
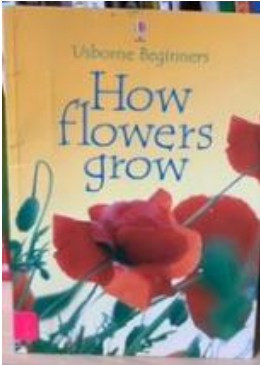

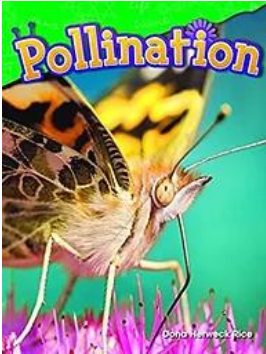
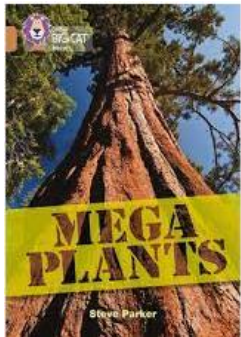


BILSTON CHURCH OF ENGLAND PRIMARY



MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Science	Our Changing World	3	Summer 2	16 hours
 Reading scheme	 Library	 Library	 Library	 Reading scheme
End of lower Key stage 2 Outcomes	Asking relevant questions and using different types of scientific enquiries to answer them. ? Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. ? Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.			

	<p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>
<p>End of Unit Outcomes</p>	<p>I can make observations and identify patterns in how leaves change through the year.</p> <p>I can record what I have found out in different ways.</p> <p>I can describe how trees change over time.</p> <p>I can find and describe different seeds.</p> <p>I can record the seeds I find and know which plant they came from.</p> <p>I can look for patterns in where the seeds fall.</p> <p>I can make observations of flowers and identify patterns in what I see.</p> <p>I can record what I have found out in different ways.</p> <p>I can describe how our world changes over time.</p> <p>I can spot a range of different fruits and berries.</p> <p>I can describe different berries and know which plants they come from.</p> <p>I can record the berries I find.</p> <p>I can identify and name garden insects.</p> <p>I can make observations and identify patterns.</p> <p>I can describe how the number of insects varies and suggest simple reasons for this.</p>

	<p>I can identify a variety of common plants.</p> <p>I can make careful observations of plants and identify how they change over time.</p>
Vocabulary	<p>Leaf, deciduous, evergreen, seed, berry, fruit, flower, seedling, seed head, grow, growth, habitat, soil type, variation, season, seasonal change, pollen, pollinate, nectar, honey bee, bumblebee, butterfly – Large White, Tortoiseshell, Peacock, observe, record, present</p>

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources
Lesson 1 How do leaves change through the year?	2 hour	<p>WALT: understand plants.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can make observations and identify patterns in how leaves change through the year. • I can record what I have found out in different ways. • I can describe how trees change over time. 	<p><u>Working Scientifically Link.</u></p> <p>Recording findings using simple scientific language, drawings, labelled diagrams.</p> <p>During the first lesson, show children a photograph taken of a tree where you grew up. Explain that you loved this tree as a child as it was always changing. Ask the children to think, pair share ways in which it may change. Explain that this tree was your favourite place to go and that you liked to visit it often to see how it was. You felt it was your special tree.</p> <p>Explain to the children that they are going to adopt a tree for the year. They will need to visit it regularly to see how it is changing. It will be important to record their observations so that they can remember what they last saw. They will do this by writing a diary. During subsequent lessons, before going out, ask them to look at their diaries to remind themselves of what their special tree was like last time they visited it.</p>	<p>Digital cameras, photograph of a tree, green, red and yellow paint colour charts.</p>

			Remind them to also look around them to see how other things are changing.	
Lesson 2 What seeds can we find through the year?	2 hour	<p>WALT: investigate living things.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can find different seeds. • I can describe different seeds. • I can record the seeds I find and know which plant they came from. • I can look for patterns in where the seeds fall. 	<p><u>Working Scientifically Link.</u></p> <p>Recording findings using simple scientific language, drawings, labelled diagrams.</p> <p>Use slide 1 from Different seeds (Slideshow 1) to show and discuss the range of seeds. Show the children Seed dispersal (Video 1), from Lesson 10, Module 1 How does your garden grow?, to remind them about the methods of seed dispersal. Ask them to think about how the seeds on slide 1 are dispersed: soft – eaten by animals; woody – carried by animals and buried for later; pods – explosion; winged – carried by the wind.</p> <p>Explain to the children that you are going to go out and look for seeds. In Challenge 1 they look for a range of seeds on different plants. In Challenges 2 and 3 they investigate the position of seeds on the ground. These challenges are differentiated by the method of gathering data. You may wish for all children to complete Challenge 1 initially and then encourage them to move on to Challenge 2 or 3 when an appropriate tree is located.</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Resource sheet 3</p> <p>Slideshow 1</p> <p>Digital camera, balls of string, lolly sticks, large hoops such as PE hoops.</p>
Lesson 3 How do flowers change through the year?	2 hour	<p>WALT: investigate living things.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can make observations of flowers and identify 	<p><u>Working Scientifically Link.</u></p> <p>Recording findings using simple scientific language, drawings, labelled diagrams.</p> <p>During the first lesson, display the images in Flower show (Slideshow 1) and discuss how different plants flower at different times in the year. Explain that if you are choosing a flower arrangement for a wedding or special occasion the</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Slideshow 1</p> <p>Digital cameras</p>

