STAGE DESCRIPTORS

Year 1

Working Scientifically	Animals including Humans
– ask simple scientific questions – use simple equipment to make observations – carry out simple tests – identify and classify things – suggest what I have found out using everyday scientific words (Y1) – use simple data to answer questions – measure using non - standard units of measure, rulers and meter sticks.	**I can identify and name** a variety of common animals including fish, amphibians, reptiles, birds and mammals. **I can classify** and name animals by what they eat (carnivore, herbivore and omnivore). **I can describe and compare** the structure of a variety of common sort animals (including fish, amphibians, reptiles, birds and mammals and pets). I **can identify, name, draw and label** the basic parts of the human body that I can see and say which part of the body is associated with each sense.
Seasonal Changes	**Plants**
I can observe and comment on changes across the four seasons. **I can name** the seasons and describe the weather associated with the seasons and how day length varies. **I can keep** a nature diary across the year (include all four seasons, pictures, notes, observations, examples of leaves/flowers, photos).	**I can identify and name** a variety of common wild and garden plants, including deciduous and evergreen trees. **I can identify** and describe the basic structure of a variety of common flowering plants, including trees.
Everyday Materials	
I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. **I can distinguish** between an object and the material from which it is made. **I can describe** the simple physical properties of a variety of everyday materials. **I can compare** and group together a variety of everyday materials on the basis of their simple physical properties.	

YEAR 2

Working Scientifically	Animals including Humans
– ask simple scientific questions – use simple equipment to make observations – carry out simple tests – identify and classify things – record what I have found out using everyday scientific words – use simple data to answer questions – measure using non - standard units of measure, rulers and meter sticks.	**I can recognise** that animals, including humans have offspring that grow into adults. **I can describe** the basic needs of humans and animals for survival (water, food and air). **I can describe** the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
Living Things and Their Habitats	**Plants**
I can explore and compare the differences between things that are living, things that are dead and things that have never been alive. **I can 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. **I can identify** and name a variety of plants and animals in their habitats, including micro-habitats. **I can describe** how animals obtain food from plants and other animals, using the idea of simple food chain and identify and name different sources of food. **I can observe** living things in their habitats during different seasonal changes (keep a nature diary).	**I can observe** and describe how seeds and bulbs grow into mature plants. **I can find out** and describe how plants need water, light and a suitable temperature to grow and stay healthy.
Everyday Materials	
I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. **I can find out how** the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	

YEAR 3

<table>
<tr><th>Working Scientifically</th><th>Animals including Humans</th></tr>
<tr><td rowspan="3">

ask relevant scientific questions
use simple equipment, including thermometers and data loggers to make measurements
use observations and knowledge to answer scientific questions
set up a simple enquiry to explore a scientific question
set up a test to compare two things
set up a fair test and explain why it is fair
make careful and accurate observations, including the use of standard units
gather data in different ways to answer scientific questions
record data in different ways to answer scientific questions
classify data in different ways to answer scientific questions
present data in different ways to answer scientific questions
use diagrams, keys, bar charts and tables to represent scientific data
report my findings using scientific vocabulary (including oral and written explanations)
draw conclusions from my findings
suggest improvements
make a prediction with a reason
identify differences, similarities and changes in results

</td><td>I can 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.
I can explain why an adequate and varied diet is beneficial to health (along with a good supply of air and clean water).
I can explain why regular and varied exercise is beneficial to health.
I can identify that humans and some other animals have skeletons and muscles for support, protection and movement.</td></tr>
<tr><th>Plants</th></tr>
<tr><td>I can identify, locate and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
I can 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.
I can investigate the way in which water is transported within plants.
I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
I can observe life cycles of plants across the year/seasons. (Our Changing World Modules)</td></tr>
<tr><th>Rocks</th><th>Forces and Magnets</th></tr>
<tr><td>I can compare and group together different kinds of rocks based on their appearance and simple physical properties.
I recognise that soils are made from rocks and organic matter.
I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.</td><td rowspan="2">I notice that some forces need contact between two objects, but magnetic forces can act at a distance.
I can compare how some things move on different surfaces.
I can compare and group together a variety of everyday materials based on whether they are attracted to a magnet and identify some magnetic materials.
I can observe how magnets attract or repel each other and only attract some materials.
I can describe magnets as having two poles (like and unlike poles).
I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</td></tr>
<tr><th>Light including reflection and shadows</th></tr>
<tr><td>I recognise that we need light in order to see things and that dark is the absence of light.
I notice that light is reflected from surfaces and explore how light behaves
I recognise that light from the sun can be dangerous and that there are ways to protect my eyes.
I recognise that shadows are formed when the light from a light source is blocked by a solid object.
I can find patterns, when measuring, in the way that the size of shadows can change.</td></tr>
</table>

