



KS1 Science Progression of Knowledge & Skills



Cycle A Progression of Knowledge and Skills

BIG Ideas

1. There is a relationship between structure and function.
2. Living and non-living things can be grouped in a variety of ways.
3. Humans move through different stages of growth and development.
4. All matter on Earth exists in one of three states: solid, liquid, gas and the state of matter can change.
5. Living things have characteristics and requirements for life, growth and health.
6. Changing the movement of an object requires a net force (push or pull) to be acting on it.
7. Living things depend on each other and on the environment; humans can have both a positive and negative impact.
8. The diversity of organisms, living and extinct, is the result of evolution.
9. Energy makes things happen and can be seen by its effects; it can be transferred (but is not used up)
10. The movement of the Earth affects the seasons and times of day.

Working Scientifically

These are integrated throughout the Science curriculum and appear in the Progression of Knowledge and Skills for each unit.

Sc2/1.1 asking simple questions and recognising that they can be answered in different ways

Sc2/1.2 observing closely, using simple equipment

Sc2/1.3 performing simple tests

Sc2/1.4 identifying and classifying

Sc2/1.5 using their observations and ideas to suggest answers to questions

Sc2/1.6 gathering and recording data to help in answering questions.

Vocabulary:

Question, observe, test, identify, classify, answer, record, data, Venn diagram, chart, equipment, safety, measure

Animals Including Humans (Year 1)

BIG IDEA 1. There is a relationship between structures and functions.

BIG IDEA 2. Living and non-living things can be grouped in a variety of ways.

Enquiry Questions:

1. What parts make up the human body?
2. Which parts of our bodies do we need to see, hear, smell, taste and touch?
3. What is an animal?
4. How can we group animals?
5. Do all animals eat the same thing?

Sc1/2.2a identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals

I know the names of different animal groups.

I can sort animals into the 5 animal groups using knowledge learnt to make decisions about animals that are difficult to place and decide whether humans are animals.

Sc1/2.2b identify and name a variety of common animals that are carnivores, herbivores and omnivores

I know carnivores eat other animals and not plants.

I know herbivores eat plants and not animals.

I know omnivores eat both plants and animals.

I can use knowledge of animals and their diets, group them accurately into herbivores, carnivores and omnivores.
Sc1/2.2c describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)
<p>I know that all animals move freely, eat other living things, need water, and produce young.</p> <p>I know that each animal group has a set of characteristics, some of which are unique to them:</p> <ul style="list-style-type: none"> • Birds have feathers, beaks and wings, lay eggs and are warm blooded. • Fish have fins, scales and gills, which allow them to live and breathe underwater, they lay eggs and are cold-blooded. • Mammals are warm blooded, have skin, fur or hair, give birth to live young and breathe air: • Amphibians are cold-blooded, have slimy skin, lay soft eggs, breathe underwater and in the air, live on land and in water. • Reptiles are cold-blooded, scaly skin, lay eggs with harder shells, breathe air. <p>I know that humans are mammals.</p> <p>I know scientists classify animals into different groups to make sense of the world and understand how living things are related to each other.</p> <p>I can identify the characteristics of birds and fish; identify what is the same and what is different about these two animal groups.</p>
Sc1/2.2d identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
<p>I know where parts of the body are - head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth.</p> <p>Know that eyes are associated with sight, ears with hearing, noses with smelling, skin with touching and tongues with taste.</p> <p>I know that scientists compare things and observe closely to answer questions.</p> <p>I know that scientists understand the world by carrying out tests to see if things are true or find out answers.</p> <p>I can test each of their senses to answer the lesson's question and identify which body part is required for each test.</p> <p>I can use evidence from the tests to draw conclusions.</p>
<p>Vocabulary:</p> <p>head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth (outlined in NC), also include tongue, feet, hands, torso, skin, senses, ears/hearing, hands/touch, nose/smell, eyes/sight, tongue/taste (ext. tastebuds), characteristics, birds, fish, feathers, cold-blooded, warm-blooded, scales, breathe, lay, young, mammals, reptiles, amphibians, diet, carnivore, omnivore, herbivore</p>

