

Year 6 Programme of Study for Science

Electrifying			
Working Scientifically NC Statutory Learning Objectives	<ul style="list-style-type: none"> To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary. To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. To use test results to make prediction to set up further comparative and fair tests. To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments. 		
Unit 5.1 Think like an electrician			
NC Statutory Learning Objectives	<ul style="list-style-type: none"> To use recognised symbols when representing a simple circuit in a diagram. 	Success criteria	<ul style="list-style-type: none"> I can make a circuit from a diagram. I can represent circuits with symbols. I can explain what is needed to make a bulb light. I can name some components in a circuit.
Scientific language		Component, cell, complete, electrons	
Simple circuits page 68		Quick challenges	Place a range of components on a tray and cover up. Play 'What's missing?'
Whole class learning Draw a series circuit on the board with 2 bulbs, 2 batteries and 3 wires. Provide the children with the resources to make the circuit. Discuss whether there should be any gaps in the circuit.		<ol style="list-style-type: none"> 1. Children match symbols to components. 2. Children make their own circuit and draw it using symbols. 	
It's faulty page 69		Quick challenges	Revisit the symbols. Look up what electricity is and where the word 'electron' comes from.
Whole class learning Provide the children with a bag of broken circuits and explain they will need to be systematic with how they test in order to work like an electrician.		<ol style="list-style-type: none"> 1. Children test and discover what is the fault in each circuit. 	

Unit 5.2 All change

NC Statutory Learning Objectives	<ul style="list-style-type: none"> To associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in the circuit. To 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. 	Success criteria	<ul style="list-style-type: none"> I can draw diagrams of circuits that others can make. I can change components in a circuit. I can plan an investigation that will produce useful evidence. I can design a circuit to test an idea..
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Scientific language	Fuse, blow, filament, cell, battery
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Blow! page 72	Quick challenges	Show a video of making a piece of fuse wire blow. Demonstrate the inside of a plug.
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Whole class learning Show the children a lamp that does not work. Tell them that you think the fuse is blown and need them to design a circuit to test this.	<ol style="list-style-type: none"> In pairs, children draw the circuit using symbols and test a variety of fuses to see which is blown. Investigate the filament inside a bulb.
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How bright page 73	Quick challenges	Show a picture of an underground train. Explain that the train uses electricity to drive motors. Discuss how we could speed the train up.
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Whole class learning Discuss how we could make bulbs brighter. Model a very unfair test, changing lots of components. Discuss a scientific way of testing.	<ol style="list-style-type: none"> Children investigate what happens to a bulb, a motor and a buzzer if the voltage is increased,
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Unit 5.3 Build your own

Learning Objectives	<ul style="list-style-type: none"> To design and build a circuit that matches a design brief. To explain how circuits works in details. To represent circuits scientifically. To consider the impact of various forms of making electricity on the environment. 	Success criteria	<ul style="list-style-type: none"> I can design my own product from a brief. I can evaluate how well my product works. I can explain how alternative forms of energy could help save our planet.
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Scientific language	Renewable, solar
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Games galore page 76	Quick challenges	Provide some electronic games for the children to explore.
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Whole class learning	<ol style="list-style-type: none"> Children design, draw the circuit for and make their own game
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Investigate how these games work and how the electricity plays a part in this.		
It's all new page 77	Quick challenges	Demonstrate a solar panel making a motor move.
Whole class learning Discuss how we can save electricity. But what about changing the electricity supply? Is it better to have renewable sources? What does this mean?	1. In groups, the children research different types of renewable power for electricity..	
End of topic assessment	Children to all complete the activity to test to their knowledge.	

Staying Alive

Working Scientifically NC Statutory Learning Objectives	<ul style="list-style-type: none"> To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary. To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. To use test results to make prediction to set up further comparative and fair tests. To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments. 		
Unit 2.1 Going round in circles			
NC Statutory Learning Objectives	<ul style="list-style-type: none"> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Describe the ways in which nutrients and water are transported within animals, including humans. 	Success criteria	<ul style="list-style-type: none"> I can name parts of the circulatory system. I can explain the functions of these parts. I can understand how we use a model to represent the circulatory system.
Scientific language	Heart, lungs, blood, oxygen, vein, artery		
Is your heart in it? page 22	Quick challenges	Brainstorm all the organs in your body.	

