Year 5 Curriculum

Maths

Mathematical objectives taken from the Year 5 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-5-programme-of-study

English

English objectives taken from the Year 5 and 6 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-5-and-6-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	Begin to plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment. Begin to make own decisions about what observations, measurements, and equipment to use. Begin to interpret data. Begin to make accurate and precise measurements– N, g, kg, mm, cm, mins, seconds, cm^2V, km/h, m per sec, m/ sec Graphs – pie, line	Begin to test results to make predictions to set up further comparative and fair tests. Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to the method and give reasons.	Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data.	Begin to use and develop keys and other information record to identify, classify and describe living things and materials.

Areas in science	Living things and their habitat	Materials	Animals including humans	Forces and magnets	Earth and space
	Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals.	Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic Demonstrate that dissolving, mixing and changes of state are reversible changes Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.	Describe the changes as humans develop to old age.	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Computing				
	Text & Multimedia	**Digital Image**	**Sound and Music**	**Electronic Communication**
use of tools for presentation/communication	Independently create an interactive presentation, with hyperlinks, using resources they have created or found through research.	Add special effects, transitions, titles etc. to their films / animations as appropriate, considering the effect they will have on the viewer.	Use ICT to compose appropriate music for podcasts and evaluate its impact.	Participate in video conferencing as a group, appreciating the need to abide by certain rules. Understand the need for e-safety rules and abide by them both in and out of school.
	Control	**Modelling and Simulations**		**Data Logging** (links to Science and Maths)
use of tools for control and modelling	Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.	Make predictions. Know how to enter simple formulae to assist this process.		Interpret the results and use these in their investigations. Realise the advantages of using ICT to collect data that might otherwise be problematic.
	Research		**Handling Information (Database and graphing)**	
use of tools to find things out	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		Independently solve a problem by planning and carrying out data collection, by organising and analysing data involving complex searches using a database, and by drawing conclusions and presenting findings	
	Individual technologies	Networking technologies		The Internet as a technology
Understanding of information technologies	Evaluate the tools available to them including any that are unfamiliar or new and use them to solve problems.	Show an understanding of the school network and how it links computers to resources in school and beyond. Compare this with other networks they may encounter at home or in the wider world (e.g. banks)		Show an awareness of the need for accuracy in spelling and syntax to search effectively.
E- Safety	Talk about validity and plausibility and appropriateness of information, especially on the internet. Recognise the impact of using incorrect information in their work. Understand the point of copyright and how it applies to material they find, and to their own work. Talk about personal safety when using the internet, at home and in school, and know how to keep safe and what to do if they find inappropriate materials. Understand that computers in school (and possibly at home) filter internet content.			

Geography

Location knowledge	Place knowledge	Human & physical knowledge	Geographical skills & fieldwork
Locate the main countries in Europe and North or South America. Locate and name principal cities. Compare 2 different regions in UK rural/urban. Locate and name the main counties and cities in England. Compare land use maps of UK from past with the present, focusing on land use. Identify the position and significance of latitude/longitude and the Greenwich Meridian. Linking with science, time zones, night and day	Understand some of the reasons for geographical similarities and differences through studying the human and physical geography of a region in a European country, and a region in North or South America	Describe and understand some of the key aspects of : **Physical geography** including: climate zones, biomes and vegetation belts **Human geography** including: types of land use, economic activity and the distribution of natural resources including energy, food, minerals and water.	Use maps, atlases, globes and digital/computer mapping (Google Earth) to locate countries and describe features studied. Use the eight points of a compass, four-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom in the past and present. 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.

