Science Overview

St Barnabas CofE Primary School

	Autumn		Spring		Summer	
Reception ***EYFS Curriculum***	**We're going on a Bear Hunt** Exploration of natural world.(environments) Signs of Autumn Animals and their habitats(bears)	**Billy and the Pirates** Making boats/rafts Materials/ floating and sinking/ Magnetic /Non Magnetic Signs of Winter	**Three Little Pigs** Houses:- materials/textures building/ Electricity circuits Signs of Spring	Whatever Next! Space Forces & Movement/ making rockets/ planes Day/night Seasons	**What the Ladybird Heard** Trip to the Farm Animals and their young/ food Making butter/ yoghurt (observing change) Life cycle of a chicken Signs of Summer	**The Very Hungry Caterpillar** Life Cycles Changes /growing Habitats Healthy Lifestyles/ Eating Signs of Summer
Y1 ***KS1 National Curriculum***	**ANIMALS, including humans** What is special about me? Ourselves Investigations through using Senses Identify, name, describe and compare common animals and basic parts of the human body	**Seasonal changes** **Light and Dark** What are the seasons? Day length Seasons Climate Evergreen trees and smart trees trip Investigating Colour	**Animals including humans** 5 Vertebrate groups and their features: Mammal, Amphibian, Reptiles, Fish, Birds. **Carnivores** **Omnivores** **Herbivores**	**Plants** What do I know about plants? Names of parts of plants Growing Trees – deciduous Names common trees and plants	**Seasonal changes** How do the seasons change? From Spring into summer, being safe in the sun. Hours of daylight in the UK across the year.	**Everyday materials.** What are the properties of different materials? Sorting and naming materials Describing their properties Investigating a good material for the purpose you need it for.
Y2 ***KS1 National Curriculum***	**Animals including humans** How can I keep myself healthy? Explore and compare the differences between things that are living, dead, and things that have never been alive. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air) Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	**Uses of everyday materials** Why are different materials important? Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	**Exploring Materials** Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	**Growing Plants** How do plants grow? Observe and describe how seeds and bulbs grow into mature plants Explore why and how seeds are dispersed. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	**Living things and their habitats** How do animals and plants depend upon each other? Explore and compare the differences between things that are living, dead, and things that have never been alive. Identify and name a variety of plants and animals in their habitats, including microhabitats. Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain and identify and name different sources of food. Identify and name a variety of plants and animals in their habitats including micro habitats.	

Y3 ***KS2 National Curriculum***	**Light, reflection and shadows** 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.	**Rocks and Fossils** What are the physical properties of rocks, soils and fossils?	**Animals including humans** **Nutrition** Animals, including humans, need the right types and amount of nutrition What is nutrition? 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.	**Forces and Magnets** How do magnets work? Compare how things move on different surfaces. Observe how magnets attract or repel each other and attract some materials and not others. Describe magnets as having 2 poles.	**Animals including humans Skeletons and Muscles** Are bones important? Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	**Plants** What is the life cycle of a flowering plant? Lifecycles of flowers, how water is transported in plants. Helping plants grow well
Y4 ***KS2 National Curriculum***	**Living things and their Habitats** How can we use groupings to categorise animals? **Characteristics of living things.** Invertebrates and invertebrates. Classification keys Recognise that living things can be grouped in a variety of ways explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things	**Electricity** What is electricity? Common appliances, simple circuits, series, switches, conductors and insulators	**Animals, including humans** How does the digestive system work? **Digestive System** Describe the simple functions of the basic parts of the digestive system in humans **Teeth** identify the different types of teeth in humans and their simple functions. **Food Chains** Construct and interpret a variety of food chains, identifying producers, predators and prey	**States of Matter** What are the properties of solids, liquids and gases? **Solids, liquids and gases** Evaporation and condensation **The Water Cycle** **STEM WEEK**	**SOUND** How does sound travel? Vibration, pitch and volume	Scientific Enquiry: Interpreting Graphs and Charts
Y5 ***KS2 National Curriculum***	**Earth and Space** How have our ideas about space changed over time? The solar system Collecting, recording and analysing data	**Properties and changes of materials** What are the properties of different materials and how can they change? Hardness, solubility, transparency, conductivity, response to magnets	**Forces** Why are forces important? Gravity, air resistance, water resistance and friction, force and motion including levers, pulleys and gears. Collecting, recording and analysing data		**Animals, including humans** How do humans develop to old age? Human development from birth to old age Collecting, recording and analysing data	Living things and their Habitats Life cycles and reproduction Collecting, recording and analysing data
Y6	**Evolution and inheritance**	**Electricity**	**Living things and their habitats**	**Animals including humans**	**Light** How are sight	**Human Reproduction**

KS2 National Curriculum	Inherited characteristics Evolution Plant and animal adaptation	What are the different parts of a circuit? Voltage, simple circuit diagrams. Parallel and series circuits.	Why is classification important? Classification, characteristics and why we classify plants and animals	How does the heart drive the circulatory system? Circulatory system, diet, exercise, lifestyle	and light linked? How light behaves	**and Relationships.**

Science is mapped against whole school themes to ensure progression and breadth of study

This is me; I have a voice!	Children will enjoy their learning and are engaged and inspired. Children will be naturally curious about the world they live in, their place in the world; a sense of friendship, community and personal responsibility for their school, local area, country and the wider world. They will develop a sense of wonder and create new knowledge and understanding using chemistry, physics and biology. The children will question where things have come from and seek answers to the questions they raise. This will deepen their understanding.
A Citizen of the World	Science connects the world. Children will learn about science through hands-on investigation, so they can develop their understanding of the nature, processes and methods of science through a range of scientific enquiries that can help them to answer questions about the world around them. Children will know that science is all around them. They will be curious about the place beyond just our planet. Through their primary science experience, the children will see how one living thing depends on another and how living things adapt to their surroundings.
Heritage and Culture	Science knowledge supports the development of heritage and culture. In science, children will learn that new science developments can help us find out about the past and how it has impacted on our world today. The children begin studying areas of importance and significance around science topics being studied. Science inventions, scientists and innovations from the past will be explored and the children will see how they have impacted today's society.
Innovation, Inventions and Ideas	Children are encouraged to take the lead, investigate and discover things for themselves. They are given opportunities to explore, invent and follow their own lines of enquiry. Starting in EYFS, the children engage in STEM activities which is developed as they travel through school.
Building our Sustainable World	Children explore and develop the science skills and knowledge needed to benefit and improve our planet throughout their lifetimes. This theme encourages children to consider big questions, begin to understand the impact that they and others have on our world and look for positive and creative solutions to combat climate change. Children will explore science and technology and how it can impact our world.
Discovery, Health & Wellbeing*	On their science journey through school, the children will understand how to keep themselves healthy with a positive outlook. They will be taught to be independent thinkers, to persevere and challenge themselves. They will see that great science breakthroughs failed at first but determination led to success. Children will learn from their mistakes and explore concepts practically.
Scientific contextual links and skills:	Science learning links to real life experiences. Contextual and purposeful links are made between science, maths, computing and design and technology. The children will build on their skills and apply them though other curricular subjects.