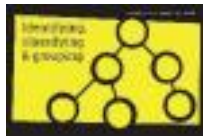
BURRADON COMMUNITY PRIMARY SCHOOL

Science progression of working scientifically skills and vocabulary EYFS-Year 6

Working scientifically skills are to be explicitly taught alongside content and a scientific enquiry type

Scientific enquiry types:

 Identifying, classifying and grouping	 Comparing and fair testing	 Observing over time	 Pattern seeking	 Researching using secondary sources

Working scientifically skills progression:

EYFS ***2YO (not expected to apply scientific skills)*** ***Nursery*** ***Reception***	***Year 1***	***Year 2***	***Year 3***	***Year 4/5***	***Year 6***
Asking questions and recognising that they can be answered in different ways					
-Understand 'why' questions e.g. 'Why do you think the caterpillar got so fat?' -Ask questions to find our more and to check they understand what has been said to them	-Ability to ask questions -Answering questions -Answering questions about a scenario	Same as year 1 but with greater independence	-Consider prior knowledge when asking questions -Using sentence stems -Answer questions posed by the teacher -How to gather evidence to answer a question	Year 4 is the same as year 3 but with greater independence. -Ask questions with some independence. -Use scientific evidence to answer questions with support -Use resources to decide how to gather evidence to answer questions with support	-Independently answering questions -Using scientific evidence to answer questions -Using resources to decide how to gather evidence to answer a questions

Making observations and taking measurements					
-use their senses in hands-on exploration of natural materials -Explore how things work -Use one-handed tools and equipment -Choose the right resources to carry out their own plan e.g. choosing a spade to make an enlarge a small hole -Make comparisons between objects relating to size, length, weight and capacity -Compare quantities using language: 'more than', 'fewer than' -Explore the natural world around them -Describe what they see, hear and feel whilst outside -Develop their small motor skills so they can use a range of tools competently, safely and confidently	-Make observations to identify, compare and notice change -Use the senses to aid in observations -Begin taking measurements by comparisons then non-standard units	Same as year 1 but with greater independence	-Make systematic and careful observations -Use a range of equipment for measuring length, time, temperature and capacity. -Using standard units of measure	Year 4 is the same as year 3 but with greater independence. -Selecting measuring equipment to give more accurate results e.g. ruler, tape measure, trundle wheel etc. -Make decisions, with support, about repeat readings, increase sample size, adjusting the observation period and frequency to get more accurate data	-Selecting measuring equipment to give precise results e.g. ruler, tape measure, trundle wheel etc. -Make decisions about repeat readings, increase the sample size, adjusting the observation period and frequency to get accurate data

-count objects, actions and sounds -Use talk to help work out problems and organise thinking activities, and to explain how things work and why they might happen -Show resilience and perseverance in the face of challenge					
Engaging in practical enquiry to answer questions					
Despite not an explicit working scientifically skill, EYFS children will be exposed to this skill through their explorative play. They will be encouraged to use resources, answer questions and observe.	-Use practical resources to gather evidence to answer questions. -Use observations to compare -Identify their own criteria -Use secondary sources	Same as year 1 but with greater independence	-Select from a range of practical resources to gather evidence to answer questions. -Follow their plan to carry out observations, tests to classify, comparative tests and pattern seeking	Year 4 is the same as year 3 but with greater independence. -Select from a range of practical resources to gather evidence to answer questions, with support -Carry out fair tests and control some variables independently -Decide what observations or measurements to make over time and how long for with support	-Select from a range of practical resources to gather evidence to answer questions. -Carry out fair tests and controlling variables. -Decide what observations or measurements to make over time and how long for.
Recording and presenting evidence					

-Talk about what they see, using a wide vocabulary -Create closed shapes with continuous lines and begin to use these shapes to represent objects -Draw with increasing complexity and detail, such as representing a face with a circle and including details -Connect one idea or action to another using a range of connectives -Describe events in some detail	-Record observations e.g. photographs, videos, drawings, labelled diagrams -Record measurements e.g. tables, pictograms, tally charts, block charts. -Classify using simple tables and sorting rings.	Same as year 1 but with greater independence	-Sometimes decide how to record and present data. -Record observations e.g. photographs, videos, labelled diagrams. -Supported to present the same data in different ways to help answering a question.	Year 4 is the same as year 3 but with greater independence. -Decide how to record or present evidence with greater independence -Present the same data in different ways in order to help with answering a question with support	-Decide how to record or present evidence. -Present the same data in different ways in order to help with answering a question.
Concluding and answering questions					
-Make comparisons between objects relating to size, length, weight and capacity -Compare quantities using language: 'more than', 'fewer than' -Listen to and talk about selected non-	-Supported to relate evidence -Recognise 'biggest' and 'smallest' from their data.	Same as year 1 but with greater independence	-Answer their own and others' questions based on observations. -Interpret data to generate simple comparative statements based on evidence -Draw conclusions based on their evidence.	Year 4 is the same as year 3 but with greater independence. -In conclusions, children identify relationships and patterns, identify results that don't fit a pattern and explain	-In conclusions, children identify relationships and patterns, identify results that don't fit a pattern and explain their findings.

fiction to develop a deep familiarity with new knowledge and vocabulary -Connect one idea or action to another using a range of connectives -Describe events in some detail -Compare length, weight and capacity				their findings with greater with support.	
Evaluate and raise further questions and predictions					
Not applicable			-Identify ways to adapt methods. -Use evidence to suggest values for different items tested -Ask further questions which can be answered.	Year 4 is the same as year 3 but with greater independence. -Evaluate their choice of method, precision and accuracy of secondary sources used with support. -Identify limitations that reduce the trust in data with support. -Use scientific knowledge to make predictions they can investigate with support.	-Evaluate the choice of method, precision and accuracy of secondary sources used. -Identify limitations that reduce the trust in data. -Use scientific knowledge to make predictions they can investigate.
Working scientifically vocabulary					
EYFS	Year 1	Year 2	Year 3	Year 4/5	Year 5/6

Question, answer, find, learn, curious, look, feel, touch, taste, sight, tools, tall, small, long, short, measure, test, drawing, photograph, sort, talk, share	All for EYFS and: same, different, change, explore, observe, identify, compare, senses, equipment, findings, classify, patterns, record, diagram, table, measurement, experience, think, results	All for year 1 and: Similar, difference, data, predict, conclude	All for EYFS, year 1, 2 and: evidence, sources, practical, enquiry, systematic, careful, length, time, temperature, capacity, plan, present, keys, interpret, comparative, relationships, values, improvement, value, method, repeat, explanation, communicate, audience	All for EYFS, year 1, 2, 3 and: Experience, justify, accuracy, decisions, sample, observation, frequency, recognising, controlling, variables, scatter graphs, line graphs, trust, presentation, limitations, illustration, prior knowledge, secondary sources, accurate	All for EYFS, year 1, 2, 3, 4 and: Sample size precision, classification, observation period, Carroll diagrams, Experience, justify, accuracy, decisions, sample, observation, frequency, recognising, controlling, variables, scatter graphs, line graphs, trust, presentation, limitations, illustration, prior knowledge, secondary sources, accurate