SCIENCE LONG TERM PLAN

St. John the Baptist Catholic Primary School

Mission Statement

Together,
Through our words and actions,
Our work and play,
We point towards Christ each and every day.

Science Long Term Plan

		Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Unit	**Longitudinal Study- Seasonal Changes**					
		Autumn		**Winter**	**Spring**	**Summer**	**Seasons**
		Describing Materials		**Animal Survival**	**Habitats**		**Plants**
	CST	Explore the use of energy resources and technology, and the impact they have on our planet. Explore the impact of production cooperatives to support local communities		Taking care of animals is part of being a good steward, which means we learn to love and protect all living things just like God wants us to	God wants us to care for plants because they have special ways to survive, and being good stewards means we learn to help them grow and stay healthy	Encourage collaboration, cooperativeness and empathy during experiments and projects. As scientists we offer meaningful, constructive feedback to enhance our peers work.	
Year 2	Unit	**Longitudinal Study- Seasonal Habitats**					
		Animal Life Cycles		**Changing Materials**	**Pushes and Pulls**		**Making new plants**
	CST	Generate discussions about the human body to appreciate the importance of self-care and health.		Encourage collaboration, cooperativeness and empathy during experiments and projects. As scientists we offer meaningful, constructive feedback to enhance our peers work.	Encourage collaboration, cooperativeness and empathy during experiments and projects. As scientists we offer meaningful, constructive feedback to enhance our peers work.	God wants us to care for plants because they have special ways to survive, and being good stewards means we learn to help them grow and stay healthy
Year 3	Unit	**Longitudinal Study- Seasonal Shadows**					

		Magnets	**Animals, skeletons and movement**	**Solids, liquids and gases**	**Plants and their food production**	**Light**	**Rocks and soils**
	CST	Everyone's ideas and efforts are important, and by participating, we can learn and discover amazing things together	Generate discussions about the human body to appreciate the importance of self-care and health.	God wants us to learn about solids, liquids, and gases so we can appreciate and take care of the amazing world He created	God wants us to learn how plants make food so we can appreciate and take care of the amazing world He created	God wants us to learn about light and how to protect our eyes so we can appreciate and take care of the amazing world He created	God wants us to learn about rocks, soil, and fossils so we can appreciate and take care of the amazing world He created.
Year 4	Unit	**Longitudinal Study- Seasonal Evaporation**					
		Mixtures and separating them	**Digestion**	**Plant Reproduction**	**Making electrical circuits work**	**Living things**	
	CST	Everyone's ideas and efforts are important, and by participating, we can learn and discover amazing things together	Generate discussions about the human body to appreciate the importance of self-care and health.	God made flowering plants with special parts to help them grow and reproduce, and learning about pollination helps us appreciate and take care of the amazing world He created	God wants us to learn about conductors and insulators so we can understand how electricity works and use it wisely to take care of the amazing world He created	God wants us to understand how environmental changes and human activities affect different habitats and organisms so we can take better care of the amazing world He created	
Year 5	Unit	**Longitudinal Study- Seasonal daylight/moon phases**					
		Fossils, geological time	**Space and gravity**	**Making new**	**Forces that**	**Circulation**	

		and classification		**substances**	**oppose**	
	CST	God wants us to learn about the different groups of living things, including animals, plants, fungi, and bacteria, so we can appreciate and take care of the amazing world He created.	We can deepen our understanding of space and gravity, recognizing the beauty and complexity of the universe as part of our responsibility to protect and cherish all of God's creation	Observing irreversible changes, such as baking bread or rusting iron, helps us to understand how these changes affect the world around us and appreciate the importance of responsible scientific practices and their role in protecting human life and dignity.	Responsibility to protect and cherish the environment, which can be connected to understanding how water resistance impacts aquatic ecosystems and the importance of preserving water quality.	Generate discussions about the human body to appreciate the importance of self-care and health.
Year 6	Unit	**Longitudinal Study- Seasonal growth**				
		How light behaves	**Classification and evolution**	**Controlling circuits**	**Sound**	
	CST	The importance of active participation, which can be connected to understanding how light enables communication and connection within communities.	Generate discussions about the human body to appreciate the importance of self-care and health.	God wants us to learn about conductors and insulators so we can understand how electricity works and use it wisely to take care of the amazing world He created	The importance of participation, which can be connected to how music brings people together, fosters a sense of belonging, and enhances emotional and mental health.	

