## St Lawrence Science overview

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To work scientifically	Explore the natural world around them, making observations and drawing pictures Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non- fiction, rhymes and poems when appropriate Make comments about what they have heard and ask questions to clarify their understanding	Ask simple questions. • Observe closely, using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions.	Ask simple questions. • Observe closely, using simple equipment. • Perform simple tests. • Identify and classify. • Use observations and ideas to suggest answers to questions. • Gather and record data to help in answering questions.	<ul> <li>Ask relevant questions.</li> <li>Set up simple practical enquiries and comparative and fair tests.</li> <li>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</li> <li>Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.</li> <li>Identify differences, similarities or changes related to simple, scientific ideas and processes.</li> <li>Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul>	<ul> <li>Ask relevant questions.</li> <li>Set up simple practical enquiries and comparative and fair tests.</li> <li>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</li> <li>Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.</li> <li>Identify differences, similarities or changes related to simple, scientific ideas and processes.</li> <li>Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul>	<ul> <li>Plan enquiries, including recognising and controlling variables where necessary.</li> <li>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</li> <li>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</li> <li>Present findings in written form, displays and other presentations.</li> <li>Use test results to make predictions to set up further comparative and fair tests.</li> <li>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	<ul> <li>Plan enquiries, including recognising and controlling variables where necessary.</li> <li>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</li> <li>Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</li> <li>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</li> <li>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</li> <li>Present findings in written form, displays and other presentations.</li> <li>Use test results to make predictions to set up further comparative and fair tests.</li> <li>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>

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<ul> <li>Explore the world around them and raise their own questions.</li> </ul>
<ul> <li>Experience different types of scientific enquiries.</li> </ul>
<ul> <li>Recognise ways to answer scientific questions.</li> </ul>
<ul> <li>Use simple features to compare objects, materials and living things.</li> </ul>
<ul> <li>Decide how to sort and group these things.</li> </ul>
Observe changes over time.
<ul> <li>With guidance they should begin to notice patterns and relationships.</li> </ul>
<ul> <li>Ask people questions and us simple secondary sources to answer questions.</li> </ul>
<ul> <li>Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data, carry out simple tests, record simple data.</li> </ul>
<ul> <li>Talk about what they have found out and how they found it out.</li> </ul>
<ul> <li>With help, record and communicate their findings in a range of ways.</li> </ul>
<ul> <li>Begin to use simple scientific language.</li> </ul>

Explore the world around them and raise their own questions. own questions. Experience different types of scientific enquiries. Recognise ways to answer scientific questions. Use simple features to compare objects, materials and living things. Decide how to sort and w to sort and group group these things. simple keys. Observe changes over time. With guidance they should begin to notice patterns and relationships. them. questions and use Ask people questions and use simple secondary sources to answer questions. Use simple measurements and equipment (e.g. hand lenses, egg timers) to gather data, carry out simple tests, record simple data. and how they found Talk about what they have found out and how they found it out. ate their findings in With help, record and communicate their findings in a range of ways. se simple scientific Begin to use simple scientific language.

In a range of scientific experiences they raise their

Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.

Recognise when a simple fair test is necessary and help to decide how to set it up.

Talk about criteria for grouping, sorting and classifying and use

Begin to look for naturally occurring patterns and decide what data to collect to identify

Help make decisions about what observations to make, how long to make them and for the type of simple equipment that might be used.

Learn how to use equipment, such as data loggers.

Collect data from own observations and measurements.

Use notes, simple tables and standard units.

Draw simple conclusions and answer questions.

With support, identify new questions arising from data and make predictions within or beyond the data collected.

Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations.

Use scientific language to discuss ideas and communicate findings.

In a range of scientific experiences they raise their own questions.

Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions.

Recognise when a simple fair test is necessary and help to decide how to set it up.

Talk about criteria for grouping, sorting and classifying and use simple keys.

Begin to look for naturally occurring patterns and decide what data to collect to identify them.

Help make decisions about what observations to make how long to make them and for the type of simple equipment that might be used Learn how to use equipment, such as data loggers.

