

Mathematics:

Place Value:

1. 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.
2. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above.

Addition and Subtraction, Multiplication and Division:

1. Multiply and divide numbers up to 4 digits by a 2-digit whole number using the formal written methods and interpret remainders as whole number remainders, fractions, or by rounding.
2. Identify common factors, common multiples and prime numbers.
3. Use their knowledge of the order of operations to carry out calculations involving the four operations.
4. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

Fractions:

1. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
2. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
3. Multiply simple proper fractions and simplify the answer (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$). Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$).
4. Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.
5. 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.
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Ration and Percentages:

1. Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison.
2. 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:

1. Express missing number problems algebraically. Use simple formulae expressed in words.
2. Generate and describe linear number sequences.
3. Find pairs of numbers that satisfy number sentences involving two unknowns. Enumerate all possibilities of combinations of two variables.



National Expectations Year 6

Measures:

1. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Convert between miles and km.
2. Use, read, write & convert between standard units of measure, converting length, mass, volume & time from smaller to larger units, and vice versa, using decimal notation to up to 3 decimal places.
3. Recognise that shapes with the same areas can have different perimeters and vice versa.
4. Calculate the area of parallelograms and triangles. Recognise when it is possible to use formulae for area and volume of shapes.
5. Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units.

Geometry:

1. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets.
2. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
3. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
4. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
5. Describe positions on the full coordinate grid (all four quadrants)
6. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Statistics:

1. Interpret and construct pie charts and line graphs and use these to solve problems.
2. Calculate and interpret the mean as an average.

The National Curriculum (2014) sets key milestones and expectations that *most* children are expected to achieve at the end of each age and stage of their development. **By the end of Year 5 most children should be able to:**

Reading:

1. Apply their knowledge of root words, prefixes and suffixes (morphology and etymology) both to read aloud and to understand the meaning of new words that they meet

Comprehension:

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

1. Continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
2. Reading books that are structured in different ways and reading for a range of purposes
3. Increasing familiarity with a wide range of books, inc myths, legends & traditional stories, modern fiction, fiction from our literary heritage & books from other cultures & traditions
4. Recommending books that they have read to their peers, giving reasons for their choices
5. Identifying and discussing themes and conventions in and across a wide range of writing
6. Making comparisons within and across books
7. Learning a wider range of poetry by heart
8. 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:

9. Checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context
10. Asking questions to improve their understanding
11. Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence
12. Predicting what might happen from details stated and implied
13. Summarising the main ideas drawn from more than one paragraph, identifying key details that support the main ideas
14. Identifying how language, structure and presentation contribute to meaning
15. Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader
16. Distinguish between statements of fact and opinion
17. Retrieve, record and present information from non-fiction
18. 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
19. 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
20. Provide reasoned justifications for their views

Handwriting:

1. Write legibly, fluently and with increasing speed by: choosing the writing implement that is best suited for a task

Spelling:

1. Use further prefixes and suffixes and understand the guidelines for adding them
2. Distinguish between homophones and other words which are often confused
3. Use knowledge of morphology and etymology in spelling and understand that some spellings need to be learnt specifically
4. Use dictionaries to check the spelling and meaning of words
5. Use a thesaurus

Writing Composition:

1. Plan writing by: identifying the audience & purpose of the writing, selecting the appropriate form & using other similar writing as models for their own
2. Plan their writing by: noting and developing initial ideas, drawing on reading and research where necessary
3. Plan their writing by: in narratives considering how authors have developed characters and settings in what they have read, listened to or seen performed
4. Selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning.
5. Draft and write by: in narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action
6. Draft and write by: précis longer passages
7. Draft and write by: using a wide range of devices to build cohesion within and across paragraphs
8. Evaluate and edit by: assessing the effectiveness of their own and others' writing
9. Evaluate and edit by: proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning
10. Evaluate & edit by: ensuring correct subject-verb agreement when using singular & plural, distinguish between the language of speech & writing
11. Perform their own compositions using appropriate intonation, volume and movement so that meaning is clear

Vocabulary, Grammar and Punctuation:

1. Recognise vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms
2. Use passive verbs to affect the presentation of information in a sentence
3. Use hyphens to avoid ambiguity
4. Use semi-colons, colons or dashes to mark boundaries between independent clauses and a colon to introduce a list
5. Punctuating bullet points consistently
6. Use ellipses
7. Learn the grammar and grammatical terminology for Stage 6: *formal and informal speech and writing, synonyms and antonyms*