

**WITHINFIELDS PRIMARY SCHOOL**  
**SCIENCE CURRICULUM – LOWER KS2**

Throughout Science teaching in Year 3/4 teachers will provide opportunities for children to:

- Raise their own relevant questions about the world around them.
- Be given a range of scientific experiences including different types of science enquiries to answer questions
- Start to make their own decisions about the most appropriate type of scientific enquiry they might use to answer questions
- Set up simple practical enquiries, comparative and fair tests
- Recognise when a simple fair test is necessary and help to decide how to set it up
- Talk about criteria for grouping, sorting and classifying; and use simple keys
- Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations
- Make systematic and careful observations
- Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used
- Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them
- Take accurate measurements using standard units learn how to use a range of (new) equipment, such as data loggers / thermometers appropriately
- Collect and record data from their own observations and measurements in a variety of ways: notes, bar charts and tables, standard units, drawings, labelled diagrams, keys and help to make decisions about how to analyse this data
- Start to look for changes, patterns, similarities and differences in their data in order to draw simple conclusions and answer questions
- Use relevant simple scientific language to discuss their ideas and communicate their findings in ways that are appropriate for different audiences, including oral and written explanations, displays or presentations of results and conclusions
- Start to identify new questions arising from the data, making predictions for new values within or beyond the data they have collected and finding ways of improving what they have already done.

	Year 3	Year 4
Chemistry	<u>Rocks</u> Compare and group rocks based on their appearance and physical properties, giving reasons Know how soil is made and how fossils are formed Know about and explain the difference between sedimentary, metamorphic and igneous rock	<u>States of Matter</u> Know the temperature at which materials change state Know about and explore how some materials can change states Know the part played by evaporation and condensation in the water cycle Know that the temperature affects the rate of evaporation

Biology	<p><u>Animals, including humans</u>          Know about the importance of a nutritious, balanced diet          Know how nutrients, water and oxygen are transported within animals and humans          Know that humans and some animals have skeletons and muscles for support, protection and movement</p> <p><u>Plants</u>          Know the function of different parts of flowering plants and trees e.g. root, stem, trunk, leaves and flowers          Know how water is transported within plants          Know the plant life cycle, especially the importance of flowers including pollination, seed formation and seed dispersal          Know the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow)</p>	<p><u>Animals, including humans</u>          Identify and name the parts of the human digestive system          Know the functions of the organs in the human digestive system          Identify and know the different types of human teeth          Know the functions of different human teeth          Use and construct food chains to identify producers, predators and prey</p> <p><u>Living things and their habitats</u>          Know that living things can be grouped in a variety of ways          Use classification keys to group, identify and name living things          Know how changes to an environment could endanger living things</p>
Physics	<p><u>Forces and Magnets</u>          Know about and describe how objects move on different surfaces          Know how some forces require contact and some do not, giving examples          Know about and explain how magnets attract and repel and attract some materials and not others          Be able to predict whether magnets will attract or repel and give a reason</p> <p><u>Light</u>          Know that dark is the absence of light          Know that light is needed in order to see and is reflected from a surface          Know and demonstrate how a shadow is formed and explain how a shadow changes shape          Know about the danger of direct sunlight and describe how to keep eyes protected</p>	<p><u>Sound</u>          Know how sound is made, associating some of them with vibrating          Know how sound travels from a source to our ears          Know the correlation between pitch and the object producing a sound          Know the correlation between the volume of a sound and the strength of the vibrations that produced it          Know what happens to a sound as it travels away from its source</p> <p><u>Electricity</u>          Identify and name appliances that require electricity to function          Construct a series circuit and know the name of the components in a series circuit (including cells, wires, bulbs, switches and buzzers)          Predict and test whether a lamp will light within a circuit          Know the function of a switch          Know the difference between a conductor and insulator and be able to give an example of each.</p>