Collect data from own observations and measurements.

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be needed.

from fact.

time.

Explore ideas and raise different types of questions.

- Select and plan the most appropriate type of scientific enquiry to use to answer specific questions.
- Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why.
- Use and develop keys and other information records to identify, classify and describe living things and materials and identify patterns that might be found in the natural environment.
- Make own decisions about what observations to use and how long to make them for and whether to repeat them.
- Choose the most appropriate equipment to make measurements and explain how to use it accurately.
- Decide how to record data from a choice of familiar approaches, look for different causal relationships in their data and identify when further tests and observations might
- Recognise which secondary sources will be most useful to research their ideas and begin to separate opinion
- Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and talk about how scientific ideas have developed over

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- Choose the most appropriate equipment to make measurements and explain how to use it accurately.
- Decide how to record data from a choice of familiar approaches, look for different causal relationships in their data and identify when further tests and observations might be needed.
- **Recognise which** secondary sources will be most useful to research their ideas and begin to separate opinion from fact.
- Use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and talk about how scientific ideas have developed over time.





To understand plants	Explore the natural world around them, making observations and drawing pictures of animals and 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.	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.	Identify and describe the functions of different parts of flowering plants: roots, stem, 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	
		<ul> <li><u>Summer 1 - Gardeners World</u> Observe the growth of flowers and/or vegetables they have planted. Vegetables to grow: tomatoes/carrots.</li> <li>Identify conditions needed for a plant to grow and stay healthy.</li> <li>Become familiar with common names of flowers and examples of deciduous and evergreen trees.</li> <li>Use magnifying classes to observe closely, compare and contrast familiar plants.</li> <li>Keep records of how a plant changes over time.</li> </ul>	Summer 1 - Marvellous Medicine - Explore the conditions needed for germinations, growth and survival. Explore processes of reproduction. Observe and record with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb. Plants to use: nasturtiums, aliums, daffodils. Set up a comparative test to show that plants need light and water to stay healthy.	Spring 1 - Farming - Explore questions about the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction Compare the effect of different factors on plant growth, e.g. amount of light, fertiliser; Plant to use: tulips. Observe how water is transported in plants, e.g. by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers	

To understand animals and humans	Explore the natural world around them, making observations and drawing pictures of animals and plants	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	Notice that animals, including humans, have offspring which grow into adults.	Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition	Describe the simple functions of the basic parts of the digestive system in humans.	Describe th humans de
		Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Identify the different types of teeth in humans and their simple functions.	
		Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.		Construct and interpret a variety of food chains, identifying producers, predators and prey.	
		Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.				

he changes as	
evelop to old age.	

Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.

Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.

Describe the ways in which nutrients and water are transported within animals, including humans.

	<u>Autumn 1 and Spring 1 -</u> <u>Superheroes and Around the</u> <u>World</u> - Become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those kept as pets, compare and contrast animals at first hand or through videos and photographs.	Autumn 1 and Spring 1 - It's great to be me and Dare to be different - Identify the basic needs of animal survival. Identify the importance of exercise and nutrition for humans. Introduced to the processes of	Autumn 2 - Who's the greatest of them all? Summer 1 - Romans - Learn about the importance of nutrition. Compare and contrast the diets of different animals (including	Autumn 2 and Summer 2 - Stone Age and Iron Age and Habitats - Introduced to main body parts associated with the digestive system and explore questions which help them to understand their functions.	Summer 2 - Ancient Greece - Draw a timeline to indicate stages in the growth and development of humans. Learn about the changes in puberty.	Summer 1 - Health and Wellbeing - main body parts and internal organs (skeletal, muscular and digestive system) to explore and answer questions that help them to understand how the circulatory system enables the body to function.
	Describing how they identify and group them, group animals according to what they eat.	reproduction and growth in animals. Understand how to take care of animals taken from their local environment and the need to return them safely after study.	their pets) and decide ways of grouping them. Research food groups and how they keep us healthy and design meals on what they find out.	Compare teeth of carnivores and herbivores and suggest reasons for differences. Find out what damages teeth and how to look after them.	Research the gestation periods of other animals and compare them with humans.	Learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body
	Describe the basic needs of animals, including humans, for survival.		Introduced to the main body parts associated with the skeleton and muscles.		Compare by finding out and record the length and mass of a baby as it grows.	Explore and research the
	Describe how different animals, including humans, have offspring which grow into adults. Learn the names of the main human body parts through games, actions, songs and rhymes		<ul><li>Find out how different body parts have different functions.</li><li>Groups animals with and without skeletons and observing and comparing their movement.</li><li>Explore ideas about what would happen if humans did not have skeletons.</li></ul>			relationship between diet, exercise, drugs, lifestyle and health.

