



Essentials Content



Milestone 1

**By the end of Year 1 pupils should have a basic grasp of all of this content.
By the end of Year 2 pupils should have an advancing understanding of
this content, whilst some will have a deep understanding.**

Reading Years 1 and 2

In Years 1 and 2 pupils:

- Apply phonic knowledge and skills as the route to decode words.
- Respond speedily with the correct sound to graphemes (letters or groups of letters) for all 40+ phonemes, including, where applicable, alternative sounds for graphemes.
- Read accurately by blending sounds in unfamiliar words containing GPCs that have been taught.
- Read common exception words, noting unusual correspondences between spelling and sound and where these occur in the word.
- Read words containing taught GPCs and –s, –es, –ing, –ed, –er and –est endings.
- Read other words of more than one syllable that contain taught GPCs.
- Read words with contractions (for example, I'm, I'll, we'll) and understand that the apostrophe represents the omitted letter(s).
- Read aloud accurately books that are consistent with phonic knowledge and that do not require other strategies to work out words.
- Re-read these books to build up fluency and confidence in word reading.
- Read accurately by blending the sounds in words that contain the graphemes taught so far, especially recognising alternative sounds for graphemes.
- Read accurately words of two or more syllables that contain the same graphemes as above.
- Read words containing common suffixes.
- Read most words quickly and accurately, without overt sounding and blending, when they have been frequently encountered.
- Read aloud books closely matched to their improving phonic knowledge, sounding out unfamiliar words accurately, automatically and without undue hesitation.
- Re-read books to build up fluency and confidence in word reading.
- Discuss events.
- Predict events.
- Link reading to own experiences and other books.
- Join in with stories or poems.
- Check that reading makes sense and self-correct.
- Infer what characters are like from actions.
- Ask and answer questions about texts.
- Discuss favourite words and phrases.
- Listen to and discuss a wide range of texts.
- Recognise and join in with (including role-play) recurring language.
- Explain and discuss understanding of texts.
- Discuss the significance of the title and events.
- Make inferences on the basis of what is being said and done.

Writing Years 1 and 2

In Years 1 and 2 pupils:

- Say first and then write to tell others about ideas.
- Write for a variety of purposes.
- Plan by talking about ideas and writing notes.
- Use some of the characteristic features of the type of writing used.
- Write, review and improve.
- Use well-chosen adjectives to add detail.
- Use names of people, places and things.
- Use well-chosen adjectives.
- Use nouns and pronouns for variety.
- Use adverbs for extra detail.
- Re-read writing to check it makes sense.
- Use the correct tenses.
- Organise writing in line with its purpose.
- Write about more than one idea.
- Group related information.
- Write so that other people can understand the meaning of sentences.
- Sequence sentences to form clear narratives.
- Convey ideas sentence by sentence.
- Join sentences with conjunctions and connectives.
- Vary the way sentences begin.
- Sit correctly and hold a pencil correctly.
- Begin to form lower-case letters correctly.
- Form capital letters.
- Form digits 0-9.
- Understand letters that are formed in similar ways.
- Form lower-case letters of a consistent size.
- Begin to join some letters.
- Write capital letters and digits of consistent size.
- Use spacing between words that reflects the size of the letters.
- Spell words containing 40+ learned phonemes.
- Spell common exception words (the, said, one, two and the days of the week).
- Name letters of the alphabet in order.
- Use letter names to describe spellings of words.
- Add prefixes and suffixes, learning the rule for adding s and es as a plural marker for nouns, and the third person singular marker for verbs (I drink - he drinks).
- Use the prefix un.
- Use suffixes where no change to the spelling of the root word is needed: helping, helped, helper, eating, quicker, quickest.
- Use spelling rules.
- Write simple sentences dictated by the teacher.
- Spell by segmenting words into phonemes and represent them with the correct graphemes.

- Learn some new ways to represent phonemes.
- Spell common exception words correctly.
- Spell contraction words correctly (can't, don't).
- Add suffixes to spell longer words (-ment, -ness, -ful and -less).
- Use the possessive apostrophe. (singular) (for example, the girl's book)
- Distinguish between homophones and near-homophones.
- Leave spaces between words.
- Use the word 'and' to join words and sentences.
- Begin to punctuate using a capital letter for the name of people, places, the days of the week and I.
- Use both familiar and new punctuation correctly, including full stops, capital letters, exclamation marks, question marks, commas for lists and apostrophes for contracted forms.
- Use sentences with different forms: statement, question, exclamation and command.
- Use extended noun phrases to describe and specify (e.g. the blue butterfly).
- Use subordination (when, if, that or because).
- Use coordination (or, and, but).
- Use some features of standard written English.
- Use the present and past tenses correctly, including the progressive form.
- Discuss writing with the teacher and other pupils.
- Use and understand grammatical terminology in discussing writing: word, sentence, letter, capital letter, full stop, punctuation, singular, plural, question mark, exclamation mark.
- Use and understand grammatical terminology in discussing writing: verb, tense (past, present), adjective, noun, suffix, apostrophe, comma.
- Read aloud writing clearly enough to be heard by peers and the teacher.
- Read aloud writing with some intonation.

