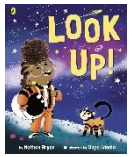
St. Peter's Catholic Academy Whole School Curriculum Map for Science 2024-2025

A1	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
7 weeks and 3 days **Key events –** **World Space Week - Whole school event 4th October** 	Learn the names of basic body parts. Explore changes within the season of autumn.	Learn the names of a wider range of body parts and healthy lifestyle choices. Learn about the season of autumn and learn a wider range of vocabulary. Learn about the lifecycle of a pumpkin. Explore the effects of heat on ingredients when making pumpkin soup.	**Animals including Humans** Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. **Seasonal changes (2 weeks)** Name the season of autumn and the key changes within this season. Compare/ observe deciduous and evergreen trees.	**Animals including Humans** Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Notice that animals, including humans, have offspring which grow into adults. **Plants (1 week)** Plant bulbs - observe and describe how seeds and bulbs grow into mature plants.	**Rocks** Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Recognise that soils are made from rocks and organic matter. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. **Key figure:** William Smith 	**Electricity** Identify common appliances that run on electricity. Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.	**Living things and their habitats** 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 **Key figure:** Jane Goodall 	**Animals including humans** Learn about the heart and circulatory system including lungs and blood. Describe the functions of the heart, blood vessels and blood. Describe the ways that water and nutrients and transported within animals, including humans. Learn the effects that diet, alcohol, drugs and exercise can	**Safety** An introduction into the use of laboratory equipment and rules and basic science skills. **Atoms** Atomic structure and use of Periodic table.

			Observe and describe weather and day length associated with autumn. **Key figure:** George James Symmonds 			Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. Recognise some common conductors and insulators, and associate metals with being good conductors. **Living things and their habitats (1 week)** Identify and study plants and animals within a habitat, observing changes throughout the year.		have upon the body.	

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A2 7 weeks	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	Learn the name of common animals that live within the woodland. Learn that some animals are nocturnal. Learn how we can look after hedgehogs in the wild. Explore changes outside as the season changes to winter. Explore changes to ingredients when	Learn about the season of winter and learn a wider range of vocabulary. Learn that some animals hibernate during the winter.	**Animals including Humans** Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds	**Animals including Humans** Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. **Key figure:** Joseph Lister 	**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. **Key figure:** Marie Curie 	**States of matter** 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). Identify the part played by evaporation and condensation in the water cycle and associate	**Animals including humans** Describe changes as humans develop from birth to old age. Investigate gestation periods and life spans of different species.	**Electricity** Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	**Cells** Cell structure and use of microscopes. **Forces** Types of forces. Balanced and unbalanced forces. **Atoms** Separation techniques.

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	baking ginger bread biscuits.		and mammals including pets).			the rate of evaporation with temperature			

Sp1 6 weeks	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	Continue to explore seasonal changes in winter. Experience freezing and melting through ice exploration. Learn how changes within winter can affect birds. Make bird feeders. Learn the names of	Continue to learn about the season of winter and learn a wider range of vocabulary. Take part in a simple investigation to explore what makes ice melt faster. Learn about animals that live in the Artic (polar bears) and the Antartic – (penguins) and	**Seasonal changes (2 weeks)** Name the season of winter and the key changes within this season. Compare/ observe deciduous and evergreen trees (link to plants). Observe and describe weather and day length	**Materials** Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects made from some materials can be changed by squashing, bending,	**Forces and Magnets** 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.	**Sound** Identify how sounds are made, associating some of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear. Find patterns between the pitch of a sound and features of the object that produced it.	**Forces** 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. Recognise that some mechanisms including levers,	**Light** Recognise that light appears to travel in straight line. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to	**Forces (continued)** Types of forces. Balanced and unbalanced forces. **Atoms (continued)** Separation techniques.

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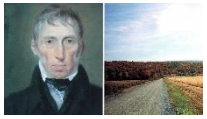
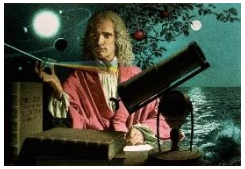
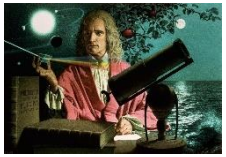
	some common wild animals and where they live. Explore changes to ingredients when making porridge. Look at baby photos - Introduction to changing from baby to child (link to R.E – Baptism).	how they are able to survive these conditions. Learn about the exploration of cold places through the work of Ernest Shackleton (Link to Geography). Revisit the names animals that live in Africa.	associated with winter. **Materials** Distinguish between an object and the material from which it is made. Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials.	twisting and stretching. **Key figure:** John McAdam 	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.	Find patterns between the volume of a sound and the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	pulleys and gears allow a smaller force to have a greater effect. Learn about how scientists helped to develop the theory of gravitation. **Key figures** Sir Isaac Newton 	objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. **Key figures** Sir Isaac Newton 	