History

Historical interpretation	Historical enquiry	Organisation and communication	Knowledge and understanding of past events, people and changes in the past	Chronological understanding
Looks at different versions of the same event and identifies differences in the accounts. Gives clear reasons why there may be different accounts of history. Knows that people (now and in past) can represent events or ideas in ways that persuade others	Uses documents, printed sources, the internet, databases, pictures, photos, music, artefacts, historic buildings and visits to collect information about the past. Asks a range of questions about the past. Chooses reliable sources of evidence to answer questions. Realises that there is often not a single answer to historical questions.	Presents structured and organised findings about the past using speaking, writing, ICT, drama and drawing skills. Uses dates and terms accurately. Chooses most appropriate way to present information to an audience	Identifies some social, cultural, religious and ethnic diversities of societies studied in Britain and wider world. Gives some causes and consequences of the main events, situations and changes in the periods studied. Identifies changes and links within and across the time periods studied.	Uses timelines to place and sequence local, national and international events. Sequences historical periods. Describes events using words and phrases such as: century, decade, BC, AD, after, before, during, Tudors, Stuarts, Victorians, era, period. Identifies changes within and across historical periods.

Art

	Drawing	Painting	Printing	Textiles	3D	Ceramics
Media and techniques	Introduce cross-hatching. Use tools to show tone and texture. Draw to show scale and depth. Compose using back, middle and foreground.	Explore complementary colours. Use painting to express an emotion or a viewpoint through choice of colour, paint, application and composition. Compose using back, middle and foreground.	Create own mixed media printing blocks and pressprint to make multi-layered images and to print onto other work.	Create and decorate own fabrics using knotting, weaving, appliqué etc. Learn blanket stitch and chain stitch.	Consider the use of space in model making. Use mixed media to construct from imagination.	Combine slab and coil building techniques to create sculptures.

	Colour	Pattern and texture	Line and tone	Shape, form and space
Elements of art	Explore complementary colours.	Use pattern when designing own work. Create visual texture in 2D work – drawing, painting and printing (texture that can be seen but not felt)	Be able to describe the quality of line and tone in their own and others work, including cross-hatching. Use tone to distinguish between foreground and background objects.	Draw objects in a still life group. Use photography to develop an understanding of fore, middle and background – study the 'rule of thirds'. Consider how the detail of objects diminishes the further away they are.

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
• work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment • describe the purpose of their products • indicate the design features of their products that will appeal to intended users • explain how particular parts of their products work	• share and clarify ideas through discussion • model their ideas using prototypes and pattern pieces • use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas • use computer-aided design to develop and communicate their ideas	• select tools and equipment suitable for the task • explain their choice of tools and equipment in relation to the skills and techniques they will be using • select materials and components suitable for the task • explain their choice of materials and components according to functional properties and aesthetic qualities	• follow procedures for safety and hygiene • use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components	• identify the strengths and areas for development in their ideas and products • consider the views of others, including intended users, to improve their work	• how well products have been designed • how well products have been made • why materials have been chosen • what methods of construction have been used • how well products work • how well products achieve their purposes • how well products meet user needs and wants	• about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products	• how to use learning from science to help design and make products that work • how to use learning from mathematics to help design and make products that work • that materials have both functional properties and aesthetic qualities • that materials can be combined and mixed to create more useful characteristics • that mechanical and electrical systems have an input, process and output • the correct technical vocabulary for the projects they are undertaking	• 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	• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source • how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking
• carry out research, using surveys, interviews, questionnaires and web-based resources • develop a simple design specification to guide their thinking	• generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost	• produce appropriate lists of tools, equipment and materials that they need	• accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques, including those from art and design • use techniques that involve a number of steps • demonstrate resourcefulness when tackling practical problems	• critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make • evaluate their ideas and products against their original design specification	investigate and analyse: • how much products cost to make		• how mechanical systems such as cams or pulleys or gears create movement • how more complex electrical circuits and components can be used to create functional products • how to program a computer to monitor changes in the environment and control their products • how to reinforce and strengthen a 3D framework • that a 3D textiles product can be made from a combination of fabric shapes • that a recipe can be adapted by adding or substituting one or more ingredients	• that seasons may affect the food available • how food is processed into ingredients that can be eaten or used in cooking	• that recipes can be adapted to change the appearance, taste, texture and aroma • that different food and drink contain different substances – nutrients, water and fibre – that are needed for health

Music

	Pulse	Pitch	Rhythm	Dynamics	Tempo	Timbre	Structure and texture
Elements of music	Know how pulse, rhythm and pitch fit together. Begin to use and understand note values minim, crotchet, semibreve. quaver and introduce semi quaver note values.			Composing pieces and songs should involve changes in dynamics loud, quiet, getting louder, getting quieter.	Understand how many beats are in a crotchet, minim and semibreve and quaver Begin to know the note value of a semiquaver and recognise symbols. (time signatures and treble clef).		