Communication Years 1 and 2

In Years 1 and 2 pupils:

- Sift information and focus on the important points.
- Seek clarification when a message is not clear.
- Understand instructions with more than one point.
- Use subject specific vocabulary to explain and describe.
- Suggest words or phrases appropriate to the topic being discussed.
- Identify homophones.
- Speak in a way that is clear and easy to understand.
- Demonstrate good phonic knowledge by clearly pronouncing the sounds within words.
- Identify syllables within words.
- Ensure stories have a setting, plot and a sequence of events.
- Recount experiences with interesting detail.
- Predict events in a story.
- Give just enough detail to keep the audience engaged.
- Take turns to talk, listening carefully to the contributions of others.
- Vary language between formal and informal according to the situation.
- Add humour to a discussion or debate where appropriate.

Mathematics Years 1 and 2

In Years 1 and 2 pupils:

- Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number.
- Count, read and write numbers to 100 in numerals.
- Given a number, identify one more and one less.
- Count in steps of 2, 3, 5 and 10 from 0 or 1 and in tens from any number, forward and backward.
- Identify, represent and estimate numbers using different representations, including the number line.
- Read and write numbers initially from 1 to 20 and then to at least 100 in numerals and in words.
- Use the language of: equal to, more than, less than (fewer), most and least.
- Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs.
- Recognise the place value of each digit in a two-digit number (tens, ones).
- Use place value and number facts to solve problems.
- Solve one-step problems with addition and subtraction:
- Using concrete objects and pictorial representations including those involving numbers, quantities and measures.
- Using the addition (+), subtraction (-) and equals (=) signs.
- Applying their increasing knowledge of mental and written methods.
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:
 - One-digit and two-digit numbers to 20, including zero.
 - A two-digit number and ones.
 - A two-digit number and tens.
 - Two two-digit numbers.
- Adding three one-digit numbers.
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.
- Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
- Represent and use number bonds and related subtraction facts within 20.
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.
- Solve one-step (two-step at greater depth) problems involving multiplication and division.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs.
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Solve problems involving multiplication and division using mental methods.
- Use known multiplication facts to check the accuracy of calculations.

- Recognise, find and name a half as one of two equal parts of an object, shape or quantity.
- Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.
- Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.
- Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.
- Write simple fractions for example, $\frac{1}{2}$ of 6 = 3.
- Recognise and name common 2D and 3D shapes.
- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.
- Identify 2-D shapes on the surface of 3-D shapes.
- Compare and sort common 2-D and 3-D shapes and everyday objects.
- Describe position, direction and movement, including whole, half, quarter and three-quarter turns.
- Order and arrange combinations of mathematical objects in patterns and sequences.
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).
- Compare, describe and solve practical problems for:
 - lengths and heights
 - mass/weight
 - capacity and volume
 - time.
 - Measure and begin to record:
 - lengths and heights
 - mass/weight
 - capacity and volume
 - time (hours, minutes, seconds).
- Recognise and know the value of different denominations of coins and notes.
- Sequence events in chronological order using language.
- Recognise and use language relating to dates, including days of the week, weeks, months and years.
- Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.
- Use standard units to estimate and measure length/height (m/cm); mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.
- Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.
- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value.

- Find different combinations of coins that equal the same amounts of money.
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.
- Compare and sequence intervals of time.
- Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.
- Know the number of minutes in an hour and the number of hours in a day.
- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
- Ask and answer questions about totalling and comparing categorical data.
- Solve addition and subtraction problems involving missing numbers.

Science Years 1 and 2

In Years 1 and 2 pupils:

- Ask simple questions.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.
- Gather and record data to help in answering questions.
- Identify and name a variety of common plants, including garden plants, wild plants and trees and those classified as deciduous and evergreen.
- Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.
- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
- Identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).
- Identify name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- Notice that animals, including humans, have offspring which grow into adults.
- Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.
- Explore and compare the differences between things that are living, that are dead and that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants and how they depend on each other.
- Identify and name a variety of plants and animals in their habitats, including micro-habitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
- Identify how humans resemble their parents in many features.
- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.
- Notice and describe how things move, using simple comparisons such as faster and slower.
- Compare how different things move.
- Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes.
- Observe and name a variety of sources of sound, noticing that we hear with our ears.
- Identify common appliances that run on electricity.
- Construct a simple series electrical circuit.
- Observe the apparent movement of the Sun during the day.
- Observe changes across the four seasons.
- Observe and describe weather associated with the seasons and how day length varies.

