



Science

National Curriculum

Sc6/1 Working Scientifically

During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

Sc6/1.1 planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary

Sc6/1.2 taking measurements, using a range of scientific equipment, with increasing accuracy and precision

Sc6/1.3 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs

Sc6/1.4 using test results to make predictions to set up further comparative and fair tests

Sc6/1.5 using simple models to describe scientific ideas

Sc6/1.6 reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations

Sc6/1.7 identifying scientific evidence that has been used to support or refute ideas or arguments.

Sc6/2.1 Living Things and their habitats

Sc6/2.1a describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals

Sc6/2.1b give reasons for classifying plants and animals based on specific characteristics.

Sc6/2.2 Animals including humans

Sc6/2.2a identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood

Sc6/2.2b recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function

Sc6/2.2c describe the ways in which nutrients and water are transported within animals, including humans.

Sc6/2.3 Evolution

Sc6/2.3a recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

Sc6/2.3b recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents

Sc6/2.3c identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Sc6/4.1 Light

Sc6/4.1a recognise that light appears to travel in straight lines

Sc6/4.1b use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye

Sc6/4.1c explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes

Sc6/4.1d use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them

Sc6/4.2 Electricity

Sc6/4.2a associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit

Sc6/4.2b compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches

Sc6/4.2c use recognised symbols when representing a simple circuit in a diagram.



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"> • Multimedia work shows restrained use of effects that help to convey meaning rather than impress.
Digital Images (photos, paint, animation)	<ul style="list-style-type: none"> • Use images that they have sourced / captured / manipulated as part of a bigger project (e.g. presentation or document).
Sound and music (Inc. sound recorders)	<ul style="list-style-type: none"> • Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.
Electronic Communication	<ul style="list-style-type: none"> • Abide by school rules for e-safety.
Research and E Safety	<ul style="list-style-type: none"> • Independently and with due regard for safety, search the internet using a variety of techniques to find a range of information and resources on a specific topic. • Use appropriate methods to validate information and check for bias and accuracy. • Repurpose and make appropriate use of selected resources for a given audiences, acknowledging material misused where appropriate.
Control (algorithms)	<ul style="list-style-type: none"> • Independently create sequences of commands to control devices in response to sensing (i.e. use inputs as well as outputs). • Design, build, test, evaluate and modify the system; ensuring that it is fit for purpose.
Handling Information (databases and graphs)	<ul style="list-style-type: none"> • Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by draw in conclusions and presenting findings. • The need for accuracy is demonstrated and strategies for spotting implausible data are evident. • Children should be able to talk about issues relating to data protection and the need for data security in the world at large (e.g. health, police databases).
Modelling and Simulations (spreadsheets, adventure games and simulations)	<ul style="list-style-type: none"> • Set up and use their own spreadsheet, which contains formulae to investigate mathematical models. Ask "what if ..." questions and change variable in their model. • Understand the need for accuracy when creating formulae and check regularly for mistakes, by questioning results. • Relate their use of spreadsheets to model situations to the wider world.
Data logging (science and maths)	<ul style="list-style-type: none"> • Children are able to identify their own opportunities for data logging and carry out their own experiments. • They check and question results and are able to spot trends in data and identify when problems may have occurred.
Understanding Technologies (individual technologies)	<ul style="list-style-type: none"> • Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems. • Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.
Understanding Technologies (networks)	<ul style="list-style-type: none"> • Show an understanding of how filtering and monitoring tools affect their use of the school network and Internet and compare this with their experience of access outside school.
Understanding Technologies (the	<ul style="list-style-type: none"> • Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication.



