

Reading – Word

Year 5	apply their growing knowledge of root words, prefixes and suffixes (morphology and etymology), as listed in English Appendix 1, both to read aloud and to understand the meaning of new words that they meet.						
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Reading – Comprehension

Year 5	maintain positive attitudes to reading and understanding of what they read by: <ul style="list-style-type: none"> - continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks - reading books that are structured in different ways and reading for a range of purposes - increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions - recommending books that they have read to their peers, giving reasons for their choices - identifying and discussing themes and conventions in and across a wide range of writing - making comparisons within and across books - learning a wider range of poetry by heart - preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience 						
	understand what they read by: <ul style="list-style-type: none"> - checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context - asking questions to improve their understanding - drawing inferences such as inferring characters’ feelings, thoughts and motives from their actions, and justifying inferences with evidence - predicting what might happen from details stated and implied - summarising the main ideas drawn from more than one paragraph, identifying key details that support the main ideas - identifying how language, structure and presentation contribute to meaning 						
	discuss and evaluate how authors use language, including figurative language, considering the impact on the reader						
	distinguish between statements of fact and opinion						
	retrieve, record and present information from non-fiction						
	participate in discussions about books that are read to them and those they can read for themselves, building on their own and others’ ideas and challenging views courteously						
	explain and discuss their understanding of what they have read, including through formal presentations and debates, maintaining a focus on the topic and using notes where necessary						

	provide reasoned justifications for their views						
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Handwriting

Year 5	<p>write legibly, fluently and with increasing speed by:</p> <ul style="list-style-type: none"> - choosing which shape of a letter to use when given choices and deciding whether or not to join specific letters - choosing the writing implement that is best suited for a task. 						
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Writing Composition

Year 5	<p>plan their writing by:</p> <ul style="list-style-type: none"> - identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own - noting and developing initial ideas, drawing on reading and research where necessary - in writing narratives, considering how authors have developed characters 						
	<p>draft and write by:</p> <ul style="list-style-type: none"> - selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning - in narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action - practising longer passages - using a wide range of devices to build cohesion within and across paragraphs - using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining] 						
	<p>evaluate and edit by:</p> <ul style="list-style-type: none"> - assessing the effectiveness of their own and others' writing - proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning - ensuring the consistent and correct use of tense throughout a piece of writing - ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register 						
	<p>proof-read for spelling and punctuation errors</p>						
	<p>perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.</p>						

Writing – Transcription

Year 5	<p>use further prefixes and suffixes and understand the guidance for adding them continue to distinguish between homophones and other words which are often confused</p> <ul style="list-style-type: none"> - spell some words with 'silent' letters [for example, knight, psalm, solemn] - continue to distinguish between homophones and other words which are often confused - use knowledge of morphology and etymology in spelling and understand that the spelling of some words needs to be learnt specifically, as listed in English Appendix - use dictionaries to check the spelling and meaning of words - use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary - use a thesaurus. 						
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Writing - Vocabulary, Grammar & Punctuation

Year 5	<p>develop their understanding of the concepts set out in English Appendix 2 by:</p> <ul style="list-style-type: none"> - recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms - using passive verbs to affect the presentation of information in a sentence - using the perfect form of verbs to mark relationships of time and cause - using expanded noun phrases to convey complicated information concisely - using modal verbs or adverbs to indicate degrees of possibility - using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun - learning the grammar for years 5 and 6 in English Appendix 2 						
	<p>indicate grammatical and other features by:</p> <ul style="list-style-type: none"> - using commas to clarify meaning or avoid ambiguity in writing - using hyphens to avoid ambiguity - using brackets, dashes or commas to indicate parenthesis - using semi-colons, colons or dashes to mark boundaries between independent clauses - using a colon to introduce a list - punctuating bullet points consistently 						
	<p>use and understand the grammatical terminology in English Appendix 2 accurately and appropriately in discussing their writing and reading.</p>						

Spoken Language

Year 5	Pupils should be taught to:						
	- listen and respond appropriately to adults and their peers						
	- ask relevant questions to extend their understanding and build vocabulary and knowledge						
	- articulate and justify answers, arguments and opinions						
	- give well-structured descriptions and explanations						
	- maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments						
	- use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas						
	- speak audibly and fluently with an increasing command of Standard English						
	- participate in discussions, presentations, performances and debates						
	- gain, maintain and monitor the interest of the listener(s)						
- consider and evaluate different viewpoints, attending to and building on the contributions of others							
- select and use appropriate registers for effective communication.							

