



SCIENCE CURRICULUM

KS1 Progression

Knowledge | Skills | Vocabulary | Year 1 to Year 2

Purpose of this document

This document sets out how pupils' scientific knowledge, enquiry skills and vocabulary develop through Key Stage 1 at Park Road Academy. It extracts the supplied Science progression and Challenge Curriculum-inspired questions, showing how practical investigation, observation and explanation build from Year 1 to Year 2.

Key Stage 1 curriculum position

Key Stage 1 curriculum coverage

Pupils develop knowledge of plants, animals including humans, everyday materials, seasonal change and living things. They work scientifically by observing over time, identifying and classifying, noticing patterns, carrying out comparative and fair tests and researching with secondary sources. Challenge questions provide meaningful contexts for this learning.

Progression principles

BUILD FROM EYFS	REVISIT & DEEPEN	MODEL, PRACTISE & APPLY	ASK, TEST & EXPLAIN
Familiar observations become named scientific knowledge and simple explanations.	Living things, materials, seasonal change and working scientifically recur at increasing depth.	Teachers model careful observation, questioning and recording; pupils practise and apply enquiry.	Pupils identify patterns, compare evidence and explain conclusions using scientific vocabulary.

Curriculum strands

Plants	Animals & Humans	Living Things & Habitats	Materials	Seasonal Change	Working Scientifically
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Challenge Curriculum principles: use meaningful questions, hands-on experiences and local contexts. Revisit observing over time, comparative and fair testing, researching, pattern seeking, and identifying, grouping and classifying across every enquiry.



Year 1 Science Curriculum Map

Challenge questions, core learning and progression emphasis

How the map should be used

The challenge questions and curriculum objectives follow the supplied Science progression. Use them flexibly across the school overview. Practical experiences should be purposeful, with vocabulary, recording and discussion revisited throughout each enquiry.

Year 1 - curriculum sequence

Half term	Theme / unit	Core learning	Progression emphasis	Links to strands
Autumn 1	Which plants will we find in the park?	Identify and name common wild and garden plants, including deciduous and evergreen trees. Describe basic parts of flowering plants and trees; use a local park or school grounds for close observation, drawing and labelling.	Moves from recognising familiar plants to naming, describing and recording observable features.	plant, tree, leaf, flower, root, stem, deciduous, evergreen
Autumn 2	Why does it get darker earlier in winter?	Observe changes across the four seasons. Describe associated weather and how day length varies; collect repeated observations and use simple tables, drawings or charts.	Introduces observing over time and noticing patterns in seasonal change.	season, autumn, winter, spring, summer, weather, daylight, observe
Spring 1	Why are humans not like tigers?	Identify and name animals including fish, amphibians, reptiles, birds and mammals. Group animals as carnivores, herbivores and omnivores; compare structures and identify basic human body parts and senses.	Builds classification and comparison using observable features and simple scientific groupings.	animal, fish, amphibian, reptile, bird, mammal, carnivore, sense
Spring 2	Where do plants and animals live?	Explore and compare living, dead and never-alive things. Identify plants and animals in habitats, including microhabitats; describe how habitats meet basic needs and simple food chains.	Connects classification to habitats and relationships between living things.	living, dead, never alive, habitat, microhabitat, needs, food chain
Summer 1	Which materials should the Three Little Pigs use to build their house?	Distinguish objects from materials. Name everyday materials including wood, plastic, glass, metal, water and rock; describe, compare and group them by simple physical properties.	Uses a story-led problem to classify materials and select one for a purpose using evidence.	object, material, wood, plastic, glass, metal, water, rock, property
Summer 2	Working scientifically across Year 1	Ask questions, make observations, identify and classify, notice patterns and communicate findings through drawings, labels, tables and simple explanations. Use equipment safely and begin to say what was found out.	Applies the first scientific enquiry skills across plants, animals, seasons and materials.	question, observe, compare, group, classify, record, evidence



Year 2 Science Curriculum Map

Challenge questions, core learning and progression emphasis

Year 2 progression

Pupils revisit Year 1 concepts with greater explanation and independence. They make predictions, plan fair comparisons, record results and use evidence to answer a challenge question. Adapt the context and equipment while retaining the scientific objective and enquiry type.

Year 2 - curriculum sequence

Half term	Theme / unit	Core learning	Progression emphasis	Links to strands
Autumn 1	Why would a dinosaur not make a good pet?	Identify that most living things live in habitats to which they are suited. Describe how habitats provide basic needs, explain simple food chains and identify how animals obtain food from plants and other animals.	Deepens habitat knowledge by explaining suitability, dependence and feeding relationships.	habitat, suited, shelter, food chain, producer, consumer, depend, survival
Autumn 2	Could Lightning McQueen race on our field?	Compare how things move on different surfaces. Notice that some forces need contact between two objects; plan and carry out a simple comparative test using fair conditions.	Develops prediction, testing and conclusion-making through a motivating forces enquiry.	force, push, pull, friction, surface, move, compare, fair test
Spring 1	How will 5 a day help me to be healthy?	Notice that animals, including humans, have offspring which grow into adults. Find out basic survival needs: water, food and air; describe the importance of exercise, a balanced diet and hygiene.	Links growth, survival and healthy lifestyles while recognising that needs change across life stages.	offspring, adult, grow, survival, water, air, nutrition, hygiene
Spring 2	How can I be the next Master Chef?	Observe how seeds and bulbs grow into mature plants. Find out how plants need water, light and a suitable temperature to grow and stay healthy; plan observations over time and identify patterns.	Explains plant growth using evidence gathered through a sustained observation.	seed, bulb, germinate, grow, mature, light, temperature, healthy
Summer 1	What materials would you use to build our school?	Identify and compare suitability of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard. Investigate how shapes of solid objects can change by squashing, bending, twisting and stretching.	Moves beyond naming properties to selecting and justifying materials for a real purpose.	suitable, strong, stiff, flexible, waterproof, absorbent, squash, bend
Summer 2	Working scientifically across Year 2	Ask relevant questions, make predictions, perform simple comparative and fair tests, record results and use observations and secondary sources to answer questions. Identify patterns, classify and communicate conclusions.	Becomes more systematic and independent in planning, recording, interpreting and explaining evidence.	predict, test, results, pattern, conclude, research, secondary source



