

Holy Trinity CE Primary School



Holy Trinity CE Primary School is striving to be a fully inclusive school that serves our local community. Through the love of Jesus Christ, we are preparing our children to be future caring, responsible citizens in a diverse society. Our children will be given every opportunity to grow spiritually, academically, socially and to achieve their full potential within a safe, happy Christian school family.

'Life in all is fullness' - John 10v10

Changes and Challenges

(2023-2024) Autumn 2

Lead Subjects: **Science, Geography**

Theme Week: **Anti-Bullying Week**

Assessment Week

EYFS & KS1 Nativity

Church Visit

Children in Need

PSHE: Rights & Responsibilities/Anti-Bullying Day

<u>Subject</u>	<u>Year Group</u>	<u>Curriculum Links</u>	<u>Skills</u>	<u>Key Knowledge Facts</u>
Lead Subject: Geog	EYFS	Seaside - Change Over Time <ul style="list-style-type: none"> • Draw information from a simple map. • Explore the natural world around them. • Describe what they see, hear and feel whilst outside. • Recognise some environments that are different from the one in which they live. 	Enquiry & Investigation <ul style="list-style-type: none"> • Ask simple geographical, 'where?', 'what?', and 'who?' questions about the world and their environment e.g. 'What is it like to live in this place?' Mapping <ul style="list-style-type: none"> • Use vocabulary such as bigger/smaller, near/far. Communication <ul style="list-style-type: none"> • Notice and describe patterns 	By the end of the unit, pupils should be able to answer: <ul style="list-style-type: none"> • The coastline around the UK is where you find seaside towns. • The seaside is a place by the sea that is usually a beach area or holiday resort. • Blackpool is our nearest seaside resort. • Human features of a seaside are a lighthouse, café, ice-cream van and boats. • The physical features of the seaside are the sea, sand, pebbles, rock pools, caves and cliffs.
	Year 1	Hot & Cold (Handa's Surprise) <i>North/South Poles, Equator, Polar/Tropical temperatures</i> Pupils should be taught to: Locational knowledge	Mapping <ul style="list-style-type: none"> • Use a range of maps and globes (including picture maps) at different scales. • Use vocabulary such as bigger/smaller, near/far. 	By the end of the unit, pupils should be able to answer: <ul style="list-style-type: none"> • Not all deserts are covered by sand. Only 20% of all deserts are covered with sand

