

**Pioneer Federation**  
**Medium term plan**  
**UKS2- Cycle 2, Term 5**  
**Science**



<b>Subject:</b> Science					
<b>Key Concept/ Theme:</b> living things and their habitats					
<p><b>Prior Learning links:</b></p> <p>Year 2: Explore and compare the differences between things that are living, dead, and things that have never been alive. 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. Identify and name a variety of plants and animals in their habitats, including micro-habitats 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>Year 4: Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p>Links to plants and animals including human topics for applying scientific vocabulary to this topic.</p>					
<p><b>Vocabulary:</b></p> <p><b>Animals</b> – amphibians, reptiles, birds, mammals, insects, fish</p> <p><b>Animal development</b> – egg, larva, pupa, nymph, adult, metamorphosis</p> <p><b>Parts of a flower</b> – petal, stamen (anther + filament), carpel (stigma + style + ovary + ovule)</p> <p><b>Processes</b> – pollination, fertilisation, germination</p>					
<table border="1" style="width: 100%; height: 30px;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> </table>					
1.	<p><b>Deeper learning question for the term:</b> How are life cycles different and why do these changes occur?</p> <p><b>Prior learning reconnection (year group, cycle &amp; term):</b> Show a range of mammals from UK and Yellowstone national park. Children to sort as to where they think they live. Are there any similar mammals? Remind them what the features of mammals are. Show different groups of mammals: marsupials, placentals and monotremes. Describe how these are still mammals but their young grow in different ways.</p> <p><b>LO:</b> Let’s explain the life cycle of a mammal and birds.</p> <p><b>Activity:</b> Children to choose 2 different mammals from UK/Yellowstone National Park to compare and present life cycle information about. Using secondary sources research – How do different mammals develop as they get older? The children can start by trying to find out the gestation period for the mammals that they are finding out about. They</p>				

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	<p>can then find out more about: the average life span, the developments at different ages, and maybe any courtship behaviour. Add facts and use scientific language on both pages. How do the mammal life cycles compare to birds? Watch <a href="https://www.youtube.com/watch?v=ozMPRSZ8Ykk">https://www.youtube.com/watch?v=ozMPRSZ8Ykk</a> and <a href="https://www.youtube.com/watch?v=1mGgj-F8pvc">https://www.youtube.com/watch?v=1mGgj-F8pvc</a></p> <p><b>Future learning links:</b> Links to SRE in T6</p>
2.	<p><b>Deeper learning question:</b> How do animals use their environments to help them reproduce?</p> <p><b>Reconnection:</b> What is the difference between an amphibian and an insect? Children to use learning from previous years to be able to classify and group. Give vocabulary from previous topics to use in discussion.</p> <p><b>LO:</b> Let's explain the life cycle of an amphibian and insect.</p> <p><b>Enquiry skill:</b> questioning</p> <p><b>Activity:</b> Children to visit the school pond throughout the term to observe the changes in life cycles. How do smooth newts and frogs develop over time? Focus on questions- what could we ask and how could we answer these questions? If there are no newt eggs or frog spawn then links could be used or frog spawn could be brought in- follow the advice in CLEAPSS guidance in order to ensure that they are kept in healthy conditions. Ensure you know where you are going to release your tadpoles.  <a href="http://www.cleapss.org.uk/attachments/article/0/G206.pdf?Primary/Resources/Guides/">http://www.cleapss.org.uk/attachments/article/0/G206.pdf?Primary/Resources/Guides/</a>.</p> <p>Compare to the changes of insects- focus on leaf cutter bees as it links back to prior learning about bees. Look at how the life cycles differ. Children to record observations. Classes could purchase ladybird growing kits to observe see page 16 Kent planning for link.</p>
3	<p><b>Deeper learning question:</b> What are the functions of the different parts of the flower?</p> <p><b>Reconnection:</b> Link back to Year 4 learning of plants.</p> <p><b>LO:</b> To be able to describe the life process of reproduction in some plants.</p> <p><b>Activity:</b>          Explain the different types of reproduction, including sexual and asexual in plants.</p> <p><b>Reproduction – plants</b>          First focus children's attention to the flower of the part, as this is where their reproductive features are to be found.</p> <p><b>Observation –</b>          Children can look at each part of the flower closely using a hand lens or microscope. Children can cut open an ovary to describe what can be found inside. The following videos will help the children: <a href="https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/ztvntrd#zxthhcw">https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/ztvntrd#zxthhcw</a></p> <p><b>Recording</b>          Children can dissect flowers and stick them on a sheet, label, and explain the functions of the different parts.</p>
4	<p><b>Deeper learning question: How does the pollen from one flower reach another flower?</b></p> <p><b>Reconnection:</b> name the parts of the flower from last week and remind them of the jobs of each part.</p>

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	<p>LO: Let's describe the life process of reproduction in some plants.</p> <p><b>Enquiry skill:</b> predicting</p> <p><b>Activity:</b></p> <p>Help the children to make the comparison between the sex cells of the male part of the flower having to join with the sex cells in the female parts of the flower, and the same requirement for animals. This will also reinforce one of the reasons why both plants and animals are living; they have the life process of reproduction. Refer to MRSNERG. Children can find examples on the internet and in books of different methods by which the pollen reaches the ovary of the flower and record in books. The following website contains many great short videos of plant reproduction: <a href="https://www.bbc.co.uk/programmes/p0128z6q">https://www.bbc.co.uk/programmes/p0128z6q</a></p> <p>Explain about differences in plants and how they reproduce. Explain how some plants can reproduce using cuttings of their own plants (asexual reproduction of plants). Children to predict what will happen and then take a cutting and observe. You could use strawberry plants or spider plants for this investigation.</p>
5	<p><b>Quiz</b></p>
<p><b>End points:</b></p> <p>Understand and describe the differences in life cycles in mammals, amphibians, insects and birds.</p> <p>Understand the reproduction of plants and life processes.</p> <p>Understand asexual and sexual reproduction in plants.</p> <p>Predict and observe life cycle changes in plants and animals.</p> <p>Ask questions about the local environment and changes in the life cycles over time.</p>	