Progression in Science Skills

Skills	Year 1 Working Scientifically (Throughout year) Autumn 1: All about me Autumn 2: Everyday materials Spring 1 & 2: Seasonal changes Summer 1 & 2: Plants	Year 2 Working Scientifically (Throughout year) Autumn 1& 2: Animals, including humans Spring 2: Living things and their habitats Summer 1 & 2: Plants Summer 1 & 2: Uses of everyday materials	Year 3 Working Scientifically (Throughout year) Autumn1: Forces & Magnets Autumn2: Rocks Spring1: Animals inc Humans Spring2: Light Summer1: Plants	Year 4 Working Scientifically (Throughout year) Autumn 1: Electricity Spring 1: Sound Spring 2: States of Matter Summer 1: Animals inc Humans Summer 2: Livings Things and their environment	Year 5 Working Scientifically (Throughout year) Autumn 1: Earth and Space Autumn 2: Properties and changing of materials Spring 1: Forces Spring 2: Living things and their habitats Summer 1: Animals inc humans Summer 2: Scientists and Inventors	Year 6 Working Scientifically (Throughout year) Autumn 1: Animals inc humans Autumn 2: Light Spring 1: Evolution Spring 2: Inheritance Summer 1: Living things and their habitats Summer 2: Scientists and Inventors
Investigations and tests	Talk about what I have done and patterns I have noticed. Talk about what people know and how things work. Use books and web pages to find things out.	Make link between 2 sets of observations e.g. the size of feet in relation to size of legs. Record in words and pictures what I know from secondary sources.	Collect and record data. Recognise when and how secondary sources might help me to answer questions. Set up a comparative test or simple, fair test and say why it is fair. Make careful and systematic observations.	Decide which data to collect and record it. Suggest improvements to the way I looked for patterns. Use secondary sources to answer questions which I understand cannot be answered through practical investigations. Record what I have found out in my own words.	Look for relationships in the data that I have collected. Recognise which secondary sources are most useful to research my ideas. State whether research carried out has answered questions posed.	Describe how evidence collected supports or refutes ideas. Evaluate research by separating fact from fiction or opinion. Draw valid conclusions from research.

	Carry out comparative tests e.g. do bigger bubbles float higher? Look closely at how things change. Make simple records of how things change. Use simple features to compare objects, materials and living things.	Carry out simple, fair tests and explain why it might not be fair when comparing two things. Use simple equipment to observe and record changes. With help, sort and group objects, materials and living things.	Talk about the criteria for grouping, sorting and classifying and use simple key.	Recognise when a simple test is necessary and how to set it up and what data to collect. Decide what observations to make, how often and what equipment to record. Think of a range of criteria for grouping, sorting and classifying and explain how ideas link scientifically.	Recognise when variables need to be controlled and decide when a comparative or fair test is the best way to answer questions. Recognise the significance of the results in comparative or fair tests. Make own decisions about what observations to make, how long to make them for and what measurement to make. Use and develop keys and information records to identify, classify and describe living things and materials. Identify patterns found in the modern world.	Plan a comparative or fair test, selecting variables to measure, change and keep the same. Evaluate the effectiveness of testing and recognise the variables that were difficult to control. Make a key and branching database for more than 4 items. Use more than one piece of evidence to identify and classify.

Skills	With a little help, ask questions about my exploration or observations of the world. Make a simple prediction using detail. Make simple suggestions on how to find an answer. Make measurements using simple equipment e.g non-standard measures. Use simple equipment and my senses to make observations.	Begin to ask questions such as 'what will happen if…' Make a prediction and give reasoning. Begin to make suggestions on how to carry out a test. Discuss what trying to find out and / or what data should be collected. Make measurements using non-standard and simple standard measurements. Begin to make decisions about which equipment to use.	Ask questions and with help suggest how to find an answer. Make a prediction and give reasoning with detail. Use different ideas and suggestions on how to carry out a simple test. Explain why data collection is needed to answer a question. Make some accurate whole number measurements using standard measures e.g. mm, cm, m, ml, l, °C, seconds). Correctly use equipment provided to make observations and simple measures. Record my observations using simple scientific vocabulary in: labelled drawings; photographs (annotated); labelled diagrams; tables (which I have helped to design); bar charts (1:1, 1:2, 1:5,	Work with a group to suggest questions that can be explored/ observed/ tested/ investigated further. Make a prediction and give reasoning using knowledge of a similar experience. Make the majority of decisions when planning a test. Suggest the type of investigation to do, relevant to the question. Begin to make accurate observations using standard units and more complex measures (heart beats, breathing rate) Select equipment to use from a selection provided.	Use explorations and experiences to suggest a variety of questions that could be investigated scientifically and decide which would provide the best evidence. Decide whether questions can be answered by testing or by research. Make a prediction and begin to explain my reasons using scientific knowledge. Independently plan investigations and explain planning choices. Decide when it is appropriate to carry out a fair test, comparative or other type of investigation. Take accurate measurements using a range of scientific equipment. Begin to understand that observations and measurements need to be repeated.	Ask a testable question which includes the change and measure variables. 'What would happen to…if we changed…?' What would happen to the time it takes the water to evaporate if we increased the size of the puddle? Make a prediction and explain my reasons using scientific knowledge. Select and plan the most appropriate type of scientific enquiry to use to answer scientific questions. Identify the range and intervals used for a set of measurements. Decide whether to repeat observations/ reading and explain why.

	Record observations and findings as a labelled drawing or by annotating a photograph. Begin to use a simple table to record. Give a reason why something has happened (may not always be logical). Say whether my result matched my prediction with a yes or no answer.	Record observations and findings as: labelled drawings and drawings with annotations; photographs (sequenced/ annotated); simple prepared tables, tallies and charts (block graphs and pictograms with 1:1 scale.) Give a simple reason why something happened. (I think…because…) Say whether what happened in a test was what was expected.	1:10 scale provided following discussion). Write a simple explanation for an investigation using the word because and using some scientific language correctly. Talk about /describe any problems that occurred during investigation.	Record my observations, data and results using clear scientific vocabulary and symbols in scientific diagrams and labels; classification keys; tables; bar charts (scale decided by child). Demonstrate scientific knowledge by explaining why something has happened using correct scientific vocabulary. Can compare results with others. and give reasons why they might be different.	Begin to make suggestions how to record. Record my observations, data and results using clear scientific vocabulary and symbols in pie charts; line graphs. Talk about the cause and effect. Independently write accurate conclusions which match the evidence. Say how confident they are that their results are accurate. Say why readings were repeated and whether this made the results more reliable	Decide on the most appropriate format to present my data and my results. Use more than one piece of evidence when forming a conclusion. Describe how to improve planning to produce better results. Suggest reasons for anomalies.