Art and Design Years 1 and 2

In Years 1 and 2 pupils:

- Respond to ideas and starting points.
- Explore ideas and collect visual information.
- Explore different methods and materials as ideas develop.
- Use thick and thin brushes.
- Mix primary colours to make secondary.
- Add white to colours to make tints and black to colours to make tones.
- Create colour wheels.
- Use a combination of materials that are cut, torn and glued.
- Sort and arrange materials.
- Mix materials to create texture.
- Use a combination of shapes.
- Include lines and texture.
- Use rolled up paper, straws, paper, card and clay as materials.
- Use techniques such as rolling, cutting, moulding and carving.
- Draw lines of different sizes and thickness.
- Colour (own work) neatly following the lines.
- Show pattern and texture by adding dots and lines.
- Show different tones by using coloured pencils.
- Use repeating or overlapping shapes.
- Mimic print from the environment (e.g. wallpapers).
- Use objects to create prints (e.g. fruit, vegetables or sponges).
- Press, roll, rub and stamp to make prints.
- Use weaving to create a pattern.
- Join materials using glue and/or a stitch.
- Use plaiting.
- Use dip dye techniques.
- Use a wide range of tools to create different textures, lines, tones, colours and shapes.
- Describe the work of notable artists, artisans and designers.
- Use some of the ideas of artists studied to create pieces.

Computing Years 1 and 2

In Years 1 and 2 pupils:

- Control motion by specifying the number of steps to travel, direction and turn.
- Add text strings, show and hide objects and change the features of an object.
- Select sounds and control when they are heard, their duration and volume.
- Control when drawings appear and set the pen colour, size and shape.
- Specify user inputs (such as clicks) to control events.
- Specify the nature of events (such as a single event or a loop).
- Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).
- From Year 3 onwards.
- From Year 3 onwards.
- Participate in class social media accounts.
- Understand online risks and the age rules for sites.
- Use a range of applications and devices in order to communicate ideas, work and messages.
- Use simple databases to record information in areas across the curriculum.

Design and Technology Years 1 and 2

In Years 1 and 2 pupils:

- Cut, peel or grate ingredients safely and hygienically.
- Measure or weigh using measuring cups or electronic scales.
- Assemble or cook ingredients.
- Cut materials safely using tools provided.
- Measure and mark out to the nearest centimetre.
- Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).
- Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).
- Shape textiles using templates.
- Join textiles using running stitch.
- Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing).
- Diagnose faults in battery operated devices (such as low battery, water damage or battery terminal damage).
- Model designs using software.
- Use materials to practise drilling, screwing, gluing and nailing materials to make and strengthen products.
- Create products using levers, wheels and winding mechanisms.
- Design products that have a clear purpose and an intended user.
- Make products, refining the design as work progresses.
- Use software to design.
- Explore objects and designs to identify likes and dislikes of the designs.
- Suggest improvements to existing designs.
- Explore how products have been created.

Geography Years 1 and 2

In Years 1 and 2 pupils:

- Ask and answer geographical questions (such as: What is this place like? What or who will I see in this place? What do people do in this place?).
- Identify the key features of a location in order to say whether it is a city, town, village, coastal or rural area.
- Use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied.
- Use simple fieldwork and observational skills to study the geography of the school and the key human and physical features of its surrounding environment.
- Use aerial images and plan perspectives to recognise landmarks and basic physical features.
- Name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas.
- Name and locate the world's continents and oceans.
- Understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom and of a contrasting non-European country.
- Identify seasonal and daily weather patterns in the United Kingdom and the location of hot and cold areas of the world in relation to the Equator and the North and South Poles.
- Identify land use around the school.
- Use basic geographical vocabulary to refer to:
 - key physical features, including: beach, coast, forest, hill, mountain, ocean, river, soil, valley, vegetation and weather.
 - key human features, including: city, town, village, factory, farm, house, office and shop.
- Use compass directions (north, south, east and west) and locational language (e.g. near and far) to describe the location of features and routes on a map.
- Devise a simple map; and use and construct basic symbols in a key. Use simple grid references (A1, B1).

History Years 1 and 2

In Years 1 and 2 pupils:

- Observe or handle evidence to ask questions and find answers to questions about the past.
- Ask questions such as: What was it like for people? What happened? How long ago?
- Use artefacts, pictures, stories, online sources and databases to find out about the past.
- Identify some of the different ways the past has been represented.
- Describe historical events.
- Describe significant people from the past.
- Recognise that there are reasons why people in the past acted as they did.
- Place events and artefacts in order on a time line.
- Label time lines with words or phrases such as: past, present, older and newer.
- Recount changes that have occurred in their own lives.
- Use dates where appropriate.
- Use words and phrases such as: a long time ago, recently, when my parents/ carers were children, years, decades and centuries to describe the passing of time.
- Show an understanding of the concept of nation and a nation's history.
- Show an understanding of concepts such as civilisation, monarchy, parliament, democracy, and war and peace.

