

The national curriculum in England

Programmes of Study for Year 4

National Curriculum
(Sept 2013)

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English - Key stage 2 – Year 4

(Year 3 has the same Programme of Study for English)

Spoken language

These statements apply to all year groups.

Statutory requirements

Pupils should be taught to:

- listen and respond appropriately to adults and their peers
- ask relevant questions to extend their understanding and knowledge
- use relevant strategies to build their vocabulary
- articulate and justify answers, arguments and opinions
- give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings
- 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, role play, improvisations 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.

Reading – word reading

Statutory requirements

Pupils should be taught to:

- apply their growing knowledge of root words, prefixes and suffixes (etymology and

Statutory requirements

morphology) as listed in [English Appendix 1](#), both to read aloud and to understand the meaning of new words they meet

- read further exception words, noting the unusual correspondences between spelling and sound, and where these occur in the word.

Reading – comprehension

Statutory requirements

Pupils should be taught to:

- develop positive attitudes to reading and understanding of what they read by:
 - listening to and discussing a 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
 - using dictionaries to check the meaning of words that they have read
 - increasing their familiarity with a wide range of books, including fairy stories, myths and legends, and retelling some of these orally
 - identifying themes and conventions in a wide range of books
 - preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action
 - discussing words and phrases that capture the reader's interest and imagination
 - recognising some different forms of poetry [for example, free verse, narrative poetry]
- understand what they read, in books they can read independently, by:
 - checking that the text makes sense to them, discussing their understanding and explaining the meaning of words in context
 - asking questions to improve their understanding of a text
 - 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
 - identifying main ideas drawn from more than one paragraph and summarising these
 - identifying how language, structure, and presentation contribute to meaning

Statutory requirements

- retrieve and record information from non-fiction
 - participate in discussion about both books that are read to them and those they can read for themselves, taking turns and listening to what others say.

Writing – transcription

Statutory requirements

Spelling (see [English Appendix 1](#))

Pupils should be taught to:

- use further prefixes and suffixes and understand how to add them (English Appendix 1)
- spell further homophones
- spell words that are often misspelt (English Appendix 1)
- place the possessive apostrophe accurately in words with regular plurals [for example, girls', boys'] and in words with irregular plurals [for example, children's]
- use the first two or three letters of a word to check its spelling in a dictionary
- write from memory simple sentences, dictated by the teacher, that include words and punctuation taught so far.

Statutory requirements

Handwriting

Pupils should be taught to:

- use the diagonal and horizontal strokes that are needed to join letters and understand which letters, when adjacent to one another, are best left unjoined
- increase the legibility, consistency and quality of their handwriting [for example, by ensuring that the downstrokes of letters are parallel and equidistant; that lines of writing are spaced sufficiently so that the ascenders and descenders of letters do not touch].

Writing – composition

Statutory requirements

Pupils should be taught to:

- plan their writing by:
 - discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar
 - discussing and recording ideas
- draft and write by:
 - composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures ([English Appendix 2](#))
 - organising paragraphs around a theme
 - in narratives, creating settings, characters and plot
 - in non-narrative material, using simple organisational devices [for example, headings and sub-headings]
- evaluate and edit by:
 - assessing the effectiveness of their own and others' writing and suggesting improvements
 - proposing changes to grammar and vocabulary to improve consistency, including the accurate use of pronouns in sentences
- proof-read for spelling and punctuation errors
- read aloud their own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear.

Writing – vocabulary, grammar and punctuation

Statutory requirements

Pupils should be taught to:

- develop their understanding of the concepts set out in [English Appendix 2](#) by:
 - extending the range of sentences with more than one clause by using a wider range of conjunctions, including when, if, because, although
 - using the present perfect form of verbs in contrast to the past tense
 - choosing nouns or pronouns appropriately for clarity and cohesion and to avoid repetition
 - using conjunctions, adverbs and prepositions to express time and cause

Statutory requirements

- using fronted adverbials
- learning the grammar for years 3 and 4 in English Appendix 2
- indicate grammatical and other features by:
 - using commas after fronted adverbials
 - indicating possession by using the possessive apostrophe with plural nouns
 - using and punctuating direct speech
- use and understand the grammatical terminology in English Appendix 2 accurately and appropriately when discussing their writing and reading.

