



## Medium Term Planning for Science-Living things and minbeasts YEAR 2

National Curriculum Objectives	Vocabulary for this unit	Resources needed	Key Concepts
<p><b>Living Things and Their Habitats</b></p> <ul style="list-style-type: none"> <li>&gt;Explore and compare the differences between things that are living, things that are dead, and things that have never been alive</li> <li>&gt;Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>&gt;Identify and name a variety of plants and animals in their habitats</li> <li>&gt;Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</li> </ul> <p><b>Animals, including Humans</b></p> <ul style="list-style-type: none"> <li>&gt;notice that animals, including humans, have offspring which grow into adults</li> <li>&gt;Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</li> </ul>	<p>Habitat microhabitat alive dead never been alive life processes oxygen energy food water air shelter reproduce survival interdependent seed dispersal predator prey minibeasts cleavers burdock warbler oak tree meal worm choice chamber meal beetle</p>	<p>Extra adults. Access to nature area, containers for minibeasts, e.g. tubs with magnifying lids/margarine containers + lids, paintbrushes, pooters (or good set of plastic minibeasts), hand lenses. Information books about minibeasts. Pond dipping equipment if appropriate. Digital camera. Access to internet</p>	<ul style="list-style-type: none"> <li>● Life</li> <li>● Matter</li> <li>● Habitation</li> </ul> <p style="text-align: center;">Being Scientific</p>
<p><b>Key questions</b></p>	<p><b>Weaving Knowledge and Skills</b></p>		
<p><b><u>K.S.U. breakdown for Living things and their habitat</u></b></p> <ul style="list-style-type: none"> <li>•Can they match certain living things to the habitats they are found in?</li> <li>•Can they explain the differences between living and non-living things?</li> <li>•Can they describe some of the life processes common to plants and animals, including humans?</li> <li>•Can they decide whether something is living, dead or non-living?</li> <li>•Can they describe how a habitat provides for the basic needs of things living there?</li> <li>•Can they describe a range of different habitats?</li> <li>•Can they describe how plants and animals are suited to their habitat?</li> </ul> <p><b><u>K.S.U. breakdown for Living things and their habitat (challenging)</u></b></p> <ul style="list-style-type: none"> <li>•Can they name some characteristics of an animal that help it to live in a particular habitat?</li> <li>•Can they describe what animals need to survive and link this to their habitats?</li> </ul>	<p>Observing Closely</p> <ul style="list-style-type: none"> <li>*Can they use see, touch, smell, hear or taste to help them answer questions?</li> <li>*Can they use some science words to describe what they have seen and measured?</li> <li>*Can they compare several things?</li> </ul> <p>Challenging-*Can they suggest ways of finding out through listening, hearing, smelling, touching and tasting?</p> <p>*Can they organise things into groups? Identifying and Classifying</p> <p>*Can they find simple patterns? (or associations?)</p> <p>*Can they identify something by a specific criteria?</p> <p>Challenging-*Can they suggest more than one way of grouping and explain their reasons? Recording Findings</p> <p>*Can they use text, diagrams, pictures, charts, labels to record their observations?</p> <p>Challenging-*Can they use information from books and on-line to find things out? Performing Tests</p> <p>*Can they carry out a simple fair test?</p> <p>*Can they explain why it might not be fair to compare two things?</p> <p>*Can they say whether things happened as they expected?</p> <p>*Can they suggest how to find things out?</p> <p>*Can they use prompts to find things out?</p> <p>Challenging-*Can they say whether things happened as they expected and if not, why not?</p>		

Session	LO	Teaching input	Independent/Application	SLC opportunities
1	<p><b>Living/Dead</b>            &gt;Explore and compare the differences between things that are living, things that are dead, and things that have never been alive</p> <p><b>Basic Needs</b>            &gt;Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p><b>Working Scientifically:</b>            &gt;Asking simple questions and recognising that they can be answered in different ways            &gt;Identifying and classifying</p>	<p><b>SESSION 1- Recap Autumn 1 Alive or dead?/Life processes</b>            Hold up a metal spoon. &gt;Asking simple questions and recognising that they can be answered in different ways  <b>QS&gt;Is this spoon alive? &gt;How could we find out?</b>            Discuss with chn and accept responses without acknowledging if they are/correct or incorrect.