

## Villiers Primary School- Science Statement of intent.

At Villiers Primary School, our **inclusive** Science curriculum encourages all our children to have an inquisitive nature throughout their time at Villiers and beyond. Our intention is for all children to develop a **passion** for Science and we encourage all children to fulfil their potentials. We aim to prepare our pupils for life in an increasingly scientific and technological world. We intend learning in science to be through systematic investigations of the physical, chemical and biological aspects of their lives that rely mainly on **first-hand experiences**, leading to them being equipped to answer scientific questions about the world around them. It is our intention that, through investigative science, pupils at Villiers Primary School will continue to deepen their respect for the natural world and increase their care and appreciation of it.

We aim to:

- Develop pupils' enjoyment, **discover hidden talents and new passions in science.**
- **Recognise, embed and build-on children's prior learning.**
- Use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of science and to become **independent thinkers.**
- Encourage children to be curious about science and our natural world.
- Develop pupils' basic practical skills and their ability to make accurate and appropriate measurements.
- Introduce pupils to a wide range of scientific vocabulary and encourage them to use this in daily life.
- Extend the learning environment for our pupils via environmental areas and the locality.
- Develop pupils' use of computing skills in their science studies.
- Promote a 'healthy lifestyle' in our pupils.

Children leave Villiers **equipped with the scientific skills and knowledge** required to understand the uses and implications of science, today and for the future. Our children have the necessary understanding of different types of science enquiries that help them to answer scientific questions and become **independent learners**. Our naturally curious children leave Villiers with confidence in working scientifically and are eager and ready to develop this in key stage 3.

## **Implementation of Science at Villiers**

In order to achieve the above intent, we will implement several strategies that incorporate the fundamental cores of Science.

We will:

- Maintain a high level of subject knowledge through regular training and professional development.
- Use assessment to plan for future for learning and pupils' next steps.
- Ensure high quality teaching develops the key skills and knowledge through every area of science.
- Provide children with opportunities to develop strategies for questioning and thinking in every lesson.
- Regularly review the impact of teaching and learning and make any necessary changes to benefit pupils learning.
- Regularly monitor work in books and talk to the pupils to ensure they are retaining the key skill and knowledge in their long-term memories.
- Ensure all teachers are well equipped to deliver focused science lessons.
- Ensure all pupils use specific subject related vocabulary in every lesson.

Once the above has been implemented we will see our pupils developing a passion for science. This can be measures qualitatively.

We will:

- Maintain a high level of subject specific knowledge through regular training and professional development.
- Use assessment to tailor lessons around our pupils ensuring we take in to account the next steps in their learning journey.
- Ensure pupils are using specific subject related vocabulary in every lesson.
- Ensure pupils receive high quality teaching so that they develop the key skills and knowledge through every area of science.

- Ensure all teachers are well equipped to deliver focused science lessons.
- Provide children with regular opportunities to develop strategies for questioning and thinking.
- Regularly monitor work in books and talk to the pupils to ensure they are retaining the key skill and knowledge in their long-term memories.

**Qualitatively, we will see:**

- Our pupils will develop a love for science and be enthusiastic about science at Villiers.
- We will have full capacity of pupils taking part in our science extra-curricular club.
- Pupils who develop critical thinking, problem solving and creativity skills that support their next stage of learning.
- A greater number of girls who are passionate about science.
- Our naturally curious children leave Villiers with confidence in working scientifically and are eager and ready to develop this in key stage 3

Whole school plan

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Plants	Animals, including humans	Rocks	States of matter	Earth and space	Light
Seasonal changes	Uses of everyday materials	Magnets	Animals, including humans	Forces	Animals, including humans
Everyday materials	All living things and their habitats	Light	Living things and their habitats	Properties and change of materials	Evolution and inheritance
Animals, including humans	All living things and their habitats.	Plants	Sound	All living things	All living things
	Plants	Animals, including Humans	Electricity	Animals, including humans	Electricity

