



# Kexborough Primary School : Curriculum Planning

## Science : Year 3

The principal focus of science teaching in Lower Key Stage 2 is to enable pupils to **broaden** their **scientific view** of the world around them. They should do this through **exploring, talking about, testing** and **developing ideas** about everyday phenomena and the relationships between living things and familiar environments, and by **beginning to develop** their ideas about **functions, relationships** and **interactions**. They should **ask their own questions** about what they **observe** and **make some decisions** about which **types of scientific enquiry** are likely to be the best ways of answering them, including **observing changes over time, noticing patterns, grouping** and **classifying** things, **carrying out simple comparative** and **fair tests** and finding things out using **secondary sources of information**. They should **draw simple conclusions** and use **some scientific language**, first, to talk about and, later, to write about what they have found out. **'Working scientifically' is described separately at the beginning of the programme of study, but must always be taught through and clearly related to substantive science content in the programme of study.** Throughout the notes and guidance, examples show how scientific methods and skills might be linked to specific elements of the content. Pupils should **read and spell scientific vocabulary** correctly and with confidence, using their growing word reading and spelling knowledge.

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- 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.

### SCIENTIFIC SKILLS

Planning, Communication and Sources	Enquiring and Testing / Obtaining and Presenting Evidence	Observing and Recording	Considering Evidence and Evaluating
1. Use pictures, writing, diagrams and tables as directed by their teacher 2. Use simple texts, directed by the teacher, to find information 3. Record their observations in written, pictorial and diagrammatic forms 4. Select the appropriate format to record their observations	5. Use pictures, writing, diagrams and tables as directed by their teacher 6. Use simple texts, directed by the teacher, to find information 7. Record their observations in written, pictorial and diagrammatic forms 8. Select the appropriate format to record their observations	9. Make relevant observations 10. measure using given equipment 11. Select equipment from a limited range	12. Begin to offer explanations for what they see and communicate in a scientific way what they have found out 13. Begin to identify patterns in recorded measurements 14. Suggest improvements in their work 15. Evaluate their findings

**SCIENTIFIC KNOWLEDGE— PLANTS**

National Curriculum—Statutory PoS Substantive Knowledge	Language / Vocabulary Substantive Knowledge	Experiences	Cross curricular / Inter Disciplinary
<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>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</p> <p>Investigate the way in which water is transported within plants</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation</p>	<p><b>STRUCTURE:</b> flowering plants, roots, stem / trunk, flowers</p> <p><b>FUNCTION :</b> nutrition, support, reproductions, makes own food</p> <p><b>REQUIREMENTS :</b> life, growth, air, light, water, nutrients from soil, room to grow, fertiliser</p> <p><b>LIFE CYCLE:</b> flowers, pollination, seed formation, seed dispersal</p>		

**SCIENTIFIC KNOWLEDGE— FORCES AND MAGNETS**

National Curriculum—Statutory PoS Substantive Knowledge	Language / Vocabulary Substantive Knowledge	Experiences	Cross curricular / Inter Disciplinary
<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between 2 objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>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</p> <p>Describe magnets as having 2 poles</p> <p>Predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>	<p>Force, push, pull, surface, magnet, magnetic, attract, repel, magnetic poles, north, south</p>		

**SCIENTIFIC KNOWLEDGE— ROCKS**

National Curriculum—Statutory PoS Substantive Knowledge	Language / Vocabulary Substantive Knowledge	Experiences	Cross curricular / Inter Disciplinary
<p>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</p> <p>Recognise that soils are made from rocks and organic</p>	<p>appearance, physical, properties, hard / soft, shiny / dull, rough / smooth, absorbent / not absorbent, fossils, sedimentary, rocks, soil, organic matter, grains, crystals</p>		

**SCIENTIFIC KNOWLEDGE— LIGHT**

National Curriculum—Statutory PoS Substantive Knowledge	Language / Vocabulary Substantive Knowledge	Experiences	Cross curricular / Inter Disciplinary
<p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the size of shadows change</p>	<p>Light, see, dark, reflect, surface, Natural, star, sun, moon, shadow, blocked, solid Artificial, torch, lamp, candle Sunlight, dangerous, protect(ion)</p>		

**SCIENTIFIC KNOWLEDGE— ANIMALS INCLUDING HUMANS**

National Curriculum—Statutory PoS Substantive Knowledge	Language / Vocabulary Substantive Knowledge	Experiences	Cross curricular / Inter Disciplinary
<p>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</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p>	<p>Nutrition, nutrients, carbohydrates, proteins, fats, fibre, water, vitamins, minerals Skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic, vertebrate, invertebrate, Muscles, contract, relax Ball joint, socket joint, hinge joint, gliding joint</p>		