BIOLOGY	CHEMISTRY	PHYSICS

	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Longitudinal Study	N/A	**Seasons** There are four seasons, Spring, summer, autumn and winter Each season is about three months long In Spring, young animals like lambs and chicks are born, the flowers bloom and the weather starts to become warmer. In autumn, the leaves fall off the trees and the amount of time we have in the day becomes less. Winter has the shortest amount of time during the day and the weather is at its coldest. In summer the trees are full of green leaves and the weather is at its warmest. Animals and plants have adapted ways of surviving the changing seasons. These include hibernating, storing food, fattening up, migration, loss of leaves Trees can be either evergreen or deciduous. Evergreen trees keep their green leaves all year round. Deciduous trees lose their leaves every autumn.					
		Spring, summer, autumn, winter, hibernating, migration, evergreen, deciduous					
Autumn	**All About Me & Nursery Rhymes** Talk about what can be	**Describing Materials** There are many different materials that have	**Animal Life Cycles** Things that are living, move, feed, grow, reproduce and use their	**Magnets** **Animals,**	**Mixtures and Separating them**	**Fossils, geological time & classification**	**How Light Behaves**

	seen around them. Show an interest in and talk about space. To talk about what the weather is like today. Observe the effect of changing seasons on the natural world around them. Looks closely at and talks about the animals and plants found in the immediate environment	different observable properties. Materials that have similar properties are grouped into metals, rocks, fabrics, wood, plastic and ceramics (including glass). **Animal Survival** Food provides energy and the building blocks of growth. There are many different groups of animals including fish, amphibians, reptiles, birds and mammals. They have different structures, and they eat different types of foods. The structure of a variety of common animals varies Mammals have hair/fur and give birth to live young, fish can breathe underwater using gills, birds have feathers, beaks and wings. Females lay eggs. Most birds can fly, reptiles are air breathing and have scaly skin and lays eggs, and amphibians have smooth slimy skin and live on land and in water. Some eat other animals (carnivores), and others only eat vegetables (herbivores), and some like to eat both plants and meat (omnivores) Common animals that are carnivores include lions, cats, sharks and snakes Common animals that are herbivores include cows,	senses Animals grow until they reach maturity and then don't grow any larger Animals reproduce when they reach maturity (adulthood). All animals eventually, die Different animals live to different ages Different animals reach different sizes before they are able to reproduce Different animals reproduce at different ages Animals, including humans, have offspring which grow into adults Exercise, eating the right amounts of different types of food and hygiene are important to maintain good health and wellbeing Habitats are places where animals and plants live (from Year 1) Animals live in habitats in which they are suited. Different kinds of animals and plants depend on each other within habitat. Animals get their food from plants and other animals. This can be shown in a food chain. A food chain begins with a producer. This is often a green plant because plants can make their own food. A living this that eats other plants is called a consumer.	**Skeletons and Movement**	**Digestion**	**Space & Gravity**	**Classification & Evolution**

		horses, sheep, elephants and deer Common animals that are omnivores include humans, bears, monkeys and seagulls Animals must move to get their food They will move in different ways to get their food Animals that eat other animals are called predators Animals that are eaten by other animals are called prey Animals feeding relationships can be illustrated in a food chain The five sense organs are the eyes (for seeing), nose (for smelling), ears (for hearing), tongue (for tasting), and skin (for touching or feeling). Animals have senses to help them survive Animals have developed a range of ways to find prey or avoid being eaten					
	head, eye, ear, mouth, nose, arm, elbow, leg, knee, shoulder, back, feet, toe, hand, finger, thumb, heart, lungs, brain, plant, grow, water, soil, litter and rubbish, recycle, environment, Creation, winter, weather, cold, cloud, wet, ice, snow	Metal, rock, fabric, word, plastic, ceramic, suitable, purpose Organisms, growth, energy, fish, amphibians, mammals, birds, reptiles, herbivore, omnivore, predator, prey, food chain, senses	Maturity, reproduce, die, offspring, life cycle, food chain, producer, consumer				
Spring	**Space & Superheroes** Describe what they see, hear and feel whilst outside.	**Habitats** There is variation in all living things Animals and plants live in a variety of different	**Changing Materials** Materials can be changed by physical force (twisting, bending,	**Solids, Liquids and Gases** **Plants and their**	**Plant Reproduction** **Making Electrical**	**Making New Substances** **Forces that**	**Controlling Circuits**