## Year 1 Vocabulary

Working Scientifically	Plants	Animals, including humans	Materials	Seasonal changes
Question	Wild plants	Fish	Wood	Summer
Answer	Garden plants	Amphibian	Plastic	Winter
Observe	Deciduous	Reptile	Metal	Autumn
Observing	Evergreen	Birds	Glass	Spring
Equipment	Leaf	Mammals	Water	Day
Identify	Leaves	Pets	Rock	Night
Classify	Root	Senses	Brick	Daytime
Sort	Bud	Taste	Paper	Wind
Diagram	Flower	Smell	Elastic	Rain
Chart	Blossom	Vision	Foil	Snow
Map	Petals	Touch	Fabrics	Hail
Data	Root	Hearing	Absorb	Sleet
Compare	Stem	Omnivores	Absorbent	Fog
Contrast	Trunk	Carnivores	Waterproof	Sun
Describe	Branches		bendy	Hot
Biology	Fruit		Rough	Warm
Chemistry	Vegetables		Smooth	Cold
Physics	Bulb		Shiny	
Group	Seed		Dull	
Record			Stretchy	
			Stiff	
			Hard	
			Soft	

Year 2 Vocabulary

Working Scientifically	Plants	Animals, including humans	Materials	All living things and their habitats
Question	Water	Offspring	John Dunlop-rubber	Dead
Answer	Light	Grow	Charles Macintosh-Waterproof	Alive
Observe	Suitable	Adults	John McAdam	Never alive
Observing	Temperature	Survival	Squashing	Habitats
Equipment	Germination	Water	Bending	Micro-habitat
Identify	Reproduction	Food	Twisting	Food
Classify	Wild plants	Air	Stretching	Food chain
Sort	Garden plants	Exercise	Rock	Sun
Diagram	Deciduous	Hygiene	Brick	Grass
Chart	Evergreen	Nutrition	Paper	Human
Map	Leaf	Reproduce	Elastic	Alive
Data	Leaves	Baby	Foil	Healthy
Compare	Root	Toddler	Fabrics	Rainforest
Contrast	Bud	Child	Absorb	Ocean
Describe	Flower	Teenager	Absorbent	Conditions
Biology	Blossom	Adult	Waterproof bendy	Woodland
Chemistry	Petals	Egg	Stretchy	Seashore
Physics	Root	Chick	Stiff	Shelter
Group	Stem	Chicken		Dry/damp/wet
Record	Trunk	Frogspawn		Hot/warm/cold
	Branches	Tadpole		Bright/hade/
	Fruit			Dark
	Vegetable			

Year 3 Vocabulary

Working Scientifically	Plants	Animals, including humans	Forces	Rocks	Light
Questions	Water	Nutrition	Force	Appearance	Light
Relevant	Light	Nutrients	Push	Physical	See
Scientific enquiry	Suitable	Carbohydrates	Pull	Properties	Dark
Comparative and fair test	Temperature	Protein	Open	Hard/soft	Reflect
Systematic	Germination	Fats	Surface	Shiny/dull	Surface
Careful observation	Reproduction	Fibre	Magnet	Rough/ smooth	Natural
Accurate	Wild plants	Water	Magnetic	Absorbent/non absorbent	Star
Measurements	Garden plants	Vitamins	Attract	Fossils	Sun
Thermometer	Deciduous	Minerals	Repel	Sedimentary	Moon
Data logger	Evergreen	Skeleton	Magnetic poles	Rock	Shadow
Gather	Leaf	Bones	North	Soils	Blocked
Record	Leaves	Joints	South	Organic matter	Solid
Classify	Root	Endoskeleton		Buildings	Artificial
Present	Bud	Exoskeleton		Gravestones	Torch
Drawings	Flower	Hydrostatic		Grains	Candle
Labelled diagrams	Blossom	Skeleton		Crystals	Lamp
Keys	Petals	Vertebrate			Sunlight
Bar charts	Root	Invertebrate			Dangerous
Tables	Stem	Contract			Protect eyes
Construct	Trunk	Relax			
Interpret	Branches	Ball joint			
Secondary sources	Fruit	Socket joint			
		Hinge joint			

