

# Year 4

## Maths

Mathematical objectives taken from the Year 4 National Curriculum Programme of Study

<https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study/national-curriculum-in-england-mathematics-programmes-of-study#year-4-programme-of-study>

## English

English objectives taken from the Year 3 and 4 National Curriculum Programme of Study

<https://www.gov.uk/government/publications/national-curriculum-in-england-english-programmes-of-study/national-curriculum-in-england-english-programmes-of-study#years-3-and-4-programme-of-study>

## Science

Scientific Skills	Working scientifically	Questioning and enquiry	Observing and measuring	Investigating	Recording	Grouping and classifying
	To use practical scientific methods, processes and skills	Ask relevant questions and use different types of scientific enquiries to answer them.	Make systematic and careful observations, take accurate measurements using standard units and a range of equipment, including thermometers and data loggers. Begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. Help make decisions about what observations and equipment they will need to use.	Set up simple practical experiments, comparative and fair tests. Recognise when a simple fair test is necessary and help to decide how to set it up. Be able to think of more than one variable factor.	Gather, record, classify and present data in a variety of ways to answer a question. Record simple findings using scientific vocabulary, drawings, labelled diagrams, keys, bar charts and tables. Report on findings including oral and written explanation, displays or presentation of results and conclusions. Use notes, simple tables and standard units to decide how to record and analyse data.	Identify differences, similarities and changes related to scientific ideas and processes. Talk about criteria for grouping, sorting and classifying and use simple keys. Compare and group according to behaviour or properties, based on testing
Areas in science	Living things and their habitat	Animals including humans	States of matter	Sound	Electricity	
	<p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Describe the simple functions of the basic parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers, predators and prey.</p>	<p>Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>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)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>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</p> <p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	

## Computing

	Text & Multimedia	Digital Image	Sound and Music	Electronic Communication
<b>use of tools for presentation/communication</b>	Use advanced tools in word processing / DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience. Multimedia work shows restrained use of effects that help to convey meaning rather than impress.	Make a short film / animation from images (still and / or moving) that they have sourced, captured or created. Use images that they have sourced / captured / manipulated as part of a bigger project (eg presentation or document).	Create multiple track compositions that contain a variety of sounds. Create and share more sophisticated podcasts and consider the effect that their podcasts will have on the audience.	Create, send and reply to emails, making use of an address book and sending attachments. Understand the need for e-safety rules and abide by them both in and out of school.
	<b>Control</b>	<b>Modelling and Simulations</b>		<b>Data Logging</b> (links to Science and Maths)
<b>use of tools for control and modelling</b>	Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.	Set up and use a spreadsheet model to explore patterns and relationships.		Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.
	<b>Research</b>		<b>Handling Information (Database and graphing)</b>	
<b>use of tools to find things out</b>	Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience. They show an understanding that not all information on the internet is accurate. Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.	Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions. Enter information and interrogate it ( by searching, sorting, graphing etc). Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.		
	Individual technologies	Networking technologies		The Internet as a technology
<b>Understanding of information technologies</b>	Make choices about the devices and tools they use for specific purposes and explain them in relation to the context. Begin to show an awareness of specific tools used in working life.	Show an awareness of where passwords are critical in everyday use (e.g. parents accessing bank details)		Perform a search using different search engines and check the results against each other, explaining why they might be different.
<b>E- Safety</b>	Understand there are rules to keep them safe when communicating electronically, work within these rules understanding what they are and why they exist. Know of other methods of communication and discuss the importance of personal safety at home as well as in school			

## Geography

Location knowledge	Place knowledge	Human & physical knowledge	Geographical skills & fieldwork
<p>Locate the world's countries, using maps to focus on Europe (inc the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries and other major cities.</p> <p>Identify the position and significance of Equator, N. and S. Hemisphere, Tropics of Cancer and Capricorn.</p>	<p>Understand some of the geographical similarities and differences through studying the human and physical geography of a region of the UK and region in a European country.</p>	<p>Describe and understand some key aspects of:</p> <p><b>Physical geography</b> including: rivers, mountains, volcanoes and earthquakes, and the water cycle.</p> <p><b>Human geography</b> including: types of settlement and trade links.</p>	<p>Use maps, atlases, globes and digital/computer mapping (Google Earth) to locate countries and describe features studied</p> <p>Learn the eight points of a compass and four figure- grid references, symbols and key.</p> <p>Use fieldwork to observe, measure and record the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.</p>