YEAR 4

Year 4

Working Scientifically	Electricity
– ask relevant scientific questions – use simple equipment, including thermometers and data loggers to make measurements – use observations and knowledge to answer scientific questions – set up a simple enquiry to explore a scientific question – set up a test to compare two things – set up a fair test and explain why it is fair – make careful and accurate observations, including the use of standard units – gather data in different ways to answer scientific questions – record data in different ways to answer scientific questions – classify data in different ways to answer scientific questions – present data in different ways to answer scientific questions – use diagrams, keys, bar charts and tables to represent scientific data – report my findings using scientific vocabulary (including oral and written explanations) – draw conclusions from my findings – suggest improvements – make a prediction with a reason – identify differences, similarities and changes in results	**I can identify** common appliances that run on electricity **I can construct** a simple series electrical circuit, identify and naming its basic parts, including cells, wires, bulbs, switches and buzzers. **I can 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. **I can recognise** that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. **I can recognise** some common conductors and insulators and associate metals with being good conductors.
	Sound
	I can identify how sounds are made, associating some of them with something vibrating. **I can recognise** that vibrations from sound travel through a medium to the ear. **I can find** patterns between the volume of a sound and the strength of the vibrations that produce it. **I can recognise** that sounds get fainter as the distance from the sound increases. **I can find** patterns between pitch of a sound and the features of the object that produces it.
States of matter	**Environment – livings things and their environment**
I can compare and group materials together, according to whether they are solids, liquids or gases. **I can 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). **I can identify** the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**I can recognise** that environments can change and this can sometimes pose dangers to living things. **I can explore** and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
	Animals – teeth, eating and digestion
	I can describe the simple functions of the basic parts of the digestive system in humans. **I can identify** the different types of teeth in humans and their simple functions. **I can construct** and interpret a variety of food chains identifying producers, predators and prey. **I can recognise** that living things can be grouped in a variety of ways.

Year 5

Working Scientifically	Earth and Space
– plan different types of scientific enquiry – control variables in an enquiry – measure accurately and precisely using a range of equipment – record data and results using scientific diagrams and labels (Y5&6) – record data and results using classification keys (Y5&6) – record data and results using tables (Y5&6) – record data and results using scatter graphs (Y6) – record data and results using bar graphs (Y5) – record data and results using line graphs (Y6) – use test results to make predictions – set up further comparative fair tests – report findings – explain a conclusion – explain causal relationships – use evidence to support or refute a scientific argument or theory	**I can describe** the movement of the Earth and other planets, relative to the Sun in the Solar System. **I can describe** the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. **I can describe** the movement of the Moon relative to the Earth **I can describe** the sun, moon and Earth as approximately spherical bodies.
Forces	**Living Things and Life Cycles**
I can identify the effects if air resistance, water resistance and friction, which act between moving surfaces. **I can explain** that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. **I can** recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	**I can describe** the differences in the life cycles of a mammal, an amphibian, an insect and a bird. **I can describe** the life processes of reproduction in some plants and animals. **I can describe** the changes as humans develop to old age.
Materials and their Properties	**Materials – Changing State**
I can compare and group together everyday materials based on evidence from comparative and fair tests, including hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. **I can give reasons**, based on evidence form comparative and fair tests, for specific uses of everyday materials, including metals, wood and plastic.	**I can use knowledge** of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. **I know** that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. **I can demonstrate** that dissolving, mixing and changes of state and reversible changes. **I can explain** that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Year 6

Working Scientifically	Animals – Exercise, health and the Circulatory System
– plan different types of scientific enquiry – control variables in an enquiry – measure accurately and precisely using a range of equipment – record data and results using scientific diagrams and labels (Y5&6) – record data and results using classification keys (Y5&6) – record data and results using tables (Y5&6) – record data and results using scatter graphs (Y6) – record data and results using bar graphs (Y5) – record data and results using line graphs (Y6) – use test results to make predictions – set up further comparative fair tests – report findings – explain a conclusion – explain causal relationships – use evidence to support or refute a scientific argument or theory	**I can identify and name** the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. **I can describe** the ways in which nutrients and water are transported within animals, including humans. **I recognise and can describe** the impact of diet, exercise, drugs and lifestyle on the way bodies function.
Living Things and Their Habitats – - Classification	**Living Things and Their Habitats – Evolution and Inheritance**
I can describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. **I can give reasons** for classifying plants and animals based on specific characteristics.	**I recognise** that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. **I can identify** how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. **I can recognise** that living things on earth have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
Light – How Light Travels	**Electricity**
I can explain that we see things because the light travels from light sources to our eyes or from light sources to objects and then to our eyes (and represent this in simple diagrammatic form). **I can recognise** that light appears to travel in straight lines and use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. **I can use** the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	**I can use** recognised symbols (at least: cells, wires, switches, bulbs, buzzers and motors) when representing a simple circuit in a diagram. **I can compare** the functions of different components giving reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. **I can associate and explain the** brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. **I can use/interpret** circuit diagrams to construct a variety of more complex circuits predicting whether they will 'work'.