</p> <p><b>QS&gt;How do we know when something is alive or dead?</b>            &gt;How do we know if something has never been alive?            Discuss with chn            &gt;How could we find out the answers? (research internet, books/test)            Watch the dip from BBC Bitesize: <a href="http://www.bbc.co.uk/guides/zs73r82#zdf34j">http://www.bbc.co.uk/guides/zs73r82#zdf34j</a>            Look at flipchart in science resources together – Alive, dead, never been alive  <b>QS&gt;What does survival mean?</b>            &gt;Which of this criteria from the flipchart do the chn think are the most basic needs for survival and why?            Look at <a href="http://www.bbc.co.uk/guides/zx38wvn">http://www.bbc.co.uk/guides/zx38wvn</a> What do animals need to survive? Reiterate the fact that humans are animals too. Discuss the fact that plants are also living so they need the same things to survive.            Look at the picture of a minibeast on the flipchart.</p> <p><b>Plenary</b>            Watch <a href="http://www.makemegenius.com/science-videos/grade_1/needs-of-living-things">http://www.makemegenius.com/science-videos/grade_1/needs-of-living-things</a></p>	<p><b>LO</b>  <b>I am beginning to:</b>            1. Explain that living organisms have certain characteristics that are essential for keeping them alive and healthy.            2. List the life processes common to animals and plants.            3. I can explain some (or all) of the life processes relating to animals and plants.</p> <p><b>Activity</b>            Children write sentences underneath a picture of a beetle that show that it is alive, e.g.            More able children can try the same for a bean plant. Use a word bank for support.</p>	<p>listen and respond appropriately to adults and their peers            &gt;ask relevant questions to extend their understanding and knowledge            &gt;use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas</p>
2	<p><b>Habitats</b>            &gt;Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p><b>Working Scientifically:</b>            Use their observations and ideas to suggest answers to questions.</p>	<p><b>SESSION 2- Recap Habitats/Introduce micro-habitats</b>  <b>QS&gt;What is a habitat? Discuss</b>            Recap with children that all living things            Ask children to suggest things that plants and animals might need to remain healthy &amp; stay alive</p> <p>Discuss the pictures on the flipchart. How are the plants/animals interdependent? Some animals eat plants, and so if suitable plants were no longer available in the habitat the animal might go hungry. <i>What could the animal do in that case?</i>            Try eating a different plant or move to a place where the original plant was still growing. Some animals eat other animals, so again if the animals they eat as food no longer live in the habitat those animals might also be hungry. <i>What could they do in that case?</i> Try eating other similar animals, eat plants or move to a place where their favourite food is still living.</p> <p><i>Can children think of any other ways in which animals might be dependent on plants?</i> They might live on or in the plants, e.g. birds nesting in trees or bushes, squirrels living in trees, owls nesting in holes in trees, butterflies laying their eggs on plants, etc.</p> <p>Look at the picture of the oak tree and discuss how it supports a larger number of different life forms than any other British tree.</p> <p><b>Plenary</b>            What can CHN tell you about habitats?</p>	<p><b>LO:</b>  <b>I am beginning to:</b>            1. Explain how animals depend on the plants in their habitat.            2. Explain how plants depend on animals in their habitat.</p> <p><b>Activity</b>            Children draw a picture of an oak tree with some of the different animals that depend on it for survival and write a caption to explain how it depends on it.</p>	<p>listen and respond appropriately to adults and their peers            &gt;ask relevant questions to extend their understanding and knowledge            &gt;use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas</p>
3	<p><b>Local Habitats</b>            &gt;Identify and name a variety of plants and</p>	<p><b>SESSION 3 – Local Habitats (MINIBEAST HUNT)</b>            Recap what a habitat is. What habitats have we found out about so far? (oak tree)</p>		<p>listen and respond appropriately to adults and their peers</p>