Spelling – work for Years 3 and 4

Revision of work from Years 1 and 2

Pay special attention to the rules for adding suffixes.

New work for years 3 and 4

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
Adding suffixes beginning with vowel letters to words of more than one syllable	If the last syllable of a word is stressed and ends with one consonant letter which has just one vowel letter before it, the final consonant letter is doubled before any ending beginning with a vowel letter is added. The consonant letter is not doubled if the syllable is unstressed.	forgetting, forgotten, beginning, beginner, prefer, preferred gardening, gardener, limiting, limited, limitation
The /ɪ/ sound spelt y elsewhere than at the end of words	These words should be learnt as needed.	myth, gym, Egypt, pyramid, mystery
The /ʌ/ sound spelt ou	These words should be learnt as needed.	young, touch, double, trouble, country
More prefixes	<p>Most prefixes are added to the beginning of root words without any changes in spelling, but see in- below.</p> <p>Like un-, the prefixes dis- and mis- have negative meanings.</p> <p>The prefix in- can mean both 'not' and 'in'/'into'. In the words given here it means 'not'.</p>	<p>dis-: disappoint, disagree, disobey</p> <p>mis-: misbehave, mislead, misspell (mis + spell)</p> <p>in-: inactive, incorrect</p>

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
	<p>Before a root word starting with l, in- becomes il-.</p> <p>Before a root word starting with m or p, in- becomes im-.</p> <p>Before a root word starting with r, in- becomes ir-.</p> <p>re- means 'again' or 'back'.</p> <p>sub- means 'under'.</p> <p>inter- means 'between' or 'among'.</p> <p>super- means 'above'.</p> <p>anti- means 'against'.</p> <p>auto- means 'self' or 'own'.</p>	<p>illegal, illegible</p> <p>immature, immortal, impossible, impatient, imperfect</p> <p>irregular, irrelevant, irresponsible</p> <p>re-: redo, refresh, return, reappear, redecorate</p> <p>sub-: subdivide, subheading, submarine, submerge</p> <p>inter-: interact, intercity, international, interrelated (inter + related)</p> <p>super-: supermarket, superman, superstar</p> <p>anti-: antiseptic, anti-clockwise, antisocial</p> <p>auto-: autobiography, autograph</p>
The suffix -ation	The suffix -ation is added to verbs to form nouns. The rules already learnt still apply.	information, adoration, sensation, preparation, admiration
The suffix -ly	<p>The suffix -ly is added to an adjective to form an adverb. The rules already learnt still apply.</p> <p>The suffix -ly starts with a consonant letter, so it is added straight on to most root words.</p>	sadly, completely, usually (usual + ly), finally (final + ly), comically (comical + ly)

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
	<p>Exceptions:</p> <p>(1) If the root word ends in –y with a consonant letter before it, the y is changed to i, but only if the root word has more than one syllable.</p> <p>(2) If the root word ends with –le, the –le is changed to –ly.</p> <p>(3) If the root word ends with –ic, –ally is added rather than just –ly, except in the word <i>publicly</i>.</p> <p>(4) The words <i>truly, duly, wholly</i>.</p>	<p>happily, angrily</p> <p>gently, simply, humbly, nobly</p> <p>basically, frantically, dramatically</p>
Words with endings sounding like /ʒə/ or /tʃə/	<p>The ending sounding like /ʒə/ is always spelt –sure.</p> <p>The ending sounding like /tʃə/ is often spelt –ture, but check that the word is not a root word ending in (t)ch with an er ending – e.g. <i>teacher, catcher, richer, stretcher</i>.</p>	<p>measure, treasure, pleasure, enclosure</p> <p>creature, furniture, picture, nature, adventure</p>
Endings which sound like /ʒən/	<p>If the ending sounds like /ʒən/, it is spelt as –sion.</p>	<p>division, invasion, confusion, decision, collision, television</p>
The suffix –ous	<p>Sometimes the root word is obvious and the usual rules apply for adding suffixes beginning with vowel letters.</p> <p>Sometimes there is no obvious root word.</p> <p>–our is changed to –or before –ous is added.</p> <p>A final ‘e’ of the root word must be kept if the /dʒ/ sound of ‘g’ is to be kept.</p> <p>If there is an /i:/ sound before the –ous ending, it is usually spelt as i, but a few words have e.</p>	<p>poisonous, dangerous, mountainous, famous, various</p> <p>tremendous, enormous, jealous</p> <p>humorous, glamorous, vigorous</p> <p>courageous, outrageous</p> <p>serious, obvious, curious</p> <p>hideous, spontaneous, courteous</p>