	Voice	Tuned and untuned instruments	Listening and applying knowledge and understanding	Appraising	Composing	Performing
Instrumental and music skills	Show control, phrasing and expression in singing. Hold part in a round (pitch/structure). Identify where to place emphasis and accents in a song to create effects	Compose and perform melodies using four or five notes. Compose and perform melodies using four or five notes. (C, B. A. G, D) please note that C, A, G, D together will sound tuneful in any context with instruments.	Create music with an understanding of how lyrics, melody, rhythms and accompaniments work together effectively (pitch/texture/ structure). Focus on attention to detail.	Use a range of words to describe music (eg. duration, timbre, pitch, dynamics, tempo, texture, structure, beat, rhythm, metre, silence, riff, ostinato, melody, harmony, chord, flat, sharp, dotted rhythm, staccato, legato, crescendo, diminuendo). Use these words to identify strengths and weaknesses in own and others' work.	Record own compositions. Create own songs using skills outlined in singing and elements of music. Understand where they fit and then how to write the notes on a staff (C,B,A, G, D)	Perform in solo and ensemble contexts using a variety of techniques, confidently, expressively and in tune. Improvise on own with increasing aural memory.

Physical Education

Gymnastics	Games	Dance	Athletics	Outdoor & Adventurous	Healthy Life styles
• Select and combine their skills, techniques and ideas. • Apply combined skills accurately and appropriately, consistently showing precision, control and fluency. • Draw on what they know about strategy, tactics and composition when performing and evaluating. • Analyse and comment on skills and techniques and how these are applied in their own and others' work. • Uses more complex gym vocabulary to describe how to improve and refine performances. • Develops strength, technique and flexibility throughout performances. • Links skills with control, technique, co-ordination and fluency.	• Vary skills, actions and ideas and link these in ways that suit the games activity. • Shows confidence in using ball skills in various ways, and can link these together. • Uses skills with co-ordination, control and fluency. • Takes part in competitive games with a strong understanding of tactics and composition. • Can create their own games using knowledge and skills. • Can make suggestions as to what resources can be used to differentiate a game. • Apply basic skills for attacking and defending. • Uses running, jumping, throwing and catching in isolation and combination.	• Beginning to exaggerate dance movements and motifs (using expression when moving) • Demonstrates strong movements throughout a dance sequence. • Combines flexibility, techniques and movements to create a fluent sequence. • Moves appropriately and with the required style in relation to the stimulus. *e.g using various levels, ways of travelling and motifs.* • Beginning to show a change of pace and timing in their movements. • Uses the space provided to his maximum potential. • Improvises with confidence, still demonstrating fluency across their sequence. • Modifies parts of a sequence as a result of self and peer evaluation. • Uses more complex dance vocabulary to compare and improve work.	• Beginning to build a variety of running techniques and use with confidence. • Can perform a running jump with more than one component. e.g. hop skip jump (triple jump) • Beginning to record peers performances, and evaluate these. • Demonstrates accuracy and confidence in throwing and catching activities. • Describes good athletic performance using correct vocabulary. • Can use equipment safely and with good control.	• Develops strong listening skills. • Uses and interprets simple maps. • Think activities through and problem solve using general knowledge. • Choose and apply strategies to solve problems with support. • Discuss and work with others in a group. • Demonstrates an understanding of how to stay safe.	• Can describe the effect exercise has on the body • Can explain the importance of exercise and a healthy lifestyle. • Understands the need to warm up and cool down.

Modern Foreign Languages – Spanish

Speaking and Listening	Reading	Writing	Grammar
Pick out some detail from short spoken passages Enjoy interacting even when they hear unfamiliar language. Join in a short conversation Make a short presentation using a given model.	Read and understand some of the main points from a text	Understand how a simple sentence is written Write words, phrases and a few sentences using a model.	Recognise 10 most common high frequency words.