

Question: What makes living things so different from each other?

National Curriculum Link

Science Y6: 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

Prior 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

New 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

tables		<p>appropriate scientific enquiry method to answer a question and outline the method</p> <ul style="list-style-type: none"> • 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 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

Knowledge, Skills and Understanding for Working Scientifically

- ask a variety of types of scientific questions
- choose the most appropriate scientific 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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Challenge

- Can they explain why classification is important?
- Can they sub divide their original groupings and explain their divisions?
- Can they group animals into vertebrates and invertebrates?
- Can they find out about the significance of the work of scientists such as Carl Linnaeus, a pioneer of classification?

Resources

- plant kept in the dark for one to two weeks
- secondary sources *eg video, CD-ROM* showing plant growing in time-lapse
- labels from house and garden plants
- packaging from fertilisers and 'plant food'
- information card about animals in local habitat
- soil samples
- hand lenses/microscopes
- examples of plants with different types of root or pictures showing plant roots
- secondary sources *eg reference books, video* showing a different, possibly non-local habitat

Suggested Quality Texts

Non fiction: Books in topic box

Fiction: Books in topic box

Website/Apps

Watch videos to explore classification

<http://www.youtube.com/watch?v=vqxomJIBGcY>

<http://www.youtube.com/watch?v=2iEEJaJOUls>

Website links to different classified animal groups and other links to facts cards etc. <http://www.arkive.org/mammals/>

Extended Writing Opportunities

Non chronological report or explanation text about microorganisms.

Numeracy Skills

Create your own classification system that will take account of all plants and animals within your school grounds. Sorting plants and animals into Venn/ Carroll diagrams. Create different tables to show how to classify living things. Use a variety of formats to do so and consider which is the most appropriate.

Wow starter/experience

Look at strange and interesting creatures. Consider the attributes that Spiderman has and give realistic thought to whether these could exist in any creature we know.

Cross Curricular Links/ enquiry time activities:

Art: Children to research the work of artists who have specialised in animals and plants before sketching or drawing their own. Paint pictures of mini beasts in their habitats. Make a large frieze of these pictures. Flaps and hinges can be attached to 'stones' and 'leaves' so that they can be lifted to reveal the resident mini beasts. Draw or paint flying mini beasts and cut them out.

ICT/Literacy: Provides opportunities for children to carry out individual research based on micro-organisms. They should start by coming up with a range of questions and then set their research out in sections answering their own questions. Take a plant or animal that you know and one that you don't know and create an IT presentation to show which group/s they belong to, etc. Branching database software program to develop keys of animals brought into the classroom. Pupils could use the Internet to view habitats not in the locality.