

# New National Curriculum 2014: Year 6

English  
Upper Key Stage 2  
**Spoken Language (Years 1 to 6)**  
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 a 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**  
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.

**Reading: Comprehension**  
*Maintain positive attitudes to reading and understanding of what they read by:*  
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:*  
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.

**Writing: Transcription**  
use further prefixes and suffixes and understand the guidance for adding them  
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 1  
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.

**Writing: Handwriting & Presentation**  
*Write legibly, fluently and with increasing speed by:*  
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.

**Writing: Composition**  
*Plan their writing by:*  
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 and settings in what pupils have read, listened to or seen performed

*Draft and write by:*  
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).

*Evaluate and edit by:*  
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  
proof-read for spelling and punctuation errors  
perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.

**Writing: Vocabulary, Grammar & Punctuation**  
*Develop their understanding of the concepts set out in English Appendix 2 by:*  
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.

*Indicate grammatical and other features by:*  
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  
use and understand the grammatical terminology in English Appendix 2 accurately and appropriately in discussing their writing and reading.

Maths  
**Number: Number & Place Value**  
read, write, order and compare numbers up to 10 000 000 and determine the value of each digit  
round any whole number to a required degree of accuracy  
use negative numbers in context, and calculate intervals across zero  
solve number and practical problems that involve all of the above.

**Number: Addition & Subtraction**  
solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

*perform mental calculations, including with mixed operations and large numbers*  
*use their knowledge of the order of operations to carry out calculations involving the four operations*  
*solve problems involving addition, subtraction, multiplication and division*  
*use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.*

**\*\* Italic objectives are in both addition and subtraction, and multiplication and division**

**Number: Multiplication & Division**  
multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication  
divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context  
divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context  
identify common factors, common multiples and prime numbers

*perform mental calculations, including with mixed operations and large numbers*  
*use their knowledge of the order of operations to carry out calculations involving the four operations*  
*solve problems involving addition, subtraction, multiplication and division*  
*use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.*

**\*\* Italic objectives are in both addition and subtraction, and multiplication and division**

**Number: Fractions**  
use common factors to simplify fractions; use common multiples to express fractions in the same denomination  
compare and order fractions, including fractions > 1  
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions  
multiply simple pairs of proper fractions, writing the answer in its simplest form (for example,  $1/4 \times 1/2 = 1/8$ )  
divide proper fractions by whole numbers (for example,  $1/3 \div 2 = 1/6$ )  
associate a fraction with division and calculate decimal fraction equivalents (for example, 0.375) for a simple fraction (for example, 3/8)  
identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places  
multiply one-digit numbers with up to two decimal places by whole numbers  
use written division methods in cases where the answer has up to two decimal places  
solve problems which require answers to be rounded to specified degrees of accuracy  
recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

**Measurement**  
solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate  
use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places  
convert between miles and kilometres  
recognise that shapes with the same areas can have different perimeters and vice versa  
recognise when it is possible to use formulae for area and volume of shapes  
calculate the area of parallelograms and triangles  
calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres ( $\text{cm}^3$ ) and cubic metres ( $\text{m}^3$ ), and extending to other units (for example,  $\text{mm}^3$  and  $\text{km}^3$ ).

**Geometry: Properties of Shapes**  
draw 2-D shapes using given dimensions and angles  
recognise, describe and build simple 3-D shapes, including making nets  
compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons  
illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius  
recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

**Geometry: Position & Direction**  
describe positions on the full coordinate grid (all four quadrants)  
draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

**Statistics**  
interpret and construct pie charts and line graphs and use these to solve problems  
calculate and interpret the mean as an average.

**Ratio & Proportion**  
solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts  
solve problems involving the calculation of percentages (for example, of measures, and such as 15% of 360) and the use of percentages for comparison  
solve problems involving similar shapes where the scale factor is known or can be found  
solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

**Algebra**  
use simple formulae  
generate and describe linear number sequences  
express missing number problems algebraically

History  
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.*

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.

Science  
**Working Scientifically (Upper Key Stage 2)**  
plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary  
taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate  
recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs  
using test results to make predictions to set up further comparative and fair tests  
reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations  
identifying scientific evidence that has been used to support or refute ideas or arguments.

**Living Things & their Habitats**  
describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals  
give reasons for classifying plants and animals based on specific characteristics.

**Animals (including humans)**  
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.

**Evolution & Inheritance**  
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.

**Light**  
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.

**Electricity**  
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.

Geography  
Key Stage 2  
**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 countries 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 & 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 & 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.

## Music

### Key Stage 2

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.

## Computing

### Key Stage 2

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.

## Physical Education

### Key Stage 2

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 & Water Safety

All schools must provide swimming instruction either in KS1 or KS2.

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.

## Languages

### Key Stage 2

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 will not be applicable to ancient languages.

## Design & Technology

### Key Stage 2

#### 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 & Nutrition

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.

## Art & Design

### Key Stage 2

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.