

Curriculum Overview for Science- Year 7 (Year 1 in two year GCSE Preparation Program)

Topics taught in an order that establishes a clear sequence for students to understand content and build skills

| When? | What? | Subject | Why? | How? | Support? |
|-----------------------------------|------------------------------------|-----------|--|--|--|
| Autumn Term (Foundation units) | Cells, tissues, organs and systems | Biology | To explain how living organisms are constructed to be able to stay alive. | Microscope use, slide preparations and modelling | Exploring Science KS3 Textbook-Cells tissues organs and systems BBC Bitesize Doddle Seneca *focus on microscope skills |
| | The Particle model | Chemistry | To explain the basic properties of solids, liquids and gases and understand that they are made of tiny particles | Physical modelling of state of matter and investigation into the properties of solids, liquids and gases. | Exploring Science KS3 Textbook –The particle model BBC Bitesize Doddle Seneca *focus on particle models and diffusion |
| | Atoms | Chemistry | To explain more about atoms, the air we breathe, and learn about how metals and other chemicals behave. | Practical experiments involving the identification of metals and non-metals and making new chemical compounds. | Exploring Science KS3 Textbook –Atoms, Element and compounds BBC Bitesize Doddle Seneca *focus metals and non-metal properties |
| | Energy | Physics | To explain the different types and sources of energy and how energy can move, change or be stored. | Investigating energy changes, relationship of energy transfer and stores, and types of energy resources | Exploring Science KS3 Textbook -Energy BBC Bitesize Doddle Seneca *focus on energy transfer and stores |

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| Spring Term | Sexual Reproduction in Animals | Biology | To explain what happens when animals mature and reproduce sexually and what happens during pregnancy and birth. | Models, male and female reproductive system diagrams and extended reading, informed class discussion. | Exploring Science KS3 Textbook –Sexual Reproduction in animals BBC Bitesize Doddle Seneca *focus-sexual reproduction system function and structure |
| | Muscles and Bones | Biology | To explain how our body keeps fit, supports and protects itself and moves, the impact of taking drugs. | Modelling of respiratory system, pathway of breathing, lung observation, heart rate and breathing investigation | Exploring Science KS3 Textbook –Muscles and Bones BBC Bitesize Doddle Seneca *focus-respiratory system function and structure |
| | Mixtures | Chemistry | To explain the different kinds of mixtures and different ways that mixtures are separated at school and in industry. | Investigating different methods of separation. | Exploring Science KS3 Textbook – Mixtures and separation BBC Bitesize Doddle Seneca *focus on ways to separate materials |
| | Forces | Physics | To explain how different kinds of forces (for example weight, friction and up thrust) are used in every life and how they can be observed or measured. | Practical experiments to investigate friction and other forces. | Exploring Science KS3 Textbook -Forces BBC Bitesize Doddle Seneca *types of forces and measuring forces |

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| Summer Term | Ecosystems | Biology | To explain about variation and adaptation in living organisms, food chains, examples of different habitats and our impact on them. | Fieldwork outside and interpretations of graphs and food webs | Exploring Science KS3 Textbook -Ecosystems BBC Bitesize Doddle Seneca *focus ecosystem structure and food chains |
| | Acids and Alkalis | Chemistry | To explain differences between acids and alkalis, learning about neutralising and the pH scale. | Investigation using acids and alkali, role of indicators and discussion of risk | Exploring Science KS3 Textbook –Acids and Alkalis BBC Bitesize Doddle Seneca *focus-difference between acid and alkali |
| | Current Electricity | Physics | To learn about static electricity and circuits and their importance in everyday life. | Make series and parallel circuits and interpret circuit diagrams. | Exploring Science KS3 Textbook –Current Electricity BBC Bitesize Doddle Seneca *focus properties of circuit |
| | Light | Physics | To understand properties of light, how it travels through different materials and interacts with those materials | Investigations with reflection and refraction of light. Understand light properties | Exploring Science KS3 Textbook –Light BBC Bitesize Doddle Seneca *focus reflection vs refraction |