

Question: How does life begin for plants and animals in the world around us?

National Curriculum Link

Science Y5: Living things and their habitats

KS2 Science Working Scientifically

IB Learner Profile Links

Inquirers – Nurture skills for research and curiosity

Caring – show empathy, compassion and respect for all life

Knowledgeable – Develop conceptual understanding and engage with issues and ideas

Principled – think and act with integrity and honesty

Reflective – Consider the wider world and our own ideas and experience

Prior Skills – Y4

- 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 (plants, vertebrates, invertebrates)
- Compare the classification of common plants and animals to living things found in other places (under the sea, prehistoric)
- Explain, giving reasons for how they have classified animals and plants, using their characteristics and how they are suited to their environment
- Recognise that environments can change and that this can sometimes pose dangers to living things.
- Explain their findings in different ways (display, presentation, writing)
- Find any patterns in their evidence or measurements
- Make a prediction based on something they have found out
- Record and present what they have found using scientific language, drawings, labeled diagrams, bar charts and

New Skills – Y5

- 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.
- Describe the life cycles of common plants
- Explore the work of well know naturalists and animal behaviourists (David Attenborough and Jane Goodall)
- Ask a variety of scientific questions
- Choose an appropriate enquiry method to answer a question
- Make predictions based on scientific knowledge
- Report findings from investigations through written explanations and conclusions
- Through direct observation and research classify animals and plants according to life cycle patterns

Future Skills – Y6

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals
- Group animals into reptiles, fish, amphibians, birds and mammals
- Give reasons for classifying plants and animals based on specific characteristics.
- Understand different habitats and draw conclusions about life-cycles in their local environment (for example, the vegetable garden or flower border)
- Classify plants and animals in their local environment with those around the world, e.g. in rainforests
- ask a variety of types of scientific questions
- choose the most appropriate scientific

tables		enquiry method to answer a question and outline the method • Take measurements using a range of scientific equipment with increasing accuracy and precision • Record more complex data and results using scientific diagrams, classification keys, labels, scattergraphs, tables, bar and line graphs • Find a pattern from their data and explain what it shows • Draw conclusions from observations and findings based on scientific knowledge
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Knowledge, Skills and Understanding for topic area

- 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.
- Describe the life cycles of common plants
- Explore the work of well know naturalists and animal behaviourists (David Attenborough and Jane Goodall)

Knowledge, Skills and Understanding for Working Scientifically

- Ask a variety of scientific questions
- Choose an appropriate enquiry method to answer a question
- Make predictions based on scientific knowledge
- Report findings from investigations through written explanations and conclusions
- Through direct observation and research classify animals and plants according to life cycle patterns

Challenge

- Can they observe their local environment and draw conclusions about life-cycles? (for example, the vegetable garden or flower border)
- Can they compare the life cycles of plants and animals in their local environment with the life cycles of those around the world, E.g. rainforests?
- Can they explain (in simple terms) a scientific idea and what evidence supports it?

Resources

- collection of pictures of plants with fruit *eg apple trees, vines, dandelions, beans, horse chestnut, tomatoes*
- hand lenses/microscopes
- examples of flowers *eg mallow, buttercup* and pictures of flowers
- collection of fruits and seeds including those dispersed by different mechanisms
- pictures illustrating the plants from which seeds come
- rapidly germinating seeds *eg radish, spring onion*
- containers in which to germinate seeds and soils etc in which to germinate seeds
- thermometers
- secondary sources *eg video, CD-ROM, reference books* showing newly born animals and giving information about gestation period

Suggested Quality Texts

Non-fiction: books in topic boxes

Website/Apps

www.endangeredeearth.com find web links to life cycles
www.primaryupd8.co.uk Link to science websites for teaching ideas and investigations linked to topics etc.

Extended Writing Opportunities

Explanation of a life cycle of different animals and plants.

Numeracy Skills

Carry out measurements linked to growth and size. Compare sizes by measuring animals/ plants at different stages.

Wow starter/experience

Visit a local park and meet with park rangers E.g. Croxteth Park workshops.

Cross Curricular Links/ enquiry time activities:

Music/PE: Children will be provided with opportunities to write their own music and create their own dance taking the life cycle of a butterfly as their stimuli.

Literacy/Art: Children to create a factual poster of a chosen animal or plant showing its life cycle.

ICT: Use an electronic microscope to observe stamen with pollen and pollen grains from a number of sources