



Science

National Curriculum

Sc4/1 Working Scientifically

During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- Sc4/1.1 asking relevant questions and using different types of scientific enquiries to answer them
- Sc4/1.2 setting up simple practical enquiries, comparative and fair tests
- Sc4/1.3 making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Sc4/1.4 gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- Sc4/1.5 recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Sc4/1.6 reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Sc4/1.7 using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- Sc4/1.8 identifying differences, similarities or changes related to simple scientific ideas and processes
- Sc4/1.9 using straightforward scientific evidence to answer questions or to support their findings.

Sc4/2.1 All Living Things

- Sc4/2.1a recognise that living things can be grouped in a variety of ways
- Sc4/2.1b explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- Sc4/2.1c recognise that environments can change and that this can sometimes pose dangers to living things.
- Sc4/2.2 Animals including humans
- Sc4/2.2a describe the simple functions of the basic parts of the digestive system in humans
- Sc4/2.2b identify the different types of teeth in humans and their simple functions
- Sc4/2.2c construct and interpret a variety of food chains, identifying producers, predators and prey.

Sc4/3.1 States of Matter

- Sc4/3.1a compare and group materials together, according to whether they are solids, liquids or gases
- Sc4/3.1b 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)
- Sc4/3.1c identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Sc4/4.1 Sound

- Sc4/4.1a identify how sounds are made, associating some of them with something vibrating
- Sc4/4.1b recognise that vibrations from sounds travel through a medium to the ear
- Sc4/4.1c find patterns between the pitch of a sound and features of the object that produced it
- Sc4/4.1d find patterns between the volume of a sound and the strength of the vibrations that produced it.
- Sc4/4.1e recognise that sounds get fainter as the distance from the sound source increases.

Sc4/4.2 Electricity

- Sc4/4.2a identify common appliances that run on electricity
- Sc4/4.2b construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- Sc4/4.2c 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
- Sc4/4.2d recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- Sc4/4.2e recognise some common conductors and insulators, and associate metals with being good conductors.



Computing	
National Curriculum	
Co2/1.1 design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	
Co2/1.2 use sequence, selection, and repetition in programs; work with variables and various forms of input and output	
Co2/1.3 use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	
Co2/1.4 understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration	
Co2/1.5 use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	
Co2/1.6 select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	
Co2/1.7 use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact	
Progression of Skills	
Text and Multimedia	<ul style="list-style-type: none"> Record and present information integrating a range of appropriate media combining text and graphics in printable form and sound and video for on-screen presentations which include hyperlinks. Begin to show an awareness of the intended audience and seek feed-back.
Digital Images (photos, paint, animation)	<ul style="list-style-type: none"> Manipulate digital images using a range of tools in appropriate software to convey a specific mood or idea.
Sound and music (Inc. sound recorders)	<ul style="list-style-type: none"> Create a simple podcast, selecting and importing already existing music and sound effects as well as recording their own.
Electronic Communication	<ul style="list-style-type: none"> Begin to understand the need to abide by school e-safety rules.
Research and E Safety	<ul style="list-style-type: none"> Using another curriculum area as a starting point, children ask their own questions then use ICT sources to find answers, making use of search engines, an index, menu, hyperlinks as appropriate. Children use the information or resources they have found. Children talk about using ICT to find information / resources noting any frustrations and showing an emerging understanding of internet safety.
Control (algorithms)	<ul style="list-style-type: none"> Children are able to type a short sequence of instructions and to plan ahead when programming devices on and off screen.
Handling Information (databases and graphs)	<ul style="list-style-type: none"> Children use a simple database (the structure of which has been set up for them) to enter and save and save information on a given subject. They follow straight forward lines of enquiry to search their data for their own purposes. They talk about their experiences of using ICT to process data compared with other methods.
Modelling and Simulations (spreadsheets, adventure games and simulations)	<ul style="list-style-type: none"> Use models and simulations to find things out and solve problems. Recognise that simulations are useful in widening experience beyond the classroom. Make simple use of a spreadsheet to store data and produce graphs.
Data logging (science and maths)	<ul style="list-style-type: none"> Begin to use a data logger to sense physical data (sound, light, temperature).
Understanding Technologies (individual technologies)	<ul style="list-style-type: none"> Begin to show discernment in their use of computing devices and tools for a particular purpose and explain why their choice was made.



Understanding Technologies (networks)	<ul style="list-style-type: none"> Show an understanding that their password is the key to accessing a personalised set of resources and files (e.g. My Documents). Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)
Understanding Technologies (the internet)	<ul style="list-style-type: none"> Show an awareness that not all the resources/tools they use are resident on the device they are using. Begin to show an understanding of URLs.