<p>Whole class learning Children use a large room-sized diagram of the circulatory system and act out what happens in the circulatory system.</p>	<p>3. Children research the function of each main organ in the system - in this case the lungs, heart, blood vessels and blood.</p>		
<p>Lub dub page 23</p>	<p>Quick challenges</p>	<p>Play collective memory with a diagram of the circulatory system.</p>	
<p>Whole class learning Discuss the heart being the size of a fist. Demonstrate a pulse with a piece of rubber tubing with a syringe.</p>	<p>2. Children explore their heartbeat, making a stethoscope to listen to each others heartbeat. They discover where their pulse can be found.</p>		
<p>Unit 2.2 Faster, faster!</p>			
<p>NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To recognise the impact of diet and exercise on the way their bodies function. 	<p>Success criteria</p>	<ul style="list-style-type: none"> I can explain simply why our heartbeat changes as we exercise. I can make careful measurements and observations. I can present data in appropriate ways and explain why. I can suggest whether evidence supports or contradicts an idea.
<p>Scientific language</p>	<p>Hear, lungs, blood, oxygen, vein, artery, exercise.</p>		
<p>Out of puff page 26</p>	<p>Quick challenges</p>	<p>Show a short video of a swimmer under water - how long can they stay there for?</p>	
<p>Whole class learning Discuss how having bigger lungs could help you exercise more. Experiment with how jogging affects breathing and build up a method for measuring how the breathing rate changes.</p>	<p>3. In pairs, children measure their lungs capacities. 4. Measure breathing rates before and after exercise.</p>		
<p>Race against time page 27</p>	<p>Quick challenges</p>	<p>Review pulses and check everyone can find their pulse.</p>	
<p>Whole class learning Put up the challenge: As you exercise your breathing increases but your heart rate stays the same. Explain that the</p>	<p>2. In groups, children come up with ways to disprove your theory.</p>		

children have to prove you right or wrong.			
Unit 2.3 Health, wealth and happiness			
Learning Objectives	<ul style="list-style-type: none"> Recognise the impact of drugs and lifestyle on the ways their bodies function. 	Success criteria	<ul style="list-style-type: none"> I can identify the components of a healthy and varied diet. I can describe how diet affects health. I can describe how ideas about healthy diet and lifestyle have changed over time. I can recognise some harmful effects of drugs. I can use data to support explanations.
Scientific language	Addiction, nicotine		
What is a drug? page 30	Quick challenges	Discuss the term 'healthy' and 'drug'.	
Whole class learning Show the Tigtag video, 'Smoking' and then the children research a series of questions.	<ol style="list-style-type: none"> Children consider the number of smokers in the UK.. Children calculate the cost of smoking of 20 cigarettes a day and 2 pints of beer and think of how better that money could have been spent. The children make a short advert to show the dangers of drugs, 		
The importance of diet page 32	Quick challenges	Look at images of sailors with scurvy and children with rickets. What do you think causes these?	
Whole class learning Explain that scientists are continually finding out about what we need to eat. Discuss why poor children in France used to die younger due to their diet. Look at combinations of food to get vitamin C in their diets.	<ol style="list-style-type: none"> In pairs, research what vitamin C is for and which foods it is found in. Look at what Orr discovered about children drinking milk. 		
End of topic assessment	Children to all complete the activity to test their knowledge.		