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To investigate living things	Know some similarities and differences between the natural world around them and contrasting environments,	Explore and compare the differences between things that are living, dead, and things that have never been alive.		Recognise that living things can be grouped in a variety of ways.	Describ life cycl amphib
	and what has been read in class	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.		Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	Describ reprodu animals
		Identify and name a variety of plants and animals in their habitats, including microhabitats.		Recognise that environments can change and that this can sometimes pose dangers to living things.	
		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.			

be the differences in the cles of a mammal, an bian, an insect and a bird.

be the life process of luction in some plants and Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.

Give reasons for classifying plants and animals based on specific characteristics.

		Summer 1 and Summer 2	Spring 1 - Painforante	Summer
		Inventors -	Spring 1 - Kainioresis -	Observe l
		Explore the idea that all living things have certain characteristics that are essential for keeping them alive and healthy.	Explore possible ways of grouping a wide selection of living things including animals and flowering plants and non- flowering plants.	variety of in the veg border an environme
		<ul> <li>Raise and answer questions that help them to become familiar with the life processes that are common in all living things.</li> <li>Identify 'habitats' and 'microhabitats'.</li> <li>Study a variety of plants and animals within their habitat and observe how living things depend on each other.</li> <li>Compare animals in familiar and less familiar habitats.</li> <li>Sort and classify living, dead or were never alive.</li> <li>Record findings using charts.</li> <li>Explore questions such as, 'is a flame alive?' 'Is a deciduous tree dead in winter?'.</li> <li>Construct simple food chains (grass, cow, human).</li> </ul>	Group vertebrates and invertebrates. Explore examples of human impact (positive and negative) on environments. Summer 2 - Local area Use the local environment throughout the year to raise and answer questions. Identify how a habitat changes throughout the year.	Find out a naturalists behaviour
To understand evolution and inheritance				

- North America - fe-cycle changes in a iving things, eg plants etable garden or flower d animals in their local ent.	Spring 2 - Extreme Earth - Classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals).	
bout the work of and animal sts.	Discuss reasons why living things are placed in one group and not another.	
nd compare life cycles nd animals in their onment with other animals around the	Research unfamiliar animals and plants from a broad range of other habitats and decide where they belong in the classification system.	
	Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.	
	Describe how adaptation leads to evolution.	
	Recognise how and why the human skeleton has changed over time, since we separated from other primates.	

<u>Autumn 2 - Endurance -</u>look at characteristics passed on by parents.

Appreciate that variation in offspring over time can make animals more or less able to survive in particular environments.

Find out more about how living things on earth have changed over time.

Find out about how Charles Darwin and Alfred Wallace developed their ideas on evolution.