Music

National Curriculum

Mu2/1.1	play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
Mu2/1.2	improvise and compose music for a range of purposes using the interrelated dimensions of music
Mu2/1.3	listen with attention to detail and recall sounds with increasing aural memory
Mu2/1.4	use and understand staff and other musical notations
Mu2/1.5	appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians
Mu2/1.6	develop an understanding of the history of music.

Progression of Skills

Singing songs with control and using the voice expressively.	<ul style="list-style-type: none"> Sing with confidence using a wider vocal range. Sing in tune. Sing with awareness of pulse and control of rhythm. Recognise simple structures. (Phrases). Sing expressively with awareness and control at the expressive elements. E.g. timbre, tempo, dynamics. Sing songs and create different vocal effects. Understand how mouth shapes can affect voice sounds. Internalise sounds by singing parts of a song 'in their heads.'
Listening, Memory and Movement.	<ul style="list-style-type: none"> Identify melodic phrases and play them by ear. Create sequences of movements in response to sounds. Explore and chose different movements to describe animals. Demonstrate the ability to recognise the use of structure and expressive elements through dance. Identify phrases that could be used as an introduction, interlude and ending.
Controlling pulse and rhythm	<ul style="list-style-type: none"> Recognise rhythmic patterns. Perform a repeated pattern to a steady pulse. Identify and recall rhythmic and melodic patterns. Identify repeated patterns used in a variety of music. (Ostinato).
Exploring sounds, melody and accompaniment.	<ul style="list-style-type: none"> Identify ways sounds are used to accompany a song. Analyse and comment on how sounds are used to create different moods. Explore and perform different types of accompaniment. Explore and select different melodic patterns. Recognise and explore different combinations of pitch sounds.
Control of instruments	<ul style="list-style-type: none"> Identify melodic phrases and play them by ear. Select instruments to describe visual images. Choose instruments on the basis of internalised sounds.
Composition	<ul style="list-style-type: none"> Create textures by combining sounds in different ways. Create music that describes contrasting moods/emotions. Improvise simple tunes based on the pentatonic scale. Compose music in pairs and make improvements to their own work. Create an accompaniment to a known song. Create descriptive music in pairs or small groups.
Reading and writing notation	<ul style="list-style-type: none"> Perform long and short sounds in response to symbols. Create long and short sounds on instruments. Play and sing phrase from dot notation.



	<ul style="list-style-type: none"> Record their own ideas. Make their own symbols as part of a class score.
Performance skills	<ul style="list-style-type: none"> Perform in different ways, exploring the way the performers are a musical resource. Perform with awareness of different parts.
Evaluating and appraising	Recognise how music can reflect different intentions.

P.E

National Curriculum

PE2/1.1 Sport & Games

- PE2/1.1a use running, jumping, throwing and catching in isolation and in combination
- PE2/1.1b play competitive games, modified where appropriate, and apply basic principles suitable for attacking and defending
- PE2/1.1c develop flexibility, strength, technique, control and balance
- PE2/1.1d perform dances using a range of movement patterns
- PE2/1.1e take part in outdoor and adventurous activity challenges both individually and within a team
- PE2/1.1f compare their performances with previous ones and demonstrate improvement to achieve their personal best.

PE2/1.2 Swimming and water safety

- PE2/1.2a swim competently, confidently and proficiently over a distance of at least 25 metres
- PE2/1.2b use a range of strokes effectively
- PE2/1.2c perform safe self-rescue in different water-based situations.

Progression of Skills

Throwing	<ul style="list-style-type: none"> I can pass a ball using the three netball passes (chest/ shoulder/ bounce).
Catching	<ul style="list-style-type: none"> I can run and catch a ball.
Jumping	<ul style="list-style-type: none"> I can perform a triple jump, using the correct technique.
Striking	<ul style="list-style-type: none"> I can hit a ball with a cricket bat. I can hit a ball a target, using a tennis racket.
Running/ Travelling	<ul style="list-style-type: none"> I can dribble a ball with a hockey stick (running). I can run while dribbling a ball. I can run and pass a baton to a team member (forward facing).
Kicking	
Agility, Balance and Coordination	<ul style="list-style-type: none"> I can perform a movement pattern that travels, changes direction, level and speed. I can compare movement patterns, commenting on differences and similarities.
Team Work and Games	<ul style="list-style-type: none"> I can work as a team.
Health and Lifestyle	<ul style="list-style-type: none"> I can explain what happens to us when our heart rate is raised.

Art

National Curriculum

- Ar2/1.1 to create sketch books to record their observations and use them to review and revisit ideas
- Ar2/1.2 to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials



Ar2/1.3 about great artists, architects and designers in history.

