Year 6 Curriculum

Maths

Mathematical objectives taken from the Year 6 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-6-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	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Take measurements using a range of scientific equipment with increasing accuracy and precision. Take repeat readings where appropriate. Identify patterns that might be found in the natural environment. Make own decisions about what observations, measurements to use and whether or not to repeat them. Choose most appropriate equipment. Interpret data and find patterns. Select equipment independently. Use accurate and precise measures	Use test results to make predictions to set up further comparative and fair tests. Recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Suggest improvements to methods and give reasons. Decide when it is appropriate to do a fair test.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Report and present findings from enquiries. Decide how to record data from a choice of familiar approaches. Choose how best to present data	Use and develop keys and other information records to identify, classify and describe living things and materials.

Areas in science	Living things and their habitat	Evolution and inheritance	Animals including humans	Light	Electricity
	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function Describe the ways in which nutrients and water are transported within animals, including humans.	Recognise that light appears to travel in straight lines 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 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 Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit 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 Use recognised symbols when representing a simple circuit in a diagram.

Computing

	Text & Multimedia	Digital Image	Sound and Music	Electronic Communication
use of tools for presentation/communication	Make independent choices about the best media to use and consider the needs of their audiences and the impact their presentation will have. Finished presentation demonstrates an understanding of good design principles.	Independently select, use and evaluate appropriate ICT applications to locate, generate, amend and combine digital images / movies from different sources for a specific audiences or tasks. The finished presentation shows an understanding of style appropriate to the tasks / audiences.	Manipulate music and sounds to enhance presentations / films / images / photos relevant to audiences and purpose. Examples will include compositions from music software which include multiple voices mixed on multiple tracks as well as sound captured or sourced independently and edited and mixed using a variety of tools and techniques.	Independently engage in electronic communication (email, VLE, video conferencing, web logs, etc) in the course of work. Identify when such technology is helpful and comment on effectiveness, advantages and disadvantages of it. Understand the implications for e-safety and use the rules they have learned and developed, at all times.
	Control	**Modelling and Simulations**		**Data Logging** (links to Science and Maths)
use of tools for control and modelling	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.	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.		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.
	Research		**Handling Information (Database and graphing)**	
use of tools to find things out	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 used where appropriate.		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 (eg health, police databases).	
	Individual technologies	Networking technologies		The Internet as a technology
Understanding of information technologies	Demonstrate an awareness of the appropriateness of outcomes depending on choices regarding tools and devices.	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.		Use collaborative tools and e-mail showing a sensitivity for this type of remote collaboration and communication
E- Safety	Use a range of sources to check validity understand and the possible impact of incorrect data. Understand plagiarism and the importance of acknowledging sources. 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
On a world map locate the main countries in Africa, Asia and Australasia/Oceania. Identify their main environmental regions, key physical and human characteristics, and major cities. Map how land use has changed in local area over time. Name and locate the key topographical features including coast, features of erosion, hills, mountains and rivers. Understand how these features have changed over time.	Understand the reasons for significant 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 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 Extend to 6 figure grid references with teaching of latitude and longitude in depth. Expand map skills to include non-UK countries. 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
Understands that the past has been represented in different ways. Suggests accurate and plausible reasons for how/why aspects of the past have been represented and interpreted in different ways. Knows and understands that some evidence is propaganda, opinion or misinformation and that this affects interpretations of history.	Identifies and uses different sources of information and artefacts. Evaluates the usefulness and accurateness of different sources of evidence. Selects the most appropriate source of evidence for particular tasks. Forms own opinions about historical events from a range of sources.	Presents information in an organised and clearly structured way. Makes use of different ways of presenting information. Presents information in the most appropriate way (eg written explanation/tables and charts/labelled diagram). Makes accurate use of specific dates and terms.	Chooses reliable sources of factual evidence to describe: houses and settlements; culture and leisure activities; clothes, way of life and actions of people; buildings and their uses; people's beliefs, religion and attitudes; things of importance to people; differences between lives of rich and poor. Identifies how any of above may have changed during a time period. Gives own reasons why changes may have occurred, backed up with evidence. Shows identified changes on a timeline. Describes similarities and differences between some people, events and objects studied. Describes how some changes affect life today. Makes links between some features of past societies.	Uses timelines to place events, periods and cultural movements from around the world and to demonstrate changes and developments in culture, technology, religion and society. Uses these key periods as reference points: BC, AD Romans, Anglo-Saxons, Tudors, Stuarts, Georgians, Victorians and Today. Describes main changes in a period in history using words such as: social, religious, political, technological and cultural. Names date of any significant event studied from past and place it correctly on a timeline.