Let it shine

<p style="text-align: center;">Working Scientifically NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary. To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. To use test results to make prediction to set up further comparative and fair tests. To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments.
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Unit 4.1 Going straight

<p style="text-align: center;">NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To recognise that light appears to travel in straight lines. To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 	<p>Success criteria</p>	<ul style="list-style-type: none"> I can describe how light travels. I can explain how a shadow is made. I can explain how to alter the size of a shadow. I can measure distances accurately. I can explain how various factors will affect the size of a shadow. I can identify and control variables in an investigation.
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<p>Scientific language</p>	<p>Light ray, cornea, pupil, iris, lens</p>	
<p>Straight as an arrow page 54</p>	<p>Quick challenges</p>	<p>Black out the room and use a torch to shine on children discussing why you cant see everyone at once.</p>
<p>Whole class learning In the dark room shine a torch on a wall and ask the children to draw what they see. Place a piece od card over the edge of the torch and redraw. Discuss what is happening.</p>	<p>4. Children shine torches over black paper to a white screen placing a block in the path of the torch. They draw the path of the light to discover it travels in straight lines and cannot go around the block.</p>	
<p>The perfect silhouette page 55</p>	<p>Quick challenges</p>	<p>Look at a range of shadows for the children to guess the object.</p>

<p>Whole class learning Challenge the children to find the best place to stand to get a shadow of themselves to fit into a blank picture frame.</p>	<p>3. Children work scientifically by measuring the height of the shadow and the distance the object is away from the light source.</p>
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Unit 4.2 Reflecting on seeing

<p>NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To 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. To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. 	<p>Success criteria</p>	<ul style="list-style-type: none"> I can explain how we see things. I can represent in a diagram how we see objects. I can use various references sources to find out about what people thought previously.
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<p>Scientific language</p>	<p>Reflection, symmetry</p>
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<p><u>Mirror image</u> page 58</p>	<p>Quick challenges</p>	<p>Look at writing that has been written in a mirror and explain that Leonardo Da Vinci used to use this as a secret code.</p>
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<p>Whole class learning Provide mirrors to the children and discuss if they are shiny or not. Discuss what you see in them and how shininess is related to reflection.</p>	<p>5. In pairs, children find all the reflective surfaces around school. 6. Children investigate changing where the beam of a torch goes using a mirror. 7. Children make a periscope.</p>
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<p><u>Seeing is believing</u> page 59</p>	<p>Quick challenges</p>	<p>Make it dark and discuss if we have light coming out of our eyes,</p>
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<p>Whole class learning Set up your own wool torch model to show what happens to the light as it bounces off the mirror. Model how after this it goes into your eye using a model of the eye,</p>	<p>3. Children draw diagrams to show how we see things.</p>
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Unit 4.3 Never a dull moment

<p>Learning Objectives</p>	<ul style="list-style-type: none"> To explore how light can be reflected and bent in various ways. To explore how white light can be split up. To recognise that light is made up of more than one colour. 	<p>Success criteria</p>	<ul style="list-style-type: none"> I can explain what white light consists of. I can ask questions and explore the properties of light.
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Scientific language	rainbow	
Light misbehaviour page 62	Quick challenges	Demonstrate the magic glass-making liquid.
Whole class learning Discuss findings.	5. Children explore bending light, bending pencil, where's the coin? And pouring light.	
Rainbows page 63	Quick challenges	Discuss when a rainbow will occur and use a torch and a prism to produce a rainbow.
Whole class learning Discuss findings.	4. In pairs, the children explore making rainbows and the colours in bubbles. 5. Make a colour spinner so when it is spun it appears white. 6. Look at objects through different coloured cellophane.	
End of topic assessment	Children to all complete the activity to test to their knowledge.	

We are dinosaur hunters

Working Scientifically NC Statutory Learning Objectives	<ul style="list-style-type: none"> To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary. To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. To use test results to make prediction to set up further comparative and fair tests. To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments.
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Unit 6.1 Dinosaur dawnings

Working Scientifically NC Statutory Learning Objectives	<ul style="list-style-type: none"> To make accurate measurements. To record and interpret results. To use results to make predictions. 	Success criteria	<ul style="list-style-type: none"> I can record results in a variety of ways. I can explain why I have presented my results in this way. I can explain what my results show. I can suggest what we can learn from these ideas.
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Scientific language	Prehistoric, Mesozoic, Triassic, Jurassic, cretaceous	
Design a dino page 82	Quick challenges	List all we know about dinosaurs and generate some questions of what they would like to find out.

