BISHOP CREIGHTON ACADEMY – SCIENCE LONG TERM PLAN – YEAR 3

Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Programme of study *(statutory requirements)*	**Plants** • 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 water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	**Light** •recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by an opaque object • find patterns in the way that the size of shadows change	**Forces (Magnets and friction)** • compare how things move on different surfaces notice that some forces need contact between 2 objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having 2 poles • predict whether 2 magnets will attract or repel each other, depending on which poles are facing		**Rocks and soil** (Link with work in geography) • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter N.B. This unit could span into Summer 2	**Animals including humans** • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement
Working scientifically *(statutory requirements)*	• 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 Gathering, recording, 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 • observing changes over time	• identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings • observing changes over time, • noticing patterns • carrying out simple comparative and fair tests	• 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 dataloggers. • Gathering, recording, 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 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.		• 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 dataloggers. • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	• recording findings using simple scientific language, drawings, labelled diagrams
Possible enquiry or starting points *(non statutory guidance)*	• the relationship between structure and function: the idea that every part has a job to do. • explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction. *Note: pupils can be introduced to the idea that plants can make their own food, but at this*	• explore what happens when light reflects off a mirror or other reflective surfaces, including playing mirror games to help them to answer questions about how light behaves. • think about why it is important to protect their eyes from bright lights.	• observe that magnetic forces can act without direct contact, unlike most forces, where direct contact is necessary (for example, opening a door, pushing a swing). • explore the behaviour and everyday uses of different magnets (for example, bar, ring, button and horseshoe). • work scientifically by: comparing how different things move and grouping them; raising questions and carrying out tests to find out how far things move on different surfaces, and gathering and recording data to find answers to their questions; exploring the strengths of different magnets and finding a fair way to compare them; sorting materials into those that are magnetic and those that		• work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time; using a hand lens or microscope to help them to identify and classify rocks according to whether they have grains or crystals, and	• learn about the importance of nutrition and should be introduced to the main body parts associated with the skeleton and muscles, finding out how different parts of the body have special functions. • work scientifically by: identifying and grouping animals with and without skeletons and observing and

BISHOP CREIGHTON ACADEMY – SCIENCE LONG TERM PLAN – YEAR 3

	stage they do not need to understand how this happens. • work scientifically by: comparing the effect of different factors on plant growth, for example, the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. • observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.	• look for, and measure, shadows, and find out how they are formed and what might cause the shadows to change. *Note: pupils should be warned that it is not safe to look directly at the sun, even when wearing dark glasses.* • work scientifically by: looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes.	are not; looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another; identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets.	whether they have fossils in them. • research and discuss the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. • explore different soils and identify similarities and differences between them and investigate what happens when rocks are rubbed together or what changes occur when they are in water. • raise and answer questions about the way soils are formed.	comparing their movement; exploring ideas about what would happen if humans did not have skeletons. • compare and contrast the diets of different animals (including their pets) and decide ways of grouping them according to what they eat. • research different food groups and how they keep us healthy, and design meals based on what they find out.
Ongoing learning	**Working scientifically** - use relevant scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences.				