

PROGRESSIONS IN SCIENCE KNOWLEDGE AND SKILLS

Y2 TAFs in bold *Non-national curriculum content in italic.*

| Skills | Pre Y1 | Y1 | Y2 | Y3 | Y4 | Y5 |
|--|--|--|---|---|--|--|
| Working scientifically (throughout) | Ask my own questions | Ask questions about things that I would like to find out | Think of questions to investigate. | Think of questions that could be investigated and offer some ideas about how to answer them | Make suggestions of how to investigate questions. | Devise different scientific enquiries to answer questions. |
| | Explore and test ideas in practical contexts | Begin to carry out more structured tests | Carry out comparative tests. Identifying some parts of a fair test. | Identify and begin to set up and carry out a fair test. | Identify variables to change/measure and some that can be kept the same in a fair test | Recognise and control variables in tests. |
| | Use my senses to look closely. | Look carefully and describe observations. | Observe and describe changes over time inc using equipment and measurements when appropriate. | Use equipment to make careful observations and some measurements. | Use equipment accurately to make systematic observations or measurements. | Use a range of equipment accurately to make repeat observations or measurements |
| | | Begin to collect data from tests explaining verbally. | Collect and explain findings, grouping and classifying, using text, pictures, diagrams to | Begin to gather data to explain findings, grouping and classifying to present inc text, diagrams, tables | Collect and record data/results, classifying and presenting data in a variety of ways inc graphs. | Collect and record data with greater complexity inc classification keys, line and scatter graphs |
| | Explain what I have found. | Explain findings, beginning to use some scientific language. | Begin to look for patterns and describe findings using some scientific language. | Look for patterns and describe findings, providing simple explanations using appropriate scientific language. | Draw conclusions from my observations or data, beginning to make further predictions or suggestions. | Report and present conclusions making predictions for further comparative and fair tests. |

| Knowledge | KS1 | LKS2 |
|---------------------------------|---|--|
| Plants | <ul style="list-style-type: none"> • identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • identify and describe the basic structure of a variety of common flowering plants, including trees. • observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. • describe the basic needs of plants for survival and the impact of changing these and the main changes as seeds and bulbs grow into mature plants [year 2] | <ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. |
| Animals including Humans | <ul style="list-style-type: none"> • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • identify and name a variety of common animals that are carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. | <ul style="list-style-type: none"> • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement. • describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey. |

| Knowledge | KS1 | LKS2 |
|--------------|--|---|
| | <ul style="list-style-type: none"> • name and locate parts of the human body, including those related to the senses [year 1], and describe the importance of exercise, a balanced diet and hygiene for humans [year 2] • describe the basic needs of animals for survival and the main changes as young animals, including humans, grow into adults [year 2] • describe and compare the observable features of animals from a range of groups [year 1] • group animals according to what they eat [year 1], describe how animals get their food from other animals and/or from plants, and use simple food chains to describe these relationships [year 2] | |
| Rocks | | <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter. |
| Light | <ul style="list-style-type: none"> • <i>Identify uses/types of light and how they are powered eg battery, electricity</i> • <i>Understand that the sun gives light and that looking at the sun is dangerous.</i> • <i>Explore light sources and light reflectors in everyday life.</i> • <i>Identify and explain the difference between light sources and light reflectors</i> | <ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change. |

| Knowledge | KS1 | LKS2 |
|---|---|--|
| | <ul style="list-style-type: none"> • <i>Recognise how we can protect our eyes from the direct light of the sun.</i> | |
| Forces and Magnets | <ul style="list-style-type: none"> • <i>Explore and describe pushes and pulls on making something move.</i> • <i>Explore and describe the effect of altering a push or pull exerted on an object. eg pushing harder, raising a ramp or different surfaces.</i> | <ul style="list-style-type: none"> • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing. |
| Living Things and their Habitats | <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 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. • name different plants and animals and describe how they are suited to different habitats [year 2] | <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. |

| Knowledge | KS1 | LKS2 |
|-------------------------|---|--|
| | <ul style="list-style-type: none"> • identify whether things are alive, dead or have never lived [year 2] | |
| States of Matter | | <ul style="list-style-type: none"> • compare and group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. |
| Sound | | <ul style="list-style-type: none"> • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance from the sound source increases. |
| Electricity | | <ul style="list-style-type: none"> • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery |

| Knowledge | KS1 | LKS2 |
|---------------------------|--|---|
| | | <ul style="list-style-type: none"> • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors. |
| Everyday Materials | <ul style="list-style-type: none"> • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties. • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. • distinguish objects from materials, describe their properties, identify and group everyday materials [year 1] and compare their suitability for different uses [year 2]. | |

