
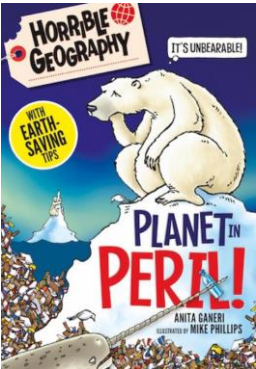

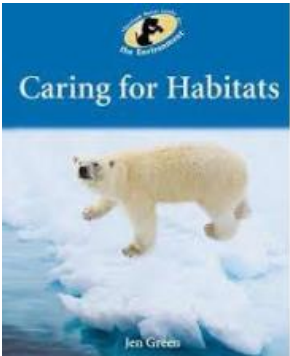



BILSTON CHURCH OF ENGLAND PRIMARY



MEDIUM TERM PLANNING

Subject	Topic/Key Question	Year Group	Term	Time Allocation
Science	Human Impact	4	Summer 2	12 hours
 <p>Library service</p>	 <p>Sustainable planet book box</p>	 <p>Sustainable planet book box</p>	 <p>Science resource cupboard</p>	 <p>Reading scheme</p>
<p>End of lower Key stage 2 Outcomes</p>	<p>Asking relevant questions and using different types of scientific enquiries to answer them. ?</p> <p>Setting up simple practical enquiries, comparative and fair tests.</p> <p>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.</p> <p>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.</p>			

	<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 describe some negative ways that humans change their environment.</p> <p>I can describe some positive ways that humans change their environment.</p> <p>I can group items of litter into categories.</p> <p>I can label a tally chart for data collection.</p> <p>I can plan a survey to find out how much litter is around my school.</p> <p>I can collect data about litter and sort data into categories.</p> <p>I can present data on a graph.</p> <p>I can use the data to answer a question and make suggestions.</p> <p>I can describe how different types of litter may be dangerous to animals.</p> <p>I can name local animals that might be affected by different types of litter.</p> <p>I can describe ways to reduce the dangers of litter to animals.</p> <p>I can present information in a persuasive way to support my argument.</p> <p>I can present my findings in a food chain.</p> <p>I can use scientific evidence to support my findings.</p> <p>I can explain what happens when a food chain is broken.</p> <p>I can present my findings on habitat destruction in other parts of the world.</p>

	<p>I can use scientific evidence to support my findings.</p> <p>I can explain some implications of global habitat destruction.</p>
Vocabulary	<p>environment, impact, positive, negative, litter, pollution, waste, biodiversity, habitat, derelict, graffiti, traffic, destroy, create, location, food chain, producer, consumer, human impact, global issue, destruction, deforestation, rainforest, climate, climate change, zoo, endangered, breed, wild, natural, predator, prey, conservation, categories, tally chart, pictogram, bar chart, axes, scale, opinion, point of view, argument, viewpoint, debate</p>

Lesson Sequence	Time Allocation	Key Question/WALT	Teaching Activities	Resources
Lesson 1 What impact do humans have locally?	2 hour	<p>WALT: work scientifically.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can describe some negative ways that humans change their environment. • I can describe some positive ways that humans change their environment. 	<p><u>Working Scientifically Link.</u></p> <p>Identifying differences, similarities or changes related to simple scientific ideas and processes.</p> <p>Show the image of a run-down industrial area on slide 1 of What's the human impact? (Slideshow 1).</p> <p>Ask children, in pairs, to discuss what impact humans have had there and what effect this will have on the plants, people and other animals living there. If children are not familiar with the word impact explain to them that you are asking them to think about humans making a difference and how the things humans do and the changes they make affect themselves and other living things. Choose children to feedback ideas, recording them by circling the relevant part of the picture.</p> <p>Ask: What might have been there before?</p>	<p>Snap Science: Slideshow 1</p> <p>Coloured pens, prepared activity sheets with slides printed out from the slideshow and stuck in the middle of large sheets of paper (A3 or A2)</p>

			<p>Show slide 2, the image of what was there before, and ask the children to discuss what has been lost. If children are not familiar with the word biodiversity, introduce it.</p> <p>Show slide 3 and again ask about human impact. Children may not recognise the human influence on this environment or may only identify the improvements, such as planting trees. Show slide 4 and explain to the children how this apparently natural environment was created.</p> <p>Organise the class into groups of three or four children. Tell them that their challenge is to identify examples of positive and negative human impact. Explain that you will give them some images that are stuck in the middle of a large sheet of paper and that you would like them to label the pictures to show positive and negative impact, using two different colours. The challenges are differentiated by the ambiguity of the examples. Group children according to how well they identified the human impact presented on slides 1 and 2.</p>	
<p>Lesson 2</p> <p>How can we find out about litter?</p>	2 hour	<p>WALT: work scientifically.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can group items of litter into categories. • I can label a tally chart for data collection. • I can plan a survey to find out how 	<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>Review the display of the positive and negative impact of humans that is evident locally.</p> <p>Ask: What positive impact have humans had in our local area? What negative impact? What things would you like to change?</p> <p>Establish with children that there may be some changes that might be achieved by talking to their parents or by</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Resource sheet 3</p> <p>Resource sheet 4</p>