## History

Historical interpretation	Historical enquiry	Organisation and communication	Knowledge and understanding of past events, people and changes in the past	Chronological understanding
<p>Gives reasons why there may be different accounts of history.</p>	<p>Understands the difference between primary and secondary sources of evidence. Uses documents, printed sources, the internet, databases, pictures, photos, music, artefacts, historic buildings and visits to collect information about the past. Asks questions such as 'what was it like for a ..... during .....?' Suggests sources of evidence from a selection provided to use to help answer questions.</p>	<p>Presents findings about past using speaking, writing, maths (data handling), ICT, drama and drawing skills</p> <p>Uses dates and terms correctly.</p> <p>Discusses most appropriate way to present information, realising that it is for an audience.</p> <p>Uses subject specific words such as monarch, settlement, invader.</p>	<p>Shows knowledge and understanding by describing features of past societies and periods.</p> <p>Identifies some ideas, beliefs, attitudes and experiences of men, women and children from the past.</p> <p>Gives reasons why changes in houses, culture, leisure, clothes, buildings and their uses, things of importance to people, ways of life, beliefs and attitudes may have occurred during a time period.</p> <p>Describes how some of the past events/people affect life today.</p>	<p>Uses words and phrases: century, decade, BC, AD, after, before, during.</p> <p>Divides recent history into present, using 21<sup>st</sup> century, and the past using 19<sup>th</sup> and 20<sup>th</sup> centuries.</p> <p>Names and places dates of significant events from past on a timeline.</p>

## Art

	Drawing	Painting	Printing	Textiles	3D	Ceramics
<b>Media and techniques</b>	<p>Introduce pen and ink and use of line to represent objects, buildings or living things. Use other viewfinders such as reflections and gaps.</p>	<p>Create images with different tones using only one colour. Explore the use of watercolours. Sustain a painting over a period of time – washes/backgrounds then detail.</p>	<p>Use own printing blocks to create tessellating or overlapping patterns. Create textures in monoprint. Cut up and reorganise prints.</p>	<p>Explore quilting, pleating, padding and gathering fabric to create different effects.</p>	<p>Explore paper sculpture. Investigate low relief.</p>	<p>Develop slab building techniques to build pots.</p>
	<b>Colour</b>	<b>Pattern and texture</b>		<b>Line and tone</b>		<b>Shape, form and space</b>
<b>Elements of art</b>	<p>Explore the use of monochrome – tones of one colour.</p>	<p>Consider regular pattern – repeating, symmetry, reflection, rotational, translational... and use in artwork. Add texture to textiles and ceramics work.</p>		<p>Use different types of line in pen and ink to represent objects, texture and shade. Look at how light changes across a surface and alter the lighting to change the effect. Make a range of tones in a variety of media – paint, oil pastels, chalks, charcoal...</p>		<p>Alter lighting/draw the same object from a variety of angles using tone to create form.</p>