Evidence	Vegetables	Gliding joint			
Improve	Bulb				
Conclusions	seed				
Predictions					



## Year 4 Vocabulary

Working Scientifically	Living things and their habitats	Animals, including humans	Electricity	Sound	States of matter
Questions	Environment	Nutrition	Appliances	Vibrate	Solid
Relevant	Flowering	Minerals	Electrical circuit	Vibration	Solidify
Scientific enquiry	Non-flowering	Fat	Cell	Vibrating	Iron
Comparative and fair test	Vertebrate	Protein	Wire	Air	Ice
Systematic	Dangers	Carbohydrates	Bulb	Medium	Melt
Careful observation	Vertebrate	Fibre	Buzzer	Ear	Freeze
Accurate	Mammals	Water	Danger	Hear	Liquid
Measurements	Amphibians	Skeletons	Electrical safety	Sound	Evaporate
Thermometer	Reptiles	Support	Sign	Volume	Condense
Data logger	Invertebrate	Protection	Insulators	Pitch	Gas
Gather	Flowering plants	Skull	Conductors	Faint	Container
Record	Non-flowering plants	Brain	Metal	Fainter	Changing
Classify	Non-flowering plants	Ribs	Water	Loud	State
Present	Human impact	Heart	Switch	Louder	Heated
Drawings	Positive	Lungs	Open	String	Cool
Labelled diagrams	Negative	Movement	Closed	Percussion	Degrees
Keys		Joint		Woodwind	Thermometer
Bar charts		Muscles		Brass	Water cycle
Tables		Pull		Insulate	Evaporation
Construct		Contract			Condensation
Interpret		Relax			Temperature
Secondary sources		Diet			Water vapour
Evidence					

Improve					
Conclusions					
Predictions					

Year 5 Vocabulary

Working Scientifically	Living things and their habitats	Animals, including humans	Forces	Earth and Space	Properties and changes of materials
Plan	Mammal	Puberty	Gravity	Moon	Properties
Variables	Amphibian	Life cycle	Air resistance	Planets	Hardness
Measurements	Insect	Gestation	Water resistance	Stars	Solubility
Accuracy	Bird	Growth	Friction	Solar system	Transparency
Precision	Vegetable garden	Reproduce	Surface	Mercury	Dissolve
Repeat readings	Flower boarder	Foetus	Force	Venus	Solution
Scientific diagrams	Rainforests	Fertilisation	Effect	Mars	Separate
Classification keys	Oceans	Baby	Move	Jupiter	Separating
Measurements	Desert	Toddler	Accelerate	Saturn	Solids
Quantitative	Prehistoric	Child	Decelerate	Uranus	Liquids
Systematic	Similarities	Teenager	Stop	Neptune	Gases
Patterns	Differences	Adult	Change direction	Pluto	Evaporation
Identify, classify and describe	Plants; sexual; asexual	Old age	Brake	Rotate	Reversible changes
Support / refute	Animals; sexual	Life expectancy	Mechanism	Day	Mixing
Arguments	David Attenborough	Adolescence	Pulley	Night	Filtering
Report and present	Jane Goodall	Adulthood	Gear	Aristotle	Sieving
Conclusions		Early, middle and late adulthood	Spring	Ptolemy	Melting
Further comparative and fair test		Childhood	Isaac Newton	Galileo	Irreversible
Scatter graph			Galileo Galilei	Copernicus	Burning
Line graph			Theory of gravitation	Brahe	Rusting
Bar graph				Alhazen	Magnetism
Causal relationships				orbit	Quantitative
				axis	Measurements

Explanations				spherical	Conductivity
Degree of trust				heliocentric	Chemical
				geocentric	Insulation