		<p>Name and locate the world's seven continents and five oceans</p> <p>Human and physical geography</p> <p>Identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles</p>	<ul style="list-style-type: none"> • Know that maps give information about places in the world (where/what?). • Locate land and sea on maps. <p>Fieldwork</p> <ul style="list-style-type: none"> • Use cameras and audio equipment to record geographical features, changes, and differences e.g. weather, seasons, vegetation, buildings etc. • Use simple compass directions (NSEW). <p>Enquiry & Investigation</p> <ul style="list-style-type: none"> • Ask simple geographical, 'where?', 'what?', and 'who?' questions about the world and their environment e.g. 'What is it like to live in this place?' • Investigate through observation and description. • Recognise differences between their own and others' lives. <p>Communication</p> <ul style="list-style-type: none"> • Notice and describe patterns <p>Use of ICT/technology</p> <ul style="list-style-type: none"> • Use simple electronic globes/maps (including Digimaps). • Use cameras and audio equipment to record geographical features, changes, and differences e.g. weather/seasons, vegetation, buildings etc. 	<ul style="list-style-type: none"> • During the South Pole winter (mid March to mid September) it is dark all the time. During the summer it is light all the time. • Even though we think they should be, not all deserts are hot. Two of the world's biggest deserts are in the North and South Poles. • The largest hot desert in the world is the Sahara and the largest cold desert is Antarctica • Hot deserts are usually very hot during the day but can get very cold at night. Some hot deserts can reach freezing point at night.
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	<p>Year 2</p>	<p>Africa Pupils should be taught to:</p> <p>Locational knowledge Name and locate the world's seven continents and five oceans</p> <p>Place knowledge Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country</p>	<p>Mapping</p> <ul style="list-style-type: none"> Use a range of maps and globes (including picture maps) at different scales. Recognise simple features on maps e.g. buildings, roads and fields. Recognise landmarks and basic human features on aerial photos. <p>Fieldwork</p> <ul style="list-style-type: none"> Speak and write about, draw, observe and describe simple geographical concepts such as what they can see where. <p>Enquiry & Investigation</p> <ul style="list-style-type: none"> Ask simple geographical, 'where?', 'what?', and 'who?' questions about the world and their environment e.g. 'What is it like to live in this place?' Investigate through observation and description. Recognise differences between their own and others' lives. <p>Communication</p> <ul style="list-style-type: none"> Use aerial photos and plan perspectives to recognise landmarks and basic human and physical features <p>Use of ICT/technology</p> <ul style="list-style-type: none"> Use simple electronic globes/maps (including Digimaps). 	<p>By the end of the unit, pupils should be able to answer:</p> <ul style="list-style-type: none"> Kenya is situated in Eastern Africa and the capital of Kenya is Nairobi. There are two main languages spoken in Kenya: English and Swahili. However, there are many other languages spoken in different parts of Kenya. The largest lake in the world, Lake Victoria is partly in Kenya. It is also in Tanzania and Uganda. Large animals such as lions, buffalo, leopards, elephants and rhinoceros are present in Kenya. Unfortunately, Kenya is still a developing country and more than half the population live in poverty.
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			<ul style="list-style-type: none"> • Do simple searches within specific geographic software. • Add simple labels to a digital map • Use the zoom facility of digital maps and understand that zooming in/out means more/less detail can be seen • Describe and label electronic images produced 	
	Year 3	<p>Europe/Canary Islands including Volcanoes Pupils should be taught to: Place knowledge Understand geographical similarities and differences through the study of human and physical geography of a region in a European country</p> <p>Human and Physical geography Describe and understand key aspects of physical geography, including: volcanoes and earthquakes</p>	<p>Mapping</p> <ul style="list-style-type: none"> • Use a wider range of maps (including digital), atlases and globes to locate countries and features studied. • Use maps and diagrams from a range of publications e.g. holiday brochures, leaflets, town plans. • Use maps at more than one scale. • Recognise that larger scale maps cover less area. • Recognise that contours show height and slope. • Use 4 figure coordinates to locate features on maps. • Link features on maps to photos and aerial views. • Use a scale bar to calculate some distances • Relate measurement on large scale maps to measurements outside. <p>Fieldwork</p> <ul style="list-style-type: none"> • Make links between features observed in the environment to those on maps and aerial photos. 	<p>By the end of the unit, pupils should be able to answer:</p> <ul style="list-style-type: none"> • A volcano is an opening in the Earth's crust where red-hot rocks and gas break to the surface from underground. They can cause terrible destruction. • Volcanoes fall into two main types, shield volcanoes and composite volcanoes. • The Canary Islands consist of eight main islands that lie just off the coast of Morocco such as Tenerife, Fuerteventura, Gran Canaria and Lanzarote. • Canary islands are filled with tourist resorts, which is necessary since they receive around 12 million visitors on an annual basis.