Number & Place Value

Year 5	read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit						
	count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000						
	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero						
	round any number up to 1,000,000 to the nearest 10; 100; 1000; 10,000 and 100,000						
	solve number problems and practical problems that involve all of the above						
	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.						

Multiplication & Division

Year 5	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers						
	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers						
	establish whether a number up to 100 is prime and recall prime numbers up to 19						
	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers						
	multiply and divide numbers mentally drawing upon known facts						
	divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context						
	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000						
	recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)						
	solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes						
	solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign						
	solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.						

Fractions

Year 5	compare and order fractions whose denominators are all multiples of the same number						
	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths						
	recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$]						
	add and subtract fractions with the same denominator and denominators that are multiples of the same number						
	multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams						
	read and write decimal numbers as fractions [for example, $0.71 = 71/100$]						
	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents						
	round decimals with two decimal places to the nearest whole number and to one decimal place						
	read, write, order and compare numbers with up to three decimal places						
	solve problems involving number up to three decimal places						
	recognise the per cent symbol (%) and understand that per cent relates to the number of parts per hundred, and write percentages as a fraction with denominator 100, and as a decimal						
solve problems which require knowing percentage and decimal equivalents of $1/5$, $2/5$, $4/5$ and those fractions with a denominator of a multiple of 10 or 25.							

Measurement

Year 5	convert between different units of metric measure						
	understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints						
	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres						
	calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes						
	estimate volume and capacity						
	solve problems involving converting between units of time						
	use all four operations to solve problems involving measure using decimal notation, including scaling						

Addition and Subtraction

Year 5	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)						
	add and subtract numbers mentally with increasingly large numbers						
	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy						
	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why						

Shape & Geometry

Year 5	identify 3-D shapes, including cubes and other cuboids, from 2-D representations						
	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles						
	draw given angles, and measure them in degrees (o)						
	identify: angles at a point and one whole turn; angles at a point on a straight line and 1/2-a-turn and other multiples of 90 degrees						
	use the properties of rectangles to deduce related facts and find missing lengths and angles						
	distinguish between regular and irregular polygons based on reasoning about equal sides and angles						
	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.						

Statistics

Year 5	solve comparison, sum and difference problems using information presented in a line graph						
	complete, read and interpret information in tables, including timetables						

Living Things

Year 5	pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment					
	they should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall					
	pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals					
	pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow					

Forces

Year 5	pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation					
	pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects					

Properties of Materials

Year 5	<p>including relating these to what they learnt about magnetism in year 3 and about electricity in year 4. They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton. Note: Pupils are not required to make quantitative measurements about conductivity and insulation at this stage. It is sufficient for them to observe that some conductors will produce a brighter bulb in a circuit than others and that some materials will feel hotter than others when a heat source is placed against them. Safety guidelines should be followed when burning materials</p>						
	<p>pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?' They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials</p>						

Earth & Space

Year 5	<p>pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night. Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones). Note: Pupils should be warned that it is not safe to look directly at the Sun, even when wearing dark glasses</p>						
	<p>pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus</p>						
	<p>pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks</p>						

Scientifically Thinking

Year 5	<p>pupils in years 5 and 6 should use their science experiences to: explore ideas and raise different kinds of questions; select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. They should use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment. They should make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately. They should decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. They should use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact. They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time</p>						
	<p>these opportunities for working scientifically should be provided across years 5 and 6 so that the expectations in the programme of study can be met by the end of year 6. Pupils are not expected to cover each aspect for every area of study</p>						

Animals

Year 5	<p>pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty</p>						
	<p>pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows</p>						

Art and Design

Year 5	to create sketch books to record their observations and use them to review and revisit ideas						
	to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (e.g. pencil, charcoal, paint, clay)						
	about great artists, architects and designers in history.						

