# Working Scientifically Progression

| Asking questions | |
|---|---|
| Children will be able to: | |
| **Key Stage 1** | **Lower Key Stage 2** |
| • use a range of given question stems, such as: what; what if; why; when; who; and how; to ask questions about the objects, living things and processes they are exploring<br>• construct a question based on a scenario or story the teacher has presented. | • ask scientific enquiry questions with support<br>• following a scientific enquiry, ask questions stimulated by what they have just found out |

| Planning an Enquiry | |
|---|---|
| Children will be able to: | |
| **Key Stage 1** | **Lower Key Stage 2** |
| | • identify the data required to answer the scientific enquiry question<br>• select appropriate practical equipment to gather the data<br>• identify how to gather the data required to answer the scientific enquiry question<br>• suggest the type of scientific enquiry they are using. |

| Making Predictions | |
|---|---|
| Children will be able to: | |
| Key Stage 1 | Lower Key Stage 2 |
| | • use the data they have already gathered to suggest values for |

| Gathering Data | |
|---|---|
| Children will be able to: | |
| Key Stage 1 | Lower Key Stage 2 |
| • talk about their observations of objects, materials and living things<br>• talk about their observations when comparing objects, materials and living things<br>• talk about their observations when describing changes • when using a magnifying glass, adjust the position of the magnifying glass in order to see the enlarged image clearly<br>• when using a digital microscope, relate features on the enlarged view to the object<br>• make direct comparisons of length and height • use bricks, lolly sticks etc. or paper strips to take non-standard measurements of length<br>• use simple measuring equipment, such as teaspoons, pipettes, rulers, metre sticks etc. | • make systematic and careful observations<br>• measure time in standard units using stopwatches or timers<br>• measure length in standard units using rulers, meter sticks, tape measures or trundle wheels<br>• measure temperature in standard units using thermometers<br>• measure capacity in standard units using syringes, beakers or measuring cylinders<br>• use sensors to take measurements (e.g. light, sound, temperature) |

| Recording Data | |
|---|---|
| Children will be able to: | |
| **Key Stage 1** | **Lower Key Stage 2** |
| • use a camera to take photographs or videos to record their observations<br>• record their observations using drawings<br>• record their observations using labelled drawings<br>• record their observations or comparisons in writing<br>• physically group objects, materials and living things or their images by a criterion<br>• physically group objects or materials according to the data they gather (classifying)<br>• use data they gather to physically rank objects or materials (comparative testing)<br>• add their data to a prepared table or simple Venn diagram<br>• add pictures to a pictogram<br>• add tally marks to a tally chart and count up the total number<br>• make a physical block graph or bar chart by using bricks, lolly sticks etc. or paper strips with which they measured lengths or heights. | • record data in a simple table they construct themselves<br>• record data onto a complex table provided for them<br>• record their measurements directly onto a bar chart with the axes and scales provided<br>• record observations and information using a drawing, a labelled diagram and, in Year 4 only, a key. |

| Presenting Data | |
|---|---|
| Children will be able to: | |
| Key Stage 1 | Lower Key Stage 2 |
| | • present, with support, the recorded data in a different way in order to help answer the question. |

| Drawing Conclusions | |
|---|---|
| Children will be able to: | |
| Key Stage 1 | Lower Key Stage 2 |
| • use their observations and simple secondary sources (e.g. identification sheets) to name living things they find in the local area<br>• recognise 'biggest and smallest', 'best and worst' etc. from their data<br>• give an answer to their scientific enquiry question that is consistent with the data they have gathered either through observations, measurements or from research<br>• recognise that they can answer scientific enquiry questions in different ways. | • communicate their findings from practical activities<br>• answer the scientific enquiry question using the data gathered. |

| Evaluating an Enquiry | |
|---|---|
| Children will be able to: | |
| Key Stage 1 | Lower Key Stage 2 |
| | • • identify ways in which they adapted their method as they progressed or how they could change it to improve the data gathered<br>• compare two methods for a test. |