	To name seasonal and daily weather within the local area. Observe the effect of changing seasons on the natural world around them. Talk about and explore where different animals live in the school grounds, including the pond/pond life. Describe features of different plants and animals noting similarities and differences.	places called habitats Animals and plants have adapted to survive in different habitats Wild plants such as ferns, daisies, nettles and dandelions grow randomly. Garden plants such as roses, tulips, poppies, daffodils are planted intentionally. Plants have specific adaptations for survival. To survive they need to get water, light, and avoid being eaten	squashing and stretching). The properties of a material determine whether they are suitable for a purpose. **Pushes and Pulls** Objects can move (be in Motion) in various ways- roll, slide and bounce The pushing or pulling of an object can affect its motion. Pushing or pulling can do three things, slow down, speed up or change the direction of an object. The larger the push/pull the bigger the effect on motion Pushing and pulling objects can change their shape.	**Food Production**	**Circuits Work**	**Oppose**	
	spring, summer, autumn, winter, rainy, windy, snowy, cold, sunny, hot, warm, sun, planet, solar system, Earth, moon, astronaut, Neil Armstrong	Variation, habitat, adapted, avoid, wild plant, garden plant, survive	Properties, Transparent, Opaque, Translucent, flexible, rigid, waterproof, absorbent, stretchy, durable, Materials, Describable, Measurable, Metals, Rocks, Fabric, Wood, Plastic, Ceramics, Suitable for purpose				
Summer	Observe physical features found in the school grounds. Name and identify Earth, sun and some planets Observe the effect of changing seasons on the natural world around them. To develop an understanding of the effect of different weather on how we live	**Plants** A seed contains a miniature plant that can develop into a fully grown plant. A bulb has underground vertical shoots which already has modified leaves Seeds and bulbs need water to grow but most do not need light (germination)	**Making New Plants** All flowering plants make seeds (reproduction) that can grow (germinate) into new plants Plants need water, light and a suitable temperature to grow and stay healthy There are two main groups of seed plants –	**Light** **Rocks and Soils**	**Living Things**	**Circulation**	**Sound**

	and what we do. Finds out about and share information discovered about plants and animals of different climates. Understand and use some language related to animals, e.g. camouflage, predator, nocturnal, diurnal.	Seeds and bulbs have food stores inside them to help the plant start to grow. To survive plants, need to get water, light, and avoid being eaten A seed produces roots to allow water to get into the plant. A seed produces shoots to produce leaves to collect the sunlight. A basic plant structure can include leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem.	plants with cones and plants with flowers. Some plants die after it has produced its seed (annual) and sometimes the plant lives for many generations producing seeds each year (perennial)				
	insects, six legs, wings, bee, fly, ladybird, black ant, butterfly, moth, beetle, offspring, dog, puppy, horse, foal, cow, calf, lion, lion cub, hen, chick, owl, owlet, frog, tadpole, bee, larvae, butterfly, caterpillar, human, baby, seal, pup, crocodile, hatchling, life cycle, stages of life, baby, child, teenager, adult, elderly, birth, hatch, egg, chick, chicken, metamorphosis, egg, caterpillar, chrysalis, butterfly, plant, roots, stem, leaf, petal, seeds, germinate, shoot, seedling, flowers, fruit, dies, water, light, soil, vegetable, under the ground, above the ground, ripe, decay,	Seed, bulb, leaves, roots, shoots					