			<p>Enquiry & Investigation</p> <ul style="list-style-type: none"> Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes <p>Communication</p> <ul style="list-style-type: none"> Identify and describe geographical features, processes (changes), and patterns. Communicate geographical information through a range of methods including sketch maps, plans, graphs and presentations. <p>Use of ICT/technology</p> <ul style="list-style-type: none"> Use the zoom facility on digital maps to locate places at different scales. View a range of satellite images 	<ul style="list-style-type: none"> Europe's coastline measures 60,000 km which is one and a half times the distance around the Earth.
	Year 4	<p>Amazon Basin Pupils should be taught to: Human and Physical geography Describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains and the water cycle</p>	<p>Mapping</p> <ul style="list-style-type: none"> Use a wider range of maps (including digital), atlases and globes to locate countries and features studied. Use maps at more than one scale. Recognise that larger scale maps cover less area. Use the index and contents page of atlases. Label maps with titles to show their purpose Link features on maps to photos and aerial views. 	<p>By the end of the unit, pupils should be able to answer:</p> <ul style="list-style-type: none"> Only around 6% of the Earth's land surface is rainforest - but about half of all animal and plant species live there. It can take ten minutes for a falling raindrop to travel from a rainforest's thick canopy to the floor.

			<p>Enquiry & Investigation</p> <ul style="list-style-type: none"> • Ask more searching questions including, 'how?' and, 'why?' as well as, 'where?' and 'what?' when investigating places and processes • Make comparisons with their own lives and their own situation. • Show increasing empathy and describe similarities as well as differences. <p>Communication</p> <ul style="list-style-type: none"> • Identify and describe geographical features, processes (changes), and patterns. • Use geographical language relating to the physical and human processes detailed in the PoS e.g. tributary and source when learning about rivers. • Express opinions and personal views about what they like and don't like about specific geographical features and situations e.g. a proposed local wind farm. <p>Use of ICT/technology</p> <ul style="list-style-type: none"> • Add a range of text and annotations to digital maps to explain features and places. • View a range of satellite images • Add photos to digital maps. 	<ul style="list-style-type: none"> • The Amazon rainforest in South America is so big that if it were a country, it would be the ninth biggest in the world. • Each biome contains a variety of ecosystems and habitats which are adapted to local environmental conditions and are constantly evolving. • There are five main biomes worldwide: forest, grassland, desert, tundra and aquatic.
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			Make use of geography in the news - online reports & websites.	
	Year 5	<p>The Power of the Earth Pupils should be taught to: Locational knowledge Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night). Human & Physical Geography Describe and understand key aspects of: - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes.</p>	<p>Mapping</p> <ul style="list-style-type: none"> • Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied. • Relate different maps to each other and to aerial photos. • Begin to understand the differences between maps e.g. Google maps vs. Google Earth, and OS maps. • Choose the most appropriate map/globe for a specific purpose. • Interpret and use thematic maps. • Recognise different map projections. • Use latitude/longitude in a globe or atlas. • Use models and maps to discuss land shape i.e. contours and slopes. • Use the scale bar on maps. • Read and compare map scales. <p>Enquiry & Investigation</p> <ul style="list-style-type: none"> • Ask and answer questions that are more causal e.g. Why is that happening in that place? Could it happen here? What happened in the past to cause that? How is it likely change in the future? • Make predictions and test simple hypotheses about people and places. 	<p>By the end of the unit, pupils should be able to answer:</p> <ul style="list-style-type: none"> • Earthquakes are most common at the edges of the tectonic plates and are caused by a sudden release of energy in the Earth's crust. • Thousands of earthquakes happen around the world every day however, most are so small they are hardly felt. • The point on the ground immediately above the origin of an earthquake is called the 'epicentre'. • A tsunami is a series of ocean waves caused by an underwater earthquake, landslide, or volcanic eruption. • About 80% of tsunamis happen within the Pacific Ocean's "Ring of Fire."

