

Year Group: Year 5

Term: Spring 2

Topic: Living things and their habitats

National Curriculum Links

Pupils in Key Stage Two should be taught to:

- describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
- describe the life process of reproduction in some plants and animals

Working scientifically

- plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- use test results to make predictions to set up further comparative and fair tests
- report and present findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identify scientific evidence that has been used to support or refute ideas or arguments

Prior Learning

- Notice that animals, including humans, have offspring which grow into adults. **(Y2 - Animals, including humans)**
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **(Y3 - Plants)**

Future Learning

- Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta. **(KS3)**
- Reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms. **(KS3)**

Common Misconceptions

Some children may think:

- all plants start out as seeds
- all plants have flowers
- plants that grow from bulbs do not have seeds
- only birds lay eggs.

Sustainable Development Goals

This global goal would be perfect to fit with this unit of learning.

Add activities here

Catholic Social Teaching

Add activities here

Knowledge and Skills Objectives	Activity	Differentiation
<p>Lesson 1 I know how plants reproduce</p> <p>Add w/s here</p>	<p>Firstly, Mind map what is already known about living things and their habitats. Remind children that they learnt about living things in year 2 and 4. Encourage children to suggest any relevant questions.</p> <p>Look at a flower. Children to try and locate the reproductive parts of the flower (using key vocabulary) Use magnifying glasses and tweezers. Share with the children the functions for each part of the flower. Use ppt to support (Could the children research this?)</p> <p>Watch supporting video which mentions sexual reproduction in plants: https://www.youtube.com/watch?v=R8_SckzLafE (this video will cover seed dispersal that was covered in Year 3) Learn about how plants reproduce through seed dispersal: wind, animals or the flower forces them out. Show how this happens with a sunflower. Children to describe the process in their books</p>	<p>Children to draw and label a flowering plant with captions: anther, filament, ovary, ovule, petal, sepal, stigma, style and stamen. Explain how that part of the plant is involved in the reproduction of a plant.</p> <p>LA – Match labels to parts of the plant MA – Independently identify and label the parts of the plant. Explain how some plants reproduce. HA – Independently identify and label the parts of the plant. Explain how some plants reproduce and explain which methods they think are the most effective giving reasons for their answer.</p>
Knowledge and Skills Objectives	Activity	Differentiation

<p>Lesson 2 I can investigate how to grow a new plant</p> <p>Add w/s here</p>	<p>Dissect a plant: root, stem, leaves, bud, flower, petal, tubers. Suggest to the children that we are going to try and re-grow the plant again in soil. Children to observe parts of the plant with magnifying glasses.</p> <p>In groups, children to produce an investigation plan for activity. Use a different plant for two groups. So 3 plants for 6 groups of children. Within the groups focus on replanting different parts of the plant to regrow: root, stem, leaves, bud, flower, petal, tubers. Use quick growing plants (radish, spinach, carrots, marigolds, perhaps use a potato as well and observe over two – three months).</p> <p>Method: Use same amount of soil, plant pot, light and water. Change the part of flower to regrow. Decide same place to grow, outside in garden area or inside the classroom in light Measure the height. Observe: amount of leaves; spread of plant over a period of weeks.</p> <p>Children to predict which part of the plant will grow the best and why. Over the course of the next few weeks, children will measure, record the growth and make careful observations. Review predictions.</p>	<p>LA- Say what they think will happen. MA- Make a prediction about the growth of new plants. HA- Make a prediction about the growth of new plants giving evidence to support their thoughts_</p>
<p>Knowledge and Skills Objectives</p>	<p>Activity</p>	<p>Differentiation</p>
<p>Lesson 3 I can describe the life process of reproduction in plants around the world.</p> <p>Add w/s here</p>	<p><i>Add prior learning tasks</i> Plant life process Remind children that in lesson 1, they learnt about the sexual reproduction of plants. Tell the class that some plants, such as moss and ferns don't have seeds, just tiny spores.</p> <p>Task 1: Watch video clip to reinforce: https://www.youtube.com/watch?v=TKcmF4ITn6E show supporting diagrams.</p> <p>Task 2: Learn about different plants around the world, such as cactus and tropical plants and their life processes. How do they differ from plants in our country?</p>	<p>LA- Children to label and caption the life process of a fern and cactus plant. Focus on similarities and differences.</p> <p>MA- Children to draw, label and caption the life process of a fern and cactus plant. Focus on similarities and differences.</p> <p>HA- Children to draw, label and caption the life process of a fern and cactus plant. Explain how each plant is adapted to suit it's environment.</p>

	Summarise the different types of reproduction that children have learnt about.	
Knowledge and Skills Objectives	Activity	Differentiation
<p>Lesson 4 I know about the life cycle of different mammals and amphibians.</p> <p>Add w/s here</p>	<p><i>Add prior learning tasks</i> Intro: children started learning about mammals and amphibians in Year 1. Ask, how are amphibians and mammals different or similar? Children to feedback. How are the life cycles different ? tell the children that: <i>The life cycle of an amphibian has three main stages (egg, tadpole, adult). Lives part of life cycle (develops) in the water and finishes life cycle (developing) on land. Mammals life only on land (with a few exceptions). A born alive from their mother after they developed as an embryo inside her. <i>Can the children find this out through research? How are the children working scientifically in this lesson?</i></i></p> <p>Conclude how the life cycles are different.</p>	<p>LA- Label the life cycle of a mammal and an amphibian MA- Using research sheets, compare the similarities and differences of the life cycles of an amphibian and a mammal. HA- Explain the stages of each stage of an amphibians life cycle using diagrams to support their explanations.</p>
Knowledge and Skills Objectives	Activity	Differentiation
<p>Lesson 5 I know about the life cycles of birds and insects.</p> <p>Add w/s here</p>	<p><i>Add prior learning tasks</i> <i>Children started learning about birds and insects in Year 1. Ask, how is the lifecycle of birds different or similar to insects? Children to discuss. Feedback.</i></p> <p>Task 1: Using research sheets, draw diagrams and use explanations to describe lifecycle of a cuckoo, penguin and a humming bird. Compare the lifecycles. How are they different / similar?</p> <p>Task: 2: Using research sheets, draw diagrams and use explanations to describe lifecycle of insects: honey bee (queen) Mason bee (different form the honey bee) and a fly. Compare the lifecycles. How are they different / similar?</p> <p>Task 3: Compare the similarities and differences of an insect and bird.</p>	<p>In pairs, create a pic collage to show the life cycle of a bird and of an insect. These will be printed to stick in books.</p> <p>Challenge- <i>compare the life cycles of an insect and a bird. What similarities or differences are there?</i></p>

Knowledge and Skills Objectives	Activity	Differentiation
Lesson 5 I know Add w/s here		
<u>Applied Write opportunities:</u>		
Enrichment Opportunities		
Assessment Opportunities		
<ul style="list-style-type: none"> • Can present their understanding of the life cycle of a range of animals in different ways e.g. drama, pictorially, chronological reports, creating a game • Can identify patterns in life cycles • Can compare two or more animal life cycles they have studied • Can explain how a range of plants reproduce asexually 		
Key Vocabulary		
Tier Two: Stamen, stigma, anther, style, ovary, ovule, filament, sepal, reproduction, dispersal, pollination, cross-pollination germination Tier Three:		