

Scientific Enquiry New Progression Map – with some examples

Enquiry Skills	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Classifying	<p>Plants - Allow children to classify leaves, flowers, and seeds, choosing their own criteria.</p> <p>E.g. big leaves, red leaves etc.</p>	<p>Living things and their habitats -</p> <p>Find things that are living. • Find things that are dead.</p> <ul style="list-style-type: none"> • Find things that have never been alive. • Classify things found in the environment (choosing their own criteria to do so), leading to living, dead and never been alive. • Classify plants found in the environment. 	<p>Rocks –</p> <p>Based on the children's own criteria, classify rocks. (At the beginning of the topic, this will most likely focus on appearance, leading to physical properties at the end of the unit.)</p> <ul style="list-style-type: none"> • Look at different soils and discuss how they are similar/different. 	<p>Animals including humans –</p> <p>Compare and contrast different types of teeth (linking to simple functions).</p> <ul style="list-style-type: none"> • Classify jaw bones/teeth to aid with making food chains e.g. recognise what eats plants and what eats animals by looking at their teeth 	<p>Properties and changes of materials -</p> <ul style="list-style-type: none"> • Based on the children's own criteria: <ul style="list-style-type: none"> ▪ classify the materials themselves e.g. samples of wood, metal, plastic, etc. ▪ after observing what happens when solids are added to liquids, classify materials based on the outcomes. 	<p>Living things and their habitats -</p> <ul style="list-style-type: none"> • Classify animals according to Carl Linnaeus' system. • Classify plants into flowering, mosses, ferns and conifers, based on specific characteristics. • Create a branching database/dichotomous key to classify a set of living things.
Observing over time	<p>Seasonal changes -</p> <ul style="list-style-type: none"> • Take weather measurements and make observations over time. • Record/Photograph what children are wearing (jumper, coat, hats, scarves, etc.) • Make observations of daylight hours e.g. How 	<p>Plants –</p> <ul style="list-style-type: none"> • Plant seeds and bulbs and observe how they grow. 	<p>Plants –</p> <ul style="list-style-type: none"> • Observe celery (with roots and leaves) in coloured water/ink. • Observe white carnations (freshly cut) in coloured water/ink. 	<p>States of matter –</p> <ul style="list-style-type: none"> • Observe the time it takes for an ice cube/frozen hand (rubber glove)/cube of chocolate to melt. 	<p>Earth and Space –</p> <ul style="list-style-type: none"> • Measure shadows throughout the day. 	<p>Animals including humans –</p> <ul style="list-style-type: none"> • Observe pulse rates before, during and after exercise.

	is it different in September compared to December etc.?					
Pattern Seeking	Seasonal changes - At the end of the year, look for patterns in evidence e.g. Does it rain more in spring? Do we have more 'sunny' days in the summer? Which was the coldest month?	Plants – Before the children have a go at growing a plant, children generate questions for the investigation such as: <ul style="list-style-type: none"> ▪ Do big seeds germinate more quickly ▪ Which comes first, the root or the shoot? 	Animals, including humans - <ul style="list-style-type: none"> • Children generate questions for an investigation such as: <ul style="list-style-type: none"> ▪ Do people with long arms throw further? ▪ Can people with short legs jump higher? ▪ Can people with longer legs run faster? ▪ Can people with bigger hands catch a ball more easily? 	Living things and their habitats - Do animals with have? • Do plants with have?	Living things and their habitats - <ul style="list-style-type: none"> • Children generate questions such as: <ul style="list-style-type: none"> ▪ Do larger mammals have longer gestation periods? ▪ Do larger animals live longer? ▪ Do smaller animals lay more eggs? 	Evolution and inheritance <ul style="list-style-type: none"> • Use different pieces of equipment, e.g. chopsticks, toothpicks, cutlery, to look for patterns linking the suitability of bird beaks for the available food e.g. rice, grapes, raisins
Comparative and fair testing	Materials - Test objects made of different materials to see how effective they are e.g. umbrellas/hats/coats for waterproofness, cloths/nappies for absorbency, socks for elasticity, bounciness of balls, sunglasses for protection from the sun, picnic plates for stiffness, door mats for wiping your feet, different papers for writing	Materials - Test materials for different uses – Make a carriage for Cinderella to be able to go to the ball.	Light - Test materials for reflectiveness or <ul style="list-style-type: none"> • Test materials for transparency or • Investigate shadows (size of shadows, shape of shadows). 	Sound - <ul style="list-style-type: none"> • Measure volume from different instruments. • Measure how volume changes away from a source. • Investigate string telephones. • Explore pitch e.g. through a carousel of activities using milk bottles, straw pipes, rulers, elastic band guitars. 	Forces - <ul style="list-style-type: none"> • Compare friction e.g. trainers v school shoes (running times) or surfaces e.g., field V playground. • Compare water resistance e.g. boats in a gutter of water, plasticine in a cylinder of liquid (easier with a more viscous liquid e.g. bubble bath). • Compare air resistance e.g. spinners, 	Electricity - <ul style="list-style-type: none"> • Investigate the effect of adding more bulbs to a circuit or • Investigate the effect of adding more cells to a circuit or • Investigate the effect of adding more buzzers to a circuit or • Investigate the effect of adding more motors to a circuit.

	on/painting etc.				parachutes, sailing boats, straw rockets.	
Researching – Could this link with your FITT project or be cross curricular with ICT (IPads in the lesson)?	Animals, including humans - <ul style="list-style-type: none"> • Use secondary sources to name animals seen in the local environment that they may not currently be able to name (e.g. birds: magpie, blackbird). • Research what animals they have first-hand experience of eat 	Animals, including humans - Research adult animals and their young e.g. googling pictures and names of animal babies – swan and cygnet	Magnets - Find out how magnets are used in everyday life.	Electricity - Find out how electricity makes our appliances work. Where does it come from?	Animals, including humans - Develop questions to ask an expert e.g. a health visitor, doctor or nurse. (Questions will need to be filtered by the teacher.)	Light - Research why do we have rainbows? Why can we get double rainbows?