

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 speaking, 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

- 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

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 denominator
- 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

Science

Working Scientifically (Upper Key Stage 2)

- planning 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

- 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.

- 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 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 (cm^3) and cubic metres (m^3), and extending to other units (for example, mm^3 and 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
- find pairs of numbers that satisfy an equation with two unknowns
- enumerate possibilities of combinations of two variables.

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.