

Working Scientifically Progression of Skills – KS1

Scientific skills should be taught, reviewed or developed explicitly before being used and applied across a range of curriculum contexts

| Disciplinary Knowledge | Key question (s): | EYFS | Year 1: | Year 2: |
|--|--|---|---|---|
| WS: Observing closely, using simple equipment | <p>What do you notice?</p> <p>How can we be a good observer in science?</p> | <p>Children describe what they see, hear, feel, taste</p> <p>Children make simple observations of animals and plants</p> <p>Selects and uses simple equipment Hand magnifying glasses I-pads – camera and video</p> <p>Select and use technology for specific purposes.</p> | <p>Use all 5 senses as appropriate to carefully notice and observe. Think about: -shape -size -colour</p> <p>Using simple equipment Hand magnifying glasses I-pads – camera and video Egg timers Digital timers</p> | <p>Use all 5 senses as appropriate to carefully notice and observe. Think about: -shape -size -colour -texture -structure -weight</p> <p>Using simple equipment Hand magnifying glasses I-pads – camera and video Egg timers Digital timers Metre sticks Tape measures</p> |
| WS: Asking simple questions and recognising that they can be answered | <p>What would you like to find out about...?</p> <p>How could we find the answer to this question?</p> <p>Does it matter if we try x or y?</p> | <p>Pose simple questions – Why, How, Where, Do?</p> <p>-Pattern spotting -Identifying and classifying -Observations over time (e.g tree diary)</p> | <p>Pose simple questions – Why, How, Where, Do?</p> <p>-Pattern spotting -Identifying and classifying -Observations over time (e.g tree diary)</p> | <p>Pose simple questions – Why, How, Where, Do?</p> <p>-Pattern spotting -Identifying and classifying observations over time -Research</p> |

| | | | | |
|--|---|---|--|--|
| <p>in different ways</p> | | <ul style="list-style-type: none"> - Whole class or group research - Whole class simple tests | <ul style="list-style-type: none"> -Research & presenting (drama of a life cycle of a frog) -Simple tests – whole class or individually | <ul style="list-style-type: none"> -Simple tests - Comparative tests |
| <p>WS: Using their observations and ideas to suggest answers to questions.</p> | <p>Can you explain your thinking based on what you already know about...? What conclusion/answer have you come up with? How did you come to this?</p> | <p>Explain why some things occur and talk about changes.</p> <p>Children use and draw from pre-existing knowledge about the world/an idea/experience to begin to make connections</p> | <p>Children use and draw from pre-existing knowledge about the world/an idea/experience to make connections and justify their thinking <i>When we looked at x I saw y so I think... because</i></p> | <p>Children use and draw from pre-existing knowledge about the world/an idea/experience to make connections and justify their thinking <i>When we looked at x I saw y so I think... because</i></p> <p>Suggesting ways to find answers – we could try looking on the computer/doing a test etc.</p> |
| <p>WS: Identifying and classifying</p> | <p>What is this animal/plant/material/object? What features does it have that tell you that it belongs to this group?</p> | <p>Name and describe an animal/plant/material/object using some key scientific terms and ideas as appropriate</p> <ul style="list-style-type: none"> -Sorting hoops & objects or pictures <p>Start to compare by noticing simple similarities and differences in relation to</p> | <p>Name and describe an animal/plant/material/object using some key scientific terms and ideas as appropriate</p> <ul style="list-style-type: none"> -Sorting hoops & objects or pictures <p>Start to compare by noticing some similarities and differences</p> | <p>Name and describe an animal/plant/material/object using some key scientific terms and ideas as appropriate</p> <ul style="list-style-type: none"> -Sorting hoops & objects or pictures <p>Compare 2 or more animals/plants/materials and talk about similarities and differences</p> |

| | | places, objects, materials and living things. | | Simple sorting trees |
|--|--|---|--|--|
| <p>WS: Gathering and recording data to help in answering questions.</p> | <p>What have you found out? Looking at your photos/data can you explain why you think this?</p> | <p>First hand observation of the natural and man-made world/objects around them.</p> <p>Hand magnifying glasses I-pads – camera and video</p> <p>Represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.</p> | <p>First hand observation of the natural and man-made world/objects around them.</p> <p>Observational drawings and representations of ideas and concepts/understandings</p> <p>Hand magnifying glasses I-pads – camera and video Egg timers Digital timers</p> <p>Simply recording results and gathering information</p> <p>As above plus tally charts Simple table Whole class bar charts</p> | <p>First hand observation of the natural and man-made world/objects around them.</p> <p>Observational drawings and representations of ideas and concepts/understandings</p> <p>Use secondary sources such as information books, websites and asking specialists to find answers to questions</p> <p>Simply recording results and gathering information</p> <p>As above plus tally charts Tables Pictograms Bar charts</p> |
| <p>WS: Performing simple tests</p> | <p>What we will we find out? What do you want to test? How will you carry out your test?</p> | <p>Perform simple tests in groups or as a whole class</p> | <p>Simple comparative tests as appropriate (categoric variables such as changing the material a parachute or umbrella is made from)</p> <p>Simple tests with discrete variables (non-standard units)</p> | <p>Simple comparative tests as appropriate (categoric variables such as changing the material a parachute or umbrella is made from)</p> <p>Comparative tests</p> |



| | | | | |
|--|--|--|---|--|
| | | | (See WS handout from Ogden Trust for Year 1 test question examples) | (See WS handout from Ogden Trust for Year 2 test question examples) Spring term – start to think about fair testing – changing one thing (this can be introduced earlier as you see fit) Summer term – Think about fair testing |
|--|--|--|---|--|