



<b>A Year 1 Scientist...</b>			
<p><b>Working scientifically (Y1 and Y2)</b></p> <p>I can ask simple scientific questions.                      I can use simple equipment to make observations.                      I can carry out simple tests.                      I can identify and classify things.                      I can suggest what I have found out.                      I can use simple data to answer questions</p>	<p><b>Biology</b></p> <p><b>Plants</b>                      I can name a variety of common wild and garden plants.                      I can name the petals, stem, leaf and root of a plant.                      I can name the roots, trunk, branches and leaves of a tree.</p> <p><b>Animals, including humans</b>                      I can name a variety of animals including fish, amphibians, reptiles, birds and mammals.                      I can classify and name animals by what they eat (carnivore, herbivore and omnivore).                      I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).                      I can sort living and non-living things.                      I can name the parts of the human body that I can see.                      I can link the correct part of the human body to each sense.</p>	<p><b>Chemistry</b></p> <p><b>Everyday materials</b></p> <p>I can distinguish between an object and the material it is made from.                      I can explain the materials that an object is made from.                      I can name wood, plastic, glass, metal, water and rock.                      I can describe the properties of everyday materials.                      I can group objects based on the materials they are made from.</p>	<p><b>Physics</b></p> <p><b>Seasonal changes</b></p> <p>I can observe and comment on changes in the seasons.                      I can name the seasons and suggest the type of weather in each season.</p>

## A Year 2 Scientist...

### Working scientifically (Y1 and Y2)

I can ask simple scientific questions.  
I can use simple equipment to make observations.  
I can carry out simple tests.  
I can identify and classify things.  
I can suggest what I have found out.  
I can use simple data to answer questions

### Biology

#### Living things and their habitats

I can identify things that are living, dead and never lived.  
I can describe how a specific habitat provides for the basic needs of things living there (plants and animals).  
I can identify and name plants and animals in a range of habitats.  
I can match living things to their habitat.  
I can describe how animals find their food.  
I can name some different sources of food for animals.  
I can explain a simple food chain.

#### Plants

I can describe how seeds and bulbs grow into plants.  
I can describe what plants need in order to grow and stay healthy (water, light & suitable temperature).

#### Animals, including humans

I can explain the basic stages in a life cycle for animals, including humans.

### Chemistry

#### Uses of everyday materials

I can identify and name a range of materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard.  
I can suggest why a material might or might not be used for a specific job.  
I can explore how shapes can be changed by squashing, bending, twisting and stretching.

### Physics

	<p>I can describe what animals and humans need to survive.</p> <p>I can describe why exercise, a balanced diet and good hygiene are important for humans.</p>		
--	---	--	--

## A Year 3 Scientist...

### Working scientifically (Y1 and Y2)

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

### Biology

#### Plants

I can describe the function of different parts of flowering plants and trees.  
 I can explore and describe the needs of different plants for survival.  
 I can explore and describe how water is transported within plants.  
 I can describe the plant life cycle, especially the importance of flowers.

#### Animals, including humans

I can explain the importance of a nutritious, balanced diet.  
 I can explain how nutrients, water and oxygen are transported within animals and humans.  
 I can describe and explain the skeletal system of a human.  
 I can describe and explain the muscular system of a human.  
 I can describe the purpose of the skeleton in humans and animals.

### Chemistry

#### Rocks

I can compare and group rocks based on their appearance and physical properties, giving a reason.  
 I can describe how fossils are formed.  
 I can describe how soil is made.  
 I can describe and explain the difference between sedimentary and igneous rock.

### Physics

#### Light

I can describe what dark is.  
 I can explain that light is needed in order to see.  
 I can explain that light is reflected from a surface.  
 I can explain and demonstrate how a shadow is formed.  
 I can explore shadow size and explain.  
 I can explain the danger of direct sunlight and describe how to keep protected.

#### Forces and magnets

I can explore and describe how objects move on different surfaces.  
 I can explain how some forces require contact and some do not, giving examples.  
 I can explore and explain how objects attract and repel in relation to objects and other magnets.

			<p>I can predict whether objects will be magnetic and carry out an enquiry to test this out.</p> <p>I can describe how magnets work.</p> <p>I can predict whether magnets will attract or repel and give a reason.</p>
--	--	--	--

## A Year 4 Scientist...

### Working scientifically (Y3 and Y4)

I can ask relevant scientific questions.  
I can use observations and knowledge to answer scientific questions.  
I can set up a simple enquiry to explore a scientific question.  
I can set up a test to compare two things.  
I can set up a fair test and explain why it is fair.  
I can make careful and accurate observations, including the use of standard units.  
I can use equipment, including thermometers and data loggers to make measurements.  
I can gather, record, classify and present data in different ways to answer scientific questions.  
I can use diagrams, keys, bar charts and tables; using scientific language.  
I can use findings to report in different ways, including oral and written explanations, presentation.

### Biology

#### Living things and their habitats

I can group living things in different ways.  
I can use classification keys to group, identify and name living things.  
I can create classification keys to group, identify and name living things (for others to use).  
I can describe how changes to an environment could endanger living things.

