

NC Scientific Skills Progression Map

Key:		 Sparrows		 Doves		 Eagles		
		Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
QUESTION		Ask simple questions about immediate environment.	Ask questions and know some can be answered using scientific enquiry.	Identify scientific questions. ie can be investigated through scientific enquiry.		Raise scientific questions and hypothesise		
SCIENTIFIC ENQUIRY	OBSERVE	Qualitative Talk about similarities and differences.	Qualitative and Simple Quantitative Observe change over time. Use Senses/ equipment. Measure change over time e.g. plant growth. Select equipment		Qualitative and Quantitative Systematic/ careful observations. Use bar charts, pictograms, tables. Accurate measurements. Use time graphs and other graphs.		Qualitative and Quantitative Accurate/ precise measurements, Diagrams, tables, bar and line graphs. Take repeat readings when appropriate. Scatter graphs.	
	CLASSIFY and FIND PATTERNS	Talk and Sort Use simple scientific criteria.	Identify and Classify e.g. familiar plants, animals, materials Compare and contrast	Identify and Classify e.g. living/ dead/ never alive; materials Compare differences	Classify and Find Patterns Classify animals/ materials. Link two variables e.g. <i>the closer the magnet the bigger the force.</i> Use simple classification keys. Link two variables e.g. <i>the more cells in a circuit, the brighter the bulb.</i>		Classify and Find Patterns Use complex classification keys. Identify causal relationships. Develop classification keys. Identify evidence that supports/ refutes causal relationship.	
	CONTROL INVESTIGATIONS: comparative and fair testing	Explore objects/ materials/ living things/ resources designed to model scientific processes.	Simple comparative tests e.g. <i>What is the best material for an umbrella?</i> e.g. <i>What if plants do not get light and water?</i>		Comparative and fair tests Predict. Fair tests e.g. <i>How does distance affect magnet strength?</i> Predict. Language of independent and control variable.		Design own comparative and fair tests Identify when and how to use tests. Recognise and control variables. Make predictions based on previous test results.	
	RESEARCH	Listen and respond to stories about scientific	Find information		Research using given sources. e.g.	Explore relevant information by using a wide range of secondary sources.		

	processes/ events/ objects.	using given sources. e.g. animals.	Select information from a range of given sources.	research different food groups and how they keep us healthy	Select information to support findings. e.g. research animals	Explore how scientific ideas have developed over time.	Identify evidence that has been used to support or refute ideas.
MODEL	Concrete context. Create drawings and models of their environment	Concrete context Draw diagrams e.g. parts of plants/ the body.	Explore and create drawings and physical models e.g. habitats.	Abstract contexts e.g. processes and phenomena such as forces/ light. Use labelled diagrams and drawings and physical models.	Abstract contexts e.g. processes and phenomena such as sound/ electricity. Create labelled diagrams and drawings and physical models.	Abstract contexts. Evaluate diagrams/ models e.g. states of matter; solar system.	Abstract contexts. Create own versions of models. e.g. circulatory system; light.
CONCLUDE	Explain simple phenomena: How? Why?	Describe what has happened or been observed.	Explain why a simple observation occurred. Evaluate the effectiveness of observations.	Explain an observation or an event in scientific terms. Distinguish between what has been observed and why it happened. Begin to link evidence from secondary sources as well as primary. Suggest improvements.	Evaluate original hypothesis against observed evidence and reach appropriate conclusions. Identify causal relationships. Begin to identify how reliable the data is.		