To investigate materials and states of matter	Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter	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. Compare and group together a variety of everyday materials on the basis of their simple physical properties.	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, twisting and stretching.	Compare and group together different kinds of rocks on the basis of their simple, physical properties. Relate the simple physical properties of some rocks to their formation (igneous or sedimentary). Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock. Recognise that soils are made from rocks and organic 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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	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 the rate of evaporation with temperature.	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. 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. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are 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.	
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Spring 2 - Dinosaurs - Explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties	Autumn 2 - Fire! Fire! - Identify and discuss the uses of everyday materials. Become familiar with how some materials are used for	Spring 2 - Above and Below - Explore different kinds of rocks and soils, including from the local environment.	Autumn 1 - Volcanoes - • Explore a variety of everyday materials and describe simply their states of matter using their properties.	Autumn 1 - and compar a broad rang
Experiment with a wide variety of materials, including: wood, plastic, glass, metal, water, rock, brick, fabrics, elastic, foil. Perform simple tests to explore	more than one thing. Become familiar with how different materials are used for the same thing. Consider how the properties of	in buildings, explore how they may have changed over time. Using a hand lens classify rocks according to whether they have fossils in them.	Observe water as a solid, liquid and a gas, note changes to water when it is heated or cooled.	Explore reversion including, evidence including, evidence including, mello recognising dissolving a processes.
questions.	or unsuitable for particular purposes.	Explore different soils and identify similarities and differences between them. Investigate what happens when soils are rubbed together or	Explore the effect of temperature on substances eg chocolate, butter, cream.	Explore cha to reverse, f rusting and example, vii bicarbonate
		what changes occur when they are in water. Raise and answer questions about the ways soils are formed.	Observe and record evaporation over a period of time eg puddle on the playground.	Carrying our questions, for materials we effective for jacket, for w
			Investigate the effect of temperature on washing/drying or snowmen melting.	stop it meltin blackout cur

nn 1 - Rivers- exploring omparing the properties of ad range of materials.

re reversible changes, ling, evaporating, filtering, ig, melting and dissolving, inising that melting and lving are different

re changes that are difficult rerse, for example, burning, g and other reactions, for ple, vinegar with ponate of soda.

ing out tests to answer ions, for example, 'Which rials would be the most ive for making a warm t, for wrapping ice cream to t melting, or for making out curtains?

То		Compare how things move on	Describe m
understand		different surfaces.	poles.
movement,			
forces and		Notice that some forces need	Predict whe
magnets		contact between two objects	will attract of
U		and some forces act at a	depending
		distance.	facing.
		Observe how magnets attract	Explain that
		or repel each other and attract	fall towards
		some materials and not others.	the force of
			between the
		Compare and group together a	falling object
		variety of everyday materials	
		on the basis of whether they	Identify the
		are attracted to a magnet and	such as air
		identify some magnetic	resistance a
		materials.	between mo
		Describe magnets as having	Describe, in
		two poles	forces, why
			are not drive
		Predict whether two magnets	down.
		will attract or repel each other,	
		depending on which poles are	Understand
		facing	motion can
			through me
			such as gea
			and springs

nagnets as having two
nether two magnets or repel each other, on which poles are
at unsupported objects s the Earth because of f gravity acting he Earth and the ect.
effect of drag forces, resistance, water and friction that act noving surfaces.
n terms of drag y moving objects that ven tend to slow
d that force and be transferred echanical devices ears, pulleys, levers s.

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				Summer 2 - Transport - Observe that magnetic forces can act without contact, unlike most forces, where direct contact is necessary (opening a door, pushing a swing). Explore the behaviour and		Autumn 2 - explore fall questions a resistance.
				everyday uses of different magnets (e.g. bar, ring, button, horseshow). Raise questions and carry out tests to find out how things move on different surfaces.		resistance different ob parachutes fall.
				Gather and record data. Explore the strength (attracting and repelling) of different magnets and find a fair way to compare them		Experience things begi or slow dow
				Sort materials into magnetic and not magnetic. Identify how properties of magnets make them useful in everyday items.		movement slows or sto for example effects of a wheel.
						Explore the pulleys and movement
To understand light and seeing	Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter			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 Associate shadows with a light		
				source being blocked by something; find patterns that determine the size of shadows.		

<u>- World War 1</u> - ling objects and raise about the effects of air	
e effects of air by observing how ojects such as s and sycamore seeds	
e forces that make in to move, get faster wn.	
e effects of friction on and find out how it tops moving objects, le, by observing the a brake on a bicycle	
e effects of levers, d simple machines on	
	Understand that light appears to travel in straight lines.
	Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eyes.
	Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.