Music Years 1 and 2

In Years 1 and 2 pupils:

- Take part in singing, accurately following the melody.
- Follow instructions on how and when to sing or play an instrument.
- Make and control long and short sounds, using voice and instruments.
- Imitate changes in pitch.
- Create a sequence of long and short sounds.
- Clap rhythms.
- Create a mixture of different sounds (long and short, loud and quiet, high and low).
- Choose sounds to create an effect.
- Sequence sounds to create an overall effect.
- Create short, musical patterns.
- Create short, rhythmic phrases.
- Use symbols to represent a composition and use them to help with a performance.
- Identify the beat of a tune.
- Recognise changes in timbre, dynamics and pitch.

Physical Education Years 1 and 2

In Years 1 and 2 pupils:

- Use the terms 'opponent' and 'team-mate'.
- Use rolling, hitting, running, jumping, catching and kicking skills in combination.
- Develop tactics.
- Lead others when appropriate.
- Copy and remember moves and positions.
- Move with careful control and coordination.
- Link two or more actions to perform a sequence.
- Choose movements to communicate a mood, feeling or idea.
- Copy and remember actions.
- Move with some control and awareness of space.
- Link two or more actions to make a sequence.
- Show contrasts (such as small/tall, straight/curved and wide/narrow).
- Travel by rolling forwards, backwards and sideways.
- Hold a position whilst balancing on different points of the body.
- Climb safely on equipment.
- Stretch and curl to develop flexibility.
- Jump in a variety of ways and land with increasing control and balance.
- Swim unaided up to 25 metres.
- Use one basic stroke, breathing correctly.
- Control leg movements.
- Athletic activities are combined with games in Years 1 and 2.

Religious Education Years 1 and 2

In Years 1 and 2 pupils:

- Describe some of the teachings of a religion.
- Describe some of the main festivals or celebrations of a religion.
- Recognise, name and describe some religious artefacts, places and practices.
- Name some religious symbols.
- Explain the meaning of some religious symbols.
- Identify the things that are important in their own lives and compare these to religious beliefs.
- Relate emotions to some of the experiences of religious figures studied.
- Ask questions about puzzling aspects of life.
- Identify how they have to make their own choices in life.
- Explain how actions affect others.
- Show an understanding of the term 'morals'.



Milestone 2

**By the end of Year 3 pupils should have a basic grasp of all of this content.
By the end of Year 4 pupils should have an advancing understanding of this content, whilst some will have a deep understanding.**

Reading Years 3 and 4

In Years 3 and 4 pupils:

- Apply a growing knowledge of root words, prefixes and suffixes (etymology and morphology).
- Read further exception words, noting the spellings.
- Draw inferences from reading.
- Predict from details stated and implied.
- Recall and summarise main ideas.
- Discuss words and phrases that capture the imagination.
- Retrieve and record information from non-fiction, using titles, headings, sub-headings and indexes.
- Prepare poems and plays to read aloud with expression, volume, tone and intonation.
- Identify recurring themes and elements of different stories (e.g. good triumphing over evil).
- Recognise some different forms of poetry.
- Explain and discuss understanding of reading, maintaining focus on the topic.
- Draw inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.
- Predict what might happen from details stated and implied.
- Identify main ideas drawn from more than one paragraph and summarise these.
- Identify how language, structure and presentation contribute to meaning.
- Ask questions to improve understanding of a text.

Writing Years 3 and 4

In Years 3 and 4 pupils:

- Apply a growing knowledge of root words, prefixes and suffixes (etymology and morphology).
- Read further exception words, noting the spellings.
- Draw inferences from reading.
- Predict from details stated and implied.
- Recall and summarise main ideas.
- Discuss words and phrases that capture the imagination.
- Retrieve and record information from non-fiction, using titles, headings, sub-headings and indexes.
- Prepare poems and plays to read aloud with expression, volume, tone and intonation.
- Identify recurring themes and elements of different stories (e.g. good triumphing over evil).
- Recognise some different forms of poetry.
- Explain and discuss understanding of reading, maintaining focus on the topic.
- Draw inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.
- Predict what might happen from details stated and implied.
- Identify main ideas drawn from more than one paragraph and summarise these.
- Identify how language, structure and presentation contribute to meaning.
- Ask questions to improve understanding of a text.

Communication Years 3 and 4

In Years 3 and 4 pupils:

- Engage in discussions, making relevant points.
- Ask for specific additional information to clarify.
- Understand the meaning of some phrases beyond the literal interpretation.
- Use time, size and other measurements to quantify.
- Use interesting adjectives, adverbial phrases and extended noun phrases in discussion.
- Use vocabulary that is appropriate to the topic being discussed or the audience that is listening.
- Use verbs with irregular endings.
- Use a mixture of sentence lengths to add interest to discussions and explanations.
- Use intonation to emphasise grammar and punctuation when reading aloud.
- Bring stories to life with expression and intonation.
- Read the audience to know when to add detail and when to leave it out.
- Make relevant comments or ask questions in a discussion or a debate.
- Seek clarification by actively seeking to understand others' points of view.
- Respectfully challenge opinions or points, offering an alternative.