		<p>patterns in what I see.</p> <ul style="list-style-type: none"> • I can record what I have found out in different ways. • I can describe how our world changes over time 	<p>arrangement may have to be different depending on the time of the year. Explain that the children will be looking at the types of flowers that can be found at different times of the year. During subsequent lessons, before going out, ask them to look at their flower record from previous trips to remind themselves of what flowers they saw.</p> <p>Explain to the children that they are going to go out and look at flowers. They will make a record of the flowers that they find. Take the children to an area where there are plenty of common wildflowers.</p>	iPads
Lesson 4 What colour are berries?	2 hour	<p>WALT: investigate living things.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can spot a range of different fruits and berries. • I can describe different berries and know which plants they come from. • I can record the berries I find. 	<p><u>Working Scientifically Link.</u></p> <p>Recording findings using simple scientific language, drawings and labelled diagrams.</p> <p>Show slide 1 from Different seeds (Slideshow 1) to show the range of seeds. Show the children the video Seed dispersal from How does your garden grow, Core Lesson 10 (Video 1) to remind them about the methods of seed dispersal. Remind them that some seeds are eaten by animals and the seeds are released elsewhere in their faeces. These seeds are often inside fleshy berries or fruits. Ask the children to think why this is the case.</p> <p>In pairs, ask the children to write a list of as many fruits and berries that they can think of. Next to each type of fruit or berry ask them to write down what colour it is.</p> <p>Ask: Are some colours more common than others? Are there colours that you cannot think of a fruit or berry of this colour?</p>	Snap Science: Resource sheet 1 Slideshow 1

			Explain to the children that you are going to go out on a trail to look for berries and fruits.	
Lesson 5 How often do insects visit plants?	2 hour	<p>WALT: investigate living things.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can identify and name garden insects. • I can make observations and identify patterns. • I can describe how the number of insects varies and suggest simple reasons for this. 	<p><u>Working Scientifically Link.</u></p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.</p> <p>Show the children Slideshow 1, which shows insects visiting a variety of plants. Encourage them to look carefully at the insects they see, turn to their partner and identify as many different types of insects as they can.</p> <p>Ask: Which insects did you see? What do you think the insects are doing? Why do they visit the flowers? Why are the petals of the flowers brightly coloured? Why do they need to attract insects?</p> <p>Provide children with copies (one between two) of the insect ID card (Resource sheet 1).</p> <p>Ask the children to think again about the insects they saw, and see if there are any more they can identify using the insect ID card. If necessary, show the slideshow one more time to help children confirm their insect identifications.</p> <p>Tell the children that they are going to go out and collect information about the number and different kinds of insects that visit plants around the school grounds (or local park). They will make a number of visits to the plants at different times during the year and in different weather conditions – on sunny days and dull days. They will make a record of the insects that they see during each observation session and add it to their Our Changing World diary. They should use a</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Slideshow 1</p> <p>digital camera, iPad.</p>

			<p>camera to photograph the location where they saw the most insects on each occasion. These photographs should also be added to their OCW diary.</p> <p>Provide each pair of children with a simple ID card and a tally chart (Resource sheet 2), if necessary, to structure their data collection. Like other challenges in this module these are differentiated by the data handling required. As the year proceeds all children will progress in their data handling skills and must be challenged appropriately by being supported to attempt a more demanding task.</p>	
<p>Lesson 6</p> <p>What plants grow in the school grounds during the year?</p>	2 hour	<p>WALT: investigate living things.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can identify a variety of common plants. • I can make careful observations of plants and identify how they change over time. • I can summarise my ideas based on the evidence I have collected. 	<p><u>Working Scientifically Link.</u></p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.</p> <p>Ask: What plants grow in the school grounds across the school year? Encourage children to think about the names of different types of plant (including trees) and note them down on a flip chart or on the interactive whiteboard.</p> <p>Ask: Do you think the plants you might find will change during the course of the year? What if you looked in the school garden in November? Or in May? What if you looked at the school field in early spring and then again in summer? Would the plants be different? How might what you would see change?</p> <p>Explain to the children that they are going to check out their ideas by carrying out a survey to see how plants growing in the school grounds change over time. They will need to visit the same location and make observations of the plants growing there four times, once each season. It will be</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Resource sheet 3</p> <p>Digital cameras, magnifiers, large hoops, quadrats or four 1 m or 1.5 m canes joined in a square, 5 m lengths of</p>

