



## MATHEMATICS

### Number and Place Value

- 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.

### Addition and Subtraction

- 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.

### Multiplication and Division

- recall multiplication and division facts for multiplication tables up to  $12 \times 12$
- 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.

### Fractions (including decimals and percentages)

- 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  $\frac{1}{10}$  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

- 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 space

- 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

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

### Statistics

- 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.



**Reasoning and Problem Solving**

- Solve one- and two-step problems, in different contexts, choosing and carrying out appropriate calculations.
- Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples.

**READING**

- Apply his/her growing knowledge of root words, prefixes and suffixes (etymology and morphology) both to read aloud and to understand the meaning of new words he/she meets, to include re-, sub-, inter-, super-, anti-, auto-, -ation, -ous; (English Appendix 1). (Word Reading)
- Maintain positive attitudes to reading and understanding of what he/she reads by discussing words and phrases that capture the reader's interest and imagination. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by reading a wide range of books, including fairy stories, myths and legends, and retell some of these orally. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by reading for a range of purposes. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by recognising some different forms of poetry e.g. free verse, narrative poetry. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by using dictionaries to check the meaning of words that he/she has read. (Comprehension)
- Maintain positive attitudes to reading and understanding of what he/she reads by identifying themes and conventions in a wide range of books. (Comprehension)
- Participate in clear reasoned discussion about books, poems and other material that are read to him/her and those he/she can read for himself/herself, taking turns and listening to what others say. (Comprehension)
- Read and decode further exception words accurately, noting the unusual correspondences between spelling and sound, and where these occur in the word (linked to spelling English Appendix 1). (Word Reading)
- Retrieve and record information from non-fiction over a wide range of subjects. (Comprehension)
- Understand what he/she reads independently by asking questions to improve his/her understanding of text with increasing complexity. (Comprehension)
- Understand what he/she reads independently by checking that the text makes sense to him/her, discussing his/her understanding and explaining the meaning of words in context. (Comprehension)
- Understand what he/she reads independently by drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence clearly taken from the text. (Comprehension)
- Understand what he/she reads independently by identifying how language, structure, and presentation contribute to meaning, to include: paragraphs, use of pronouns for cohesion, inverted commas for speech, apostrophes to mark possession, fronted adverbials. (Comprehension)
- Understand what he/she reads independently by identifying main ideas drawn from more than one paragraph and summarise these. (Comprehension)
- Understand what he/she reads independently by predicting what might happen from details stated and implied. (Comprehension)

**WRITING**

- Add endings which sound like 'shun' spelt -tion, -sion, -cian e.g. invention, discussion, tension, magician. (Spelling)
- Confidently read his/her own writing aloud, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear. (Composition)
- Draft and write by composing and rehearsing sentences orally (including dialogue), building a varied and rich vocabulary and using sentence structures (English Appendix ). (Composition)
- Draft and write by organising paragraphs around a theme. (Composition)
- Draft and write in narratives, creating settings, characters and plot with consideration for the audience and purpose. (Composition)
- Draft and write non-narrative material, using simple organisational devices. (Composition)
- Evaluate and edit by assessing the effectiveness of his/her own and others' writing and suggesting improvements. (Composition)
- Evaluate and edit by proposing changes to grammar and vocabulary to improve consistency, including the accurate use of pronouns in sentences, expanded noun phrases and fronted adverbials. (Composition)
- Increase the legibility, consistency and quality of his/her handwriting e.g. 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. (Handwriting)
- Make the appropriate choice of pronoun or noun within and across sentences to aid cohesion and avoid repetition. (Vocabulary, Grammar and Punctuation)