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
Endings which sound like /ʃən/, spelt –tion, –sion, –ssion, –cian	<p>Strictly speaking, the suffixes are –ion and –ian. Clues about whether to put t, s, ss or c before these suffixes often come from the last letter or letters of the root word.</p> <p>–tion is the most common spelling. It is used if the root word ends in t or te.</p> <p>–ssion is used if the root word ends in ss or –mit.</p> <p>–sion is used if the root word ends in d or se.</p> <p>Exceptions: <i>attend – attention, intend – intention.</i></p> <p>–cian is used if the root word ends in c or cs.</p>	<p>invention, injection, action, hesitation, completion</p> <p>expression, discussion, confession, permission, admission</p> <p>expansion, extension, comprehension, tension</p> <p>musician, electrician, magician, politician, mathematician</p>
Words with the /k/ sound spelt ch (Greek in origin)		scheme, chorus, chemist, echo, character
Words with the /ʃ/ sound spelt ch (mostly French in origin)		chef, chalet, machine, brochure
Words ending with the /g/ sound spelt –gue and the /k/ sound spelt –que (French in origin)		league, tongue, antique, unique
Words with the /s/ sound spelt sc (Latin in origin)	In the Latin words from which these words come, the Romans probably pronounced the c and the k as two sounds rather than one – /s/ /k/.	science, scene, discipline, fascinate, crescent
Words with the /eɪ/ sound spelt ei, eigh, or ey		vein, weigh, eight, neighbour, they, obey

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
Possessive apostrophe with plural words	The apostrophe is placed after the plural form of the word; -s is not added if the plural already ends in -s , but <i>is</i> added if the plural does not end in -s (i.e. is an irregular plural – e.g. <i>children's</i>).	girls', boys', babies', children's, men's, mice's (Note: singular proper nouns ending in an s use the 's suffix e.g. Cyprus's population)
Homophones and near-homophones		accept/except, affect/effect, ball/bawl, berry/bury, brake/break, fair/fare, grate/great, groan/grown, here/hear, heel/heal/he'll, knot/not, mail/male, main/mane, meat/meet, medal/meddle, missed/mist, peace/piece, plain/plane, rain/rein/reign, scene/seen, weather/whether, whose/who's

Word List – Years 3 and 4

accident(ally)	early	knowledge	purpose
actual(ly)	earth	learn	quarter
address	eight/eighth	length	question
answer	enough	library	recent
appear	exercise	material	regular
arrive	experience	medicine	reign
believe	experiment	mention	remember
bicycle	extreme	minute	sentence
breath	famous	natural	separate
breathe	favourite	naughty	special
build	February	notice	straight
busy/business	forward(s)	occasion(ally)	strange
calendar	fruit	often	strength
caught	grammar	opposite	suppose
centre	group	ordinary	surprise
century	guard	particular	therefore
certain	guide	peculiar	though/although
circle	heard	perhaps	thought
complete	heart	popular	through
consider	height	position	various
continue	history	possess(ion)	weight
decide	imagine	possible	woman/women
describe	increase	potatoes	
different	important	pressure	
difficult	interest	probably	
disappear	island	promise	

International Phonetic Alphabet (non-statutory)

The table below shows each symbol of the International Phonetic Alphabet (IPA) and provides examples of the associated grapheme(s).¹ The table is not a comprehensive alphabetic code chart; it is intended simply as guidance for teachers in understanding the IPA symbols used in the spelling appendix ([English Appendix 1](#)). The pronunciations in the table are, by convention, based on Received Pronunciation and could be significantly different in other accents.

