

Science

Year 5 - Spring 1 – Living Things

| National Curriculum / End Point statement | | | | |
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| <p><u>Living Things and their Habitats</u></p> <ul style="list-style-type: none"> 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. <p><u>Working Scientifically</u></p> <ul style="list-style-type: none"> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs using test results to make predictions to set up further comparative and fair tests reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations identifying scientific evidence that has been used to support or refute ideas or arguments. | | | | |
| Week 1 | Week 2 | Week 3 | Week 4 (TAPs) | Week 5 |
| Reactivate learning: KS1 – animals and their offspring, animal groups, KS2 – plants WALT explain what a life cycle is | WALT describe the similarities and differences in the life cycles of a mammal and a bird | WALT describe the similarities and differences in the life cycles of an insect and an amphibian | WALT present findings using correct scientific language | WALT explain reproduction in plants |
| In Focus - https://explorify.uk/en/activities/whats-going-on/coming-out-to-play | In Focus - https://explorify.uk/en/activities/odd-one-out/baby-animals | In Focus - https://explorify.uk/en/activities/odd-one-out/hot-steppers | In Focus - https://explorify.uk/en/activities/odd-one-out/wildlife-in-the-pond | In Focus - https://explorify.uk/en/activities/whats-going-on/busy-bee |
| Success Criteria | | | | |
| I can describe what a life cycle is. I can describe the main features of a life cycle | I can describe the life cycle of a range of mammals I can describe the life cycle of a range of birds I can compare the life cycles of mammals and birds and say what is the same and what is different | I can describe the life cycle of a range of insects I can describe the life cycle of a range of amphibians I can compare the life cycles of mammals and birds and say what is the same and what is different | I can research using secondary sources I can present my findings I can use the appropriate scientific language | I know what reproduction is I know what sexual reproduction of plants is I can describe how a plant can reproduce on its own |
| Suggested Outcome | | | | |
| Children could explore a range of life cycle images and discuss what is | Children describe the life cycle of a mammal or a bird using images to | Children describe the life cycle of an amphibian or an insect using images to | Children select relevant facts from their research to compare the life cycles of | Children can describe sexual reproduction in plants, e.g. foxgloves, |

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| happening at each stage, using the correct scientific vocabulary. | support. They begin to compare the lifecycles and spot similarities and differences. | support. They begin to compare the lifecycles and spot similarities and differences. | different animals. They describe the main stages of each life cycle. e.g. The lifecycle of a cricket has 3 stages: egg, nymph and adult whilst the lifecycle of a frog has 5 main stages: eggs, tadpole, tadpole with legs, young frog and adult frog. | buttercups, dandelions, naming the male and female parts of a plant associated with reproduction and each parts function i.e. petals, stigma, stamen (anther and filament), style, ovary and ovule, seed (reactivate year 3 learning) Children can talk about asexual reproduction in plants, e.g. tubers, bulbs and runners (spider plant, strawberry plant) using relevant vocab |
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| Vocabulary | | NC links | |
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| Vegetables, flowering plants, life changes, cutting, shoot, tuber , reproduction, sexual reproduction , asexual reproduction , prehistoric, hatch, rear, male, female, reproductive organs, egg , sperm , womb , vagina , penis | | PSHE SRE | |
| Key Learning | | | |
| As part of their life cycle, plants and animals reproduce. Most animals reproduce sexually. This involves two parents where the sperm from the male fertilises the female egg. Animals, including humans, have offspring which grow into adults. In humans and some animals, these offspring will be born live, such as babies or kittens, and then grow into adults. In other animals, such as chickens or snakes, there may be eggs laid that hatch to young which then grow to adults. Some young undergo a further change before becoming adults e.g. caterpillars to butterflies. This is called a metamorphosis. Plants reproduce both sexually and asexually. Bulbs, tubers, runners and plantlets are examples of asexual plant reproduction which involves only one parent. Gardeners may force plants to reproduce asexually by taking cuttings. Sexual reproduction occurs through pollination, usually involving wind or insects. | | | |
| Possible Evidence | | Common Misconceptions | |
| <ul style="list-style-type: none"> • Can draw the life cycle of a range of animals identifying similarities and differences between the life cycles • Can explain the difference between sexual and asexual reproduction and give examples of how plants reproduce in both ways • 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 | | Some children may think: <ul style="list-style-type: none"> • all plants start out as seeds • all plants have flowers • plants that grow from bulbs do not have seeds • only birds lay eggs. | |

| Notable Scientists | |
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| Jane Goodall Sylvia Earle | |

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Dr Paula Kahumba

Mangala Mani – Antarctic Scientist

CPD opportunity

<https://www.reachoutcpd.com/courses/upper-primary/life-cycles/>

Useful Links

- <https://www.bbc.co.uk/bitesize/topics/zgssgk7>
- <https://app.discoveryeducation.co.uk/learn/channels/channel/a346f6cf57394ea6-a569-6db752f2512f>
- <https://www.bbc.co.uk/programmes/p05rf5wp>

Living things and their habitats

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| Early learning goal | <ul style="list-style-type: none"> • Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. |
| Year 1 | <ul style="list-style-type: none"> • Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants) • Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants) • Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans) • Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans) • Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans) • Observe changes across the four seasons. (Y1 - Seasonal change) |
| Year 2 | <ul style="list-style-type: none"> • 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 microhabitats. • 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. • Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals including humans) |
| Year 3 | <ul style="list-style-type: none"> • Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants) |
| Year 4 | <ul style="list-style-type: none"> • 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. • Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans) |
| Year 5 | <ul style="list-style-type: none"> • 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. |