	<p><b>animals in their habitats, including micro-habitats</b></p> <p><b>Working Scientifically:</b> Observe closely, using simple equipment Identify and classify Gather and record data to help in answering questions</p>	<p>Tell the children that they are going to go for <b>a walk around the school grounds</b> to see what plants and animals they can find (it is worth checking beforehand to find where it is best to see/collect minibeasts).</p> <p><b>Activity</b> Start in a fairly arid part of the playground and look for plants. <i>Why are there not many plants here? Will there be many animals or minibeasts?</i> End up in the garden, nature trail, wild area, etc. <i>Do you think there will be more animals here? Why?</i> Give children time to walk around carefully looking for animals &amp; identifying plants. Look in micro-habitats too. Continue asking questions of various groups/individuals about the various habitats. Make a note of plants that were identified in the habitat. Bring children back as a group and discuss. With help they could collect one minibeast between 2 people, with the class ending up with as many different kinds as possible. Take photographs of the various habitats/ micro-habitats in which the minibeasts were found (and of the minibeasts if possible). Take minibeasts back to class. Talk about and try to name what you have found, make labels together to put by tub. Put minibeasts tubs on tables on white pieces of paper. Children move round doing careful drawings, counting legs, etc. (<i>session resources</i>). Children should describe the habitat in which they were found too. Then return minibeasts to the place they were found. Some very useful identification materials can be found at <a href="http://www.naturedetectives.org.uk/packs/minibeast_pack.htm">http://www.naturedetectives.org.uk/packs/minibeast_pack.htm</a>.</p> <p>If you have a school pond and appropriate pond dipping equipment then collect some minibeasts from that habitat too (or instead).</p> <p><b>Safety:</b> Wash hands after handling plants and minibeast.</p> <p><b>Plenary</b> Discuss the minibeasts (&amp; plants) that were discovered by children. Share questions, points of interest &amp; observations. Discuss how the minibeasts could be sorted depending on e.g. the number of legs, whether or not they have wings, etc. Discuss any larger animals that might be found in the school grounds, including birds. There may be evidence of activity by urban foxes, mice, etc. that you could share with children.</p>	<p>&gt;ask relevant questions to extend their understanding and knowledge &gt;use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas</p>	
4	<p><b>Habitat Enquiry</b> Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p><b>Working Scientifically:</b> Observe closely, using simple equipment Perform simple tests Use their observations to suggest answers to questions</p>	<p><b>SESSION 4 – Habitat Enquiry</b> Tell chn in this session, the children will be conducting an enquiry into the preferred habitat of a mini beast – mealworms. Look at flipchart together. Ask children which habitats we found worms in during our search of the school habitats, e.g. under logs or stones or in the leaf litter/ in the garden beds, on grassy lawns or fields. Why do children think the worms like these micro-habitats? List possibilities on f/c, e.g. dark, damp, protected, plenty of food, easy to move around, etc. Show children the following question: <i>Which habitat do Mealworms prefer?</i> Talk about how children might find an answer to the question &amp; show them a plastic tray that has been split into 4 equal-sized areas with different conditions ideal for enquiry, i.e. dry &amp; light/dry &amp; dark/damp &amp; light/damp &amp; dark. Explain that this is called a <b>choice chamber</b>. Decide how many organisms to monitor &amp; how results should be recorded. A results template is available in <i>session resources</i>.</p> <p>Discuss the things that will be kept the same to make the test fair, e.g. number of organisms in each chamber at the start of the enquiry, the time all the organisms are left in the choice chamber; and the things that will change, e.g. whether it is dark or light, dry or moist, the food provided.</p> <p><b>Plenary</b> Conclusions: Which habitat do these minibeasts prefer? How do we know this; what evidence have we got?. Ask volunteers to explain how we did our enquiry and what we discovered from it.</p>	<p>LO: <b>I am beginning to:</b> 1. Carry out a simple enquiry. 2. Collect evidence to answer a question. 3. Explain that minibeasts prefer habitats that provide their needs.