

Progression of Knowledge – Biology

Plants		
Year 1	Year 2	Year 3
<ul style="list-style-type: none"> -I can explain what a deciduous or evergreen tree is -I can identify an oak, cedar and chestnut tree -I can identify and name most year 1 common wild and garden plants -I can identify and describe the structure of a plant (roots, stem, leaves, flowers, fruit and seed) -I can identify and describe the structure of a tree (roots, trunk, branches and leaves) 	<ul style="list-style-type: none"> -I can describe the basic structure of plants and trees (seed, bulb, roots, stem, trunk, branch, leaves, flowers, fruit) -I can explain the difference between a bulb and a seed -I can describe the basic structure of a seed (embryo, food store and seed coat) -I can explain what germination is -I can describe the basic life-cycle of a flowering plant (germination, roots, leaves, flowering, seed dispersal) -I can give a basic explanation of what photosynthesis is -I can describe what plants need to grow and stay healthy (water, nutrients, sunlight and the right temperature) 	<ul style="list-style-type: none"> -I can describe the function of roots, stem/trunk, leaves and flowers -I can explain the role of carbon dioxide in photosynthesis -I can describe the requirements of plants to grow (water, light, nutrients, air and room to grow) -I can explore how the requirements of plants to grow can vary from plant to plant (e.g. cactus and water lily) -I can explain how water travels from soil to the leaves -I can explain the role evaporation plays in the transportation of water in a plant -I can describe the life-cycle of a flowering plant (germination, growing and flowering, pollination, fertiliastion and seed formation and seed dispersal) -I can explain the process of pollination -I can describe the process of fertilisation and seed formation -I can describe different methods of seed dispersal
<i>Vocabulary</i>		
Evergreen, deciduous, wild plants, garden plants, weed, roots, stem, leaves, flowers, fruit, seed, trunk, branches	Bulb, germination, seed dispersal, photosynthesis, oxygen, embryo, seed coat, food store, sunlight, temperature, water, nutrition	Carbon-dioxide, evaporation, absorb, transport, fertilisation, stamen, carpel, stigma, style, ovary, sepal, pollination, pollinator

Animals, including humans

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>-I can identify and name common year 1 animals as fish, birds, mammals, amphibians or reptiles</p> <p>-I can identify carnivores, herbivores and omnivores</p> <p>-I can describe and compare the structure of year 1 animals</p> <p>-I can name the 5 senses</p> <p>-I can state which part of the body is associated with each sense</p> <p>-I can draw and label the basic parts of the human body</p>	<p>-I can explain what offspring means</p> <p>-I can explain what live young means</p> <p>-I can describe the basic life-cycle of a human and bird</p> <p>-I can explain what metamorphosis is using an example</p> <p>-I can describe the basic needs of animals (air, food and water)</p> <p>-I can explain why exercise is important for humans</p> <p>-I can explain the importance of a healthy diet</p> <p>-I can explain why hygiene is important and describe ways to be hygienic</p> <p>-I can describe the impacts of exercise</p>	<p>-I can explain what a consumer is and recognise they cannot make their own food</p> <p>-I can identify that animals need the right kind of nutrition</p> <p>-I can identify some food groups and explain their function for the body</p> <p>-I can define a vertebrate and invertebrate</p> <p>-I can describe the three main functions of a skeleton (support, protect and allow movement)</p> <p>-I can explain how muscles cause movement</p> <p>-I can define an endoskeleton, exoskeleton and hydrostatic skeleton</p>	<p>-I can describe the function of oesophagus, stomach, small intestine, large intestine and rectum</p> <p>-I can identify the different types of teeth humans have (incisors, canines, pre-molars and molars)</p> <p>-I can explain the functions of the different types of human teeth linked to their shape</p> <p>-I can explore how the teeth of an animal can be linked to their diet</p> <p>-I can clearly define a herbivore, carnivore and omnivore</p> <p>-I can define a predator and prey</p> <p>-I can explain the difference between a producer and consumer</p> <p>-I can explain the role of a decomposer</p> <p>-I can construct and interpret different food chains (identifying producers, prey and predators)</p>	<p>-I can describe the life-cycle of a human (pre-natal, childhood, adolescence, adulthood, old-age, death)</p> <p>-I can use key terms correctly to describe the start of the human life-cycle (fertilisation, pre-natal and gestation)</p> <p>-I can research gestation periods and compare with other mammals</p> <p>-I can describe changes that occur during childhood (growth and development - learning, walking, talking)</p> <p>-I can describe changes that occur during puberty (including menstruation in females)</p> <p>-I can explain that changes in puberty are linked to hormones</p> <p>-I can describe changes that occur as adults age into being elderly</p>	<p>-I can identify and name the main parts of the human circulatory system</p> <p>-I can describe the function of the heart</p> <p>-I can describe the functions of veins, arteries and capillaries</p> <p>-I can describe the function of the blood</p> <p>-I can explain where gas exchange happens</p> <p>-I can explain how nutrients and water are transported in animals</p> <p>-I can describe how nutrients and water are absorbed in the small intestine</p> <p>-I can recognise and explain the impact that drugs, alcohol, diet and exercise can have on the way bodies function</p>
<i>Vocabulary</i>					
<p>Amphibians, birds, fish, reptiles, mammals, carnivore, omnivore, herbivore, sense, sight, hearing, touch, taste, smell, eyes, ears, nose, mouth, tongue, hands</p>	<p>Adult, develop, life-cycle, offspring, reproduce, young, live young, metamorphosis, dehydrate, diet, disease, energy, exercise, germs, heart-rate, nutrition, hygiene, pulse, healthy</p>	<p>Consumer, fats, carbohydrates, protein, fibre, vitamins, minerals, water, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton, muscles, tendons, joints, contract, relax, support, protect, movement</p>	<p>Digest, oesophagus, stomach, small/large intestine, rectum, canine, molar, incisor, premolar, consumer, decomposer, predator, prey, primary, secondary, tertiary</p>	<p>Fertilisation, sperm, cell, egg, prenatal, gestation, reproduce, sexual reproduction, adolescence, puberty, menstruation, adulthood</p>	<p>Circulatory system, heart, artery, vein, capillary, blood, lungs, pulmonary, gas exchange, oxygen, carbon-dioxide, alveoli, villi, kidneys, liver, drug, alcohol</p>

