The Bemrose School Curriculum

Curriculum Overview: Year 7 Science

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic covered → Enquiry Process 1, Organisms 1	**Topic covered** → Matter 1	**Topic covered** → Energy 1, Chemical reactions 1	**Topic covered** → Ecosystems 1	**Topic covered** → Forces 1, Genes 1	**Topic covered**→ Earth 1
Links to prior learning EP1: • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording,	**Links to prior learning** Matter 1: • compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. • Pupils should explore changes that are difficult to reverse,	**Links to prior learning** Energy 1: **Content of the Energy 1 about energy conversion are not specified in the KS2 NC** **Links to prior learning** Chemical reactions 1: **Content of the Reactions 1 about the elements in the periodic table are not specified in the KS2 NC** **Stretch and Challenge Enquiry** Look at common household chemicals and identify if they are acids, alkali/ bases or neutral.	Ecosystems 1: • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which transported within plants • explore the part that flowers play in the life cycle of flowering plants, including • pollination, seed formation and seed dispersal. • describe how living	**Links to prior learning** Forces 1: • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces Genes 1: • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird, • describe the life process of reproduction in some plants and animals describe the changes as humans develop to	**Links to prior learning** Earth 1: • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent • movement of the sun across the sky **Stretch and Challenge Enquiry** Make a large poster on the rock cycle and add in examples for igneous, sedimentary and metamorphic rock types.

classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.	for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. **Stretch and Challenge Enquiry** • Apply their learning of separation techniques to real world examples to learn how we separate chemicals for particular uses		things are classified into broad groups according to common • observable characteristics and based on similarities and differences, including microorganisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics • know the five types of animals and explain their specific characteristics **Stretch and Challenge Enquiry** Go out into a local park or wood and map all the animals and plants then plot them into a large ecosystem food web to water is show how they are all interconnected Look at the back of their food packaging and see how much energy they consume each day and see if it is inline with the Recommended Daily Allowance	old age. • observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy **Stretch and Challenge Enquiry** • Compare your weight on the 8 different planets of our solar system Research the genetics of how we share DNA with our parents and explain why we are similar but genetically different from our non-identical brothers and sisters. • Explain the difference between non-identical and identical twins.	Can you explain what happens to cause an earth quake, mountain ridge and under water volcanoes?

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Organisms 1 • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood **Stretch and Challenge Enquiry** Research real scientific investigations in the news and identify the stages they use to convey the information Learn the names of the organs of the body and label the structure of the heart and major blood vessels					

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Equipment Needed	**Wider Reading**	**Family activities**
Pen, pencil, ruler, calculator	Key stage 3 Bitesize: https://www.bbc.co.uk/bitesize/subjects/zng4d2p Kay Science → https://www.kayscience.com/ SENECA → https://app.senecalearning.com/dashboard/courses/add?Price=Free Science Journals for Kids → https://www.sciencejournalforkids.org/	Watch the news. Go on trips to the Natural History or Science Museum in London. **Beat the Parent** – make flashcards and compete with your child. Who can get the most correct answers? Support your child using educake for home learning.