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- Place the possessive apostrophe accurately in words with regular plurals e.g. girls', boys' and in words with irregular plurals e.g. children's. (Spelling)
- Plan his/her writing by discussing and recording ideas. (Composition)
- Plan his/her writing by discussing writing similar to that which he/she is planning to write in order to understand and learn from its structure, vocabulary and grammar. (Composition)
- Proof-read for spelling and punctuation errors, including the use of the apostrophe for possession, speech punctuation and use of the comma for fronted adverbials. (Composition)
- Spell homophones accept/except, affect/effect, ball/bawl, berry/bury, knot/not, medal/meddle, missed/mist, rain/rein/reign, scene/seen, weather/whether, whose/who's. (Spelling)
- Spell more complex words that are often misspelt for years and (English Appendix). (Spelling)
- Spell words ending with the 'g' sound spelt 'gue' and the 'k' sound spelt -que e.g. rogue, tongue, antique, unique. (Spelling)
- Spell words with the 's' sounds spelt 'sc' e.g. science, scene. (Spelling)
- Understand and add suffixes -ation, -ous. (Spelling)
- Understand the following terminology: determiner; pronoun, possessive pronoun; and adverbial. (Vocabulary, Grammar and Punctuation)
- Understands the grammatical difference between plural and possessive -s. (Vocabulary, Grammar and Punctuation)
- Use apostrophes to mark plural possession e.g. the girl's name, the girls' names. (Vocabulary, Grammar and Punctuation)
- Use commas after fronted adverbials. (Vocabulary, Grammar and Punctuation)
- Use fronted adverbials e.g. Later that day, I heard the bad news. (Vocabulary, Grammar and Punctuation)
- Use inverted commas and other punctuation to indicate direct speech e.g. The conductor shouted, "Sit down!" - a comma after the reporting clause; end punctuation within inverted commas. (Vocabulary, Grammar and Punctuation)
- Use noun phrases expanded by the addition of modifying adjectives, nouns and preposition phrases e.g. the teacher expanded to: the strict maths teacher with curly hair. (Vocabulary, Grammar and Punctuation)
- Use paragraphs to organise ideas around a theme. (Vocabulary, Grammar and Punctuation)
- Use standard English forms for verb inflections instead of local spoken forms e.g. we were instead of we was, or I did instead of I done. (Vocabulary, Grammar and Punctuation)
- 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. (Handwriting)
- Use the first three or four letters of a word to check its spelling in a dictionary. (Spelling)
- Use the prefixes in-, im-, il-, i-r, sub-, inter-, super-, anti-, auto-. (Spelling)

### **SPOKEN LANGUAGE**

- Prepare poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action.
- Discuss words and increasingly complex phrases that capture the reader's interest and imagination.
- Ask reasoned questions to improve his/her understanding of a text.
- Participate in considered discussion about both books that are read to him/her and those that can be read for himself/herself, taking turns and listening to what others say.
- Compose and rehearse sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures (English Appendix 2).
- Read aloud his/her own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear.
- 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.
- Ask relevant questions with reasoning and use different types of scientific enquiries to answer them.
- Make a clear and reasoned report on findings from scientific enquiries.
- Use relevant scientific language to discuss his/her ideas with reasoning, and communicate findings in ways that are appropriate for different audiences.

### **SCIENCE**

- Ask relevant questions and use different types of scientific enquiries to answer them (Year 4 focus). (Working Scientifically)
- Compare and group materials together, according to whether they are solids, liquids or gases. (States of matter)
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. (Electricity)
- Construct and interpret a variety of food chains, identifying producers, predators and prey. (Animals, including humans)
- Describe the simple functions of the basic parts of the digestive system in humans. (Animals, including humans)
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Living things and their habitats)



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- Find patterns between the pitch of a sound and features of the object that produced it. (Sound)
- Find patterns between the volume of a sound and the strength of the vibrations that produced it. (Sound)
- Gather, record, classify and present data in a variety of ways to help in answering questions (Year 4 focus). (Working Scientifically)
- Identify common appliances that run on electricity. (Electricity)
- Identify differences, similarities or changes related to simple scientific ideas and processes (Year 4 focus). (Working Scientifically)
- Identify how sounds are made, associating some of them with something vibrating. (Sound)
- Identify the different types of teeth in humans and their simple functions. (Animals, including humans)
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. (States of matter)
- 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. (Electricity)
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (Year 4 focus). (Working Scientifically)
- 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). (States of matter)
- Recognise some common conductors and insulators, and associate metals with being good conductors. (Electricity)
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. (Electricity)
- Recognise that environments can change and that this can sometimes pose dangers and have an impact on living things. (Living things and their habitats)
- Recognise that living things can be grouped in a variety of ways. (Living things and their habitats)
- Recognise that sounds get fainter as the distance from the sound source increases. (Sound)
- Recognise that vibrations from sounds travel through a medium to the ear. (Sound)
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables (Year 4 focus). (Working Scientifically)
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (Year 4 focus). (Working Scientifically)
- Set up simple practical enquiries, comparative and fair tests (Year 4 focus). (Working Scientifically)
- Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (Year 4 focus). (Working Scientifically)
- Use straightforward scientific evidence to answer questions or to support his/her findings (Year 4 focus). (Working Scientifically)