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Sp2	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
7 weeks **Key events –** **British Science Week**	Learn the names of common farm animals. Learn about new life on the farm. Learn the key stages within the lifecycle of a hen. Explore changes within the season of spring.	Revisit animals that live on the farm and look closely at animals and their babies. Revisit the lifecycle of a hen in more detail and learn new vocabulary. Learn the lifecycle of a duck. Compare the environment of a farm to previous environments. Explore changes to ingredients when baking bread.	**Materials** Describe the simple physical properties of a variety of everyday materials (based upon practical enquiries). **Seasonal changes (2 weeks)** Name the season of spring and the key changes within this season. Compare/ observe deciduous and evergreen trees (link to plants).	**Plants** 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.	**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	**Living things and their habitats** 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. Revisit and observe changes within habitat from October.	**Earth and Space** 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.	**Living things and their habitats** Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.	**Energy** Types of energy; Efficiency **Systems** Animal reproduction. Plant reproduction. The skeleton. **Reactions** Acids and alkali's; neutralisation.

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		Learn about the season of spring and learn a wider range of vocabulary. Explore growth from a baby to child and the importance of a healthy diet. Make fruit kebabs (Link to D&T). Plant potatoes to use within cooking next half term.	Observe and describe weather and day length associated with spring.		of flowering plants, including pollination, seed formation and seed dispersal.	**Key figure** David Attenborough 	Find out about the way that ideas about the solar system have developed.	**Key figure** Carl Linnaeus 	

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Su1 4 weeks	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	Introduction to healthy lifestyle choices. Explore and taste different fruits. Learn the name of some common animals that live in Africa. Learn basic requirements of what a plant needs to grow. Plant beans and	Plant a range of seeds within EYFS garden area. Learn about the lifecycle of a strawberry and observe changes. Observe and order the stages within the lifecycle of a sunflower and learn new vocabulary. Learn about the	**Plants** Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.	**Living things and their habitats** Explore and compare the differences between things that are living, dead, and things that have never been alive. 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. Identify and name a variety of plants and	**Plants continued** 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.	**Animals including humans** Describe the simple functions of the basic parts of the digestive system in humans. Identify the different types of teeth in humans and their simple functions.	**Properties and changes of materials (properties of materials)** Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	**Evolution** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit	**Systems (continued)** Animal reproduction. Plant reproduction. The skeleton. **Reactions (continued)** Acids and alkali's; neutralisation.

	observe changes.	lifecycle of a frog.		animals in their habitats, including micro-habitats	Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			their environment in different ways and that adaptation may lead to evolution.	

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Su2 7 weeks **Key events:** **The Great Science Share**	**Nursery**	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**
	Explore changes within the season of summer. Observe and explore the effects of leaving ice in the sun. Help to look after EYFS garden area. Continue to observe changes to bean plants. Explore different forces experiencing activities that link with air (Link to R.E - Pentecost).	Learn about the season of summer and will look back at all four seasons. Revisit the lifecycle of a butterfly. Revisit the names of minibeasts. Look closely at worms and make a wormery – observing over time. Learn about bees, their habitats and how they make honey.	**Plants (continued)** Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees. **Seasonal changes (2 weeks)**	**Living things and their habitats (continued)** 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. Identify and name a variety of plants and animals in their habitats, including micro-habitats Describe how animals obtain	**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	**Animals including humans (continued)** Construct and interpret a variety of food chains, identifying producers, predators and prey. **Living things and their habitats (1 week)** Revisit and observe changes within habitat throughout the year.	**Properties and changes of materials (changes of materials)** Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Demonstrate that dissolving, mixing and changes of state are	**Evolution (continued)** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents Identify how animals and plants are	**Radiation** Light; Reflection and refraction. **Fields** The solar system; stars and the moon. **Electricity** Static charge

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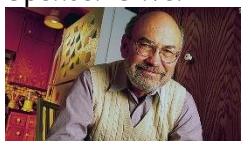
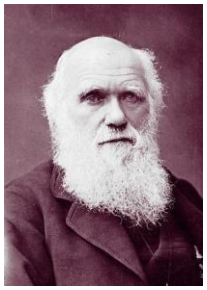
	Introduction to the names of common minibeasts. Search for minibeasts in the garden area and talk about the locations that they were found. Learn about the key stages of the lifecycle of a butterfly Learn the names of some common animals found at the seaside and under the sea.	Develop vocabulary of animals that live under water – sorting animals to their correct habitat based upon previous learning. Revisit learning about the seaside environment, learning new vocabulary. Create boats – Explore floating/ sinking and introduction to waterproof materials	Name the season of summer and the key changes within this season. Compare/ observe deciduous and evergreen trees (link to plants). Observe and describe weather and day length associated with summer. Look back at all seasons – name and compare all four seasons.	their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food	size of shadows change.		reversible changes. Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. **Key figures** Spencer Silver  Ruth Benerito 	adapted to suit their environment in different ways and that adaptation may lead to evolution **Key figures** Charles Darwin  Mary Anning 	.

	Explore the properties of natural items found at the seaside. Explore the negative impact that plastic pollution can have within the environment.	(link to D&T).							