KS1 Science Progression at a Glance

Concise progression from Year 1 to Year 2 and readiness for Year 3

Progression focus

The supplied document combines scientific knowledge with a clear working-scientifically approach. This overview adds a progression in independence: from identifying and describing to predicting, testing, recording, interpreting and explaining. Challenge questions give pupils a reason to use the science.

Area	Year 1	Year 2	End of KS1 / Year 3 readiness	Key vocabulary
Plants	Names common plants and trees; labels basic parts and observes seasonal differences.	Describes how seeds and bulbs grow and explains plant needs using observations over time.	Uses observations to describe growth and identify conditions that support healthy plants.	root, stem, leaf, flower, seed, bulb, grow, light
Animals & humans	Names animal groups, compares visible structures and identifies body parts and associated senses.	Describes offspring, growth and basic survival needs; explains links between diet, exercise and hygiene.	Uses scientific vocabulary to compare animals and explain how humans and other animals grow and stay healthy.	mammal, bird, reptile, offspring, adult, senses, nutrition
Living things & habitats	Distinguishes living, dead and never-alive; identifies habitats and microhabitats and simple food chains.	Explains how habitats provide for basic needs and how animals depend on plants and other animals.	Uses examples to explain suitability, dependence and simple food relationships.	living, habitat, microhabitat, needs, suited, food chain
Materials & forces	Names, groups and describes everyday materials by simple properties; distinguishes an object from its material.	Compares suitability, investigates changing shapes and explains movement on different surfaces and contact forces.	Selects materials for a purpose and uses evidence to describe how forces and surfaces affect movement.	material, property, suitable, flexible, force, friction, surface
Seasonal change	Observes weather and seasonal change, including variation in daylight, over time.	Uses repeated observations and records to identify patterns and describe seasonal effects.	Describes patterns in seasonal change and recognises that observations can be repeated and compared.	season, weather, daylight, pattern, observe, record

Area	Year 1	Year 2	End of KS1 / Year 3 readiness	Key vocabulary
Working scientifically	Asks simple questions; observes closely; identifies and classifies; notices patterns; records findings using drawings, labels, tables and simple charts.	Asks relevant questions; makes predictions; carries out simple comparative and fair tests; records results; researches and communicates conclusions.	Chooses an appropriate enquiry approach, uses evidence and explains what the results show, ready for lower KS2 investigations.	question, observe, predict, compare, fair test, results, evidence
Scientific communication	Uses everyday and taught vocabulary to name, label, group and describe observations.	Uses scientific vocabulary to explain patterns, suitability, growth, forces and relationships; presents findings clearly.	Communicates a conclusion using accurate vocabulary, a record of evidence and a clear explanation.	identify, describe, explain, classify, conclude, evidence

Implementation note: Challenge questions should lead to practical experiences, not replace the statutory knowledge objectives. Revisit enquiry types across both years and make the reasoning behind observing over time, comparative and fair testing, research, pattern seeking and classification explicit.



Using the KS1 Progression Document

Planning, teaching, assessment and transition

Planning from the progression

1 START WITH PRIOR LEARNING Recall familiar observations, vocabulary and experiences before introducing the challenge.	2 MODEL THE NEW STEP Demonstrate careful observation, equipment use, recording and safe scientific routines.	3 PLAN FOR APPLICATION Use the challenge question to guide a practical enquiry and a reasoned answer.
4 ASSESS PROCESS Notice questions, predictions, observations, records and explanations as well as facts.	5 BUILD LANGUAGE Revisit scientific terms through talk, diagrams, practical work and written conclusions.	6 SUPPORT INDEPENDENCE Adapt equipment, recording formats and groupings while keeping the scientific idea ambitious.

What progression should look like in pupils' learning

KNOW MORE Recalls connected scientific knowledge.	DO MORE Observes, tests and records more systematically.	CHOOSE MORE Selects a suitable way to investigate.	EXPLAIN MORE Uses evidence and precise vocabulary.	IMPROVE MORE Reviews results and refines an explanation.
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Suggested evidence for assessment and subject leadership

PUPIL VOICE Can pupils explain what they noticed, tested and found out?	BOOKS & OUTCOMES Do drawings, tables, investigations and conclusions show progression?	TEACHING & INCLUSION Are practical work, vocabulary, equipment and recording adapted and revisited?	TRANSITION Does evidence show readiness for wider knowledge and enquiry in KS2?
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End-of-KS1 readiness for Year 3 Science

KNOWLEDGE Explains key features of plants, animals, habitats, materials and seasonal change.	OBSERVATION Makes careful observations and records them clearly.	TESTING Makes a prediction and carries out a simple fair comparison.
CLASSIFICATION Groups and identifies using observable features and taught criteria.	RESEARCH Uses a simple secondary source to answer a question.	EXPLANATION Uses evidence and scientific vocabulary to communicate a conclusion.

Read alongside the school Science overview, Challenge Curriculum-inspired planning, practical work and assessment records. The challenge questions and progression summaries are based on the supplied KS1 Science progression; additional vocabulary and readiness guidance support consistent implementation.