		<p>much litter is around my school</p>	<p>writing letters to the local council, but something that they can all make a difference to is the amount of litter (this may have been discussed as a response to the task at the end of Lesson 1).</p> <p>Tell children that in the next lesson they will be carrying out a litter survey, with the group carrying out Challenge 1 collecting litter, and those involved with Challenge 2 and Challenge 3 collecting data, on tally charts, from one location (Challenge 2) or two locations (Challenge 3). Explain that first, however, they are going to look at data from a different litter survey to help them to plan what information they will collect.</p> <p>Tell the children that a class in another school carried out a survey of what was thrown away in the school bins. Show the tally chart (Slideshow 1) to the children. Check that all children know how to read a tally chart.</p> <p>Ask: What is the most common type of waste? What is the least common? What could we do with this data to make it easier to read and interpret?</p> <p>Tell the children that their challenge is to look at different ways to group items of waste and then decide on the categories that they will use when collecting their own data. Children will work in groups of three or four. They will remain in the same groups for Lesson 3. The activity is differentiated by data processing demand.</p> <p>While they are working ask the children: How have you grouped the items? What are your categories? What is the same about all these items/ what do they all have in</p>	<p>Resource sheet 5</p> <p>Resource sheet 6</p> <p>Resource sheet 7</p> <p>Resource sheet 8</p> <p>Slideshow 1</p> <p>Items made from different materials may be needed for some children to handle.</p>
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			common? Where would you put this item? Why? Why would this item not go here? Where will you put items made from more than one material?	
Lesson 3 What types of litter are dropped locally?	2 hour	<p>WALT: work scientifically.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can collect data about litter. • I can sort data into categories. • I can present data on a graph. • I can use the data to answer a question and make suggestions. 	<p><u>Working Scientifically Link.</u></p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.</p> <p>Tell children that in this lesson they will be carrying out the litter surveys that they planned in the previous lesson and presenting the data they collect. Provide Challenge slides for each group and check that all groups and their accompanying adult(s) know what they are to do. Remind them about rules for working beyond the classroom and ensure that they all have litter picking equipment or data collection sheets, according to which group they are in.</p> <p>Take children outside to carry out the litter survey. Remind children in the group undertaking Challenge 1 not to pick up anything hazardous. Remind the groups for Challenges 2 and 3 that they do not need to touch the litter.</p>	<p>Snap Science: Resource sheet 1</p> <p>Challenge slides</p> <p>Litter pickers and/or gardening or disposable gloves (sturdy plastic bags could be an alternative), bags for collecting the litter, clipboards, data collection sheets (one per group, prepared in Lesson 2), digital camera.</p>
Lesson 4	2 hour	WALT: investigate living things.	<u>Working Scientifically Link.</u>	Snap Science: Slideshow 1

