**Assessment Wheel – Science**

**Year 3 Cogs**

Working Scientifically – Ideas and Evidence

Working Scientifically - Planning

Working Scientifically – Obtaining and Presenting Evidence

Working Scientifically – Considering Evidence and Evaluating

The opportunities for working scientifically should be provided across Years 3 and 4 so that the expectations of the programme of study can be met by the end of Year 4. Pupils are not expected to cover each aspect for every area of study.

Plants

Animals, including humans

Rocks

Light

Forces and Magnets

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| **YEAR 3** |  |  |  |  |  |  |
| **Working****Scientifically****Ideas and evidence** | I can ask simple questions and recognising that they can be answered in different ways. | I can ask relevant questions and using different types of scientific enquiries to answer them. | I can use simple models to describe scientific ideas..  |  |  |  |
| **W S****Planning** **Experimental** **Work** | I can identify and classify. I can perform simple tests using simple equipment, observing closely. | I can set up simple practical enquiries, comparative and fair tests making accurate and careful observations.  | I can take accurate measurements using standard unit.  | I can use a range of equipment, for example thermometers and data loggers. |  |  |
| **W S****Obtaining and** **Presenting** **Evidence** | I can gather and record data to help in answering questions. | I can gather, record, classify and present data in a variety of ways to help in answering questions. | I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables |  |  |  |
| **W S Considering** **Evidence and** **Evaluating** | I can use my observations and ideas to suggest answers to questions | I can use results to draw simple conclusions and suggest improvements | I can suggest new questions and predictions for new values in my results. I can identify differences, similarities or changes using my knowledge of scientific ideas and processes. . | I can use straightforward scientific evidence to answer questions or to support their findings |  |  |
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| Plants | I recognise that plants need light, warmth and water to grow and that plants need healthy leaves, roots and stems to grow well. | I know that different plants need different conditions to grow well. | I can explain why plants need healthy roots and stems by investigating how water is transported in a plant. | I can name the parts of a flower and the part these play in the life cycle of the plant. | I can explain how pollen and seeds are dispersed and how seeds develop. | I know that plants make their own food but need nutrients from the soil, air, water and sunlight to do so. |
| Animals, including humans | I can describe a healthy and varied diet. | I know that humans and some other animals have a skeleton and can describe the main functions of my skeleton. | I can name some of the bones in my skeleton and compare these with the skeletons of other animals. | I know that I use my muscles and skeleton to move. I know that when one muscle contracts another relaxes and can use a model to show how this happens. | I can research different food groups and how they keep us healthy. I can use my research to design menus for different people. |  |
| Rocks | I know that rocks are found under the ground we walk on and can name some common rocks. | By observing and testing different rocks, I can group them by their properties and appearance. I know that the different properties of rocks make them suitable for different purposes. | I can group rocks according to the way they were formed, using the vocabulary, igneous, sedimentary and metamorphic. | I can explain how fossils are formed, and can research more about the living things whose fossils have been found. | I can identify similarities and differences between different types of soil. | I know that soils are formed partly from rock, partly from other matter that was once alive.  |
| Light | I know that I cannot see in the dark. Dark is the absence of light and we need light to see. I can explain why it is dangerous to look at the sun and can tell you what to do to protect your eyes. | I can explain that I cannot see shiny objects in the dark because they are not light sources. I know that to see something light must reflect off it. | I know that shadows are similar in shape to the objects forming them and that the shadows caused by the sun change over the course of the day. | I can explain that shadows are formed when light is blocked. I can investigate how the size of shadows change depending on the position of the object blocking the light. | I can explain why there are changes in shadows caused by the sun over the course of a day and can predict changes by observing patterns. | I can explain that even transparent objects block some light and form shadows. |
| Forces and Magnets | I can describe how to use pushes and pulls to make things speed up, slow down, stop or change direction or shape. I know that pushes and pulls are forces. | I know that for push and pull forces to have an affect there must be contact but magnetic forces act from a distance.  | I can investigate with magnets, looking at materials that are attracted to a magnet. I can classify materials as magnetic or non-magnetic. | I can investigate different types of magnet and devise an investigation to find out which magnet is the strongest. | I can describe some uses for magnets and suggest other creative ways to use magnets in everyday life. | I can describe magnets as having two poles and observe what happens when the similar or opposite poles are placed next to each other. |

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