Computing

Year 5	design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts						
	use sequence, selection, and repetition in programs; work with variables and various forms of input and output						
	use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs						
	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						
	use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content						
	use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour						
	select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.						

Design and Technology

Year 5	<p>Design</p> <ul style="list-style-type: none"> - 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 - generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design 						
	<p>Make</p> <ul style="list-style-type: none"> - select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately - 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 						
	<p>Evaluate</p> <ul style="list-style-type: none"> - investigate and analyse a range of existing products - evaluate their ideas and products against their own design criteria and consider the views of others to improve their work - understand how key events and individuals in design and technology have helped shape the world 						
	<p>Technical Knowledge</p> <ul style="list-style-type: none"> - apply their understanding of how to strengthen, stiffen and reinforce more complex structures - understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages) - understand and use electrical systems in their products (for example, series circuits, incorporating switches, bulbs, buzzers and motors) - apply their understanding of computing to program, monitor and control their products 						
	<p>Cooking and nutrition</p> <ul style="list-style-type: none"> - understand and apply the principles of a healthy and varied diet - prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques - understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed 						

Languages

Year 5	Pupils should be taught to: - listen attentively to spoken language and show understanding by joining in and responding						
	- explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words						
	- engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help*						
	- speak in sentences, using familiar vocabulary, phrases and basic language structures						
	- develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases*						
	- present ideas and information orally to a range of audiences*						
	- read carefully and show understanding of words, phrases and simple writing						
	- appreciate stories, songs, poems and rhymes in the language						
	- broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary						
	- write phrases from memory, and adapt these to create new sentences, to express ideas clearly						
	- describe people, places, things and actions orally* and in writing						
	- understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English.						

The starred (*) content above will not be applicable to ancient languages.

Geography

Year 5	<p>Location knowledge</p> <ul style="list-style-type: none"> - 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 - 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 - 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) 							
	<p>Place knowledge</p> <ul style="list-style-type: none"> - understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America 							
	<p>Human and physical geography</p> <ul style="list-style-type: none"> - describe and understand key aspects of: - physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle - human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water 							
	<p>Geographical skills and fieldwork</p> <ul style="list-style-type: none"> - use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied - use the eight points of a compass, four and six-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 - 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

Year 5	changes in Britain from the Stone Age to the Iron Age						
	the Roman Empire and its impact on Britain						
	Britain's settlement by Anglo-Saxons and Scots						
	the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor						
	a local history study						
	a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066						
	the achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China						
	Ancient Greece – a study of Greek life and achievements and their influence on the western world						
a non-European society that provides contrasts with British history - one study chosen from: early Islamic civilization, including a study of Baghdad c. AD 900; Mayan civilization c. AD 900; Benin (West Africa) c. AD 900-1300.							

Music

Year 5	play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression						
	improvise and compose music for a range of purposes using the inter-related dimensions of music						
	listen with attention to detail and recall sounds with increasing aural memory						
	use and understand staff and other musical notations						
	appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians						
	develop an understanding of the history of music.						

Physical Education

Year 5	use running, jumping, throwing and catching in isolation and in combination						
	play competitive games, modified where appropriate, such as badminton, basketball, cricket, football, hockey, netball, rounders and tennis, and apply basic principles suitable for attacking and defending						
	develop flexibility, strength, technique, control and balance, for example through athletics and gymnastics						
	perform dances using a range of movement patterns						
	take part in outdoor and adventurous activity challenges both individually and within a team						
	compare their performances with previous ones and demonstrate improvement to achieve their personal best.						
	Swimming and water safety <ul style="list-style-type: none"> - swim competently, confidently and proficiently over a distance of at least 25m - use a range of strokes effectively (for example, front crawl, backstroke and breast stroke) - perform safe, self-rescue in different water based situations 						