

MATHEMATICS

NUMBER AND 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

CALCULATION

- 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
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers
- use their knowledge of the order of operations to carry out calculations involving the four operations
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- 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, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]
- divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]
- associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]
- 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

RATIO AND 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

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 (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]

GEOMETRY

- 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

STATISTICS

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



READING

COMPREHENSION

Show positive attitudes to reading and understanding of what they read by:

- Frequently choosing to read for enjoyment both fiction and non- fiction
- Adapting and demonstrating appropriate intonation, tone and volume when reading aloud, to suit the
 audience.
- Demonstrating a familiarity with a wide range of books and texts, recommending books to others based on own reading preferences, giving reasons for choice
- Learning a wide range of poetry by heart
- Exploring the meaning of words, drawing on contextual evidence and being able to explain how language, structure and presentation can contribute to the meaning of a text
- Commenting on how language, including figurative language, is used to contribute to meaning
- Asking questions about a text. e.g. context and comparison with other texts
- Drawing inference from a wide range of texts (e.g. plays. Novels, biographies), inferring characters' feelings, thoughts and motives from their actions and justifying inferences with evidence
- Making predictions based on details stated and implied
- Distinguishing independently between statements of fact and opinion
- In non- fiction, retrieving records and presenting information to other readers both formally and informally
- Identifying key details that support main ideas, précising paragraphs and summarising content drawn from longer texts
- Explaining and discussing their understanding of what they have read independently or texts that have been read aloud e.g. through formal presentations and debates

WORD READING

- Fluently and effortlessly read a wide range of age appropriate texts.
- Determine the meaning of new words by applying knowledge of the root words, prefixes and suffixes

WRITING

- Ideas and events developed through some deliberate selection of phrases and vocabulary: technical terminology; vivid language; word choice for effect or emphasis
- Recognise vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms
- Use passive verbs to affect the presentation of information in a sentence
- Choose adverbials and expanded noun phrases to consciously engage, entertain and inform the reader
- Some variation in sentence structure through a range of openings: adverbials (e.g. some time later, as we ran, once we had arrived...); subject reference (e.g. they, the boys, our gang...); speech
- Sentences correctly demarcated with the full range of punctuation mostly correctly
- Content is balanced, e.g. between action and dialogue; fact and comment
- Viewpoint is established and generally maintained. Contrasting attitudes /opinions may be presented.
- Ideas and material developed in detail (e.g. descriptions elaborated by adverbial and
- expanded noun phrases)
- Connections within and between paragraphs maintained through use of ongoing references: pronouns, adverbials, connectives (e.g. Eventually we...)
- Writing is well paced and events are logically related
- Pronouns and tenses are consistent
- Précis own written texts to fit purpose and audience
- Use a wide range of devices to build cohesion within and between paragraphs (e.g. use of adverbials of time, place and number or tense choices – he had seen her before)



SENTENCE

- Use of the passive to affect the presentation of information in a sentence [for example, I broke the window in the greenhouse versus The window in the greenhouse was broken (by me)].
- The difference between structures typical of informal speech and structures appropriate for formal speech and writing [for example, the use of question tags: He's your friend, isn't he?, or the use of subjunctive forms such as If I were or Were they to come in some very formal writing and speech]

TEXT

- Linking ideas across paragraphs using a wider range of cohesive devices: repetition of a word or phrase, grammatical connections [for example, the use of adverbials such as on the other hand, in contrast, or as a consequence], and ellipsis
- Layout devices [for example, headings, sub-headings, columns, bullets, or tables, to structure text]

PUNCTUATION

- Continue to use brackets, dashes, apostrophes inverted commas (speech marks), full stops, capital letters, exclamation and questions marks and commas in lists accurately
- Use of the semi-colon, colon and dash to mark the boundary between independent clauses [for example, It's raining; I'm fed up]
- Use of the colon to introduce a list and use of semi-colons within lists
- Punctuation of bullet points to list information
- How hyphens can be used to avoid ambiguity [for example, man eating shark versus man-eating shark, or recover versus re-cover]

HANDWRITING

- Use consistently joined, fluent and legible handwriting
- Choose appropriate letter shape and size and know whether or not to join letters

TERMINOLOGY FOR PUPILS

modal verb, relative pronoun, relative clause, subordinate clause parenthesis, bracket, dash, cohesion, ambiguity subject, object active, passive synonym, antonym ellipsis, hyphen, colon, semi-colon, bullet points (plus terminology from previous Year groups)