### COMPUTING

- Decompose programs into smaller parts. (Coding)
- Select, use and combine a variety of software, systems and content that accomplish given goals. (Coding)
- Understand how results are selected and ranked by search engines. (Net Searching)
- Understand what servers are and how they provide services to a network. (Networks)
- Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies. (E-Safety)
- Use logical reasoning to detect and correct errors in algorithms and programs. (Coding)
- Use other input devices such as cameras or sensors. (Computers)
- Use technology responsibly and understand that communication online may be seen by others. (E-Safety)
- With support select and use a variety of software on a range of digital devices. (Using Computer)
- With support select, use and combine a variety of software on a range of digital devices to accomplish given goals. (Using Computer)

### HISTORY

- Communicate his/her learning in an organised and structured way, using appropriate terminology. (Organisation and communication)
- Place some historical periods in a chronological framework. (Chronological understanding)
- Understand that sources can contradict each other. (Historical interpretations)
- Use a variety of resources to find out about aspects of life in the past. (Historical enquiry)
- Use historic terms related to the period of study. (Chronological understanding)
- Use sources of information in ways that go beyond simple observations to answer questions about the past. (Historical enquiry)

### GEOGRAPHY

- Demonstrate knowledge of features about places around him/her and beyond the UK. (Locational knowledge)
- Describe how people have been affected by changes in the environment. (Human and physical geography)



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- Describe human features of UK regions, cities and /or counties. (Human and physical geography)
- Draw accurate maps with more complex keys. (Geographical skills and fieldwork)
- Explain about key natural resources e.g. water in the locality. (Human and physical geography)
- Explore features on OS maps using 6 figure grid references. (Geographical skills and fieldwork)
- Explore weather patterns around parts of the world. (Human and physical geography)
- Identify where countries are within Europe; including Russia. (Locational knowledge)
- Know about the wider context of places - region, country. (Place knowledge)
- Know how the locality is set within a wider geographical context. (Locational knowledge)
- Measure straight line distances using the appropriate scale. (Geographical skills and fieldwork)
- Plan the steps and strategies for an enquiry. (Geographical skills and fieldwork)
- Recognise that people have differing quality of life living in different locations and environments. (Locational knowledge)
- Recognise the different shapes of continents. (Locational knowledge)
- Understand and use a widening range of geographical terms e.g. specific topic vocabulary - contour, height, valley, erosion, deposition, transportation, headland, volcanoes, earthquakes etc. (Geographical skills and fieldwork)
- Understand the effect of landscape features on the development of a locality. (Human and physical geography)
- Understand why there are similarities and differences between places. (Place knowledge)

### ART

- Articulate how he/she might improve their work using technical terms and reasons as a matter of routine. (Learning)
- Create different effects by using a variety of tools and techniques such as bleeds, washes, scratches and splashes. (Techniques)
- Describe some of the key ideas, techniques and working practices of artists, architects and designers who he/she has studied. (Learning)
- Draws familiar objects with correct proportions. (Techniques)
- Experiment with creating mood, feeling, movement and areas of interest by selecting appropriate materials and learnt techniques. (Techniques)
- Plan a sculpture through drawing and other preparatory work. (Techniques)
- Print on fabrics using tie-dyes or batik. (Techniques)
- Use a sketchbook for collecting ideas and developing a plan for a completed piece of artwork. (Learning)
- Use a variety of techniques e.g. marbling, silkscreen and cold water paste. (Techniques)
- Use taught technical skills to adapt and improve his/her work. (Learning)

### DESIGN & TECHNOLOGY

- Apply techniques he/she has learnt to strengthen structures and explore his/her own ideas. (Processes)
- Consider how existing products and his/her own finished products might be improved and how well they meet the needs of the intended user. (Processes)
- Create designs using exploded diagrams. (Processes)
- Read and follow recipes which involve several processes, skills and techniques. (Cooking and Nutrition)
- Understand and use electrical systems in products. (Processes)
- Understand seasonality and the advantages of eating seasonal and locally produced food. (Cooking and Nutrition)
- Understand what makes a healthy and balanced diet, and that different foods and drinks provide different substances the body needs to be healthy and active. (Cooking and Nutrition)
- Use his/her knowledge of techniques and the functional and aesthetic qualities of a wide range of materials to plan how to use them. (Processes)
- Use knowledge of existing products to design a functional and appealing product for a particular purpose and audience. (Processes)
- Use techniques which require more accuracy to cut, shape, join and finish his/her work e.g. Cutting internal shapes, slots in frameworks. (Processes)