Art

	Drawing	Painting	Printing	Textiles	3D	Ceramics
Media and techniques	Make sketches in different media which relate to a finished drawing. Show light and shadows.	Mix skin tones. Mix and blend from washes to detail in a painting. Create mood and atmosphere through choice of colour, paint and technique or deliberate distortion of scale.	Introduce screen printing. Use stencils to build up a multi-colour image. Design and print for a specific purpose.	Learn to use a sewing machine. Design and make utilitarian objects, clothes, soft sculptures or functional items, employing skills and techniques learnt.	Construct in the round, considering different view points. Depict ideas, feelings or memories in a 3D form.	Model with clay. Use clay to express thoughts, feelings and ideas.

	Colour	Pattern and texture	Line and tone	Shape, form and space
Elements of art	Mix skin tones. Explore the use of colour to create mood and atmosphere.	Consider the use of pattern and texture when designing or to create mood and atmosphere	Consider the use of line and tone to create mood and atmosphere. When making 3D forms consider the effects of light and shadow. Use a wash to create different tones.	Consider the shape and structure of the face and use tone and colour to show faces as 3D when face-on and in portrait. Distort proportion, scale and composition to create an emotional response.

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 • identify the needs, wants, preferences and values of particular individuals and groups • 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 • formulate step-by-step plans as a guide to making	• 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 innovative products are • how sustainable the materials in products are • what impact products have beyond their intended purpose		• 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 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	Use knowledge of musical dimensions to know how to best combine them. Continue to use note values minim, crotchet, semibreve, quaver, semi quaver and symbols in music.						Show confidence, thoughtfulness and imagination in selecting sounds and structures to convey an idea.

	Voice	Tuned and untuned instruments	Listening and applying knowledge and understanding	Appraising	Composing	Performing
Instrumental and music skills	Sing or play from memory with confidence. Use increased aural memory to recall sounds accurately.	Play more complex instrumental parts. Children to use all notes learnt so far and then taught how to use and play E, F.	Know how to use musical vocabulary to focus on attention to detail and share thoughts around musical pieces.	Know how the other dimensions of music are sprinkled through songs and pieces of music. Use musical vocabulary confidently to describe music. Refine and improve own/ others' work.	Compose and perform melodies using five or more notes. Create music reflecting given intentions and record using standard notation. Use ICT to organise musical ideas (where appropriate).(Combine all musical dimensions). Know and use standard musical notation to perform and record own music.	Take turns to lead a group. Improvise using 5 notes of the pentatonic scale. Maintain own part in a round/ sing a harmony/ play accurately with awareness of what others are playing.

Physical Education

Gymnastics	Games	Dance	Athletics	Outdoor and Adventurous	Healthy life styles
• Plan and perform with precision, control and fluency, a movement sequence showing a wide range of actions including variations in speed, levels and directions. • Performs difficult actions, with an emphasis on extension, clear body shape and changes in direction. • Adapts sequences to include a partner or a small group. • Gradually increases the length of sequence work with a partner to make up a short sequence using the floor, mats and apparatus, showing consistency, fluency and clarity of movement. • 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.	• 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 effectively. • e.g. dribbling, bouncing, kicking • Keeps possession of balls during games situations. • Consistently 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. • Modifies competitive games. • Compares and comments on skills to support creation of new games. • Can make suggestions as to what resources can be used to differentiate a game. • Apply skills to attack& defend. • Uses running, jumping, throwing and catching in isolation and in combination.	• Exaggerate dance movements and motifs (using expression when moving) • Performs with confidence, using a range of movement patterns. • Demonstrates a strong imagination when creating own dance sequences and motifs. • 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. • Beginning to show a change of pace and timing in their movements. • Is able to move to the beat accurately in dance sequences. • Dances with fluency, linking all movements and ensuring they flow. • Demonstrates consistent precision when performing dance sequences. • 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
Listen to and understand the main points from short spoken passage. Give a presentation in a clear audible voice Converse briefly without prompts.	Read aloud with confidence, enjoyment and expression in chorus or individually. Read and understand the main points and some detail from a short written passage.	Write several sentences from memory. Develop a short text using a model.	Recognise the 10 most common high frequency words and use them in the past tense.