Year 6 Vocabulary

Working Scientifically	Light	Living things and their habitats.	Evolution and inheritance	Animals, including humans	Electricity
Plan	Light	Classify	Evolution	Internal organs	Voltage
Variables	Travels straight	Compare	Adaption	Heart	Brightness
Measurements	Reflect	Linnaean	Inherited traits	Lungs	Volume
Accuracy	Reflection	Carl Linnaean	Adaptive traits	Liver	Switches
Precision	Light source	Classification domain	Natural selection	Kidney	Danger
Repeat readings	Object	Kingdom	inheritance	Brain	Series circuit
Scientific diagrams	Shadows	Phylum	Charles Darwin	Skeletal	Safety with electricity
Classification keys	Mirrors	Class	Alfred Wallace	Skeleton	Electrical safety
Measurements	Periscope	Order	DNA	Muscle	Sign
Quantitative	Rainbow	Family	Genes	Muscular	Circuit diagram
Systematic	Filters	Genus	Variation	Digest	Bulb
Patterns		Species	Parent	Digestive	Buzzer
Identify, classify and describe		Characteristics	Offspring	Circulatory system	Motor
Support / refute		Vertebrates	Fossil	Heart	Recognised
Arguments		Invertebrates	Environment	Blood	Symbol
Report and present		Microorganisms	Habitat	Blood vessels	
Conclusions		Organism	Fossilisation	Impact	
Further comparative and fair test		Flowering	Plants	Diet	
Scatter graph		Non-flowering	Animals	Exercise	
Line graph			Living things	Drugs	
Bar graph				Lifestyle	
Causal relationships				Nutrients	
				Water	

Explanations				Damage	
Degree of trust				Alcohol	
Oral and written disp					

## Early Years Curriculum

Science exploration within the Foundation Stage is paramount in developing the long term goals for our children to become scientists. The children will develop their Understanding of the world through quality first teaching and providing the children with a wealth of learning opportunities. The children are encouraged to investigate natural phenomena both inside and outside of the classroom. Children are given the opportunity to have **first-hand** experiences and talk about the world around them.

High quality practical activities are planned in Nursery and reception classes for pupils to be able to:

### 30-50 months

Comment and asks questions about aspects of their familiar world, such as the place where they live of the natural world.

Talk about some of the things they have observed such as plants, animals, natural and found objects.

Talk about why things happen and how things work.

Develop an understanding of growth, decay and changes over time.

Show care and concern for living things and their environment.

### 40-60 Months

To be able to look closely at similarities, differences and patterns of change.

### ELGs

Know about similarities, differences in relation to places, objects, materials and living things.

Talk about the features of their own immediate environment and how environment might vary from one another.

Make observations of animals and plants and explain why some things occur and talk about changes.

### Exceeding pupils in Early Years

Children know that the environment and living things are influenced by human activity. They can describe some actions which people in their own community do that help to maintain the area they live in. They know the properties of some materials and can suggest some of the

purposes they are used for. They are familiar with basic scientific concepts, such as floating, sinking, experimentation.

Science exploration within the Key Stage 1, builds on the skills already developed during the Foundation Stage. The children will continue to have quality first teaching and opportunities to explore new concepts, while gaining additional understanding. The children will develop a foundation understanding of scientific concepts which will be later be developed during Key Stage 2:

## **Year 1 Curriculum**

The aims of the Medium Term planning is to ensure that all Statutory Requires of the Science Programme of Study are achieved.

### Working Scientifically

To ask simple questions and recognise that they can be answered in different ways.

To observe closely, using equipment.

To perform simple tests.

To identify and classify.

To gather and record data to help in answering questions.

### Plants

To identify and name a variety of common wild and garden plants, including deciduous.

To identify and describe the basic structure of a variety of common flowering plants, including trees.

### Seasonal Changes

To observe changes across the four seasons.

To observe and describe the weather associated with the seasons and how day length varies



### Animals, including humans

To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.

To identify and name a variety of common animals that are carnivores, herbivores and omnivores.

To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds, mammals, including pets)

To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

### Everyday Materials

To distinguish between an object and the material from which it is made.

To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.

To describe the simple physical properties of a variety of everyday materials.

To compare and group together a variety of everyday materials based on their simple physical properties.

## **Year 2 Curriculum**

### **Working Scientifically**

To ask simple questions and recognise that they can be answered in different ways.