Consonants		Vowels	
/b/	bad	/ɑ:/	father, arm
/d/	dog	/ɒ/	hot
/ð/	this	/æ/	cat
/dʒ/	gem, jug	/aɪ/	mind, fine, pie, high
/f/	if, puff, photo	/aʊ/	out, cow
/g/	gum	/ɛ/	hen, head
/h/	how	/eɪ/	say, came, bait
/j/	yes	/ɛə/	air
/k/	cat, check, key, school	/əʊ/	cold, boat, cone, blow
/l/	leg, hill	/ɪ/	hit
/m/	man	/ɪə/	beer
/n/	man	/i:/	she, bead, see, scheme, chief
/ŋ/	sing	/ɔ:/	launch, raw, born
/θ/	both	/ɔɪ/	coin, boy
/p/	pet	/ʊ/	book
/r/	red	/ʊə/	tour
/s/	sit, miss, cell	/u:/	room, you, blue, brute
/ʃ/	she, chef	/ʌ/	cup
/t/	tea	/ɜ:/	fern, turn, girl
/tʃ/	check	/ə/	farmer
/v/	vet		
/w/	wet, when		
/z/	zip, hens, buzz		
/ʒ/	pleasure		

¹ This chart is adapted slightly from the version provided on the DfE's website to support the Year 1 phonics screening check.

English Appendix 2: Vocabulary, grammar and punctuation

The grammar of our first language is learnt naturally and implicitly through interactions with other speakers and from reading. Explicit knowledge of grammar is, however, very important, as it gives us more conscious control and choice in our language. Building this knowledge is best achieved through a focus on grammar within the teaching of reading, writing and speaking. Once pupils are familiar with a grammatical concept [for example 'modal verb'], they should be encouraged to apply and explore this concept in the grammar of their own speech and writing and to note where it is used by others. Young pupils, in particular, use more complex language in speech than in writing, and teachers should build on this, aiming for a smooth transition to sophisticated writing.

The table below focuses on Standard English and should be read in conjunction with the programmes of study as it sets out the statutory requirements. The table shows when concepts should be introduced first, not necessarily when they should be completely understood. It is very important, therefore, that the content in earlier years be revisited in subsequent years to consolidate knowledge and build on pupils' understanding. Teachers should also go beyond the content set out here if they feel it is appropriate.

The grammatical terms that pupils should learn are labelled as 'terminology for pupils'. They should learn to recognise and use the terminology through discussion and practice. All terms in **bold** should be understood with the meanings set out in the Glossary available in the full National Curriculum document. ([Click here for the National Curriculum](#)).

Vocabulary, grammar and punctuation – Year 4

Year 4: Detail of content to be introduced (statutory requirement)	
Word	The grammatical difference between plural and possessive –s Standard English forms for verb inflections instead of local spoken forms [for example, <i>we were</i> instead of <i>we was</i> , or <i>I did</i> instead of <i>I done</i>]
Sentence	Noun phrases expanded by the addition of modifying adjectives, nouns and preposition phrases (e.g. <i>the teacher</i> expanded to: <i>the strict maths teacher with curly hair</i>) Fronted adverbials [for example, <i>Later that day, I heard the bad news.</i>]
Text	Use of paragraphs to organise ideas around a theme Appropriate choice of pronoun or noun within and across sentences to aid cohesion and avoid repetition
Punctuation	Use of inverted commas and other punctuation to indicate direct speech [for example, a comma after the reporting clause; end punctuation within inverted commas: <i>The conductor shouted, “Sit down!”</i>] Apostrophes to mark plural possession [for example, <i>the girl’s name</i> , <i>the girls’ names</i>] Use of commas after fronted adverbials
Terminology for pupils	determiner pronoun, possessive pronoun adverbial

Mathematics - Key Stage 2 – Year 4 Programme of Study

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.