		Autumn 1 - Ancient Egypt - Explore what happens when light reflects off a mirror or other reflective surfaces. Think about why it is important to protect their eyes from bright lights. Find out what might cause the shadows to change. Look for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes. Investigate the need for light and that dark is the absence of light.		
To investigate sound and hearing			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.	
			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.	

<u>Autumn 1 - Code Breakers</u> – designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works.
Investigate the relationship between light sources, objects and shadows by using shadow puppets.
Extend their experience of light by looking at a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters.

			Summer 2 - India - Explore and identify the way sound is made through vibration in a range of different musical instruments, ilnvestigate how sound travels through the ear, find out how the pitch and volume of sounds can be changed in a variety of ways, find patterns in the sounds made by different objects, make and play their own instruments using what they have found out about pitch and volume.	
To understand electrical circuits			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.	
			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.	



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			<u>Spring 2 - Aztecs</u> - Construct simple series circuits, trying different components.	
			Create simple devices using a circuit.	
			Draw circuits as pictorial representation.	
			Understand the precautions for working safely with electricity.	
			Observe patterns e.g. bulbs get brighter of more cells are added; metals tend to be conductors of electricity.	
To understand the Earth's movement in space				Describe the Moon as app spherical bo Use the idea rotation to e
				Spring 1 - C a model of that enables and night.
				Learn that th the centre o and that it ha
				Understand celestial boo planet, comp day at differe Earth throug direct comm simple mode

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	Spring 1 - Code Breakers - learn how to represent a simple circuit in a diagram using recognised symbols.
	Construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors.
e the Sun, Earth and s approximately Il bodies. idea of the Earth's to explain day and night.	
<u>- China</u> - Introduced to of the Sun and Earth bles them to explain day nt.	
at the Sun is a star at re of our solar system it has eight planets.	
and that a moon is a body that orbits a comparing the time of ifferent places on the rough internet links and ommunication; creating nodels of the solar	

			system
Seasonal			
Changes	Observe changes across the 4 seasons		
	Observe and describe weather		
	how day length varies		

<u>All Year</u>		
Record different types of weather - make a weather station.		
Discuss and learn about day lengths		
Observe change of leaves - colour, texture - environmental area.		

## Sticky Knowledge

Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<ul> <li>Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds</li> <li>Know and classify animals by what they eat (carnivore, herbivore and omnivore)</li> <li>Know how to sort by living and non living things</li> <li>Know the name of parts of the human body that can be seen</li> <li>Know and name a variety of common wild and garden plants</li> <li>Know and name the petals, stem, leaves and root of a plant</li> <li>Know the name of the materials an object is made from</li> <li>Know about the properties of everyday materials</li> <li>Name the seasons and know about the type of weather in each season</li> </ul>	<ul> <li>Classify things by living, dead or never lived</li> <li>Know how a specific habitat provides for the basic needs of things living there (plants and animals)</li> <li>Match living things to their habitat</li> <li>Name some different sources of food for animals</li> <li>Know about and explain a simple food chain</li> <li>Know the basic stages in a life cycle for animals, (including humans)</li> <li>Know why exercise, a balanced diet and good hygiene are important for humans</li> <li>Know and explain how seeds and bulbs grow into plants</li> <li>Know what plants need in order to grow and stay healthy (water, light &amp; suitable temperature)</li> <li>Know how materials can be changed by squashing, bending, twisting and stretching</li> <li>Know why a material</li> </ul>	<ul> <li>Know about the importance of a nutritious, balanced diet</li> <li>Know how nutrients, water and oxygen are transported within animals and humans</li> <li>Know about the skeletal and muscular system of a human</li> <li>Know the function of different parts of flowering plants and trees</li> <li>Know how water is transported within plants</li> <li>Know the plant life cycle, especially the importance of flowers</li> <li>Compare and group rocks based on their appearance and physical properties, giving reasons</li> <li>Know how soil is made and how fossils are formed</li> <li>Know about and explain the difference between sedimentary, metamorphic and igneous rock</li> <li>Know about and describe how objects move on different surfaces</li> </ul>	<ul> <li>Identify and name the parts of the human digestive system</li> <li>Know the functions of the organs in the human digestive system</li> <li>Identify and know the different types of human teeth</li> <li>Know the functions of different human teeth</li> <li>Use and construct food chains to identify producers, predators and prey</li> <li>Use classification keys to group, identify and name living things</li> <li>Know how changes to an environment could endanger living things</li> <li>Group materials based on their state of matter (solid, liquid, gas)</li> <li>Know the temperature at which materials change state</li> <li>Know the part played by evaporation and condensation in the water</li> </ul>	<ul> <li>Know the life cycle of different living things e.g. mammal, amphibian, insect and bird</li> <li>Know the differences between different life cycles</li> <li>Know the process of reproduction in plants</li> <li>Know the process of reproduction in animals</li> <li>Create a timeline to indicate stages of growth in humans</li> <li>Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical &amp; thermal], and response to magnets</li> <li>Know and explain how a material dissolves to form a solution</li> <li>Know and show how to recover a substance from a solution</li> <li>Know and demonstrate how some materials can be separated (e.g. through filtering, sieving and evaporating)</li> <li>Know and demonstrate</li> </ul>	<ul> <li>Identify and name the main parts of the human circulatory system</li> <li>Know the function of the heart, blood vessels and blood</li> <li>Know the impact of diet, exercise, drugs and lifestyle on health</li> <li>Know the ways in which nutrients and water are transported in animals, including humans</li> <li>Classify living things into broad groups according to observable characteristics and based on similarities and differences</li> <li>Know how living things have been classified</li> <li>Give reasons for classifying plants and animals in a specific way</li> <li>Know how the Earth and living things have changed over time</li> <li>Know how fossils can be used to find out about the past</li> <li>Know about reproduction and offspring (recognising that offspring normally vary and are not identical</li> </ul>