			<p>Communication</p> <ul style="list-style-type: none"> Identify and explain increasing complex geographical features, processes (changes), patterns, relationships and ideas. Use more precise geographical language relating to the physical and human processes detailed in the PoS e.g. tundra, coniferous/deciduous forest when learning about biomes. <p>Use of ICT/technology</p> <ul style="list-style-type: none"> Use appropriate search facilities when locating places on digital/online maps and websites. Start to explain satellite imagery. Use and interpret live data e.g. weather patterns, location and timing of earthquakes/volcanoes etc. 	
	Year 6	<p>Europe/Poland (Link to RE via JS)</p> <p>Pupils should be taught to:</p> <p>Place knowledge</p> <p>Understand geographical similarities and differences through the study of human and physical geography of a region in a European country</p> <p>Human & Physical Geography</p> <p>Human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of</p>	<p>Mapping</p> <ul style="list-style-type: none"> Use a wide range of maps, atlases, globes and digital maps to locate countries and features studied. Relate different maps to each other and to aerial photos. Begin to understand the differences between maps e.g. Google maps vs. Google Earth, and OS maps. Choose the most appropriate map/globe for a specific purpose. 	<p>By the end of the unit, pupils should be able to answer:</p> <ul style="list-style-type: none"> Poland is similar in size and latitude to the UK but it is much more rural. The Tatra Mountains are between southern Poland and Slovakia and are one of the few areas of Europe where bears and wolves roam freely.

		natural resources including energy, food, minerals and water.	<ul style="list-style-type: none"> Use the scale bar on maps. Read and compare map scales. <p>Communication</p> <ul style="list-style-type: none"> Communicate geographical information in a variety of ways including through maps, diagrams numerical and quantitative skills and writing at increasing length. <p>Use of ICT/technology</p> <ul style="list-style-type: none"> Use appropriate search facilities when locating places on digital/online maps and websites. Use wider range of labels and measuring tools on digital maps. Collect and present data electronically e.g. through the use of electronic questionnaires/surveys. Communicate geographical information electronically e.g. multimedia software, webpage, blog, poster or app. Investigate electronic links with schools/children in other places e.g. email/video communication. 	<ul style="list-style-type: none"> Poland has extensive forests and an exciting range of wildlife with the Bialowieza National Park being the oldest nature reserve in Europe. Poland is located in Central Europe and borders the Baltic Sea. The country borders seven countries: Germany, the Czech Republic, Slovakia, Ukraine, Belarus, Lithuania and Russia. The longest border is shared with the Czech Republic.
<u>Subject</u>	<u>Year Group</u>	<u>Curriculum Links</u>	<u>Skills</u>	<u>5 Key Knowledge Facts</u>
<u>Science</u>	EYFS	Materials <ul style="list-style-type: none"> Explore the natural world around them. 	<u>Encouraging Scientific Enquiry</u> Comparative testing <ul style="list-style-type: none"> How does popcorn made in a microwave compare to popcorn made on a 	Can describe what a material is. Can name the material they are using and why.

		<p>Describe what they see, hear and feel whilst outside.</p>	<p>fire?</p> <ul style="list-style-type: none"> • How quickly do ice cubes melt in different areas of the playground? • How are pizza bases different when made with different flours? • How does a loaf cook differently in different tins? • How do cupcakes cook if they have different amounts of mixture? <p>Observing over time</p> <ul style="list-style-type: none"> • How does the block of ice change over time? • How does a snowman change over time? • How does cake mixture/bread dough change as it is cooked? 	<p>Can talk about multiple properties of the material and why it is suited for its purpose.</p> <p>Can observe changes in their natural world and say why it is different now or will change in the future.</p> <p>Can compare and describe how materials change over time and in different conditions.</p>
Year 1		<p><u>Everyday Materials</u></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • 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, rock, brick, paper and cardboard. • 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. <p>Notes and Guidance (non-statutory): Pupils should explore, name, discuss and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy;</p>	<p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> • performing simple tests to explore questions, for example:- 'What is the best material for an umbrella? ...for lining a dog basket? ...for curtains? ...for a bookshelf? ...for a gymnast's leotard?' 	<ul style="list-style-type: none"> • All objects are made of one or more materials. • Some objects can be made from different materials e.g. plastic, metal or wooden spoons. • Materials can be described by their properties e.g. shiny, stretchy, rough etc. • Some materials e.g. plastic can be in different forms with very different properties. • Can name different types of material. •