Progression of Skills

Drawing	<ul style="list-style-type: none"> • As Year 3, plus • Identify and draw the effect of light (shadows) on a surface, on objects and people. • Introduce the concepts of scale and proportion. • Encourage more accurate drawings of whole people, building on their work on facial features to include proportion, placement and shape of body. • Work on a variety of scales, A4 (wrist movement), larger (to involve development of arm and upper body movement and visual perceptions) • Computer generated drawings.
Colour	<ul style="list-style-type: none"> • Make the colours shown on a commercial colour chart. • Mix and match colours to those in a work of art. • Work with one colour against a variety of backgrounds. • Observe colours on hands and faces - mix flesh colours. • Advise and question suitable equipment for the task e.g. size of paintbrush or paper needed.
Texture	<ul style="list-style-type: none"> • Build on all previous experiences. • Use a wider variety of stitches to 'draw' with and develop pattern and texture – e.g. zig zag stitch, chain stitch, seeding. • Start to place more emphasis on observation and design of textural art. • Use initial sketches to aid work. • Continue experimenting with creating mood, feeling, movement and areas of interest. • Look at fabrics from other countries and discuss. Compare with own. Discuss different types of fabric.
Form	<ul style="list-style-type: none"> • Plan and develop ideas in sketchbook and make informed choices about media. • Experienced surface patterns / textures. • Work safely, to organize working area and clear away. • Discuss own work and work of other sculptors with comparisons made. (Hepworth, Arp, Nevelson, Gabo, etc) • Consider light and shadow, space and size. • Investigate, analyse and interpret natural and manmade forms of construction.
Printing	<ul style="list-style-type: none"> • Use sketchbook for recording textures/patterns. • Interpret environmental and manmade patterns and form • Discuss the nature of effects able to modify and adapt print as work progresses. • Explores images and recreates texture through deliberate selection of materials wallpaper, string, polystyrene etc
Pattern	<ul style="list-style-type: none"> • Consider different types of mark making to make patterns. • Look at various artists creation of pattern and discuss effect, ie. Gaudi, Matisse, Escher, aboriginal art) • Link to Maths – tessellation (Escher) • Geometry, shape lines (Mondrian/Klee)

History

National Curriculum

Hi2/1.3 Anglo-Saxons & Scots

Pupils should be taught about Britain's settlement by Anglo-Saxons and Scots

This could include:

Roman withdrawal from Britain in c. AD 410 and the fall of the western Roman Empire

Scots invasions from Ireland to north Britain (now Scotland)

Anglo-Saxon invasions, settlements and kingdoms: place names and village life

Anglo-Saxon art and culture



Christian conversion – Canterbury, Iona and Lindisfarne

Hi2/1.4 Anglo-Saxons & Vikings

Pupils should be taught about the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor

This could include:

- Viking raids and invasion*
- resistance by Alfred the Great and Athelstan, first king of England*
- further Viking invasions and Danegeld*
- Anglo-Saxon laws and justice*
- Edward the Confessor and his death in 1066*

Hi2/2.1 Local History

Pupils should be taught about an aspect of local history

For example:

- a depth study linked to one of the British areas of study listed above*
- a study over time tracing how several aspects of national history are reflected in the locality (this can go beyond 1066)*
- a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality.*

Hi2/2.2 Extended chronological study

Pupils should be taught a study of an aspect or theme in British history that extends pupils’ chronological knowledge beyond 1066

For example:

- the changing power of monarchs using case studies such as John, Anne and Victoria*
- changes in an aspect of social history, such as crime and punishment from the Anglo-Saxons to the present or leisure and entertainment in the 20th Century*
- the legacy of Greek or Roman culture (art, architecture or literature) on later periods in British history, including the present day*
- a significant turning point in British history, for example, the first railways or the Battle of Britain*

Hi2/2.3 Ancient Civilizations

Pupils should be taught about the achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one of the following:

- Ancient Sumer;
- The Indus Valley;
- Ancient Egypt; or
- The Shang Dynasty of Ancient China

Progression of Skills

Chronology	<ul style="list-style-type: none"> • Place events from period studied on a time line • Use terms related to the period and begin to date events • Understand more complex terms e.g. BCE/AD
Range and Depth of Historical Knowledge	<ul style="list-style-type: none"> • Use evidence to reconstruct life in time studied • Identify key features and events • Look for links and effects in time studied • Offer a reasonable explanation for some events • Develop a broad understanding of ancient civilisations
Interpretations of History	<ul style="list-style-type: none"> • Look at the evidence available • Begin to evaluate the usefulness of different sources • Use of text books and historical knowledge
Historical Enquiry	<ul style="list-style-type: none"> • Use evidence to build up a picture of a past event • Choose relevant material to present a picture of one aspect of life in time past • Ask a variety of questions • Use the library, e-learning for research
Organisation and	<ul style="list-style-type: none"> • Select data and organise it into a data file to answer historical questions • Know the period in which the study is set



