

Science Knowledge Progression Framework

Disciplinary Knowledge

	F2	Year 1	Year 2	Year 3
Asking and Answering Questions	<ul style="list-style-type: none"> Ask questions to find out more. 	<ul style="list-style-type: none"> Use everyday language and begin to use simple scientific vocabulary to ask or answer a scientific question. 	<ul style="list-style-type: none"> Suggest ideas Ask simple questions and know that they can be answered/investigated in different ways including through secondary sources (books, video clips). 	<ul style="list-style-type: none"> Use ideas to pose independent questions about the world around us.
Making Predictions	<ul style="list-style-type: none"> Form my own ideas. 	<ul style="list-style-type: none"> Begin to say what might happen in an investigation. 	<ul style="list-style-type: none"> Make sensible predictions. 	<ul style="list-style-type: none"> Make predictions and begin to give a reason for them.
Observing	<ul style="list-style-type: none"> Notice similarities and differences. Use my 5 senses. 	<ul style="list-style-type: none"> Observe objects, materials and living things. Describe what can be seen. 	<ul style="list-style-type: none"> Observe closely. Describe changes over time 	<ul style="list-style-type: none"> Make decisions about what to observe during investigations.

Using equipment and measurements	<ul style="list-style-type: none"> • Use materials and tools safely and confidently. 	<ul style="list-style-type: none"> • Use simple, non-standard equipment and measurements in practical tasks. 	<ul style="list-style-type: none"> • Use simple equipment (eg: hand lenses/egg timers) to take measurements, make observations and carry out simple tests. 	<ul style="list-style-type: none"> • Take accurate measurements using standard units.
Identifying and Classifying	<ul style="list-style-type: none"> • Talk about plants, animals, seasons and changing materials. 	<ul style="list-style-type: none"> • Sort and group objects, materials and living things, with support, according to simple observable features. 	<ul style="list-style-type: none"> • Decide, with support, how to group objects, materials and living things, noticing changes over time and beginning to see patterns. 	<ul style="list-style-type: none"> • Explain criteria for groupings. • Spot patterns and relationships.
Engaging in Practical Enquiry (Investigating)	<ul style="list-style-type: none"> • Explore the natural world. • Solve real life problems. 	<ul style="list-style-type: none"> • Follow instructions to complete simple tests both individually and as part of group. 	<ul style="list-style-type: none"> • Perform the steps of simple tests in the correct order. • Begin to recognise when something is unfair. 	<ul style="list-style-type: none"> • Discuss enquiry methods. • Describe what it means to conduct a 'fair test'.

Recording and Reporting Findings	<ul style="list-style-type: none"> • Create simple representations of people and objects. 	<ul style="list-style-type: none"> • Begin to record simple data. • Discuss their findings and explain what they have found out. 	<ul style="list-style-type: none"> • Gather data. • Record and discuss findings in a range of ways, using simple scientific vocabulary. 	<ul style="list-style-type: none"> • Record finding using scientific language and present in note form, writing frames, diagrams, tables and charts.
Drawing Conclusions	<ul style="list-style-type: none"> • Learn and use new scientific words. 	<ul style="list-style-type: none"> • Explain what they think they have found out. 	<ul style="list-style-type: none"> • Use simple scientific language to explain what they have found out. 	<ul style="list-style-type: none"> • Draw a simple conclusion based on evidence from an enquiry or observation.
Analysing Data	<ul style="list-style-type: none"> • Offer explanations about why things might happen. 	<ul style="list-style-type: none"> • Use everyday or simple scientific language to ask and answer questions about given data. 	<ul style="list-style-type: none"> • Identify simple patterns and relationships using simple comparative language. 	<ul style="list-style-type: none"> • Gather, record and use data in a variety of ways to answer simple questions.

