Progression of Skills

Science

R	**Playing and Exploring** Plan and think ahead about how they will explore or play with objects. Make independent choices. **Active learning** Keep on trying when things are difficult. **Creating & Thinking Critically** Sort materials. Review their progress as they try to achieve a goal. Check how well they are doing. Know more, so feel confident about coming up with their own ideas. Make more links between those ideas. **Communication and Language** **3-4 years** Use a wider range of vocabulary. Understand 'why' questions **Reception** Learn new vocabulary. Ask questions to find out more and to check they understand what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. **Personal, Social and Emotional Development** **3 – 4 years** Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them. Use large and small motor skills to do things independently, Make healthy choices about food, drink, activity and toothbrushing. **Reception** Manage their own needs. Personal hygiene	**ELG Managing self** Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. **Physical Development** **3-4 years** Use one-handed tools and equipment, for example, making snips in paper with scissors. **Reception** Know and talk about the different factors that support their overall health and wellbeing **Understanding the world** **3 – 4 years** Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. **Reception** Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them. **ELG The natural world** Explore the natural world around them, making observations and drawing pictures of animals and plants Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. **Expressive arts and design** **3-4 years** Join different materials and explore different textures.

	Questioning and enquiry planning	**Observing & measuring Pattern seeking**	**Investigating**	**Recording and Reporting findings**	**Identifying, grouping and classifying**	**Research**	**Conclusions**
1/2	Ask questions about the world around us. Recognise that they can be answered in different ways.	Observe closely, using simple equipment. Use observations and ideas to suggest answers to questions. Observe changes over time and, with guidance, begin to notice patterns and relationships. Say what I am looking for and what I am measuring. Use simple equipment safely. Use simple measurements and equipment with increasing independence (eg hand lenses and egg timers) Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C	Perform simple tests. Discuss my ideas about how to find things out. Say what happened in my investigation.	Gather and record data to help in answering questions. Record simple data. Record and communicate their findings in a range of ways. Can show results in a table provided by teacher.	Identify and classify. Observe and identify, compare and describe. Use simple features to compare objects, materials and living things and, with help, decide how to sort and group them.	Use simple secondary sources to find answers. Can find information, with help, from books and computers.	Talk about what they have found out and how they found it out. Say what happened in my investigation. Say whether results were surprising or not. Say what I would change about own investigation.
KS2	Ask relevant questions and use different types of scientific enquiries to answer them.	Make systematic and careful observations and, where appropriate, take accurate measurements using standard	Set up simple practical enquiries, comparative and fair tests.	Gather, record, classify and present data in a variety of ways to help in answering questions.	Identify differences, similarities or changes related to simple scientific ideas and processes.	Begin to recognise when and how secondary sources might help to answer questions that	Use results to draw simple conclusions , make predictions for new values, suggest

	Explore everyday phenomena and the relationships between living things and familiar environments. Begin to develop ideas about functions, relationships and interactions. Make some decisions about which types of enquiry will be the best way of answering questions. Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. Explore and talk about ideas, ask their own questions about scientific phenomena, analyse functions, relationships and interactions more systematically. Begin to recognise more abstract ideas and begin to recognise how these ideas help them to understand how the world operates. Begin to recognise scientific ideas change and develop over time. Select the most appropriate ways to answer science questions using different types of scientific enquiry.	units, using a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. Use new equipment appropriately (eg data loggers). See a pattern in results. Choose from a selection of equipment. Observe and measure accurately using standard units including time in minutes and seconds. Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Identify patterns that might be found in the natural environment. Make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Interpret data and find patterns. Select own equipment. Make a set of observations and say what the interval and range are. Accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm^2V, km/h, m per sec, m/ sec Graphs – pie, line, bar (Year 6)	Recognise when a simple fair test is necessary and help to decide how to set it up. Think of more than one variable factor. Use test results to make predictions to set up further comparative and fair tests. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Suggest improvements to method and give reasons. Decide when it is appropriate to do a fair test.	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use notes, simple tables and standard units and measurements to help decide how to record and analyse their data. Record results in tables and bar charts. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Report and present findings from enquiries. Decide how to record data from a choice of familiar approaches. Choose how best to present data.	Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing. Use and develop keys and other information records to identify, classify and describe living things and materials.	cannot be answered through practical investigations. Recognise which secondary sources will be most useful to research their ideas.	improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support findings. With help, look for changes, patterns, similarities and differences in own data in order to draw simple conclusions and answer questions. With support, identify new questions arising from the data, make new predictions and find ways of improving what they have already done. See a pattern in results. Say what found out, linking cause and effect. Say how could make it better. Answer questions from what I have found out. Reporting and presenting findings from enquiries , including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. Identify scientific evidence that has been used to support or refute ideas or arguments. Draw conclusions based on their data and observations, use evidence to justify their ideas, use scientific knowledge and understanding to explain their findings. Use test results to make predictions to set up further comparatives and fair tests. Look for different causal relationships in their data and identify evidence that refutes or supports their ideas. Use own results to identify when further tests and observations are needed.