Animals Including Humans (Year 2)
<p>BIG IDEA 2. Living and non-living things can be grouped in a variety of ways.</p> <p>BIG IDEA 3. Humans move through different stages of growth and development.</p> <p>BIG IDEA 5. Living things have characteristics and requirements for life, growth and health.</p>
<p>Enquiry Questions:</p> <ol style="list-style-type: none"> 1. How Do Animals Change as They Get Older? 2. Do Human Body Parts Change with Age? 3. What Do Animals Need to Survive? 4. Why Should Humans Exercise? 5. Why Do We Eat Different Types Of Food?
Sc2/2.3a notice that animals, including humans, have offspring which grow into adults
<p>I know that all animals, including humans, are born, they get older and bigger, and most will go on to have children of their own. This is called a life cycle.</p> <p>I know that animals, including humans, change a lot as they move through the cycle.</p> <p>I know that humans begin as babies and grow into adults; we go through different stages of growth.</p> <p>I know that, as we get older, our body parts grow.</p> <p>I understand that scientists observe closely - they look for change and they look for growth to help them understand.</p>

<p>I can use my knowledge of animal groups and observations of change to order life cycles correctly.</p> <p>I can observe (images) to identify similarities and differences.</p> <p>I can perform simple tests.</p> <p>I can use tools to measure accurately.</p> <p>I can gather and record data to help answer the question.</p> <p>I know that scientists use measurements to explore how living things change and grow.</p>
<p>Sc2/2.3b find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p>
<p>I know that living things need water, food, air and shelter to survive.</p> <p>I can use observations of the school grounds/local area and record these.</p>
<p>Sc2/2.3c describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>
<p>I know that humans should exercise to keep fit and healthy and help our body to function.</p> <p>I know that humans need to eat the right amounts of different types of food.</p> <p>I can perform a simple comparative test to identify which activity makes our bodies work harder.</p> <p>I can draw comparisons and talk about findings.</p> <p>I can ask questions about healthy and unhealthy foods.</p> <p>I can sort foods into healthy and unhealthy groups.</p> <p>I know that scientists investigate food so that they can educate people about healthy choices.</p>
<p>Vocabulary: offspring, growth, lifecycle, stage, reproduce, human lifecycle, child, toddler, teenager, adult, limbs, question, test, measure (length), record, essential, survive, shelter, energy, air (oxygen), temperature, exercise, brain, muscles, heart, lungs, mental health, hygiene, fruit, vegetables, cereal, meat, dairy, fat, sugar, energy, healthy, portion</p>

<p>Living Things and Their Habitats (Year 2)</p>
<p>BIG IDEA 5. Living things have characteristics and requirements for life, growth and health.</p>
<p>BIG IDEA 7. Living things depend on each other and on the environment; humans can have both a positive and negative impact.</p>
<p>Enquiry Questions:</p> <ol style="list-style-type: none"> 1. What Examples Can I Find of Living Things, Things That Are No Longer Alive and Things That Have Never Been Alive? 2. What Microhabitats Can We Find in Our School? 3. Do Plants Need Particular Habitats Too? 4. How Do Different Habitats Provide For The Basic Needs Of Different Kinds Of Animals And Plants? 5. How Do Animals Obtain Food From Other Animals And Plants?
<p>Sc2/2.1a explore and compare the differences between things that are living, dead, and things that have never been alive</p>
<p>I know how to identify whether something is living (can move, feed, grow, reproduce and use their senses).</p> <p>I know whether something was once alive (was once part of a living thing or a living thing that has died).</p> <p>I know that some items have never been alive because they have never shown the characteristics of life.</p> <p>I can identify and classify living and non-living things according to whether they are alive or dead or have never been alive.</p>
<p>Sc2/2.1b 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</p>
<p>I know that a habitat is an environment where an animal lives. It contains all the things that animal needs to survive.</p> <p>I know that a microhabitat is a small habitat that also contains everything certain animals need to survive.</p> <p>I know that different microhabitats provide different conditions.</p> <p>I know that animals need shelter, water and food to survive.</p> <p>I know that, just like animals, different plants are suited to different habitats.</p> <p>I know that habitats provide plants with what they need to survive.</p>

<p>I can use simple equipment (magnifying glasses) to observe closely the animals we find in local microhabitats.</p> <p>I can observe the conditions in different microhabitats and draw conclusions about what minibeast need to survive.</p> <p>I can observe the light, plants and dryness of the soil in different habitats.</p> <p>I can draw conclusions about what different plants need to survive.</p>
<p>Sc2/2.1c identify and name a variety of plants and animals in their habitats, including microhabitats</p>
<p>I know that there are a range of different habitats around the world.</p> <p>I know that different animals and plants are suited to different habitats.</p> <p>I know what some of these animals and plants are.</p> <p>I can use books and the internet to learn about different, unfamiliar habitats around the world and the animals that live there.</p> <p>I can gather information from a range of sources and record the most useful and appropriate information for future reference.</p>
<p>Sc2/2.1d 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.</p>
<p>I know that living things depend on each other.</p> <p>I know that a simple food chain is made up of a producer (plant), an animal who eats that plant (prey) and the predator that hunts and eats that prey.</p> <p>I know that energy is transferred between living things in a food chain.</p> <p>I can sort animals and plants into food chains.</p>
<p>Vocabulary: living, features, move, feed, grow, reproduce, senses (light, sound, temperature), habitat, environment, microhabitat, shelter, survive, suitability, desert, ocean, tundra/Arctic, grassland, rainforest, forest/wood, wetlands, source, nutrients, energy, transfer, food chain, producer, prey, predator, depend/survive</p>