		<p>waterproof/not waterproof; absorbent/not absorbent; opaque and transparent. Pupils should explore and experiment with a wide variety of materials, not only those listed in the programme of study, but including for example: brick, paper, fabrics, elastic, foil.</p>		
	<p>Year 2</p>	<p>Uses of Materials Pupils should be taught to:</p> <ul style="list-style-type: none"> ● Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, water, 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 (applying a force) ● Some materials can be found naturally; others have to be made <p>Notes and Guidance (non-statutory): Pupils should identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors, and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass). They should think about the properties of materials that make them suitable or unsuitable for particular purposes and they should be encouraged to think about unusual and creative uses for everyday materials. Pupils might find out about people who have developed useful new materials; for example, John Dunlop, Charles Macintosh or John McAdam.</p>	<p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> ● Comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); ● Observing closely, ● Identifying and classifying the uses of different materials, and Recording their observations. <p>Thinking about unusual and creative uses for everyday materials.</p>	<ul style="list-style-type: none"> ● All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water. ● When choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. ● A material can be suitable for different purposes and an object can be made of different materials. ● Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by

				<p>squashing, stretching, rolling, pressing etc.</p> <ul style="list-style-type: none"> Materials have different properties.
Year 3	<p>Rocks</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks and organic matter Recognise that rocks and soils can feel and look different. Recognise that rocks and soils can be different in different places/environments. <p>Notes and Guidance (non-statutory): Linked with work in geography, pupils should explore different kinds of rocks and soils, including those in the local environment.</p>	<p>Pupils might work scientifically by:</p> <p>Observing rocks, including those used in buildings and gravestones.</p> <ul style="list-style-type: none"> Exploring how and why they might have changed over time. Using (equipment) a hand lens or microscope to help them. Identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. Research and discuss the different kinds of living things whose fossils are found in sedimentary rock. Explore how fossils are formed. Explore different soils and ... Identify similarities and differences between them and describe the composition of soil. Investigate what happens when rocks are rubbed together (classify according to hardness) or what changes occur when they are in water. Raise and answer questions about the way soils are formed. 	<ul style="list-style-type: none"> Rock is a naturally occurring material. There are different types of rock e.g. sandstone, limestone, slate etc. which have different properties. Rocks can be hard or soft. They have different sizes of grain or crystal. They may absorb water. Rocks can be different shapes and sizes (stones, pebbles, boulders). Soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). Some rocks contain fossils. Fossils were formed millions of years ago. 	
Year 4	<p><u>Sound</u></p> <p>Pupils should be taught to:</p> <p>Vibrations</p> <p>Identify how sounds are made, associating some of them with something vibrating.</p>	<p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> Finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. 	<ul style="list-style-type: none"> A sound produces vibrations which travel through a medium from the source to our ears. Different mediums such as solids, liquids and gases 	