<p>Whole class learning Explain that scientists sometimes get it wrong, especially with dinosaurs. Tell the children that they are going to use physics to test the effect of different body parts on the stability of dinosaurs.</p>	<p>5. Children investigate how changing the shape and size and body parts effect hoe stable a dinosaur would be.</p>		
<p>Colourful dinosaurs page 84</p>	<p>Quick challenges</p>	<p>Watch the Tigttag video 'Allosaurus' and select clips from 'Walking with dinosaurs'. Discuss what they saw.</p>	
<p>Whole class learning Ask the children what colour dinosaurs were and how they know. Explain that scientists use microscopes to look closely at fossils and finding that they were colourful. Discuss why colour is important.</p>	<p>4. Children carry out two experiments to find out whether the colour of a dinosaur makes a difference to it's temperature control.</p>		
<p>Unit 6.2 All change</p>			
<p>Working Scientifically NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> • To make accurate observations. • To present and evaluate the findings from their enquiries. 	<p>Success criteria</p>	<ul style="list-style-type: none"> • I can make detailed observations. • I can decide if I agree with other people's results and ideas. • I can explain what my observations show. • I can say how good my evidence is and whether it needs more research.
<p>Scientific language</p>	<p>Trace fossil, coprolite, herbivore, carnivore, omnivore</p>		
<p>Dino tracks page 88</p>	<p>Quick challenges</p>	<p>Show the video clip of dinosaur footprints.</p>	
<p>Whole class learning Show the children the table with some dinosaur prints on and use images from the internet. Ask them to discuss what they could find out from these prints.</p>	<p>8. In groups, children find out what types of dinosaur habitats there were during the different periods. 9. Investigate which dinosaurs are best adapted to walk in swamps.</p>		
<p>Dino doo doo page 90</p>	<p>Quick challenges</p>	<p>Show an image of a piece of coprolite and discuss which bit of the dinosaur they think it is.</p>	
<p>Whole class learning Explain that huge dinosaurs like</p>			

Apatosaurus and Brachiosaurus would have eaten hundreds of kilos of plants and leaves every day.	4. In groups, children look at dinosaur poo (owl pellets) to find evidence of what they have eaten.
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Unit 6.3 Dinosaur goings

Working Scientifically NC Statutory Learning Objectives	<ul style="list-style-type: none"> • To make detailed observations. • To decide if I agree with other people's results and ideas. • To explain what my observations show. • To say how good my evidence is and whether it needs more research. 	Success criteria	<ul style="list-style-type: none"> • I can find some evidence to support a theory about why dinosaurs became extinct. • I can take measurements and suggest what these show. • I can compare different theories and decide which has the strongest evidence. • I can explain why scientists still don't know exactly why dinosaurs died out.
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Scientific language	Evidence, extinction, mass extinction, warm-blooded, cold-blooded
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Dying dinos page 94	Quick challenges	Collect ideas from the children of why they thought dinosaurs died out.
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Whole class learning Tell the children that scientists can't agree on why dinosaurs became extinct. Explain that they are going to be given different theories for the extinction of dinosaurs and they have to research the evidence that supports it.	6. Children research different theories of why dinosaurs became extinct presenting their findings in different ways.
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Going. Going gone...? page 95	Quick challenges	Find out about warm-blooded and cold-blooded animals.
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Whole class learning Discuss cold-blooded animals and explain that they are going to find out if big things cool down faster or slower than smaller ones using a range of plastic bottles.	7. In groups, the children investigate whether big things cool down faster or slower than smaller ones and relate this to if dinosaurs had been cold-blooded it would have been a disadvantage if the climate became colder.
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End of topic assessment	Children to all complete the activity 'Super scientists' test to assess knowledge.
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Classifying critters

<p style="text-align: center;">Working Scientifically NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary. To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. To use test results to make prediction to set up further comparative and fair tests. To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments.
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Unit 1.1 Animalia