### LANGUAGES

- Ask and answer a range of questions on different topic areas. (Speaking)
- Begin to work out the meaning of unfamiliar words within a familiar text using contextual and other clues. (Reading)
- Follow the written version of a text he/she is listening to. (Reading)
- Listen to and accurately repeat particular phonemes in songs and rhymes and begin to make links to spellings. (Listening)
- Notice that the target language may contain different phonemes and that some similar sounds may be spelt differently to English. (Listening)
- Read a range of familiar written phrases and sentences, recognising their meaning and reading them aloud accurately. (Reading)
- Read aloud using accurate pronunciation and present a short learned piece for performance. (Speaking)
- Recognise a wider range of word classes including pronouns and articles, and use them appropriately. (Grammar)



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- Recognise questions and negative sentences. (Grammar)
- Show understanding of a range of familiar spoken phrases, for example through acting out part of a familiar story heard. (Listening)
- Understand that adjectives may change form according to the noun they relate to, and select the appropriate form. (Grammar)
- Use a range of adjectives to describe things in more detail, such as describing someone's appearance. (Writing)
- Using familiar sentences as models, make varied adaptations to create new sentences. (Speaking)
- Write descriptive sentences using a model but supplying some words from memory. (Writing)
- Write words and short phrases from memory. (Writing)

### MUSIC

- Confidently recognise a range of musical instruments and the different sounds they make.
- Confidently recognise and explore a range of musical styles and traditions and know their basic style indicators.
- Use musical language to appraise a piece or style of music.
- Copy increasingly challenging rhythms using body percussion and untuned instruments where appropriate.
- Sing as part of an ensemble with confidence and precision.
- Play and perform in solo or ensemble contexts with increasing confidence.
- Develop an understanding of formal, written notation which includes minims and quavers.
- Listen to and recall sounds with increasing aural memory.

### PE

- Apply skills and tactics in combination with a partner or as part of a group / team. (Applying skills and using tactics)
- Comment on skills and techniques applied in his/her own and others' work and use this understanding to improve performance. (Evaluating and improving performance)
- Complete a forward roll and land on the feet. (Acquiring and developing skills)
- Discuss differences between the health of people from different countries / regions. (Personal and social)
- Explain the benefits to the body of regular exercise. (Diet and hygiene)
- Explain the types and amounts of food needed for a balanced healthy diet. (Diet and hygiene)
- Identify basic 'coping strategies' for dealing with difficult emotions. (Healthy mind)
- Identify stress and stressful situations. (Healthy mind)
- Identify that the blood transports materials and it also protects. (Healthy bodies)
- Identify the energy that certain foodstuffs give by looking at the packaging. (Diet and hygiene)
- Identify the main features of respiration. (Healthy bodies)
- Identify the value of sleep for our health. (Healthy mind)
- Identify ways to make himself/herself happy and share happiness. (Personal and social)
- Kick a ball accurately. (Acquiring and developing skills)
- Pass a ball from chest height to a partner. (Acquiring and developing skills)
- Skip forwards in a fluid motion. (Acquiring and developing skills)
- Understand that muscles work in pairs to protect, support and move the body. (Healthy bodies)
- Understand that there are good and bad bacteria. (Diet and hygiene)
- Understand the importance of mental health. (Healthy mind)
- Understand the three functions of a skeleton and use scientific vocabulary to name specific bones. (Healthy bodies)

### PE - SWIMMING

- Perform a sequence of changing shapes whilst floating on the surface.
- Swim approx 10m using a range of different strokes (back / breast / front crawl).
- Perform a surface dive.
- Swim over 10m using a range of strokes accurately.
- Perform a range of jumps into deep water and tread water when resurfacing.
- Perform a forward somersault tucked in the water.
- Swim 10m wearing clothes.
- Exit the water without using steps.
- Swim 25m using any stroke.
- Perform a range of movements in deep water demonstrating confidence and competence.