

# Science: Year Three

## Essential Skills and Knowledge

- I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- I can 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
- I can investigate the way in which water is transported within plants
- I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal
- I can 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
- I can identify that humans and some other animals have skeletons and muscles for support, protection and movement
- I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- I can describe in simple terms how fossils are formed when things that have lived are trapped within rock
- I can recognise that soils are made from rocks and organic matter
- I can recognise that they need light in order to see things and that dark is the absence of light
- I can notice that light is reflected from surfaces
- I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- I can recognise that shadows are formed when the light from a light source is blocked by a solid object
- I can find patterns in the way that the size of shadows change
- I can compare how things move on different surfaces
- I can notice that some forces need contact between 2 objects, but magnetic forces can act at a distance
- I can observe how magnets attract or repel each other and attract some materials and not others
- I can 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
- I can describe magnets as having 2 poles
- I can predict whether 2 magnets will attract or repel each other, depending on which poles are facing

| Communication Skills   | Working together Collaborative Skills   | Problem solving  |
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| <ul style="list-style-type: none"> <li>• I can ask relevant questions and use different types of scientific enquiries to answer them</li> <li>• gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</li> <li>• I can report on findings from enquiries,</li> </ul> | <ul style="list-style-type: none"> <li>• I work with a small group to carry out an experiment and ensure that the principles of fair testing are in place</li> <li>• I can direct the work of others during an investigation</li> <li>• I can persuade others to have a go at my idea,</li> </ul> | <ul style="list-style-type: none"> <li>• I can set up simple practical enquiries, comparative and fair tests</li> <li>• I can identify differences, similarities or changes related to simple scientific ideas and processes</li> <li>• I have my own ideas about how to find the</li> </ul> |

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| <p>including oral and written explanations, displays or presentations of results and conclusions</p> <ul style="list-style-type: none"> <li>• I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</li> <li>• I can use straightforward scientific evidence to answer questions or to support my findings.</li> </ul>   | <p>even though they may not readily agree with the idea in the first place</p>  | <p>answer to a question</p> <ul style="list-style-type: none"> <li>• I can carry out a fair test with some help</li> <li>• I think of the equipment I will need to carry out an investigation</li> <li>• I can carry out tests on rocks in order to identify them</li> <li>• I can use keys to classify rocks and soils</li> <li>• I can identify different types of rocks by doing a variety of tests on them</li> <li>• I can set up an investigation to test the strength of different types of magnets</li> </ul> |
| <h3 style="text-align: center;">Application of number</h3>   |   | <h3 style="text-align: center;">Information Technology</h3>   |
| <ul style="list-style-type: none"> <li>• I can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</li> <li>• I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</li> <li>• I make careful observations and measure:</li> <li>• Length, Mass, Capacity using standard measures</li> <li>• I can identify and group animals with and without skeletons and observe and compare their movement</li> <li>• I can record my results in tables, charts, graphs and pictograms</li> <li>• I look for patterns in my recorded measurements and try to explain them</li> <li>• I can interpret data about the factors that affect plant growth</li> <li>• I can read the intervals on different types of newton meters when investigating forces</li> <li>• I can measure shadow length and look for patterns to explain what happens to shadows when a light source moves</li> </ul> | <ul style="list-style-type: none"> <li>• I use a spreadsheet to collect data and use this to draw charts or graphs</li> <li>• I use the computer to play science games in which I use my knowledge and understanding to find out answers</li> <li>• I can use various sources to research</li> <li>• I can use digital media to record changes</li> <li>• I can read and interpret data presented electronically</li> <li>• I can read and interpret data presented electronically</li> <li>• I can use a branching database from a software package</li> <li>• I can use a key to identify living things from a software package</li> <li>• I can use sensing equipment to make observations and readings of temperature</li> <li>• I use ICT to explain my hypothesis, my methods and my results</li> <li>• I know that a database can be searched by field</li> <li>• I can use a data logger to collect data</li> </ul> |   |