Substantive Knowledge

	Year 1	Year 2
Plants	<ul style="list-style-type: none"> • Know the names of, and identify, a variety of common wild and garden plants, including deciduous and evergreen trees. • Know the basic structure of a variety of common flowering plants, including trees. 	<ul style="list-style-type: none"> • Know the names of, and identify, a variety of plants and animals in their habitats, including microhabitats. • Know how seeds and bulbs grow into mature plants. • Know that plants need water, light and a suitable temperature to grow and stay healthy.
Animals (including humans)	<ul style="list-style-type: none"> • Know, identify and compare the structure of a variety of common animals including: <ul style="list-style-type: none"> ○ fish ○ amphibians ○ reptiles ○ birds ○ mammals • Know that a carnivore eats meat. • Know that a herbivore eats plants. • Know that an omnivore eats meat and plants. • Know the names of, and identify, the basic parts of the human body. • Know which part of the body is associated with each sense. 	<ul style="list-style-type: none"> • Know that animals, including humans, have offspring which grow into adults. • Know that animals need water, food and air for survival. • Know the importance of the following for human survival. <ul style="list-style-type: none"> ○ exercise ○ eating the right amounts of different types of food ○ good personal hygiene
Living things and their habitats		<ul style="list-style-type: none"> • Know the difference between things that are living, dead and things that have never been alive. • Know that most living things live in habitats to which they are suited. • Know how different habitats provide for the basic needs of different kinds of animals and plants. • Know how plants and animals depend on each other. • Know that animals obtain their food from plants and other animals. • Know how to construct simple food chains and identify and name different sources of food.
Everyday materials and their uses	<ul style="list-style-type: none"> • Know the names of, and identify, a variety of everyday materials, including: <ul style="list-style-type: none"> ○ wood ○ plastic 	<ul style="list-style-type: none"> • Identify and compare the suitability of a variety of everyday materials for particular uses , including: <ul style="list-style-type: none"> ○ wood ○ metal

	<ul style="list-style-type: none"> ○ metal ○ glass ○ brick/rock ○ paper/cardboard ● Know the difference between an object and the material from which it is made. ● Know 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. 	<ul style="list-style-type: none"> ○ Plastic ○ glass ○ brick/rock ○ paper/cardboard ● Know that the shapes of solid objects made from some materials can be changed by: <ul style="list-style-type: none"> ○ squashing ○ bending ○ twisting ○ stretching
Seasonal Changes	<ul style="list-style-type: none"> ● Know the names of the 4 seasons. ● Observe changes across the 4 seasons. ● Observe and describe weather associated with the seasons and how day length varies 	

Key Vocabulary

F2

Working Scientifically

different - not alike

feel/touch - act of touching something to examine it

group - a collection of things related in some way

listen/hear - to give attention with the ear for the purpose of hearing

observe - to notice or watch

question - a sentence asked to find out information

record - to note or put in writing

same - unchanged

smell - the odour or scent of something through the nose

sort - to arrange according to a property

watch/see - to look at or observe closely

Year 1

In addition to F2...

Working Scientifically

Changes - when things become different

Chart - a graph or table to record information

Classifying - to describe items according to its properties

comparative test - test and compare different materials or objects

compare - to consider the similarities and differences between

contrast - to compare objects to notice their differences

data - a set of facts or measurements

describe - to give a detailed account in words

equipment - a set of tools used for a specific purpose

experience - all the things you see, do, and learn in your life that help you to understand

explore - to look into closely or examine

identify - to recognise or name

investigate - to find the answer to a question using various methods

measure - a collection of numerical data that describes a property of an object or event.

patterns - something that happens or appears in a regular and repeated way

record - to write or document your ideas so there is evidence of it

test - an observation or experiment that could provide evidence

Plants	Animals, including humans	Everyday Materials	Seasonal Changes
bark berry blossom branch bud flower fruit leaf petal root seed stalk stem trunk Names of trees in the local area Names of garden and wild flowering plants in the local area	amphibian beak bird claw ears eyes feathers fin fish fur head hooves insect leg mammal mouth paws reptile scales tail teeth wing Names of animals experienced first-hand from each vertebrate group	absorbent bendy breaks brick card/cardboard clay dull elastic fabric floppy foil glass hard material metal object paper plastic rock rough rubber shiny smooth soft stiff stretchy tears water waterproof wood	day length rainy snowy sun sunrise sunset sunny windy

wool

Year 2

In addition to F2 and Y1...

Plants

Cool
grow
healthy
light
minerals
shade
sun
warm
water

Animals, including humans

adult
balanced diet
breathing
carbohydrates
child
dairy
disease
exercise
fats/sugars
food groups
fruits/vegetables
germs
growth
heartbeat
hygiene
offspring
protein
reproduction
vitamins
young/old

Living things and their habitats

basic needs
dead
feed
food
food chains
living
move
never been alive
shelter
suitable
suited
Names of local habitats e.g. pond,
woodland etc.
Names of micro-habitats e.g. under
logs, in bushes etc.

Everyday materials

bend/bending
flexible
non-reflective
opaque
pull/pulling
push/pushing
reflective
rigid
shape
squash/squashing
stretch/stretching
translucent
transparent
twist/twisting
waterproof