Seasonal Change
BIG Idea 10. The movement of Earth affects the seasons and times of day.
<p>Enquiry Questions:</p> <ol style="list-style-type: none"> 1. What is our local area like in each season? 2. Are days always the same length? Is the weather always the same here?
<p>I know there are four seasons: winter, spring, summer and autumn.</p> <p>I know the order of the seasons.</p> <p>I know that seasons lead to changes in plants and animal's behaviour.</p> <p>I can make observations about living things in the local area in each season.</p>
<p>Sc1/4.1b observe and describe weather associated with the seasons and how day length varies</p>
<p>I know that in different seasons, it gets light and dark at different times.</p> <p>I know that the warmest temperatures are usually in the summer and the coldest in the winter.</p> <p>I know the changes in weather in each season.</p> <p>I can compare and contrast the length of the days and the weather in different seasons.</p> <p>I can summarise each season.</p>
<p>Vocabulary: season, changes, autumn, winter, spring, summer, weather, sunrise, sunset, weather, temperature</p>

Year 1 Assessment End Points

Humans and Other Animals

Knowledge	Skills
<ul style="list-style-type: none"> I can name and label the parts of the body on a photo. I know that scientists ask questions and look for answers. I know the five senses and attribute each of these to the correct body part. I know that animals fall into specific groups based on a shared set of characteristics. I can explain - using precise scientific vocabulary - what is the same and what is different about the 5 animal groups. I know the difference between carnivores, herbivores and omnivores. 	<ul style="list-style-type: none"> I can carry out simple tests (with support) to answer a simple question. I can use my knowledge to group different animals according to their diets.

Seasonal Change

Knowledge	Skills
<ul style="list-style-type: none"> I know the order and names of the four seasons. I know how different plants and animals in the local area are affected by the different seasons. I know that there are changes in weather, temperature and daylight in each season. 	<ul style="list-style-type: none"> I can make observations and compare weather, temperature and daylight.

Year 2 Assessment End Points

Animals, Including Humans

Knowledge	Skills
<ul style="list-style-type: none"> I know and can explain the stages and ways in which animals, including humans, change as they move through the cycle. 	<ul style="list-style-type: none"> I can carefully observe changes to accurately order the different stages of a lifecycle.
<ul style="list-style-type: none"> I know that as humans get older their body parts grow. 	<ul style="list-style-type: none"> I can test a question by using equipment (tape measures) appropriately to measure and record.
<ul style="list-style-type: none"> I know the four essential things that animals, including humans, need to survive: food, air, water, shelter. 	<ul style="list-style-type: none"> I can explore the local area to identify how the environment supports the survival of living things.
<ul style="list-style-type: none"> I know that exercise keeps humans fit and healthy and helps the body to function. 	<ul style="list-style-type: none"> I can perform a simple comparative test and talk about their findings.
<ul style="list-style-type: none"> I can explain why humans need to eat the right amounts of different types of food. 	<ul style="list-style-type: none"> I can explain the difference between healthy and unhealthy food types.

Living Things and Their Habitats

Knowledge	Skills
<ul style="list-style-type: none"> I know what it means when something is living, was living and now is dead, or never been alive. 	<ul style="list-style-type: none"> I can sort and classify and record their observations using a simple table.

<ul style="list-style-type: none"> • I know that a habitat/microhabitat is an environment that provides all the things animals need to survive. 	<ul style="list-style-type: none"> • I can use equipment (magnifying glasses) appropriately to observe and record.
<ul style="list-style-type: none"> • I know that plants are also living things and are suited to different habitats to survive. 	<ul style="list-style-type: none"> • I can use their observations of plants to draw conclusions about what they need to survive.
<ul style="list-style-type: none"> • I know there are a range of different habitats around the world, and can they name some of the plants/animals that live there. 	<ul style="list-style-type: none"> • I can use different sources (books and internet) to learn about different habitats around the world.
<ul style="list-style-type: none"> • I know that living things depend on one another to survive, and can they use the language of producer, predator and prey to explain this process. 	<ul style="list-style-type: none"> • I can sort animals and plants into simple food chains.