**Plumbland CE School, Lower Key Stage 2 (Years 3 and 4) Science assessment**

**Working scientifically**

During years 3 and 4 pupils should be taught to use the following practical scientific methods processes and skills:

* Asking relevant questions and using different types of scientific enquiries to answer them.
* Setting up simple practical enquiries, comparative and fair tests.
* Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
* Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions.
* Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
* Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
* Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
* Identifying differences, similarities or changes related to simple scientific ideas and processes.
* Using straightforward scientific evidence to answer questions or to support their findings.

**Plants and living things**

Pupils should be able to:

* 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).
* 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.
* 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 this can sometimes pose dangers to living things.

**Animals including humans**

Pupils should be able to:

* 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.

**Rocks and soil**

Pupils should be able to:

* Compare and group together different types 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**

Pupils should be able to:

* 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 an opaque object.
* Find patterns in the way the size of shadows change.

**Forces and magnets**

Pupils should be able to:

* 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.

**States of matter**

Pupils should be able to:

* 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.
* Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

**Sound**

Pupils should be able to:

* 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**

Pupils should be able to:

* Identify common appliances that run on electricity.
* Conduct 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.
* 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.