St Buryan Academy Coverage and Progression – Concept Map

Science

What the National Curriculum says…

Key Stage 1	Key Stage 2
During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions **Programme of Study:** Plants Animals, including humans Use of everyday materials Seasonal changes Living things and their habitats	During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • 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, 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. During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

	• using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments Programme of Study: Plants Animals, including humans Rocks Light Forces and magnets Living things and their habitats States of matter Sound Electricity Properties and changes of materials Earth and Space Forces Evolution and inheritance

Every child at St Buryan is a scientist – we aim to for each and every child to fulfil our 'characteristics of scientists' to help achieve this.
Our coverage is inspired by our Key Concepts, which indicate clear progression between classes and year groups as well as being held together by our over-arching concepts: Creativity, Confidence, Collaboration and Independence.
As well as using inspiring Scientists who celebrate diversity and equity, we aim to maximise our unique locality to enhance knowledge and understanding. Science is taught through our learning contexts when and where appropriate; however, should higher quality teaching and learning take place when taught explicitly, then learning may not be directly linked to a topic. High quality science teaching and learning allows children to understand more about the world around them; we aspire to deliver our teaching in an inspiring, practical way that allows children to develop their observation skills and follow their own lines of enquiry, using scientific evidence to come to answers.
We aspire to produce scientists who are proud of their outcomes and strive for the want of continuous development of skills and knowledge.
Our key concepts ensure progression through the year groups, carefully designed to build knowledge and understanding. The selection of skills, coming from the National Curriculum as a starting point, ensure that learning is built on year-on-year.

St Buryan Academy Primary School
Believe, Achieve, Aspire

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Key Concept	EYFS/Year 1	Year 2/3	Year 4/5/6
	-I can name a variety of common wild plants. -I can name a variety of common plants that we can eat. -I can distinguish between an object and the material from which it is made. -I can observe and describe changes across the four seasons. -I can observe how day length varies. -I can describe weather associated with the seasons.	-I notice that animals, including humans have offspring which grow into adults. -I can observe and describe how seeds grow into mature plants.	-I can recognise that there needs to be light in order to see things and that darkness is the absence of light -I can notice that light is reflected from surfaces. -I can recognise that light from the Sun can be dangerous and that there

			are ways to protect your eyes and skin from the Sun. -I can recognise that shadows are formed when light from a light source is blocked by an opaque object. -I know that shadows take on the shape of the opaque object. I understand what producers, predators and prey are. I can recognise that living things can be grouped in a variety of ways. I can explore and use classification keys to help group, identify and name a variety of living things in my local environment.

			I can recognise that environments can change and that this can sometimes pose dangers to living things.
 	-I understand that plants can grow -I can describe the physical properties of a variety of everyday materials.	-I can construct a simple food chain. -I can find out about and describe the basic needs of animals, including humans, for survival. -I can investigate the way in which water is transported within plants. -I can explore the part that flowers play in the life cycle of flowering plants, including pollination. -I can explore the part that flowers play in the life cycle of flowering plants, including seed formation and seed dispersal.	-I can explore how magnetic forces act at a distance. -I can predict whether two magnets will attract or repel each other, depending on which poles are facing. -I can record my findings using simple scientific vocabulary. -I can recognise that there needs to be light in order to see things and that darkness is the absence of light -I can predict where a shadow will form in relation to an opaque object and a light source. -I can find patterns in the way that the length of shadows change.

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		-I can explore the requirements of plants for life and growth. -I can investigate the properties of different materials.	-I can explore how magnetic forces act at a distance. -I can predict whether two magnets will attract or repel each other, depending on which poles are facing. -I can compare how different things move. -I can compare how objects move on different surfaces
	-I can identify different plants. -I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. -I can identify and name a variety of common animals that are carnivores, omnivores and herbivores. -I can identify, name, draw and label the basic parts of the human body. -I can identify which part of the body is associated with each sense.	-I can identify and name a variety of plants and animals in their habitats, including microhabitats. -I can identify and name a variety of plants and animals in their habitats. -I can identify that most living things live in a habitat to which they are suited.	-I can understand how human processes impact nature and give examples of these -I can understand that what happens in the United Kingdom can have an impact on other places -I can understand human processes in the United Kingdom, including agriculture,

	-I can identify and describe the basic structure of plants. -I can identify, name and describe the basic structure of deciduous and evergreen trees. -I can identify a variety of everyday materials.	-I can identify that fruit, vegetables and herbs are types of plant that we eat. -I can identify that humans have bones for support, protection and movement. -I can identify that some other animals have bones for support, protection and movement. -I can identify, locate and describe the function of different parts of flowering plants. -I can identify, locate and describe the function of the roots in plants. -I can identify a variety of everyday materials.	transportation, healthcare, waste management, automation, energy generation, water production and the global market -I can explain how economic activity in the United Kingdom has changed over time -I understand that humans impact the environment in many ways, including burning fossil fuels -I understand that human behaviour can trigger global effects such as climate change -I can compare and group various everyday materials based on whether they are attracted to a magnet. -I can identify the different teeth and describe their functions.

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		-I can explore and compare the differences between things that are living, dead, and things that have never been alive.	-I can construct and interpret a variety of food chains.
 	-I can compare a variety of common animals including fish, amphibians, reptiles, birds and mammals. -I can compare humans. -I can sort a variety of plants. -I can compare and group together a variety of everyday materials on the basis of their simple physical properties.	-I can describe the importance for humans to exercise. -I can describe the importance for humans to eat the right amounts of different types of food. -I can describe the importance for humans to have good hygiene. -I can describe the importance for humans to look after themselves. -I can explain the life cycle of plants. -I know what plants need to grow and stay healthy.	-I can understand how the United Kingdom and other countries depend on each other via the trade of resources and products -I can understand that it is important to consider sustainability when approaching economic development -I can suggest ways in which industries in the United Kingdom can become more sustainable for future generations. -I can name the basic parts of the digestive system and describe their functions.

		-I understand that animals, including humans, need the right type of nutrition. -I can compare and group together different kinds of rocks on the basis of their physical properties. -I can explain how some rocks are formed. -I can explain how the Earth is made up of different layers of rocks and soils -I can describe how fossils are formed when things that have lived are trapped within rock.	
	-I can name scientists who were inspirational in the areas that I have studied	-I can name scientists who were inspirational in the areas that I have studied	-I can name scientists who were inspirational in the areas that I have studied