Living things and their habitats

Year 2	Year 4	Year 5	Year 6
<p>-I can describe the seven life processes (move, breathe, sense, grow, reproduce, get energy from food and get rid of waste)</p> <p>-I can compare the differences between things that are living, dead and never living</p> <p>-I can explain what a habitat is</p> <p>-I can describe some common habitats</p> <p>-I can identify that most living things live in habitats they are suited to</p> <p>-I can describe how some habitats provide for the basic needs of different animals and plants</p> <p>-I can identify and name some animals and plants in their habitats</p> <p>-I can use a food chain to explain how animals get their food</p> <p>-I can identify and name different sources of food (plants, farms and animals)</p>	<p>-I can group animals based on if they are mammals, amphibians, fish, reptiles or birds</p> <p>-I can group animals and plants in different ways (including diet and habitat)</p> <p>-I can use simple classification keys</p> <p>-I can use simple classification keys to help identify and group living things in the local and wider environment</p> <p>-I can recognise that environments can change and that this can pose dangers to living things</p> <p>-I can explain the danger deforestation poses to living things</p> <p>-I can explain how nature reserves help protect living things</p>	<p>-I can describe the life-cycle of a bird, mammal, amphibian and insect</p> <p>-I can describe the differences between the life-cycles of bird, mammals, amphibians and insect</p> <p>-I can define reproduction</p> <p>-I can explain the difference between asexual and sexual reproduction</p> <p>-I can define gestation</p> <p>-I can describe the process of reproduction in mammals</p> <p>-I can describe the process of reproduction in common plants (explaining pollination)</p>	<p>-I can describe how living things are classified into broad groups based on common characteristics</p> <p>-I can describe differences between groups of living things</p> <p>-I can classify vertebrates and invertebrates into smaller groups</p> <p>-I can explore how plants and micro-organisms can be sub-divided into groups</p> <p>-I can use different methods to group living things</p> <p>-I can give reasons for classifying plants and animals based on certain characteristics</p> <p>-I can explain who Carl Linnaeus was</p>
<i>Vocabulary</i>			
<p>Life processes, living, dead, never living, food chain, food sources, habitat, micro-habitat, depend, survive</p>	<p>Vertebrate, invertebrate, fish, amphibians, mammals, birds, reptiles, carnivore, herbivore, omnivore, flowering plant, non-flowering plant, nature reserve, deforestation, classification key</p>	<p>Reproduction, asexual reproduction, sexual reproduction, fertilise, pollination, gestation, metamorphosis, life-cycle, ovule, pollen, stamen, stigma, style, sperm, cell, egg</p>	<p>Micro-organism, vertebrate, invertebrate, fish, amphibians, mammals, birds, reptiles, metamorphosis, species, fungi, algae, bacteria, flowering plant, non-flowering plant</p>

Yellow highlight = covered in 'Animals, including humans'.

Green highlight = covered in 'Plants'.

Evolution and inheritance

Year 6

- I can recognise that living things have changed over time and that fossils tell us about living things on Earth from millions of years ago (links with Rocks in Y3)
- I can explain the role evolution and natural selection have had in living things changing over time
- I can recognise living things produce offspring of the same kind, but normally vary and are not identical to their parents (links with Animals inc. humans in Y5)
- I can define variation
- I can identify and explain inherited traits and adaptive traits in living things
- I can identify and explain different ways animals and plants are adapted to suit their environment

Vocabulary

Offspring, inheritance, variations, characteristics, adaptation, habitat, environment, evolution, natural selection, fossil, inherited traits, adaptive traits