## Design & Technology

Design & Technology									
Design		Making		Evaluate			Technical Knowledge	Food	
Understanding contexts, users and purposes	Generating, developing, modelling and communicating ideas	Planning	Practical skills and techniques	Own ideas and products	Existing products	Key events and individuals	Making Products work	Where food comes from	Food preparation, cooking and nutrition
<ul style="list-style-type: none"> <li>• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment</li> <li>• describe the purpose of their products</li> <li>• indicate the design features of their products that will appeal to intended users</li> <li>• explain how particular parts of their products work</li> </ul>	<ul style="list-style-type: none"> <li>• share and clarify ideas through discussion</li> <li>• model their ideas using prototypes and pattern pieces</li> <li>• use annotated sketches and exploded diagrams to develop and communicate their ideas</li> <li>• use computer-aided design to develop and communicate their ideas</li> </ul>	<ul style="list-style-type: none"> <li>• select tools and equipment suitable for the task</li> <li>• explain their choice of tools and equipment in relation to the skills and techniques they will be using</li> <li>• select materials and components suitable for the task</li> <li>• explain their choice of materials and components according to functional properties and aesthetic qualities</li> </ul>	<ul style="list-style-type: none"> <li>• follow procedures for safety and hygiene</li> <li>• use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</li> </ul>	<ul style="list-style-type: none"> <li>• identify the strengths and areas for development in their ideas and products</li> <li>• consider the views of others, including intended users, to improve their work</li> </ul>	<ul style="list-style-type: none"> <li>• how well products have been designed</li> <li>• how well products have been made</li> <li>• why materials have been chosen</li> <li>• what methods of construction have been used</li> <li>• how well products work</li> <li>• how well products achieve their purposes</li> <li>• how well products meet user needs and wants</li> </ul>	<p>pupils should know:</p> <ul style="list-style-type: none"> <li>• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</li> </ul>	<ul style="list-style-type: none"> <li>• how to use learning from science to help design and make products that work</li> <li>• how to use learning from mathematics to help design and make products that work</li> <li>• that materials have both functional properties and aesthetic qualities</li> <li>• that materials can be combined and mixed to create more useful characteristics</li> <li>• that mechanical and electrical systems have an input, process and output</li> <li>• the correct technical vocabulary for the projects they are undertaking</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> </ul>	<ul style="list-style-type: none"> <li>• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source</li> <li>• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</li> </ul>
<ul style="list-style-type: none"> <li>• gather information about the needs and wants of particular individuals and groups</li> <li>• develop their own design criteria and use these to inform their ideas</li> </ul>	<ul style="list-style-type: none"> <li>• generate realistic ideas, focusing on the needs of the user</li> <li>• make design decisions that take account of the availability of resources</li> </ul>	<ul style="list-style-type: none"> <li>• order the main stages of making</li> </ul>	<ul style="list-style-type: none"> <li>• measure, mark out, cut and shape materials and components with some accuracy</li> <li>• assemble, join and combine materials and components with some accuracy</li> <li>• apply a range of finishing techniques, including those from art and design, with some accuracy</li> </ul>	<ul style="list-style-type: none"> <li>• refer to their design criteria as they design and make</li> <li>• use their design criteria to evaluate their completed products</li> </ul>	<ul style="list-style-type: none"> <li>• who designed and made the products</li> <li>• where products were designed and made</li> <li>• when products were designed and made</li> <li>• whether products can be recycled or reused</li> </ul>		<ul style="list-style-type: none"> <li>• how mechanical systems such as levers and linkages or pneumatic systems create movement</li> <li>• how simple electrical circuits and components can be used to create functional products</li> <li>• how to program a computer to control their products</li> <li>• how to make strong, stiff shell structures</li> <li>• that a single fabric shape can be used to make a 3D textiles product</li> <li>• that food ingredients can be fresh, pre-cooked and processed</li> </ul>		<ul style="list-style-type: none"> <li>• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The eat well plate</li> <li>• that to be active and healthy, food and drink are needed to provide energy for the body</li> </ul>

## Music

	Pulse	Pitch	Rhythm	Dynamics	Tempo	Timbre	Structure and texture	
<b>Elements of music</b>	Know that pulse remains the same.		Know how pulse stays the same but rhythm changes in a piece of music.		Begin to know the number of beats in a quaver. Understand how many beats are in a crotchet, minim and semibreve.	Create (dotted) rhythmic patterns with awareness of timbre and duration. Identify orchestral family timbres.	Listen to several layers of sound (texture) and talk about the effect on mood and feelings.	
	<b>Voice</b>		<b>Tuned and untuned instruments</b>	<b>Listening and applying knowledge and understanding</b>		<b>Appraising</b>	<b>Composing</b>	<b>Performing</b>
<b>Instrumental and music skills</b>	Sing in tune, breathe well, pronounce words, change pitch and dynamics.		Compose and perform melodies using three or four notes. (C, B, A, G) please note that C, A, G together will sound tuneful in any context with instruments.	Know that sense of occasion affects performance. Share likes, dislikes and possible improvements.		Use more musical dimensions vocabulary to describe music—duration, timbre, pitch, dynamics, tempo, texture, structure, rhythm, metre, riff, ostinato, melody, harmony.	Compose and perform melodies using three or four notes. Make creative use of the way sounds can be changed, organised and controlled (including ICT). Create accompaniments for tunes using drones or melodic ostinati	Perform with control and awareness of what others are singing/ playing. Improvise within a group using more than 2 notes.