To observe closely, using simple equipment.

To perform simple tests.

To identify and classify.

To use observations and ideas to suggest answers to questions.

To gather and record data to help in answering questions.

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

To explore and compare the differences between things that are living, dead and things that have never been alive.

To 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 plant, and how they depend on each other.

To identify and name a variety of plants and animals in their habitats, including micro-habitats.

To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and name different sources of food.

### **Plants**

To observe and describe how seeds and bulbs grow into mature plants.

To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

### **Animals, including humans**

To notice that animals, including humans, have offspring which grown into adults.

To find out about and describe the basic needs of animals, including humans for survival (water, food and air)

To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

### Uses of everyday materials

To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

## **Year 3**

### Working Scientifically

To ask relevant questions and using different types of scientific enquiries to answer them.

To set up simple practical enquiries, comparative and fair tests.

To make systematic and careful observations and, where appropriate taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

To gather, record, classify and present data in a variety of ways to help in answering questions.

To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

To report on findings from enquires, including oral and written explanations, displays or presentations and raise further questions.

To identify differences, similarities or changes related to simple scientific ideas and processes.

To use straightforward scientific evidence to answer questions or to support their findings.

### Animals, including humans

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.

To identify that humans and some other animals have skeletons and muscles for support, protection and movement.

### Rocks

To compare and group together kinds of rocks on the basis of their appearance and simple physical properties.

To describe in simple terms how fossils are formed when things that have lived are trapped within rock.

## Light

To notice that light is reflected from surfaces.

To recognise that light from the sun can be dangerous and that there are ways to protect our eyes.

To recognise that shadows are formed when the light from a light source is blocked by a solid object.

To find patterns in the way that the size of shadows change.

## Forces and magnets

To compare how things move on different surfaces.

To notice that some forces need contact between two objects, but magnetic forces can act at a distance.

To observe how magnets attract or repel each other and attract some materials and not others.

To 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.

To describe magnets as having two poles.

To predict whether two magnets will attract or repel each other, depending on which poles are facing.

## Year 4 curriculum

### Working Scientifically

To ask relevant questions and using different types of scientific enquiries to answer them.

To set up simple practical enquiries, comparative and fair tests.

To make systematic and careful observations and, where appropriate taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

To gather, record, classify and present data in a variety of ways to help in answering questions.

To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.

To report on findings from enquires, including oral and written explanations, displays or presentations and raise further questions.

To identify differences, similarities or changes related to simple scientific ideas and processes.

To use straightforward scientific evidence to answer questions or to support their findings

### Living things and their habitats

To recognise that living things can be grouped in a variety of ways.

To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.

To recognise that environments can change and that this can sometimes pose dangers to living things.

### Animals, including humans

To describe the similar functions of the basic parts of the digestive system in humans.

To identify the different types of teeth in humans and their simple functions.

To construct and interpret a variety of food chains, identifying producers, predators and prey.

## States of matter

To compare and group materials together, according to whether they are a solid, liquids or gas.

To observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees or Celsius.

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

## **Year 5**

### Working scientifically

To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary.

To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.

To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

To use test results to make predictions to set up further comparative and fair tests.

To report and present findings from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

To identify scientific evidence that has been used to support or refuse ideas or arguments.

### Forces

To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.

To identify the effect of air resistance, water resistance and friction that act between moving surfaces.

To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

### Living things and their habitats

To describe the differences in life cycles of a mammal, an amphibian, an insect and a bird.

To describe the life process of reproduction in some plants and animals.

### Properties and changes of materials

To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity and response to magnets.

To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.



To use knowledge of solids, liquids and gases, to describe how mixtures might be separated, including through filtering, sieving and evaporating.

To give reasons based on evidence

### Earth and Space

To describe the movement of the Earth, and other planets, relative to the sun in the solar system.

To describe the movement of the moon relative to the Earth.

To describe the Sun, Earth and Moon as approximately spherical bodies.

To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

### Animals including humans

To describe the changes as humans develop to old age.