internet)	
Music	
National Curriculum	
<p>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</p> <p>Mu2/1.2 improvise and compose music for a range of purposes using the interrelated dimensions of music</p> <p>Mu2/1.3 listen with attention to detail and recall sounds with increasing aural memory</p> <p>Mu2/1.4 use and understand staff and other musical notations</p> <p>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</p> <p>Mu2/1.6 develop an understanding of the history of music.</p>	
Progression of Skills	
Singing songs with control and using the voice expressively.	<ul style="list-style-type: none"> • Sing songs with increasing control of breathing, posture and sound projection. • Sing songs in tune and with an awareness of other parts. • Identify phrases through breathing in appropriate places. • Sing with expression and rehearse with others. • Sing a round in two parts and identify the melodic phrases and how they fit together. • Sing confidently as a class, in small groups and alone, and begin to have an awareness of improvisation with the voice.
Listening, Memory and Movement.	<ul style="list-style-type: none"> • Internalise short melodies and play these on pitched percussion (play by ear). • Create dances that reflect musical features. • Identify different moods and textures. • Identify how a mood is created by music and lyrics. • Listen to longer pieces of music and identify features.
Controlling pulse and rhythm	<ul style="list-style-type: none"> • Identify different speeds of pulse (tempo) by clapping and moving. • Improvise rhythm patterns. • Perform an independent part keeping to a steady beat. • Identify the metre of different songs through recognising the pattern of strong and weak beats. • Subdivide the pulse while keeping to a steady beat.
Exploring sounds, melody and accompaniment.	<ul style="list-style-type: none"> • Skills development for this element are to be found within 'Control of instruments' and 'Composition'.
Control of instruments	<ul style="list-style-type: none"> • Identify and control different ways percussion instruments make sounds. • Play accompaniments with control and accuracy. • Create different effects using combinations of pitched sounds. • Use ICT to change and manipulate sounds.
Composition	<ul style="list-style-type: none"> • Identify different starting points or composing music. • Explore, select combine and exploit a range of different sounds to compose a soundscape. • Write lyrics to a known song. • Compose a short song to own lyrics based on everyday phrases. • Compose music individually or in pairs using a range of stimuli and developing their musical ideas into a completed composition.
Reading and writing notation	<ul style="list-style-type: none"> • Perform using notation as a support • Sing songs with staff notation as support.
Performance skills	<ul style="list-style-type: none"> • Present performances effectively with awareness of audience, venue and occasion.
Evaluating and appraising	<ul style="list-style-type: none"> • Improve their work through analysis, evaluation and comparison.



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 rugby ball backwards, while moving.
Catching	<ul style="list-style-type: none"> I can receive a ball and use the correct footwork in netball to pass. I can receive a ball, while moving, in hockey.
Jumping	<ul style="list-style-type: none"> I can perform a triple jump, standing long jump and long jump using the correct technique.
Striking	<ul style="list-style-type: none"> I can perform a drop shot, serve and vertical swing in badminton.
Running/ Travelling	<ul style="list-style-type: none"> I can run 150m. I can suggest improvements for a movement pattern. I can run and pass a baton to a team member (from behind).
Kicking	
Agility, Balance and Coordination	<ul style="list-style-type: none"> I can perform a movement pattern that travels, changes direction, level and speed and uses a range of body parts.
Team Work and Games	<ul style="list-style-type: none"> I can solve a problem with my team.
Health and Lifestyle	<ul style="list-style-type: none"> I can discuss the effects of not taking enough exercise.



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"> • Observe and use a variety of techniques to show the effect of light on objects and people e.g. use rubbers to lighten, use pencil to show tone, use tones of the same colour. • Look at the effect of light on an object from different directions. • Use a variety of techniques to interpret the texture of a surface e.g. mark making, different textured paint. • Produce increasingly accurate drawings of people. • Produce increasingly detailed preparatory sketches for painting and other work. • Introduce the concept of perspective. • Work on a variety of scales and collaboratively. • Independently selects materials and techniques to use to create a specific outcome.
Colour	<ul style="list-style-type: none"> • Controlling and experimenting particular qualities of tone, shades, hue and mood. • Explore the use of texture in colour (link to texture unit) with sawdust, glue, shavings, sand and on different surfaces. • Considering colour for purposes • Use colour to express moods and feelings. • Explore the texture of paint - very wet and thin or thick and heavy - add PVA to the paint. • Encourage individual identification of suitable equipment for a particular purpose e.g. size of paintbrush or paper needed. • Consider artists use of colour and application of it (Pollock, Monet, Chagall)
Texture	<ul style="list-style-type: none"> • Develops experience in embellishing, pooling together experiences in texture to complete a piece – applique, drawing, sticking, cutting, paint, weaving, layering etc. • Use found and constructed materials. • Work collaboratively on a larger scale.
Form	<ul style="list-style-type: none"> • Makes imaginative use of the knowledge they have acquired of tools, techniques and materials to express own ideas and feelings
Printing	<ul style="list-style-type: none"> • Builds up drawings and images of whole or parts of items using various techniques, e.g. card, relief • Recreates a scene remembered, observed or imagined, through collage printing • Screen printing • Explore printing techniques using by various artists.
Pattern	<ul style="list-style-type: none"> • Organise own patterns • Use shape to create patterns • Create own abstract pattern • Patterns reflect personal experiences and expression. • Creating pattern for purposes e.g. wallpaper, clothes, puppets, boxes, folders, book covers etc. • Look at various artists creation of pattern and discuss effect, ie. Morris, Sol Lewitt, Matisse (pattern within pattern), Bridget Riley, Miro) • Discuss own and artists work, drawing comparisons and reflecting on their own creations. •