<p>Why does clearing litter matter?</p>		<p>Success Criteria</p> <ul style="list-style-type: none"> • I can describe how different types of litter may be dangerous to animals. • I can name local animals that might be affected by different types of litter. • I can describe ways to reduce the dangers of litter to animals. • I can present information in a persuasive way to support my argument. 	<p>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Remind the children about the litter surveys that they carried out in Lesson 3. Organise children into groups and provide each group with items (either from the litter pick or collected separately) and pictures (Slideshow 1) of litter. Ask children to discuss what dangers they think the items present for local animals – wild animals, farm animals and pets.</p> <p>For each item in turn, choose children to feedback on how their group thinks it could be dangerous to animals. Note: some items may present more than one danger. Use the teacher demonstration items to prompt them to think about dangers that may be less apparent with their safer litter.</p> <p>Show and discuss How litter is dangerous to animals (Video 1). Reassure children that these animals were rescued and cared for.</p> <p>Tell the children that they will be creating posters or presentations for different audiences to highlight the possible dangers of litter. The challenges are differentiated by audience and means of presentation.</p>	<p>Video 1</p> <p>Items of litter/rubbish for each group, to include: drinks can, food tin, plastic bottle or milk container, glass jar, plastic carrier bag, fishing line, plastic can holder, balloon, food packaging (burger box, pre-packed sandwich container). Teacher demonstration item: tin and lid with sharp edges, (handle with care and keep away from children)</p>
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<p>Lesson 5</p> <p>What happens when a food chain is broken?</p>	<p>2 hour</p>	<p>WALT: investigate living things.</p> <p><u>Success Criteria</u></p> <ul style="list-style-type: none"> • I can present my findings in a food chain. • I can use scientific evidence to support my findings. • I can explain what happens when a food chain is broken. 	<p><u>Working Scientifically Link.</u></p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; using straightforward scientific evidence to answer questions to support findings.</p> <p>Ask children to share what they already know about food chains or webs. Display Food chains (Interactive 1), which shows a green plant, a slug and a bird. Ask children to talk about what order the species should be in, starting with the producer until they reach the end of this particular food chain.</p> <p>Gather feedback and discuss any misconceptions that have arisen. Invite a child up to move the objects on screen into the correct place.</p> <p>Repeat with the second example, which features a slightly longer chain. During feedback, make sure that children use the correct vocabulary, e.g. producer and consumer, and then move the objects into the correct place on screen, as per slide 1.</p> <p>Move on to example 3 and ask the children not only to order the food chain, but to consider where this particular food chain might be found.</p> <p>Reorder the elements on screen as per the previous two slides and gather views on where this particular habitat might be found. Accept all reasonable answers.</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Slideshow 1</p> <p>Interactive 1</p> <p>Poster paper and pens, access to the internet (Challenge 3), microphone (optional)</p>
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		<p>Ask: What would happen if one of the items in the food chain wasn't there any longer? Get children to think, pair and share their ideas.</p> <p>After a short period of time, gather responses, perhaps on a large sheet of paper or on the whiteboard. Expected responses might include that there will be too many of a species earlier in the chain, or no food for species earlier in the chain, or that some species find something else to eat, take something from an interdependent food chain, and that the ultimate impact could be a species dying out. Some children may come up with examples for outside the UK, e.g. panda bears only eating bamboo. If the bamboo stopped growing there would be no pandas.</p> <p>Explain to children that their challenge is to investigate what happens when a food chain is broken. They will consider this in the context of the same habitat that is provided in example 3 in Food chains (Interactive 1). However, if you have a local building project nearby that would affect a habitat, then that may be a better example to use with the children.</p> <p>Introduce the context of the challenge by displaying slides 1–3 of Food chains and human impact (Slideshow 1). Slides 2 and 3 shows the place inhabited by the species in the food chain on slide 1. Discuss the aerial views of the area together with the planning notice for the site. Organise the children into small groups of three or four and ask them to complete a Plus, Minus, Interesting (PMI) thought map (Resource sheet 1) of their ideas about the implications of the new site for the habitat. Make it clear to the children</p>	
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			that the project is going ahead, so there is no debate about whether it happens or not, and that they should focus on the impact on the food chain they have been thinking about. The challenges are differentiated by the style of reporting.	
Lesson 6 What is the impact of habitat destruction in other parts of the world?	2 hour	<p>WALT: investigate living things.</p> <p>Success Criteria</p> <ul style="list-style-type: none"> • I can present my findings on habitat destruction in other parts of the world. • I can use scientific evidence to support my findings. • I can explain some implications of global habitat destruction. 	<p><u>Working Scientifically Link.</u></p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions; using straightforward scientific evidence to answer questions to support their findings.</p> <p>Ask children in pairs or groups of three to reflect on the outcomes from Lesson 5. Refer to food chains and the impact that humans can have on breaking the food chain.</p> <p>Display the incomplete food chain on Human impact worldwide (Interactive 1) and ask children to put the chain in order (plankton – shrimp – tuna – shark – human).</p> <p>Ask children, remaining in their small groups, to consider what might happen if all the shrimp died from pollution. Possible answers might include that humans would die out, which is not true. Ask the children to consider what they found out in Lesson 5 about variety in the diets of most living things. Children may need support to understand this difficult concept.</p> <p>Explain to the children that they are going to investigate habitat destruction in another part of the world, and that their challenge is to produce an article for a newspaper as the science correspondent, focusing on the impact of the crisis on the food chain. Children should choose the</p>	<p>Snap Science:</p> <p>Resource sheet 1</p> <p>Resource sheet 2</p> <p>Resource sheet 3</p> <p>Resource sheet 4</p> <p>Interactive 1</p> <p>Poster paper and pens, access to the internet.</p>

			challenge which interests them most and work individually with support as needed.	
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