Mathematics Years 3 and 4

In Years 3 and 4 pupils:

- Count in multiples of 2 to 9, 25, 50, 100 and 1000.
- Find 1000 more or less than a given number.
- Count backwards through zero to include negative numbers.
- Identify, represent and estimate numbers using different representations.
- 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.
- Order and compare numbers beyond 1000.
- Recognise the place value of each digit in a four-digit number. (thousands, hundreds, tens, and ones)
- Round any number to the nearest 10, 100 or 1000.
- Solve number and practical problems with increasingly large positive numbers.
- Solve two-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.
- Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.
- Add and subtract numbers mentally, including:
 - A three-digit number and ones.
 - A three-digit number and tens.
 - A three-digit number and hundreds.
- Estimate and use inverse operations to check answers to a calculation.
- Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.
- Solve problems involving multiplying and dividing, 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).
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
- 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.
- Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems.
- Recall multiplication and division facts for multiplication tables up to 12×12 .
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.
- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.
- 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.

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
- Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
- Compare and order unit fractions and fractions with the same denominators.
- Recognise and show, using diagrams, families of common equivalent fractions.
- Recognise and write decimal equivalents of any number of tenths or hundredths.
- Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.
- Add and subtract fractions with the same denominator within one whole.
- Solve problems involving increasingly harder fractions.
- 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.
- Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.
- Solve simple measure and money problems involving fractions and decimals to two decimal places.
- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.
- Recognise angles as a property of shape or a description of a turn.
- Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- 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.
- Recognise angles as a property of shape and as an amount of rotation.
- Identify right angles, recognise that 2 right angles make a half turn and 4 make a whole turn.
- Identify angles that are greater than a right angle.
- 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.
- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).
- Measure the perimeter of simple 2-D shapes.
- Add and subtract amounts of money to give change. (£ and p)
- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.

- Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use appropriate vocabulary.
- Know the number of seconds in a minute and the number of days in each month, year and leap year.
- Compare durations of events.
- 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.
- Interpret and present data using bar charts, pictograms and tables.
- Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts, pictograms and tables.
- 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.
- Solve addition and subtraction, multiplication and division problems that involve missing numbers.

Science Years 3 and 4

In Years 3 and 4 pupils:

- Ask relevant questions.
- Set up simple, practical enquiries and comparative and fair tests.
- Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.
- Identify differences, similarities or changes related to simple, scientific ideas and processes.
- Use straightforward, scientific evidence to answer questions or to support their findings.
- Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.
- Investigate the way in which water is transported within plants.
- Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
- Identify that animals, including humans, need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat.
- Construct and interpret a variety of food chains, identifying producers, predators and prey.
- Identify that humans and some animals have skeletons and muscles for support, protection and movement.
- Describe the simple functions of the basic parts of the digestive system in humans.
- Identify the different types of teeth in humans and their simple functions.
- Recognise that living things can be grouped in a variety of ways.
- Explore and use classification keys.
- Recognise that environments can change and that this can sometimes pose dangers to specific habitats.
- Identify how plants and animals, including humans, resemble their parents in many features.
- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

- Identify how animals and plants are suited to and adapt to their environment in different ways.

Rocks and Soils

- Compare and group together different kinds of rocks on the basis of their simple, physical properties.
- Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).
- Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.
- Recognise that soils are made from rocks and organic matter.

States of Matter

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics.
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.
- Recognise that they need light in order to see things and that dark is the absence of light.
- Notice that light is reflected from surfaces.
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- Recognise that shadows are formed when the light from a light source is blocked by a solid object.
- Find patterns in the way that the size of shadows change. Identify how sounds are made, associating some of them with something vibrating.
- Recognise that vibrations from sounds travel through a medium to the ear.
- Identify common appliances that run on electricity.
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- 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.

- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.
- Describe the movement of the Earth relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.

Art and Design Years 3 and 4

In Years 3 and 4 pupils:

- Develop ideas from starting points throughout the curriculum.
- Collect information, sketches and resources.
- Adapt and refine ideas as they progress.
- Explore ideas in a variety of ways.
- Comment on artworks using visual language.
- Use a number of brush techniques using thick and thin brushes to produce shapes, textures, patterns and lines.
- Mix colours effectively.
- Use watercolour paint to produce washes for backgrounds then add detail.
- Experiment with creating mood with colour.
- Select and arrange materials for a striking effect.
- Ensure work is precise.
- Use coiling, overlapping, tessellation, mosaic and montage.
- Create and combine shapes to create recognisable forms (e.g. shapes made from nets or solid materials).
- Include texture that conveys feelings, expression or movement.
- Use clay and other mouldable materials.
- Add materials to provide interesting detail.
- Use different hardnesses of pencils to show line, tone and texture.
- Annotate sketches to explain and elaborate ideas.
- Sketch lightly (no need to use a rubber to correct mistakes).
- Use shading to show light and shadow.
- Use hatching and cross hatching to show tone and texture.
- Use layers of two or more colours.
- Replicate patterns observed in natural or built environments.
- Make printing blocks (e.g. from coiled string glued to a block).
- Make precise repeating patterns.
- Shape and stitch materials.
- Use basic cross stitch and back stitch.
- Colour fabric.
- Create weavings.
- Quilt, pad and gather fabric.
- Create images, video and sound recordings and explain why they were created.
- Replicate some of the techniques used by notable artists, artisans and designers.
- Create original pieces that are influenced by studies of others.