Year 4 programme of study

Number – number and place value

Statutory requirements

Pupils should be taught to

- count in multiples of 6, 7, 9, 25 and 1000
- find 1000 more or less than a given number
- count backwards through zero to include negative numbers
- recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)
- order and compare numbers beyond 1000
- identify, represent and estimate numbers using different representations
- round any number to the nearest 10, 100 or 1000
- solve number and practical problems that involve all of the above and with increasingly large positive numbers
- read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.

Number – addition and subtraction

Statutory requirements

Pupils should be taught to:

- add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
- estimate and use inverse operations to check answers to a calculation
- solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

Notes and guidance (non-statutory)

Pupils continue to practise both mental methods and columnar addition and subtraction with increasingly large numbers to aid fluency (see [English Appendix 1](#)).

Number – multiplication and division

Statutory requirements

Pupils should be taught to:

- recall multiplication and division facts for multiplication tables up to 12×12
- use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers
- recognise and use factor pairs and commutativity in mental calculations
- multiply two-digit and three-digit numbers by a one-digit number using formal written layout
- solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.

Number – fractions (including decimals)

Statutory requirements

Pupils should be taught to:

- recognise and show, using diagrams, families of common equivalent fractions
- count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number
- add and subtract fractions with the same denominator
- recognise and write decimal equivalents of any number of tenths or hundredths
- recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
- find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths
- round decimals with one decimal place to the nearest whole number
- compare numbers with the same number of decimal places up to two decimal places
- solve simple measure and money problems involving fractions and decimals to two decimal places.

Measurement

Statutory requirements

Pupils should be taught to:

- Convert between different units of measure [for example, kilometre to metre; hour to minute]
 - measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres
 - find the area of rectilinear shapes by counting squares
 - estimate, compare and calculate different measures, including money in pounds and pence
-
- read, write and convert time between analogue and digital 12- and 24-hour clocks
 - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Geometry – properties of shapes

Statutory requirements

Pupils should be taught to:

- compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
- identify acute and obtuse angles and compare and order angles up to two right angles by size
- identify lines of symmetry in 2-D shapes presented in different orientations
- complete a simple symmetric figure with respect to a specific line of symmetry.

Geometry – position and direction

Statutory requirements

Pupils should be taught to:

- describe positions on a 2-D grid as coordinates in the first quadrant
- describe movements between positions as translations of a given unit to the left/right and up/down

Statutory requirements

- plot specified points and draw sides to complete a given polygon.

Statistics

Statutory requirements

Pupils should be taught to:

- interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

Mathematics Appendix 1: Examples of formal written methods for addition, subtraction, multiplication and division

This appendix sets out some examples of formal written methods for all four operations to illustrate the range of methods that could be taught. It is not intended to be an exhaustive list, nor is it intended to show progression in formal written methods. For example, the exact position of intermediate calculations (superscript and subscript digits) will vary depending on the method and format used.

For multiplication, some pupils may include an addition symbol when adding partial products. For division, some pupils may include a subtraction symbol when subtracting multiples of the divisor.

Addition and subtraction

789 + 642 becomes

$$\begin{array}{r} 789 \\ + 642 \\ \hline 1431 \\ \hline \end{array}$$

Answer: 1431

874 - 523 becomes

$$\begin{array}{r} 874 \\ - 523 \\ \hline 351 \\ \hline \end{array}$$

Answer: 351

932 - 457 becomes

$$\begin{array}{r} ^8 ^{12} ^1 \\ 932 \\ - 457 \\ \hline 475 \\ \hline \end{array}$$

Answer: 475

932 - 457 becomes

$$\begin{array}{r} ^1 ^1 \\ 932 \\ - 457 \\ \hline 475 \\ \hline \end{array}$$

Answer: 475

Short multiplication

24 × 6 becomes

$$\begin{array}{r} 24 \\ \times 6 \\ \hline 144 \\ \hline \end{array}$$

Answer: 144

342 × 7 becomes

$$\begin{array}{r} 342 \\ \times 7 \\ \hline 2394 \\ \hline \end{array}$$

Answer: 2394

2741 × 6 becomes

$$\begin{array}{r} 2741 \\ \times 6 \\ \hline 16446 \\ \hline \end{array}$$

Answer: 16 446

Science - Key stage 2 – Programme of Study - Year 4

Living things and their habitats

Statutory requirements

Pupils should be taught to:

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things.

