



Dovedale Primary School Skills Progression

Science



EYFS

Show curiosity and ask questions Links to 'Asking Questions' in KS1	Make observations using their senses and simple equipment Make direct comparisons Identify, sort and group Links to 'Gathering Data' in KS1	Record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets Links to 'Recording Data' in KS1	Use their observations to help them to answer their questions Links to 'Drawing Conclusions' in KS1
Ask questions to find out more and to check they understand what has been said to them. (Communication and language) While playing and exploring, the children ask 'I wonder...' questions. With support, the children develop their ideas for answering their questions.	Explore the natural world around them. (Understanding the world) Describe what they see, hear and feel whilst outside. (Understanding the world) Develop their small motor skills so that they can use a range of tools competently, safely and confidently. (Physical development) Count objects, actions and sounds. (Mathematics) Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might	Connect one idea or action to another using a range of connectives. (Communication and language) Describe events in some detail. (Communication and language) The children, sometimes, draw and write simple labels to record their observations. With support, they record their observations and comparisons e.g. using simple prepared tables, taking photographs, using sorting rings and boxes.	Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary. (Communication and language) Connect one idea or action to another using a range of connectives. (Communication and language) Describe events in some detail. (Communication and language) Compare length, weight and capacity. (Mathematics) The children talk about what they have observed.



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	happen. (Communication and language) Show resilience and perseverance in the face of challenge. (Personal, social and emotional development) Explore the natural and made world using their senses. The children use magnifying glasses or tablets with magnifiers to make observations. The children use smaller pieces of equipment such as syringes and pipettes. With support, make comparisons, using hands and feet and other non-standard measures e.g. building blocks and beakers. While playing and exploring, the children, try out using resources to answer a question. The children test things out to make comparisons e.g. Does the red car go further than the blue car?		The children demonstrate and talk about what they have found out. They, sometimes, talk about what they have found out from secondary sources, including non-fiction texts. The children notice and talk about how they made a difference to an outcome e.g. "My car went further when I pushed it harder." The children make direct comparisons or use their recorded observations to communicate what they have found out and answer the question, where appropriate.
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	They identify and name objects by matching them with pictures. The children sort and group objects, sometimes using their own criteria.		
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KS1

Asking Questions	Gathering Data	Recording Data	Drawing Conclusions
Use a range of given question stems, such as: what; what if; why; when; who; and how; to ask questions about the objects, living things and processes they are exploring Construct a question based on a scenario or story the teacher has presented.	Talk about their observations of objects, materials and living things Talk about their observations when comparing objects, materials and living things Talk about their observations when describing changes When using a magnifying glass, adjust the position of the magnifying glass in order to see the enlarged image clearly when using a digital microscope, relate features on the enlarged view to the object Make direct comparisons of length and height Use bricks, lolly sticks etc. or paper strips to take non-standard measurements of length Use simple measuring equipment, such as teaspoons, pipettes, rulers, metre sticks etc.	Use a camera to take photographs or videos to record their observations Record their observations using drawings Record their observations using labelled drawings Record their observations or comparisons in writing Physically group objects, materials and living things or their images by a criterion Physically group objects or materials according to the data they gather (classifying) Use data they gather to physically rank objects or materials (comparative testing) Add their data to a prepared table or simple Venn diagram Add pictures to a pictogram Add tally marks to a tally chart and count up the total number	Use their observations and simple secondary sources (e.g. identification sheets) to name living things they find in the local area Recognise 'biggest and smallest', 'best and worst' etc. from their data Give an answer to their scientific enquiry question that is consistent with the data they have gathered either through observations, measurements or from research Recognise that they can answer scientific enquiry questions in different ways.



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		Make a physical block graph or bar chart by using bricks, lolly sticks etc. or paper strips with which they measured lengths or heights.	
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Lower KS2

Asking Questions	Planning an Enquiry	Making Predictions	Gathering Data	Recording Data	Presenting Data	Drawing Conclusions	Evaluating and Enquiry
Ask scientific enquiry questions with support Following a scientific enquiry, ask questions stimulated by what they have just found out.	Identify the data required to answer the scientific enquiry question Select appropriate practical equipment to gather the data Identify how to gather the data required to answer the scientific enquiry question Suggest the type of scientific enquiry they are using.	Use the data they have already gathered to suggest values for the next reading.	Make systematic and careful observations Measure time in standard units using stopwatches or timers Measure length in standard units using rulers, meter sticks, tape measures or trundle wheels Measure temperature in standard units using thermometers Measure capacity in standard units using syringes,	Record data in a simple table they construct themselves Record data onto a complex table provided for them Record their measurements directly onto a bar chart with the axes and scales provided Record observations and information using a drawing, a labelled diagram and, in Year 4 only, a key.	Present, with support, the recorded data in a different way in order to help answer the question.	Communicate their findings from practical activities Answer the scientific enquiry question using the data gathered.	Identify ways in which they adapted their method as they progressed or how they could change it to improve the data gathered Compare two methods for a test.



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			beakers or measuring cylinders Use sensors to take measurements (e.g. light, sound, temperature).				
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Upper KS2

Asking Questions	Planning an Enquiry	Making Predictions	Gathering Data	Recording Data	Presenting Data	Drawing Conclusions	Evaluating and Enquiry
Independently ask scientific enquiry questions.	Describe the method they would use to gather data to answer a scientific enquiry question.	Use the data they have already gathered to suggest further values Use the scientific understanding gained from scientific enquiry to make predictions they can investigate using further comparative and fair tests.	Make relevant systematic and detailed observations Use a range of equipment to take measurements (e.g. distance, time, temperature, capacity, force) using standard units Select measuring equipment to give appropriately precise results Identify when a sensor can be used to gather evidence	Choose an appropriate method to record the data they will gather using experience of recording methods learnt in Key Stage 1 and Lower Key Stage 2 (e.g. photographs, videos, drawings, labelled diagrams, writing, tables, keys) Construct, and record data in, a complex table Construct, and record data in, a bar chart	Present the recorded data in a different way in order to help answer the question.	Answer the scientific enquiry question using the data gathered Discuss whether other evidence (e.g. from other groups or their scientific understanding) supports or refutes their answer Talk about how their scientific ideas change due to new data that they have gathered Talk about how scientific discoveries have changed	Evaluate the precision of their measurements Evaluate whether the results are trustworthy enough to answer the scientific enquiry question.



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			Take repeat readings as appropriate.	Construct, and record data in, a line graph Add data on to a scatter graph with the axes and scales provided.		scientific understanding in the past and continue to do so today.	
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