Computing Years 3 and 4

In Years 3 and 4 pupils:

- Use specified screen coordinates to control movement.
- Set the appearance of objects and create sequences of changes.
- Create and edit sounds. Control when they are heard, their volume, duration and rests.
- Control the shade of pens.
- Specify conditions to trigger events.
- Use IF THEN conditions to control events or objects.
- Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).
- Use variables to store a value.
- Use the functions define, set, change, show and hide to control the variables.
- Use the Reporter operators
 - $() + ()$
 - $() - ()$
 - $() * ()$
 - $() / ()$to perform calculations.
- Contribute to blogs that are moderated by teachers.
- Give examples of the risks posed by online communications.
- Understand the term 'copyright'.
- Understand that comments made online that are hurtful or offensive are the same as bullying.
- Understand how online services work.
- Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.
- Devise and construct databases using applications designed for this purpose in areas across the curriculum.

Design and Technology Years 3 and 4

In Years 3 and 4 pupils:

- Prepare ingredients hygienically using appropriate utensils.
- Measure ingredients to the nearest gram accurately.
- Follow a recipe.
- Assemble or cook ingredients (controlling the temperature of the oven or hob, if cooking).
- Cut materials accurately and safely by selecting appropriate tools.
- Measure and mark out to the nearest millimetre.
- Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).
- Select appropriate joining techniques.
- Understand the need for a seam allowance.
- Join textiles with appropriate stitching.
- Select the most appropriate techniques to decorate textiles.
- Create series and parallel circuits.
- Control and monitor models using software designed for this purpose.
- Choose suitable techniques to construct products or to repair items.
- Strengthen materials using suitable techniques.
- Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).
- Design with purpose by identifying opportunities to design.
- Make products by working efficiently (such as by carefully selecting materials).
- Refine work and techniques as work progresses, continually evaluating the product design.
- Use software to design and represent product designs.
- Identify some of the great designers in all of the areas of study (including pioneers in horticultural techniques) to generate ideas for designs.
- Improve upon existing designs, giving reasons for choices.
- Disassemble products to understand how they work.

Geography Years 3 and 4

In Years 3 and 4 pupils:

- Ask and answer geographical questions about the physical and human characteristics of a location.
- Explain own views about locations, giving reasons.
- Use maps, atlases, globes and digital/computer mapping to locate countries and describe features.
- Use fieldwork to observe and record the human and physical features in the local area using a range of methods including sketch maps, plans and graphs and digital technologies.
- Use a range of resources to identify the key physical and human features of a location.
- Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, including hills, mountains, cities, rivers, key topographical features and land-use patterns; and understand how some of these aspects have changed over time.
- Name and locate the countries of Europe and identify their main physical and human characteristics.
- Name and locate the Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle and date time zones. Describe some of the characteristics of these geographical areas.
- Describe geographical similarities and differences between countries.
- Describe how the locality of the school has changed over time.
- Describe key aspects of:
 - physical geography, including: rivers, mountains, volcanoes and earthquakes and the water cycle.
 - human geography, including: settlements and land use.
- Use the eight points of a compass, four-figure grid references, symbols and key to communicate knowledge of the United Kingdom and the wider world.

History Years 3 and 4

In Years 3 and 4 pupils:

- Use evidence to ask questions and find answers to questions about the past.
- Suggest suitable sources of evidence for historical enquiries.
- Use more than one source of evidence for historical enquiry in order to gain a more accurate understanding of history.
- Describe different accounts of a historical event, explaining some of the reasons why the accounts may differ.
- Suggest causes and consequences of some of the main events and changes in history.
- Describe changes that have happened in the locality of the school throughout history.
- Give a broad overview of life in Britain from ancient until medieval times.
- Compare some of the times studied with those of other areas of interest around the world.
- Describe the social, ethnic, cultural or religious diversity of past society.
- Describe the characteristic features of the past, including ideas, beliefs, attitudes and experiences of men, women and children.
- Place events, artefacts and historical figures on a time line using dates.
- Understand the concept of change over time, representing this, along with evidence, on a time line.
- Use dates and terms to describe events.
- Use appropriate historical vocabulary to communicate, including:
 - dates
 - time period
 - era
 - change
 - chronology.
- Use literacy, numeracy and computing skills to a good standard in order to communicate information about the past.