History

National Curriculum

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

Progression of Skills

Chronology	<ul style="list-style-type: none"> Place current study on time line in relation to other studies Know and sequence key events of time studied use relevant terms and periods labels relate current studies to previous studies Make comparisons between different times in history
Range and Depth of Historical Knowledge	<ul style="list-style-type: none"> Study different aspects of life of different people – differences between men and women Examine causes and results of great events and the impact on people Compare life in early and late times studied Compare an aspect of life with the same aspect in another period Study an ancient civilization in detail (e.g. Benin, Shang Dynasty, Egypt)
Interpretations of History	<ul style="list-style-type: none"> Compare accounts of events from different sources. Factor fiction Offer some reasons for different versions of events
Historical Enquiry	<ul style="list-style-type: none"> Begin to identify primary and secondary sources Use evidence to build up a picture of life in time studied Select relevant sections of information confident use of library, e-learning, research
Organisation and Communication	<ul style="list-style-type: none"> Fit events into a display sorted by theme time Use appropriate terms, matching dates to people and events Record and communicate knowledge in different forms · work independently and in groups showing initiative



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

- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and CAD.
- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose.
- Accurately apply a range of finishing techniques, including those from art and design.
- Draw up a specification for their design- link with Mathematics and Science.
- Plan the order of their work, choosing appropriate materials, tools and techniques. Suggest alternative methods of making if the first attempts fail.
- Identify the strengths and areas for development in their ideas and products.
- Know how much products cost to make, how sustainable and innovative they are and the impact products have beyond their intended purpose.

Working with tools, equipment, materials and components to make quality products

- Confidently select appropriate tools, materials, components and techniques and use them.
- Use tools safely and accurately.
- Assemble components to make working models.
- Aim to make and to achieve a quality product.
- With confidence pin, sew and stitch materials together to create a product.
- Demonstrate when make modifications as they go along.
- Construct products using permanent joining techniques.
- Understand how mechanical systems such as cams or pulleys or gears create movement.
- Know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control their products.



	<ul style="list-style-type: none">• Know how to reinforce and strengthen a 3D framework.• Understand that mechanical and electrical systems have an input, process and output.• 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, identifying strengths and areas for development, and carrying out appropriate tests.• Evaluate their work both during and at the end of the assignment.• Record their evaluations using drawings with labels.• Evaluate against their original criteria and suggest ways that their product could be improved.• Evaluate the key designs of individuals in design and technology has helped shape the world.
Food and Nutrition	<ul style="list-style-type: none">• Know 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 that seasons may affect the food available.• Understand how food is processed into ingredients that can be eaten or used in cooking.• Know how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source• Understand how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.• Know different food and drink contain different substances – nutrients, water and fibre – that are needed for health.



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 a region in a European country

Ge2/1.3 Human and Physical Geography

Ge2/1.3a describe and understand key aspects of physical geography, including: rivers, the water cycle

Ge2/1.3b describe and understand key aspects of human geography, including: and the distribution of natural resources including energy, food, minerals and water; contrasting location

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"> Describe route, direction, location 16 points on compass to degrees on compass Link words to theme e.g. settlement – urban/ rural/ land use/ sustainability: rivers – confluence/ tributary
Enquiry (builds on questions from previous years)	<ul style="list-style-type: none"> Ask questions: what is this landscape like? how is it changing? What patterns can you see/ how has the pattern changed? Analyse evidence and draw conclusions e.g. from field work data on land use comparing land use/ temperature. Look at patterns and explain reasons behind it Identify and explain different views of people including themselves Give increased detail of views, justification – detailed reasons influencing views collect and record evidence Record measurement of river width/ depth/ velocity Communicate in ways appropriate to task and audience e.g. use email to exchange information about locality with another school
Theme	<ul style="list-style-type: none"> E.g. Earthquakes , settlement, environmental change, sustainability
Fieldwork: where, why? Use fieldwork techniques	<ul style="list-style-type: none"> Field sketches should show understanding of pattern/ movement/ change
Map work/ atlas work	<ul style="list-style-type: none"> Locate information/ place with speed and accuracy Use key to make deductions about landscape/ industry/ features etc.