities they are interested in. Looking at careers in sports and researching sports.	Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 6 – Experience of Work places Students to consider what skills are required to be an optician, director, projector, radiographer, to access the opportunities they are interested in. Looking at careers in sports and researching sports.