might or might not be used for a specific job	<ul> <li>Know how a simple pulley works and use to on to lift an object</li> <li>Know how some forces require contact and some do not, giving examples</li> <li>Know about and explain how magnets attract and repel Predict whether magnets will attract or repel and give a reason</li> <li>Know that dark is the absence of light</li> <li>Know that light is needed in order to see and is reflected from a surface</li> <li>Know and demonstrate how a shadow is formed and explain how a shadow is formed and explain how a shadow changes shape</li> <li>Know about the danger of direct sunlight and describe how to keep protected</li> </ul>	<ul> <li>cycle</li> <li>Identify and name appliances that require electricity to function</li> <li>Construct a series circuit</li> <li>Identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers)</li> <li>Predict and test whether a lamp will light within a circuit</li> <li>Know the function of a switch</li> <li>Know the difference between a conductor and an insulator; giving examples of each</li> <li>Know how sound is made, associating some of them with vibrating</li> <li>Know the correlation between pitch and the object producing a sound</li> <li>Know the correlation between the volume of a sound and the strength of the vibrations that produced it</li> <li>Know what happens to a sound as it travels away from its source</li> </ul>	<ul> <li>that some changes are reversible and some are not</li> <li>Know how some changes result in the formation of a new material and that this is usually irreversible</li> <li>Know what gravity is and its impact on our lives</li> <li>Identify and know the effect of air and water resistance</li> <li>Identify and know the effect of friction</li> <li>Explain how levers, pulleys and gears allow a smaller force to have a greater effect</li> <li>Know about and explain the movement of the Earth and other planets relative to the Sun</li> <li>Know about and explain the movement of the Moon relative to the Earth</li> <li>Know and demonstrate how night and day are created</li> <li>Describe the Sun, Earth and Moon (using the term spherical)</li> </ul>	<ul> <li>to their parents)</li> <li>Know how animals and plants are adapted to suit their environment</li> <li>Link adaptation over time to evolution</li> <li>Know about evolution and can explain what it is</li> <li>Compare and give reasons for why components work and do not work in a circuit</li> <li>Draw circuit diagrams using correct symbols</li> <li>Know how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer</li> <li>Know how light travels</li> <li>Know why shadows have the same shape as the object that casts them</li> <li>Know how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.</li> </ul>
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