			important to record those observations in their Our Changing World diaries so that they can remember what they see each time. That way it will be much easier to notice the changes that take place across the year. The challenges are differentiated by the size and number of locations. However all children must be challenged to improve their observational skills as the year proceeds and increase the number of plants that they can identify.	rope (or washing line)
Lesson 7 How do sunflower seeds and plants grow and change over time? – Part 1.	2 hour	<p>WALT: understand plants.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can make careful observations and take measurements of my sunflower seeds, seedlings and growing plants over time. • I can describe the conditions seeds and plants need in order to grow well. • I can make comparisons between sunflower plants of different varieties and suggest reasons 	<p><u>Working Scientifically Link.</u></p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>During the first lesson show children a variety of sunflower seed packets. Provide colour photocopies or actual seed packets for different varieties of sunflower, one selection (of packets) between two children. Tell the children to look at the ‘blurb’ on each packet. Ask: What does it tell us?</p> <p>Ask the children about the details on their packets and display some of them using a visualiser, pinpointing useful pieces of information children might find on their packets, such as when to plant, when the variety will flower and how tall the plants will be.</p> <p>Ask: When does it say that the seeds should be planted? How tall will the plants grow? When will the flowers appear? How do we need to care for our sunflower seeds and growing plants?</p> <p>Tell the children that during this lesson they are going to plant some sunflower seeds. In later lessons they will grow on and plant out their sunflowers, observing and measuring</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Sunflower seeds of different varieties (remember to choose varieties that will flower before the end of summer term if seeds are planted early, in March or April, under glass), fibre</p>

		<p>why one plant might have, for example, larger or more flowers than another of the same variety.</p>	<p>the growth of their plants over time and comparing and contrasting different types of plants grown in different positions.</p> <p>In this sequence of lessons, Challenge 1 describes the first lesson in the sequence, as children plant their seeds and begin to identify what their sunflower plants will need in order to grow well over time. Challenges 2 and 3 describe subsequent lessons, when children grow on and plant out their sunflower plants.</p>	<p>pots, potting compost, lolly sticks or plant labels, plant canes and ties</p>
<p>Lesson 8</p> <p>How do different varieties of sunflower plants grow and change over time? – Part 2.</p>	<p>2 hour</p>	<p>WALT: work scientifically.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can collect, present and interpret data I collect about sunflower plants as they grow. • I can identify patterns in data and describe what I have noticed. • I can draw conclusions based on evidence, comparing and contrasting the 	<p><u>Working Scientifically Link.</u></p> <p>Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p> <p>During the first lesson talk to the children about the observations and measurements that they might make (or have begun to make) to monitor the growth of their sunflower plants over time. Show them a series of photographs of some of their sunflower plants and encourage them to look at their Our Changing World diary.</p> <p>Ask: How have these sunflower plants already changed? What observations and measurements of your sunflower plants have you already recorded?</p> <p>The children should have described the appearance of their seedlings and the young plant they decided to grow on in their OCW diary. They should have measured the height of their young plant at the point they planted it into the growing space they are using. They may also have already recorded several weeks' observations and measurements,</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Resource sheet 3</p> <p>Measuring equipment, digital camera.</p>

		<p>growth of sunflower plants of different varieties.</p>	<p>using the Observation over time log (Lesson 7, Resource sheet 2) as a guide.</p> <p>Tell them that they are going to continue to record what happens over the coming weeks until their plants are fully grown and flower.</p> <p>Ask: What observations and measurements will you need to record?</p> <p>Ensure that children recognise the need to make detailed observations, such as number and size of leaves, appearance of buds, changes to bud size, when flowers are open, the size of flowers, detail of structure, when seeds start to set and so on.</p> <p>Children should collect data on a regular basis, working collaboratively to take measurements and record changes they observe in their Our Changing World diary. They can use sketches and photographs to supplement measurements, recording significant changes quickly and adding depth to the evidence they collect.</p> <p>In this learning sequence children present and interpret data and begin to draw conclusions to help answer the question they are investigating: How do sunflower plants of different varieties grow and change over time?</p> <p>Three data review sessions are suggested below. The activities described could be incorporated within a science lesson or used at another suitable time.</p> <p>Week 2 after planting: Children make observations and take measurements of their young sunflower plants, adding this to the information they have already recorded in their OCW</p>	
--	--	---	--	--

		<p>diary. Some children create a simple bar chart to present data about different varieties of sunflower plant and make generalisations about the results.</p> <p>Week 6 after planting: Children consider the data they have recorded in their OCW diary. Some compare two varieties of sunflower while others add a second set of data to their block graph and compare it to the first.</p> <p>Week 10 after planting: Children consider the data they have recorded in their OCW diary. Some compare two varieties of sunflower while others add the final set of data to their block graph to help them draw conclusions about how plants have grown and changed over time. Group the children in mixed ability groups. Ensure that there are different varieties of sunflower represented across the group. This will make data collection simpler to organise for children who complete Challenge 2 or 3.</p>	
--	--	--	--