<p style="text-align: center;">NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> To understand how living things can be classified into groups scientifically. To know the difference between vertebrates and invertebrates. To observe similarities and differences and use them to classify living things. To decide on the best way to present evidence. 	<p>Success criteria</p>	<ul style="list-style-type: none"> I can describe how living things are grouped. I can group living things on the basis of careful observations. I can explain how vertebrates and invertebrates are different. I can group invertebrates and vertebrates into small groups and recall the names of those groups. I can chose and justify a way to present my evidence. I can make a branching key.
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<p>Scientific language</p>	<p>Flora, fauna, vertebrate, invertebrate, insect, mammal, bird, amphibian, reptile, fish</p>
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<p>Animal, vegetable or mineral? page 8</p>	<p>Quick challenges</p>	<p>Children discuss what features make a plant and animal. Play the guessin game 'Animal, vegetable or mineral?'</p>
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<p>Whole class learning Children produce a human branching key on eye colour. Produce a branching key with 'Living thing; at the top, then five branches off. Together produce an identification key.</p>	<p>6. Children produce own branching keys using pictures and writing their own questions.</p>
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<p><u>The key to it all</u> page 9</p>	<p>Quick challenges</p>	<p>Show children images of common bugs and try to name them. Look at more unusual bugs and try to classify them. Demonstrate how to collect bugs using pooters and tree beating.</p>	
<p>Whole class learning Collect bugs and through observation group them to produce a branching key for Year 4. Identify any missing groups and discuss why. Look for evidence of them being around.</p>		<p>5. Children produce a key for Year 4 with some key facts about each group to help Year 4 children to identify them.</p>	
<p>Unit 1.2 Is it a plant?</p>			
<p>NC Statutory Learning Objectives</p>	<ul style="list-style-type: none"> • To know that fungi are one of the five kingdoms of living things. • To find out what yeast needs to live. • To interpret observations and use them to develop explanations. • That moulds are a type of fungi, as is yeast. • That microbes and fungi can be helpful and harmful. 	<p>Success criteria</p>	<ul style="list-style-type: none"> • I can observe and interpret what I see scientifically. • I can explain my observations and investigations using scientific vocabulary. • I can explain how microbes and fungi can be useful or bad for us.
<p>Scientific language</p>	<p>Fungi, mushrooms, toadstool, fermentation, microbe, bacteria</p>		
<p><u>Marvellous microbes</u> page 12</p>	<p>Quick challenges</p>	<p>Put glitter on hands before the children arrive and shake their hands on the way in. Discuss different bacteria and the illnesses they might cause.</p>	
<p>Whole class learning Explain what bacteria is and how they reproduce. Discuss what has happened to the glitter and link to the NHS campaigns on coughs and colds. Discuss how microbes can be helpful in compost and things like 'Yakhult'.</p>		<p>10. In pairs, children complete challenges about how bacteria multiplies in the body. 11. Find out about Edward Jenner and his cure for cow pox.</p>	
<p><u>Fabulous fungi</u> page 13</p>	<p>Quick challenges</p>	<p>Show children a range of blue cheeses and other foods with mould on.</p>	
<p>Whole class learning Cut mushrooms up and observe closely. Which group does it belong to? Explain about fungi and how they can be further divided into moulds and yeast. Discuss</p>		<p>5. In groups, children investigate - why did the sandwich go mouldy?</p>	

mould and why people pickle food.

Unit 1.3 Give me five

Learning Objectives

- To explore the reasons for a classification system.
- To recognise that there are more than two kingdoms.
- To investigate ways in which plants can be classified.

Success criteria

- I explain why we have a classification system.
- I can name the five kingdoms.
- I can recognise differences between some plants and classify them.
- I can use research skills to find out about famous scientists.
- I can present my findings for others to see.
- I can make a branching key and explore other key types.

Scientific language

Species, genus, organisms, bacteria

Vegetation page 16

Quick challenges

Show children a variety of headlines from newspapers and sort them into scientific and those that are not. Write a headline for a short piece of science news.

Whole class learning

Pick an article off the web or local newspaper. Explain that they are going to write some pieces of science news for other pupils.

7. Children write science news in a variety of ways, blog, newspaper, slideshow etc.
8. Children become reporters and report local science news.

