**Assessment Wheel – Science**

**Year 4 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.

All living things

Animals, including humans

States of Matter

Sound

Electricity

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| **YEAR 4** |  |  |  |  |  |  |
| **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..  | I can use test results to make predictions to set up further comparative and fair tests |  |  |
| **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 | I can take measurements, using a range of scientific equipment, with increasing accuracy and precision.  |  |  |
| **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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| **All living things** | I can observe my local environment over the course of a year, identifying and naming some organisms that live there. | I recognise that living things can be grouped in a number of ways and this leads on to developing keys that help us to identify living things. | I can used classification keys to identify a wide variety of living things in my local and wider environment.  | I am able to group a wide selection of different animals into groups according to their characteristics.  | I can use the terms, vertebrate, invertebrate, fish, amphibian, bird, mammal, reptile, flowering and non- flowering, when grouping living things. | I know that environments change over time and that these changes can be a threat to living things if they cannot adapt and survive. |
| **Animals including Humans** | I can identify the different types of teeth I have and explain what their functions are.  | I can research and investigate what causes damage to my teeth, how to care for them correctly. | I can compare and contrast the teeth of carnivores, herbivores and omnivores and suggest why they are different, linking the types of teeth to the diet of a variety of animals. | I can use my knowledge of what animals eat to develop food chains showing the feeding relationships within a variety of habitats. | I know the main body parts involved with eating and digestion. I can identify, mouth, teeth, tongue, oesophagus, stomach, small and large intestine.  | I know the functions of the digestive system. |
| **States of Matter** | I can name some solids, liquids and gases. | I know that a solid keeps its shape, a liquid takes the shape of its container or forms a pool and that gases flow from place to place. I can group materials according to these properties, | I know that some materials change from solids to liquids to gases when they are heated, and from gases to liquids to solids when they are cooled.  | I can name and describe examples of the main processes associated with water changing state. I know that these processes can be reversed. | I can investigate and explain the water cycle by observing evaporation, condensation, freezing and melting.  | I can research and record the temperature at which different materials melt or evaporate. |
| **Sound** | I know that sounds are made when objects vibrate. | I know that sounds can travel though solids, liquids and gases, and can suggest ways of investigating how well sound travels through different materials. | I can suggest ways of changing the pitch and loudness of a sound made by a musical instrument. | I can describe how to raise or lower the pitch of a musical instrument or object. | When investigating sound I can identify patterns. | I recognise that sounds get fainter as the distance from the source increases. I can research and investigate the Doppler effect. |
| **Electricity** | I can identify common appliances which use electricity. I can describe the dangers associated with mains electricity. | I can construct and make a simple circuit. I can record my circuit as a drawing | I can predict if a bulb will light or not in a simple circuit, explaining why some circuits work and others do not. | I can construct a simple circuit to test whether materials are electrical conductors or insulators and how switches work. | I know why metals and non-metals are used in different ways in electrical appliances.  | I can systematically investigate the effect of changing components in a circuit on the brightness of a bulb. |

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