</p> <p><b>Adult-led activity:</b> Work as a class and collect the equipment &amp; organisms they need for their enquiry See <i>session resources</i> for a simple choice chamber enquiry sheet to complete before and during the enquiry. Ensure that all children complete the prediction with reasons before beginning their enquiry. NOTES: Dampness can be provided using blotting paper &amp; water, darkness by covering with black sugar paper. In the dry sections just add blotting paper with no water. Food should be provided in all four sections (very small pieces otherwise creatures may hide under them – darkness). There must be a way for the minibeasts to access all of the areas so that you can see which area (habitat) they prefer (choose). Use cling film over the whole choice chamber to prevent any organisms</p>	<p>listen and respond appropriately to adults and their peers &gt;ask relevant questions to extend their understanding and knowledge &gt;use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas</p>

5	<p><b>Food chains</b> Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</p> <p><b>Working Scientifically:</b> Use their ideas to suggest answers to questions identify and classify</p>	<p><b>SESSION 5 – Food Chains (recap)</b> Remind children that having a suitable food source is one of the necessities for an organism being able to survive in a particular habitat, &amp; that plants make their own food, but that animals have to eat plants or other animals to stay alive. There are special names to describe animals that have different diets. <b>Herbivores</b> (e.g. rabbits) eat plants, <b>carnivores</b> (e.g. foxes) eat animals &amp; <b>omnivores</b> (e.g. humans) eat plants &amp; animals. Children will find out more about these in Year 4. Show children a simple food chain (<i>session resources</i>). <i>Can they name all the living things in the food chain?</i></p> <p>Watch the short video about a similar food chain at <a href="http://www.nationalstemcentre.org.uk/elibrary/resource/7800/habitats-and-food-chains-fox-and-hedgehog">http://www.nationalstemcentre.org.uk/elibrary/resource/7800/habitats-and-food-chains-fox-and-hedgehog</a>. Each of the organisms in the food chain talks about themselves: plant (carrot), caterpillar, hedgehog and a fox. Afterwards discuss &amp; model how to draw the food chain pointing out that the arrows point at the organism that will eat the previous member of the chain; the arrow stands for 'is eaten by'. Re-label the food chain you have drawn with: plant (producer), animal (primary consumer – herbivore), animal (secondary consumer – carnivore). Discuss the vocabulary you have used: plants <b>produce</b> (make) their own food, so they are called <b>producers</b>; animals <b>consume</b> (eat) plants and/or other animals, so they are called <b>consumers</b>; consumers can be herbivores (eat plants), carnivores (eat animals) or omnivores (eat both plants and animals). Emphasise that food chains always begin with a plant (that produces its own food using energy from the Sun). An animal that is eaten by another animal (secondary consumer) is also called its <b>prey</b>, with the secondary consumer called the <b>predator</b>. What a lot of different words! Children will find out more about food chains in Year 4.</p> <p>Describe one or more food chains that involve humans, e.g. grass, cow, human – what could we replace the cow with, e.g. sheep, rabbit? wheat (bread), human – what could we replace the wheat with, e.g. carrot, lettuce? corn, chicken, human – what could we replace the human with, e.g. fox?</p> <p><b>Plenary</b> <a href="#">UPDATE ON CATERPILLARS/BUTTERFLIES</a></p>	<p>LO: <b>I am beginning to:</b> 1. Read and construct a simple food chain. 2. Define some of the vocabulary associated with food chains, e.g. producer, consumer, prey, predator, herbivore, carnivore and omnivore. 3. Explain that food chains always begin with a plant.</p> <p><b>Activity – IPADS</b> Children visit <a href="http://www.bbc.co.uk/schools/scienceclips/ages/8_9/habitats_fs.shtml">http://www.bbc.co.uk/schools/scienceclips/ages/8_9/habitats_fs.shtml</a> and identify the plants &amp; animals that live in two habitats &amp; then create food chains for those habitats online.</p> <p>Food chain activity for more able readers at <a href="http://www.crickweb.co.uk/ks2science.html#foodchains">http://www.crickweb.co.uk/ks2science.html#foodchains</a>.</p> <p>Play the food chain game at <a href="http://www.sheppardssoftware.com/content/animals/kidscorner/games/foodchaingame.htm">http://www.sheppardssoftware.com/content/animals/kidscorner/games/foodchaingame.htm</a> and watch it come to life if you answer correctly.</p>	<p>listen and respond appropriately to adults and their peers &gt;ask relevant questions to extend their understanding and knowledge &gt;use spoken language to develop understanding through speculating, hypothesizing, imagining and exploring ideas</p>
6	<p><b>SESSION 6 – SUMMATIVE ASSESSMENT</b> See separate assessment</p>			