



# Year 4 - Science skills progression

Topic	Subject Knowledge Objective	Use all or some of the following activities to cover this objective	Working scientifically skills developed in the activities
What's that sound?	Identify how sounds are made, associating some of them with something vibrating.	1. Sources of sound 2. Let's make a sound 3. Feeling and seeing the vibrations.	Set up simple practical enquiries, comparative and fair tests. Use straightforward scientific evidence to answer questions or to support their findings.
What's that sound?	Identify how sounds are made, associating some of them with something vibrating. Find patterns between the volume of a sound and the strength of the vibrations that produced it. Find patterns between the pitch of a sound and features of the object that produced it.	4. Percussion sounds. 5. How does a guitar work?	Set up simple practical enquiries, comparative and fair tests. Use straightforward scientific evidence to answer questions or to support their findings.
What's that sound?	Identify how sounds are made, associating some of them with something vibrating. Find patterns between the pitch of a sound and features of the object that produced it.	6. Glass bottle orchestra. 7. Make your own pan pipes.	Set up simple practical enquiries, comparative and fair tests. Use straightforward scientific evidence to answer questions or to support their findings.
What's that sound?	Recognise that sounds get fainter as the distance from the sound source increases	1. How far away can you hear it? 2. Measuring sound.	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
What's that sound?	Recognise that vibrations from sounds travel through a medium to the ear.	3. Sound travelling through different materials. 4. My own questions	Ask relevant questions and use different types of scientific enquiries to answer them. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions or to support their findings.
What's that sound?	Recognise that vibrations from sounds travel through a medium to the ear.	5. Muffle that sound	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
Living things	Recognise that living things can be grouped in a variety of ways.	1. Sort me. 2. Using classification keys.	Ask relevant questions and using different types of scientific enquiries to answer them. Use straightforward scientific evidence to answer questions or to support their findings.
Living things	Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	3. Classify the animals. 4. Vertebrates and invertebrates. 5. Classifying leaves	Identify and classify.
Living things	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	1. Identifying and recording living things.	Gather, record, classify and present data in a variety of ways to help in answering questions

Living things	Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	2. Going on a bug hunt. 3. Going on a plant hunt.	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
Living things	Times pose dangers to living things.	1. Bees - friends of foe? 2. The life of a bee.	
Living things	Recognise that environments can change and that this can sometimes pose dangers to living things.	3. Bee survey - Collecting data. 4. Bee Fantastic - Save our bees. 5. Spreading the word.	Use straightforward scientific evidence to answer questions or to support their findings. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
Looking at states	Compare and group materials together, according to whether they are solids, liquids or gases.	1. In a state.	Compare and classify.
Looking at states	Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).	2. Ice hands.	Observe and describe.
Looking at states	Identify differences, similarities or changes related to simple scientific ideas and processes.	1. It's melting.	Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusion.
Looking at states	Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). Identify differences, similarities or changes related to simple scientific ideas and processes.	2. Freezing	Set up simple practical enquiries, comparative and fair tests Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.
Looking at states	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Identify differences, similarities or changes related to simple scientific ideas and processes.	1. Evaporation.	Set up simple practical enquiries, comparative and fair tests. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
Looking at states	Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Identify differences, similarities or changes related to simple scientific ideas and processes.	2. The water cycle.	Set up simple practical enquiries, comparative and fair tests. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
Teeth and eating	Identify the different types of teeth in humans and their simple functions	1. First impressions	Ask relevant questions and use different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests. Use straightforward scientific evidence to answer questions or to support their findings.
Teeth and eating	Identify the different types of teeth in humans and their simple functions.	2. My teeth. 3. Looking after our teeth.	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.
Teeth and eating	Describe the simple functions of the basic parts of the digestive system in humans	1. Food's incredible journey.	Identify and describe.
Teeth and eating	Describe the simple functions of the basic parts of the digestive system in humans.	2. Lets make a digestive system.	Identify and describe.
Teeth and eating	Construct and interpret a variety of food chains, identifying producers, predators and prey.	1. A chain reaction	Construct, interpret and describe.
Teeth and eating	Construct and interpret a variety of food chains, identifying producers, predators and prey.	2. Predator and prey.	Construct, interpret and describe.
Power it up	Identify common appliances that run on electricity.	1. Which source?	Identify and describe.
Power it up	Pupils should be taught about precautions for working safely with electricity. (NSG)	2. Using electricity safely.	Identify safe ways of working.

Power it up	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.	1. Simple circuits.	Identify, name and construct.
Power it up	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	2. Switches	Identify, name and construct.
Power it up	Recognise some common conductors and insulators, and associate metals with being good conductors.	1. Conductors	Use straightforward scientific evidence to answer questions or to support their findings.
Power it up	Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	2. What can you make using circuits.	Identify, name and construct.
The big build	Set up simple practical enquiries, comparative and fair tests.	1. Bridging a stream	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings.
The big build	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment	2. Which shape is the strongest for bridge pillars? 3. Terrific triangles.	Set up simple practical enquiries, comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Use straightforward scientific evidence to answer questions or to support their findings.
The big build	Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables	1. Tallest towers.	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings.
The big build	Use results to draw simple conclusions, make predictions for new values, suggest improvements. and raise further questions.	2. Spaghetti towers.	Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Use results to draw simple conclusions, make predictions for new values, suggest improvements. and raise further questions.

The big build	Ask relevant questions and use different types of scientific enquiries to answer them	1. Animal homes.	Ask relevant questions and use different types of scientific enquiries to answer them Gather, recording, classifying and presenting data in a variety of ways to help in answering questions Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify and name a variety of living. things in their local and wider environment.
The big build	Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	1. Researching big builds. 2. Big Build - Newspaper bridge or tower	Ask relevant questions and using different types of scientific enquiries to answer them. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.