## Physical Education

Gymnastics	Games	Dance	Athletics	Swimming	Outdoor and Adventurous	Healthy life styles
<ul style="list-style-type: none"> <li>Links skills with control, technique, co-ordination and fluency.</li> <li>Understands composition by performing more complex sequences.</li> <li>Beginning to use gym vocabulary to describe how to improve and refine performances.</li> <li>Develops strength, technique and flexibility throughout performances.</li> <li>Creates sequences using various body shapes and equipment.</li> <li>Combines equipment with movement to create sequences.</li> </ul>	<ul style="list-style-type: none"> <li>Vary skills, actions and ideas and link these in ways that suit the games activity.</li> <li>Shows confidence in using ball skills in various ways, and can link these together. e.g. dribbling, bouncing, kicking</li> <li>Uses skills with co-ordination, control and fluency.</li> <li>Takes part in competitive games with a strong understanding of tactics and composition.</li> <li>Can create their own games using knowledge and skills.</li> <li>Works well in a group to develop various games.</li> <li>Compares and comments on skills to support creation of new games.</li> <li>Can make suggestions as to what resources can be used to differentiate a game.</li> <li>Apply basic skills for attacking and defending.</li> <li>Uses running, jumping, throwing and catching in isolation and combination.</li> </ul>	<ul style="list-style-type: none"> <li>Confidently improvises with a partner or on their own.</li> <li>Beginning to create longer dance sequences in a larger group.</li> <li>Demonstrating precision and some control in response to stimuli.</li> <li>Beginning to vary dynamics and develop actions and motifs.</li> <li>Demonstrates rhythm and spatial awareness.</li> <li>Modifies parts of a sequence as a result of self-evaluation.</li> <li>Uses simple dance vocabulary to compare and improve work.</li> </ul>	<ul style="list-style-type: none"> <li>Beginning to build a variety of running techniques and use with confidence.</li> <li>Can perform a running jump with more than one component. e.g. hop skip jump (triple jump)</li> <li>Demonstrates accuracy in throwing and catching activities.</li> <li>Describes good athletic performance using correct vocabulary.</li> <li>Can use equipment safely and with good control.</li> </ul>	<ul style="list-style-type: none"> <li>Swims competently, confidently and proficiently over a distance of at least 25 metres</li> <li>Uses a range of strokes effectively e.g. front crawl, backstroke and breaststroke.</li> <li>Performs safe self-rescue in different water-based situations.</li> </ul>	<ul style="list-style-type: none"> <li>Develops strong listening skills.</li> <li>Uses simple maps.</li> <li>Beginning to think activities through and problem solve.</li> <li>Choose and apply strategies to solve problems with support.</li> <li>Discuss and work with others in a group.</li> <li>Demonstrates an understanding of how to stay safe.</li> </ul>	<ul style="list-style-type: none"> <li>Can describe the effect exercise has on the body</li> <li>Can explain the importance of exercise and a healthy lifestyle.</li> <li>Understands the need to warm up and cool down.</li> </ul>

## Modern Foreign Languages – Spanish

<u>Speaking and Listening</u>	<u>Reading</u>	<u>Writing</u>	<u>Grammar</u>
Listen to and identify words in short phrases Communicate by asking and answering a wider range of questions Memorise and present a short text	Read and understand some familiar written phrases. Follow a short text by listening and reading, saying some of the text. Read a wider range of words phrases and sentences aloud.	Write some familiar words and phrases without help.	Recognise 5 most high frequency words.