#### Animals, including humans

I can identify and name the parts of the human digestive system.  
I can describe the functions of the organs in the human digestive system.  
I can identify and describe the different types of teeth in humans.  
I can describe the functions of different human teeth.  
I can use food chains to identify producers, predators and prey.

### Chemistry

#### States of matter

I can group materials based on their state of matter (solid, liquid, gas).  
I can describe how some materials can change state.  
I can explore how materials change state.  
I can measure the temperature at which materials change state.  
I can describe the water cycle.  
I can explain the part played by evaporation and condensation in the water cycle.

### Physics

#### Sound

I can describe how sound is made.  
I can explain how sound travels from a source to our ears.  
I can explain the place of vibration in hearing.  
I can explore the correlation between pitch and the object producing a sound.  
I can explore the correlation between the volume of a sound and the strength of the vibrations that produced it.  
I can describe what happens to a sound as it travels away from its source.

#### Electricity

I can identify and name appliances that require electricity to function.  
I can construct a series circuit.  
I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).  
I can draw a circuit diagram.

<p>I can draw conclusions and suggest improvements.</p> <p>I can make a prediction with a reason.</p> <p>I can identify differences, similarities and changes related to an enquiry.</p>	<p>I can construct food chains to identify producers, predators and prey.</p>		<p>I can predict and test whether a lamp will light within a circuit.</p> <p>I can describe the function of a switch in a circuit.</p> <p>I can describe the difference between a conductor and insulators; giving examples of each.</p>
--	---	--	--

## A Year 5 Scientist...

### Working scientifically (Y5 and Y6)

I can plan different types of scientific enquiry.  
I can control variables in an enquiry.  
I can measure accurately and precisely using a range of equipment.  
I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  
I can use the outcome of test results to make predictions and set up a further comparative fair test.  
I can report findings from enquiries in a range of ways.  
I can explain a conclusion from an enquiry.  
I can explain causal relationships in an enquiry.  
I can relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.  
I can read, spell and pronounce scientific vocabulary accurately.

### Biology

#### Living things and their habitats

I can describe the life cycle of different living things, e.g. mammal, amphibian, insect bird.  
I can describe the differences between different life cycles.  
I can describe the process of reproduction in plants.  
I can describe the process of reproduction in animals.

#### Animals, including humans

I can create a timeline to indicate stages of growth in humans.

### Chemistry

#### Properties and changes of materials

I can compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity, [electrical & thermal], and response to magnets).  
I can describe how a material dissolves to form a solution; explaining the process of dissolving.  
I can describe and show how to recover a substance from a solution.  
I can describe how some materials can be separated.  
I can demonstrate how materials can be separated (e.g. through filtering, sieving and evaporating).  
I know and can demonstrate that some changes are reversible and some are not.  
I can explain how some changes result in the formation of a new material and that this is usually irreversible.  
I can discuss reversible and irreversible changes.

### Physics

#### Earth and space

I can describe and explain the movement of the Earth and other planets relative to the Sun.  
I can describe and explain the movement of the Moon relative to the Earth.  
I can explain and demonstrate how night and day are created.  
I can describe the Sun, Earth and Moon (using the term spherical).  
Forces  
I can explain what gravity is and its impact on our lives.  
I can identify and explain the effect of air resistance.  
I can identify and explain the effect of water resistance.  
I can identify and explain the effect of friction.  
I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.



		<p>I can give evidenced reasons why materials should be used for specific purposes.</p>	
--	--	---	--

## A Year 6 Scientist...

### **Working scientifically (Y5 and Y6)**

I can plan different types of scientific enquiry.  
I can control variables in an enquiry.  
I can measure accurately and precisely using a range of equipment.  
I can record data and results using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.  
I can use the outcome of test results to make predictions and set up a further comparative fair test.  
I can report findings from enquiries in a range of ways.  
I can explain a conclusion from an enquiry.  
I can explain causal relationships in an enquiry.  
I can relate the outcome from an enquiry to scientific knowledge in order to state whether evidence supports or refutes an argument or theory.  
I can read, spell and pronounce scientific vocabulary accurately.

### **Biology**

#### **Living things and their habitats**

I can classify living things into broad groups according to observable characteristics and based on similarities & differences.  
I can describe how living things have been classified.  
I can give reasons for classifying plants and animals in a specific way.

#### **Animals, including humans**

I can identify and name the main parts of the human circulatory system.  
I can describe the function of the heart, blood vessels and blood.  
I can discuss the impact of diet, exercise, drugs and life style on health.  
I can describe the ways in which nutrients and water are transported in animals, including humans.  
Evolution and inheritance  
I can describe how the earth and living things have changed over time.

### **Chemistry**

### **Physics**

#### **Light**

I can explain how light travels.  
I can explain and demonstrate how we see objects.  
I can explain why shadows have the same shape as the object that casts them.  
I can explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.

#### **Electricity**

I can explain how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.  
I can compare and give reasons for why components work and do not work in a circuit.  
I can draw circuit diagrams using the correct symbols.

	<p>I can explain how fossils can be used to find out about the past.</p> <p>I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).</p> <p>I can explain how animals and plants are adapted to suit their environment.</p> <p>I can link adaptation over time to evolution.</p> <p>I can explain evolution.</p>		
--	---	--	--