Animals, including humans

Statutory requirements

Pupils should be taught to:

- describe the simple functions of the basic parts of the digestive system in humans
- identify the different types of teeth in humans and their simple functions
- construct and interpret a variety of food chains, identifying producers, predators and prey.

States of matter

Statutory requirements

Pupils should be taught to:

- compare and group materials together, according to whether they are solids, liquids or gases
- 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)

Statutory requirements

- identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Sound

Statutory requirements

Pupils should be taught to:

- identify how sounds are made, associating some of them with something vibrating
- recognise that vibrations from sounds travel through a medium to the ear
- find patterns between the pitch of a sound and features of the object that produced it
- find patterns between the volume of a sound and the strength of the vibrations that produced it
- recognise that sounds get fainter as the distance from the sound source increases.

Electricity

Statutory requirements

Pupils should be taught to:

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- 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
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- recognise some common conductors and insulators, and associate metals with being good conductors.

Art and design

Subject Content

Key stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

- 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 [for example, pencil, charcoal, paint, clay]
- about great artists, architects and designers in history.

Computing

Subject Content

Key stage 2

Pupils should be taught to:

- 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
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Design and Technology

Subject Content

Key stage 2

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- 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

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, 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

Evaluate

- 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

Technical knowledge

- 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.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 2

- 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.

Geography

Subject content

Key stage 2

Pupils should extend their knowledge and understanding beyond the local area to include the United Kingdom and Europe, North and South America. This will include the location and characteristics of a range of the world's most significant human and physical features. They should develop their use of geographical knowledge, understanding and skills to enhance their locational and place knowledge.

Pupils should be taught to:

Locational knowledge

- 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)

Place knowledge

- 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

Human and physical geography

- 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

Geographical skills and fieldwork

- 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, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.

History

Subject content

Key stage 2

Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources.

In planning to ensure the progression described above through teaching the British, local and world history outlined below, teachers should combine overview and depth studies to help pupils understand both the long arc of development and the complexity of specific aspects of the content.

Pupils should be taught about:

- 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 Egypt
- Ancient Greece – a study of Greek life and achievements and their influence on the western world

Languages

Subject Content

Key stage 2: Foreign Language - French

Teaching may be of any modern (or ancient foreign language) and should focus on enabling pupils to make substantial progress in one language. The teaching should provide an appropriate balance of spoken and written language and should lay the foundations for further foreign language teaching at key stage 3. It should enable pupils to understand and communicate ideas, facts and feelings in speech and writing, focused on familiar and routine matters, using their knowledge of phonology, grammatical structures and vocabulary.

The focus of study in modern languages will be on practical communication.

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.

Music

Subject Content

Key stage 2

Pupils should be taught to sing and play musically with increasing confidence and control. They should develop an understanding of musical composition, organising and manipulating ideas within musical structures and reproducing sounds from aural memory.

Pupils should be taught to:

- 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

Subject Content

Key stage 2

Pupils should continue to apply and develop a broader range of skills, learning how to use them in different ways and to link them to make actions and sequences of movement. They should enjoy communicating, collaborating and competing with each other. They should develop an understanding of how to improve in different physical activities and sports and learn how to evaluate and recognise their own success.

Pupils should be taught to:

- use running, jumping, throwing and catching in isolation and in combination
- play competitive games, modified where appropriate [for example, 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

All schools must provide swimming instruction either in Year 2 or key stage 2. Swimming instruction is taught in Years 3 and 4.

In particular, pupils should be taught to:

- swim competently, confidently and proficiently over a distance of at least 25 metres
- use a range of strokes effectively [for example, front crawl, backstroke and breaststroke]
- perform safe self-rescue in different water-based situations.

This document is also available to download from www.gov.uk/dfenationalcurriculum.