## Year 6

### Working scientifically

To plan different types of scientific enquires to answer questions, including recognising and controlling variables where necessary.

To take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate.

To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

To use test results to make predictions to set up further comparative and fair tests.

To report and present findings from enquires, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

To identify scientific evidence that has been used to support or refuse ideas or arguments.

### Living things and their habitats.

To describe how living things are classified into broad groups according to common observations characteristics and based on similarities and differences, including micro-organisms plants and animals.

To give reasons for classifying plants and animals based on specific characteristics.

### Animals, including humans

To identify and name the main parts of the human circulatory system, and describe the function of the heart, blood vessels and blood.

To describe the ways in which nutrients and water are transported within animals including humans.

## Electricity

To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.

To compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.

To use recognised symbols when representing a simple circuit in a diagram.

## Evolution and inheritance

To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

To recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.

To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

## Light

To recognise that light appears to travel in straight lines.

To 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.

To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.

To use the idea that light travels in straight lines to explain why shadows have the same shapes as the objects that cast them.

## Assessment in Science

### Foundation stage

A variety of different observations are made and recorded in line with the above statements. They range from conversations between pupils, conversations between practitioner and pupil, photographs, videos, pictures, drawings and simple observations.

From these observations a teacher assessment is made to work out where the pupil is correctly working at.

### Year 1-Year 6

Termly teacher assessments are recorded for each child. Evidence of a pupil achieving each learning objective will be in their Science workbook.

Once each topic has been taught, each child will take a short test, testing them on all objectives taught in this particular topic. This test is accessible for SEND/ Disadvantaged pupils due to the pictures and limited amount of writing. Teachers will read this test to those who need it read to them.

During each assessment week, pupils will take a science assessment test based on the topics they have already been taught. These tests will produce a RAW score and a scaled score and can be used by teachers to inform their teach assessments.

These tests will help teachers make their teacher assessments and will identify pupils who need targeting in future science lessons.

Assessment and recording are paramount to ensuring that progress is made throughout the phases, that curriculum areas are covered and scientific concepts are built upon.

This is carried out through:

- Analysis of learning walks, carried out by subject coordinator.
- Book trawls, carried out by subject coordinator and SLT.
- End of topic assessments.
- Pupil discussions.
- On track reports.

Subject leader completes a subjective development plan. The aim of this is to ensure that any changes are quickly implemented and the impact is assessed.

## **Social and Cultural Development:**

The teaching of Science at Villiers Primary School offers opportunities to support the social development of our children through the way we expect them to work with each other in lessons. Groupings allow children to work together and give them the chance to discuss their ideas and carry out investigations. Their work in general enables them to develop a respect for other children's levels of ability, and encourages them to co-operate across a range of activities and experiences. Children learn to respect and work with each other, and develop a better understanding of themselves and of each other.

### **Special Education Needs (SEND and Gifted and Talented):**

All Science lessons at Villiers are tailored to the needs of the children in the class. The teachers model activities as well as providing different levels of difficulty to support the lower ability children as well as extend the more able. SEND pupils are just given access to the science curriculum using scaffolding depending on their barriers to learning. Pictures, simple recording, drawings, drawings with labels are simple ways to scaffold for the less able children. Children are encouraged to push their own abilities and to feel the thrill of success.

### **Additional Opportunities in Science**

At Villiers Primary School, we aim to provide a variety of scientific opportunities. The school provides a range of activities for children during science lessons and at the end of the school day. These encourage children to further develop their skills and encourage children to strive to achieve. These science extra-curricular clubs run throughout the year, of which Pupil Premium children are given priority. In addition, the school takes part in National Science Week, to help raise aspiration and to highlight to the children the potential career opportunities that are available through a good understanding of science.

### **Outside area/ local area**

High quality lessons are planned using our outside area and local area. Teachers will plan at least 1 lesson every term where pupils are presented with a question and will try to find the answers to these questions in our outdoor area. Examples of places that pupils can visit are the outside classroom, forest school, field and local forest.