Music Years 3 and 4

In Years 3 and 4 pupils:

- Sing from memory with accurate pitch.
- Sing in tune.
- Maintain a simple part within a group.
- Pronounce words within a song clearly.
- Show control of voice.
- Play notes on an instrument with care so that they are clear.
- Perform with control and awareness of others.
- Compose and perform melodic songs.
- Use sound to create abstract effects.
- Create repeated patterns with a range of instruments.
- Create accompaniments for tunes.
- Use drones as accompaniments.
- Choose, order, combine and control sounds to create an effect.
- Use digital technologies to compose pieces of music.
- Devise non-standard symbols to indicate when to play and rest.
- Recognise the notes EGBDF and FACE on the musical staff.
- Recognise the symbols for a minim, crotchet and semibreve and say how many beats they represent.
- Use the terms: duration, timbre, pitch, beat, tempo, texture and use of silence to describe music.
- Evaluate music using musical vocabulary to identify areas of likes and dislikes.
- Understand layers of sounds and discuss their effect on mood and feelings.

Physical Education Years 3 and 4

In Years 3 and 4 pupils:

- Throw and catch with control and accuracy.
- Strike a ball and field with control.
- Choose appropriate tactics to cause problems for the opposition.
- Follow the rules of the game and play fairly.
- Maintain possession of a ball (with, e.g. feet, a hockey stick or hands).
- Pass to team mates at appropriate times.
- Lead others and act as a respectful team member.
- Throw and catch with control and accuracy.
- Strike a ball and field with control.
- Choose appropriate tactics to cause problems for the opposition.
- Follow the rules of the game and play fairly.
- Maintain possession of a ball (with, e.g. feet, a hockey stick or hands).
- Pass to team mates at appropriate times.
- Lead others and act as a respectful team member.
- Plan, perform and repeat sequences.
- Move in a clear, fluent and expressive manner.
- Refine movements into sequences.
- Show changes of direction, speed and level during a performance.
- Travel in a variety of ways, including flight, by transferring weight to generate power in movements.
- Show a kinesthetic sense in order to improve the placement and alignment of body parts (e.g. in balances experiment to find out how to get the centre of gravity successfully over base and organise body parts to create an interesting body shape).
- Swing and hang from equipment safely (using hands).
- Swim between 25 and 50 metres unaided.
- Use more than one stroke and coordinate breathing as appropriate for the stroke being used.
- Coordinate leg and arm movements.
- Swim at the surface and below the water.
- Sprint over a short distance up to 60 metres.
- Run over a longer distance, conserving energy in order to sustain performance.
- Use a range of throwing techniques (such as under arm, over arm).
- Throw with accuracy to hit a target or cover a distance.
- Jump in a number of ways, using a run up where appropriate.
- Compete with others and aim to improve personal best performances.
- Arrive properly equipped for outdoor and adventurous activity.
- Understand the need to show accomplishment in managing risks.
- Show an ability to both lead and form part of a team.
- Support others and seek support if required when the situation dictates.
- Show resilience when plans do not work and initiative to try new ways of working.
- Use maps, compasses and digital devices to orientate themselves.
- Remain aware of changing conditions and change plans if necessary.

Religious Education Years 3 and

4 In Years 3 and 4 pupils:

- Present the key teachings and beliefs of a religion.
- Refer to religious figures and holy books to explain answers.
- Identify religious artefacts and explain how and why they are used.
- Describe religious buildings and explain how they are used.
- Explain some of the religious practices of both clerics and individuals.
- Identify religious symbolism in literature and the arts.
- Show an understanding that personal experiences and feelings influence attitudes and actions.
- Give some reasons why religious figures may have acted as they did.
- Ask questions that have no universally agreed answers.
- Explain how beliefs about right and wrong affect people's behaviour.
- Describe how some of the values held by communities or individuals affect behaviour and actions.
- Discuss and give opinions on stories involving moral dilemmas.



Milestone 3

**By the end of Year 5 pupils should have a basic grasp of all of this content.
By the end of Year 6 pupils should have an advancing understanding of this content, whilst some will have a deep understanding.**

Reading Years 5 and 6

In Years 5 and 6 pupils:

- Apply knowledge of root words, prefixes and suffixes.
- Read age-appropriate books with confidence and fluency (including whole novels).
- (Note: this should be through normal reading rather than direct teaching.)
- Recommend books to peers, giving reasons for choices.
- Identify and discuss themes and conventions in and across a wide range of writing.
- Make comparisons within and across books.
- Learn a wide range of poetry by heart.
- Prepare 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.
- Check that the book makes sense, discussing understanding and exploring the meaning of words in context.
- Ask questions to improve understanding.
- Draw inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence.
- Predict what might happen from details stated and implied.
- Summarise the main ideas drawn from more than one paragraph, identifying key details that support the main ideas.
- Identify how language, structure and presentation contribute to meaning.
- Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader.
- Retrieve and record information from non-fiction.
- Participate in discussion about books, taking turns and listening and responding to what others say.
- Distinguish between statements of fact and opinion.
- Provide reasoned justifications for views.