Communication	<ul style="list-style-type: none"> • Display findings in a variety of ways • Work independently and in groups
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DT

National Curriculum

DT2/1.1 Design

- DT2/1.1a use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- DT2/1.1b generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

DT2/1.2 Make

- DT2/1.2a select from and use a wider range of tools and equipment to perform practical tasks accurately
- DT2/1.2b select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

DT2/1.3 Evaluate

- DT2/1.3a investigate and analyse a range of existing products
- DT2/1.3b evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- DT2/1.3c understand how key events and individuals in design and technology have helped shape the world

DT2/1.4 Technological Knowledge

- DT2/1.4a apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- DT2/1.4b understand and use mechanical systems in their products
- DT2/1.4c understand and use electrical systems in their products
- DT2/1.4d apply their understanding of computing to programme, monitor and control their products.

DT2/2.1 Cooking & Nutrition

- DT2/2.1a understand and apply the principles of a healthy and varied diet
- DT2/2.1b cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet
- DT2/2.1c become competent in a range of cooking techniques [for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes]
- DT2/2.1c understand the source, seasonality and characteristics of a broad range of ingredients

Progression of Skills

Developing planning and communicating ideas	<ul style="list-style-type: none"> • Start to generate ideas, considering the purposes for which they are designing-link with Mathematics and Science. • Confidently make labelled drawings from different views showing specific features. • Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making, if the first attempts fail. • Identify the strengths and areas for development in their ideas and products. • When planning consider the views of others, including intended users, to improve their work. • Learn about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products. • When planning explain their choice of materials and components according to function and aesthetic.
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Working with tools, equipment, materials and components to make quality products	<ul style="list-style-type: none"> • Select a wider range of tools and techniques for making their product safely. • Know how to measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques. • Start to join and combine materials and components accurately in temporary and permanent ways. • Know how mechanical systems such as cams or pulleys or gears create movement. • Understand how more complex electrical circuits and components can be used to create functional
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	<ul style="list-style-type: none"> products. Continue to learn how to program a computer to monitor changes in the environment and control their products. Understand how to reinforce and strengthen a 3D framework. Now sew using a range of different stitches, to weave and knit. Demonstrate how to measure, tape or pin, cut and join fabric with some accuracy. Begin to use finishing techniques to strengthen and improve the appearance of their product using a range of equipment including ICT.
Evaluating processes and products	<ul style="list-style-type: none"> Evaluate their products carrying out appropriate tests. Start to evaluate their work with during and at the end of the assignment. Be able to disassemble and evaluate familiar products and consider the views of others to improve them. Evaluate the key designs of individuals in design and technology has helped shape the world.
Food and Nutrition	<ul style="list-style-type: none"> Understand that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world. Understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in 'The Eat well plate' Know that to be active and healthy, food and drink are needed to provide energy for the body.

Geography

National Curriculum

Ge2/1.1 Locational Knowledge

Ge2/1.1a locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities

Ge2/1.1b name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time

Ge2/1.1c identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

Ge2/1.2 Place Knowledge

Ge2/1.2a understand geographical similarities and differences through the study of human and physical geography
South America

Ge2/1.3 Human and Physical Geography

Ge2/1.3a describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts

Ge2/1.3b describe and understand key aspects of human geography, including: types of settlement and land use, economic activity, local human and physical geography study

Ge2/1.4 Geographical Skills and Fieldwork

Ge2/1.4a use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

Ge2/1.4b use the 8 points of a compass, 4 and 6-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world

Ge2/1.4c use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

Progression of skills

Geographical language	<ul style="list-style-type: none"> To describe route and direction linking N/S/E/W with degrees on the compass Link words to topic/theme e.g. contour/height/valley
Enquiry (builds on questions from	<ul style="list-style-type: none"> Ask questions –what is this landscape like? What will it be like in the future? Analyse evidence and draw conclusions e.g. make comparisons between locations using



Year 4 National Curriculum and Progression of Skills



previous years)	<p>photos/pictures/maps</p> <ul style="list-style-type: none">•• Identify and explain different views of people including themselves• Collect and record evidence: show questionnaire results in simple chart, colour coded maps which demonstrate patterns• Communicate in ways appropriate to task and audience
Theme	<ul style="list-style-type: none">• E.g. water and the effects on the environment, settlement, environmental change, sustainability
Fieldwork: where, why? Use fieldwork techniques	<ul style="list-style-type: none">•
Map work/ atlas work	<ul style="list-style-type: none">• Draw accurate map – develop more complex key• Use contents/index to locate position of location including page/coordinates