Pioneer Federation
Medium term plan
Ks1- Cycle 2, Term 5
Science

Subject: Science	
Key Concept/ Theme: living things and their habitats	
Prior Learning links: Link to c1 where the children will focus on food chains, also link back to when the children learnt about animal groups and plants as they can apply this knowledge to the topic.	
Vocabulary: Habitat, micro habitat Pond, meadow, log pile, woodland, river, lake, beach, cliff Trees - deciduous, evergreen, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc Wild flowering plants -daisy, dandelion, garlic mustard, spear thistle, yellow wort, mugwort, cow parsley, lesser celandine Garden plants – crocus, daffodil, bluebells, Parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs Invertebrates – snail, slug, woodlouse, spider, beetle, fly, Pond animals – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt	
Individual schools: Use the local environment and pond/land.	
1.	Deeper learning question for the term: Which habitats do you know of on our amazing planet Earth? Prior learning reconnection (year group, cycle & term): C1- food chains, links to animals topic where they learnt about different animals and grouped/named them. LO: Let's learn how to describe if something is alive dead or never been alive? Activity: Survey – How many different living things can we find? The processes common to all living things are: movement, respiration, sensing, nutrition, excretion, reproduction and growth (MRS NERG). Take the children outside. Explain to them that they have the challenge to work out the things that living things can do that non-living things can't do. You will probably need to begin with talking about both plants and animals are things that children will need to look at. It might help them if you have put some laminated symbol, lolly stick, etc next to a range of things for them to visit in order to decide whether it is living or not. Recording The children could divide a page in half. Down one side they record non-living things and down the other side living things. They can then use purple mash to produce a bar chart to show how many they found. Deep thinking time There are a range of thinking tasks that you can give the children throughout this unit of work:

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<table>
<tr><td></td><td>1. Alive. Once alive, never alive – Provide children with a range of objects to sort according to these headings. Good objects could include: fossils, rocks, wood, shell and feathers
2. Odd one out – A shell, a rock and a plant
3. A hard questions - Is a flame alive?
Future learning links: c1 food chains, y4 classification of living things</td></tr>
<tr><td>2.</td><td>Deeper learning question: How are habitats different?
Reconnection: Children to sort objects using seven life processes- dead, alive, never been alive.
LO: Let’s learn how to identify habitats and microhabitats and the animals that live there.
Enquiry skill: observing
Activity: Split the group into two for two activities.
1) Mark out a range of habitats in the school ground that you would like the children to study (these can include microhabitats). Visit each of the habitats with the children. Ask them to describe each one by using their senses. Now tell them that they are going to pretend that they are special types of estate agents; ones that sell homes to invertebrates! The children will need to visit a habitat and describe what it is like there: damp/dry, light/dark, warm/cold ect
2)
Mark out the different habitats that you want the children to survey.
The children could visit the habitats and make a tally chart showing the number of animals found in each place. This information could be transferred to a bar chart.
<table>
<tr><th>Habitat</th><th>Spiders</th><th>Harvestmen</th><th>Woodlice</th><th>Beetles</th><th>Ants</th><th>Centipedes</th><th>Worms</th></tr>
<tr><td>Leaf litter</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Under stones</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>Rotten wood</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>
The children will need to explain how the habitat provides for the animals that live there. They could draw each of the habitats and the animals that were found in it. Some of the animals could have a speech bubble in which the children can write “I am able to live here because I ….’</td></tr>
<tr><td>3</td><td>Deeper learning question: How similar are habitats in our local area?
Reconnection: Can they name anything that live in or near water? Can they group these- link back to to previous term 3 where they were grouping and classifying animals. This will help them when identifying habitats and creatures today.
LO: Let’s learn how to identify habitats and microhabitats and the animals that live there.
Enquiry skill: predict
Activity:
Explain that today they will be focusing on the pond environment and how it compares to the habitats we saw last lesson. How is a pond different? Ask the children to think about the different areas of a pond, include the edges not just the water itself eg under logs, logs nearby that newts might have laid their eggs. Think about the pond in their school grounds- show photos of pond. Can they predict what they think will live there and why? Link to their knowledge of habitats and the creatures they have learnt about.</td></tr>
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	Take children out to investigate their prediction. Can they find first find different microhabitats and record these, then look for living things? Record their findings and link back to prediction.
4	**Deeper learning question:** Are there clues in the way that animals behave as to why they have chosen a particular habitat to live in? **Reconnection:** Children to identify the habitats they found and the living things from last week. **LO:** Let's learn how living things are suited to their habitats. **Enquiry skill:** question observe **Activity:** Discuss with children the kind of things that might affect the number of animals in a habitat: time of the day, times of the year, weather. (this will be a focus to run alongside the weather in cycle 1 but will be discussed in this topic too) Are there clues in the way that animals behave as to why they have chosen a particular habitat to live in? Focus in on a microhabitat. Examples of micro habitats could include: Spider webs – ▯ How many different spiders can be found? ▯ Place a vibrating tuning fork on a spider's web. The spider will think it has caught something and might venture out onto the web. ▯ Are there any signs of previous meals? Leaves – ▯ Children could try to find leaves that have been eaten by invertebrates ▯ Children could set up their own investigation to find out which leaves slugs, snails or caterpillars prefer. Worms – Children could look in short grass for worm casts which have passed through the worm.
5	**Deeper learning question:** How do we know that plants are living things? **Reconnection:** What do we know about plants? Reconnect to previous topic. **LO:** Let's learn how plants are suited to their habitats and identify plants. **Enquiry skill:** observing **Activity:** It is important to establish the idea that all living things (including plants) need to live somewhere in which they are suited. However, to begin with, we need to establish that plants also have the same life processes as animals. Ask children to think of many reasons why plants are living things (MRS NERG). How does a habitat provide for the needs of the plants that live there? Go outside and see if the children can spot trees or plants growing in certain directions to reach the light. When back inside use secondary sources to look at plants overtime to spot these. Then compare to plants in other countries and how warmth affects how they grow in different habitats. Children to plant a sunflower seed to observe how they move towards the light.

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	Quiz

End points:

Understand and compare the differences between things that are living, dead and things that have never been alive. Using scientific language to help compare these differences and applying understanding of life processes.

Ask questions, observe and describe microhabitats and habitats in their local areas.

Name and identify living things (including plants) in the habitats they observe.

Understand how living things are suited to the environment and know how the needs of different living things depend on each other.

Predict what will be in different habitats and microhabitats drawing on previous scientific knowledge.