Science for all page 95

Quick challenges

Watch YouTube clip 'United Evergreen Primary School holds a Science Fair' and 'Zak's first science fair project'

Whole class learning

Explain to the children they are going to put on a science fair to spread the work of science. Discuss the various ways they might do this and what is involved. Make it into a competition with a prize for the best project.

8. In groups, the children decide what they will include in their science event, research experiments and select resources needed, testing they work. They complete their science fair and discuss how it went.

End of topic assessment

Children to all complete the activity 'Super scientists' test to assess knowledge.

We're evolving

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Unit 3.1 The same but different

NC Statutory Learning Objectives	<ul style="list-style-type: none"> To 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 their environment in different ways and that adaptation may lead to evolution. 	Success criteria	<ul style="list-style-type: none"> I can observe differences in appearance. I can explain simply why we look like our parents, but are not identical to either one of them. I can present data in a variety of ways, including bar charts, independently. I can explain how animals are adapted to their habitats.
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Scientific language	Variety, inherited		
<u>You look like your dad!</u> page 38	Quick challenges	Quick fire differences between the children, listing the things they chose to compare.	
Whole class learning Discuss how some differences between ourselves can be changed and these are called environmental features but we are looking as inherited features. Look up the word inherited.	7. Children carry out a survey on the why they look. 8. 'The Potatoheads Challenge'.		
<u>Adaptation</u> page 39	Quick challenges	List things plant need to survive and what teeth did what.	
Whole class learning Brainstorm all the features of a desert and discuss the difficulties of living there. List animals that live in the	6. Children research how the animals have adapted to the living in the desert and the polar regions. 7. Children consider how the plants shown have adapted to their environment.		

desert.			
Unit 3.2 Evolve or die!			
NC Statutory Learning Objectives	<ul style="list-style-type: none"> Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. Recognise that living things have changed over time. 	Success criteria	<ul style="list-style-type: none"> I can recognise that if living things don't adapt, change and evolve, they could die out. I can describe why offspring are similar but not identical to their parents. I can explain simply what the process of natural selection is.
Scientific language	Evolution, adaption, natural selection		
<u>How have they changed?</u> page 42	Quick challenges	Look at a range of different clothing and which they would choose to wear in winter or summer.	
Whole class learning Explain that we are lucky in that we have different clothes to adapt to the conditions but animals can't do that. They became adapted for life in certain conditions over hundreds of thousands of years.	12. In pairs, children investigate how camouflage helps animals to survive its predators. 13. Find out the peppered moth story.		
<u>Natural selection</u> page 43	Quick challenges	Find the Galapagos islands and watch the Tigtag video on Darwin.	
Whole class learning Research Charles Darwin and explain his theory about finches.	6. In groups, children play the 'Beaks and seeds' game and discuss which beak was best for eating.		
Unit 3.3 Bury the evidence			
Learning Objectives	<ul style="list-style-type: none"> To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. 	Success criteria	<ul style="list-style-type: none"> I can research famous people. I can explain how fossils provide evidence of living things in the past. I can describe how things have changed over long periods of time. I am more aware of the timescale of evolution.
Scientific language	fossil, dinosaur, prehistoric		
<u>All change</u> page 46	Quick challenges	Read the story: 'Dinosaurs and all that Rubbish' by Michael Foreman..	

<p>Whole class learning Explain that scientists have worked out that Earth is 4.6 billion years old. By looking at fossils they have been able to work out when life started. Map out the timeline.</p>	<p>9. Children place themselves on the timeline and research that stage using illustration to show their findings.</p>	
<p>Mary Anning page 48</p>	<p>Quick challenges</p>	<p>Children create dinosaurs coming up with lots of fun dinosaur names.</p>
<p>Whole class learning Look at the words used to name dinosaurs and what they mean. Remind them what fossils are and where they are found.</p>	<p>9. In groups, the children remove chocolate chips from cookies acting as palaeontologists. 10. Children discover who Mary Anning was.</p>	
<p>End of topic assessment</p>	<p>Children to all complete the activity to test to their knowledge.</p>	