Question: Which animals and plants thrive in your locality?

National Curriculum Link

Science Y4: 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 – Y2	New Skills – Y4	Future Skills – Y5
• Explore and compare differences between things that are living, dead and things that have never been alive • Know whether something is living, dead or non-living • Identify that most living things live in habitats to which they are suited • Describe some of the life processes common to plants and animals, including humans • 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. • Ask simple questions to find answers • Compare observable and behavioural features of living things • Answer simple yes/no questions about a plants and animals	• 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	• 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

• Identify animals and plants by a specific criteria, E.g. lay eggs or not; have feathers or not • Sort and group things into categories according to features • Organise things into groups using their own sorting criteria and place additional things into the sorting groups	tables	

Knowledge, Skills and Understanding for topic area

- 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.

Knowledge, Skills and Understanding for Working Scientifically

- 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 tables

Challenge

- Can they explore the work of pioneers in classification? (e.g. Carl Linnaeus)
- Can they name and group a variety of living things based on feeding patterns? (producer, consumer, predator, prey, herbivore, carnivore, omnivore)
- Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts and models?
- Can they report findings from investigations through written explanations and conclusions?
- Can they use a graph or diagram to answer scientific questions?

Website/Apps
Brilliant for a range of links: http://www.arkive.org/
http://www.ltscotland.org.uk/5to14/resources/illustrations/naturalhabitats/index.asp
Habitats: http://kids.sandiegozoo.org/
Britannica Kids: Endangered species APP
Food chains: http://www.ecokids.ca/pub/eco_info/topics/frogs/chain_reaction/play_chainreaction.cfm
http://www.sheppardsoftware.com/content/animals/kidscorner/games/foodchaingame.htm
A report to outline the damage that would be done by road building to a river habitat. Examples could include: draining a pond to build houses in the local area etc to graze animals. Ensure potential implications for the organisms living in that habitat.**nature.org.uk/lifeinukrivers/strategies/Avon/avon.html (Changing environments and dangers)**

Extended Writing Opportunities
Develop fact files about wild plants and flowers and endangered animals. See http://www.endangeredearth.com/
Write a non chronological report on animals
Persuasive writing to write a letter opposing the change that you have used in the scenario. The letter must explain how the change will alter the habitat and put the organisms' lives in danger.
Using the list of habitats and the animals/plants that would live there, create an Estate Agent-style description for each habitat.

Numeracy Skills
Classification of plants and birds, leading to graphs and tables.
Venn/ Carroll diagrams to sort

Wow starter/experience
Visit to a Garden Centre. Visit to Sefton park to look at Everton Park Park rangers pond study.
Immersion room experience based on a specific habitat e.g. under water showing images of animals live in the chosen habitat.

Resources

- hand lenses
- microscope to link to laptop to view creatures in detail (ICT link)
- collecting nets, containers for small animals
- posters, video, CD-ROMs, reference books, simple biological keys, pictures of a variety of habitats in or close to the locality of the school or similar to those in the locality of the school
- plastic containers suitable for investigating preferences of small animals *e.g. snails, woodlice*
- multipack of insects to sort, create a key for etc.

Suggested Quality Texts

Non-fiction: Following in Darwin's Footsteps by Aileen O'Riordan and Pat Triggs links to Plant Hunt website

Fiction:

Cross Curricular Links/Enquiry time activities

Literacy/ library area/ ICT: Using keys in reference books, identify mini beasts found in school grounds according to body parts/wings/legs/number of legs etc.

Art: Taking photographs of flowers in the manner that Georgia O'Keefe would have done. Develop pencil sketches from the photographs Paint – water colour or acrylic. Drawing posters of food chains which contain plants/animals with which we are familiar

Art/DT: draw, design and make a mobile based on a food chain or web. Designing and making a bird box which will be used to help attract birds to the immediate area around the school. There must be a way for the minibeasts to access all of the areas so that you can see which area (habitat) they prefer (would choose).

DT: Make a habitat choice chamber for woodlice to provide different conditions ideal for a woodlice/ i.e. dry & light/dry & dark/damp & light/damp & dark. Ch construct their own choice chamber using junk modelling materials. Then carry out the investigation to observe what the woodlice are most suited to.

ICT: Make a database for mini beasts, plants or birds.

Library: Using keys in reference books identify plants in classroom or school grounds according to leaf shape/flower/growth etc.