		<p>Recognise that vibrations from sounds travel through a medium to the ear. 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. Recognise that sounds can be made in a variety of ways (pluck, bang, shake, blow) using a variety of things (instruments, everyday materials, body). Sounds travel away from their source in all directions. Vibrations may not always be visible to the naked eye.</p> <p>Pitch Find patterns between the pitch of a sound and features of the object that produced it. Sounds can be high or low pitched. The pitch of a sound can be altered. Pitch can be altered either by changing the material, tension, thickness or length of vibrating objects or changing the length of a vibrating air column.</p> <p>Muffling/blocking sounds Recognise that vibrations from sounds travel through a medium to the ear. Sounds are heard when they enter our ears (although the structure of the ear is not important key learning at this age phase). Sounds can travel through solids, liquids and air/gas by making the materials vibrate.</p>	<p>They might make ear muffs from a variety of different materials to investigate /test which provides the best insulation against sound. •They could make [create/invent/design] and play their own instruments by using what they have found out about pitch and volume.</p> <p>Additional suggestion from Lancashire for working scientifically opportunities which enhance learning and support using ICT across the curriculum •This unit provides an ideal opportunity for using data logging equipment to detect/measure and compare sounds.</p>	<p>can carry sound, but sound cannot travel through a vacuum (an area empty of matter).</p> <ul style="list-style-type: none"> • The vibrations cause parts of our body inside our ears to vibrate, allowing us to hear (sense) the sound. • The loudness (volume) of the sound depends on the strength (size) of vibrations which decreases as they travel through the medium. Therefore, sounds decrease in volume as you move away from the source. • Pitch is the highness or lowness of a sound and is affected by features of objects producing the sounds. For example, smaller objects usually produce higher pitched sounds. •
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		<p>Sound travel can be reduced by changing the material that the vibrations travel through. Sound travel can be blocked.</p> <p>Notes and Guidance (non-statutory): Pupils should explore and identify the way sound is made through vibration in a range of different musical instruments from around the world; and find out how the pitch and volume of sounds can be changed in a variety of ways.</p>		
	Year 5	<p><u>States of Matters (Reversible/Irreversible)</u></p> <p>□ Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>□ Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>□ Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>□ Changes can occur when different materials are mixed.</p> <p>□ Some material changes can be reversed and some cannot.</p> <p>□ Recognise that dissolving is a reversible change and recognise everyday situations where dissolving occurs.</p> <p>□ Distinguish between melting and dissolving.</p> <p>□ Mixtures of solids (of different particle size) can be separated by sieving.</p> <p>□ Mixtures of solids and liquids can be separated by filtering if the solid is insoluble (un-dissolved).</p>	<p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> • Observing and comparing the changes that take place, for example, when burning different materials or baking bread or cakes. • Researching and discussing how chemical changes have an impact on our lives, for example cooking. • Discuss [research] the creative use of new materials such as polymers, super-sticky and super-thin materials. • Explain how they know when a change is reversible or irreversible 	<ul style="list-style-type: none"> • Materials have different uses depending on their properties and state (liquid, solid, gas). • Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets. • Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment. • Mixtures can be separated by filtering, sieving and evaporation. • Some changes to materials such as dissolving, mixing and changes of state are reversible, but some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the

		<p>□Evaporation helps us separate soluble materials from water.</p> <p>□Changes to materials can happen at different rates (factors affecting dissolving, factors affecting evaporation - amount of liquid, temperature, wind speed, etc).□Freezing, melting and boiling changes can be reversed (revision from YR4).</p> <p>Notes and Guidance (non-statutory): Pupils should explore reversible changes including evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes</p> <p>Pupils should be taught to:</p> <p>□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 (producing a gas / fizzing).</p> <p>Notes and Guidance (non-statutory): Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Note: Safety guidelines should be followed when burning materials.</p>		<p>formation of new materials and these are not reversible.</p>
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	<p>Year 6</p>	<p><u>Evolution/Inheritance</u></p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> □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. <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p>Notes and Guidance (non-statutory):Building on what they have learnt about fossils in the topic on rocks in Year 3, pupils should find out more about how living things on earth have changed over time. They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles. They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for example by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox.</p> <p>Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.</p> <p>Note: At this stage, pupils are not expected to understand how genes and chromosomes work.</p>	<p><u>Pupils might work scientifically by:</u></p> <ul style="list-style-type: none"> •Systematically identifying [testing] the effect of changing one [thing] component at a time in a circuit. •Designing and making [Create / Invent / Design] a set of traffic lights, a burglar alarm or some other useful circuit. 	<ul style="list-style-type: none"> • All living things have offspring of the same kind, as features in the offspring are inherited from the parents. • Due to sexual reproduction, the offspring are not identical to their parents and vary from each other. • Evolution is when plants and animals have characteristics that make them suited (adapted) to their environment. • Fossils give us evidence of what lived on the Earth millions of year ago. <p>Darwin and Wallace were scientists who observed how living things adapt.</p>
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