Writing Years 5 and 6

In Years 5 and 6 pupils:

- Identify the audience for writing.
- Choose the appropriate form of writing using the main features identified in reading.
- Note, develop and research ideas.
- Plan, draft, write, edit and improve.
- Use the techniques that authors use to create characters, settings and plots.
- Create vivid images by using alliteration, similes, metaphors and personification.
- Interweave descriptions of characters, settings and atmosphere with dialogue.
- Guide the reader by using a range of organisational devices, including a range of connectives.
- Choose effective grammar and punctuation.
- Ensure correct use of tenses throughout a piece of writing.
- Write paragraphs that give the reader a sense of clarity.
- Write paragraphs that make sense if read alone.
- Write cohesively at length.
- Write sentences that include:
 - relative clauses
 - modal verbs
 - relative pronouns
 - brackets
 - parenthesis
 - a mixture of active and passive voice
 - a clear subject and object
 - hyphens, colons and semi colons
 - bullet points.
- Write fluently and legibly with a personal style.
- Use prefixes appropriately.
- Spell some words with silent letters (knight, psalm and solemn).
- Distinguish between homophones and other words that are often confused.
- Use knowledge of morphology and etymology in spelling and understand that some words need to be learned specifically.
- Use dictionaries to check spelling and meaning of words.
- Use the first three or four letters of a word to look up the meaning or spelling of words in a dictionary.
- Use a thesaurus.
- Spell the vast majority of words correctly.

- Develop understanding of writing concepts 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.
- 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 grammatical terminology when discussing writing and reading:

Year 5

- relative clause, modal verb, relative pronoun, parenthesis, bracket, dash, determiner, cohesion, ambiguity.

Year 6

- active and passive voice, subject and object, hyphen, synonym, colon, semicolon, bullet points.

- Perform compositions, using appropriate intonation and volume.

Communication Years 5 and 6

In Years 5 and 6 pupils:

- Understand how to answer questions that require more than a yes/no or single sentence response.
- Recognise and explain some idioms.
- Understand irony (when it is obvious).
- Use adventurous and sophisticated vocabulary.
- Explain the meaning of words, offering alternatives.
- Use a wide range of phrases that include determiners, modifiers and other techniques to add extra interest and clarity.
- Vary the length and structure of sentences.
- Ask questions and make suggestions to take an active part in discussions.
- Comment on the grammatical structure of a range of spoken and written accounts.
- Narrate detailed and exciting stories.
- Use the conventions and structure appropriate to the type of story being told.
- Interweave action, character descriptions, settings and dialogue.
- Negotiate and compromise by offering alternatives.
- Debate, using relevant details to support points.
- Offer alternative explanations when others don't understand.

Mathematics Years 5 and 6

In Years 5 and 6 pupils:

- Read numbers up to 10 000 000.
- Use negative numbers in context and calculate intervals across zero.
- Write numbers up to 10 000 000
- Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
- Order and compare numbers up to 10 000 000.
- Round any whole number to a required degree of accuracy.
- Determine the value of each digit in any number.
- Solve number and practical problems.
- Solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.
- Add and subtract whole numbers with more than 4 digits, including using formal written methods. (columnar addition and subtraction)
- Add and subtract numbers mentally with increasingly large numbers.
- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- Add and subtract negative integers.
- Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.
- Use knowledge of the order of operations to carry out calculations involving the four operations.
- 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.
- Estimate and use inverse operations and rounding to check answers to a calculation.
- Identify common factors, common multiples and prime numbers.
- Establish whether a number up to 100 is prime and recall prime numbers up to 19.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.
- Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3).

- Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.
- Compare and order fractions whose denominators are all multiples of the same number.
- Compare and order fractions, including fractions > 1 .
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.
- Read, write, order and compare numbers with up to three decimal places.
- Identify the value of each digit in numbers given to three decimal places.
- Solve problems involving number up to three decimal places.
- Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
- Compare and order fractions whose denominators are all multiples of the same number.
- Compare and order fractions, including fractions > 1 .
- Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.
- Read, write, order and compare numbers with up to three decimal places.
- Identify the value of each digit in numbers given to three decimal places.
- Solve problems involving number up to three decimal places.
- Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.
- Multiply simple pairs of proper fractions, writing the answer in its simplest form.
- Solve problems which require knowing percentage and decimal equivalents of, $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.
- Divide proper fractions by whole numbers.
- Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.

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 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.
- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
- Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.
- Draw given angles, and measure them in degrees ($^{\circ}$).
- Identify:
 - Angles at a point and one whole turn (total 360°).
 - Angles at a point on a straight line and a turn (total 180°).
 - Other multiples of 90° .
- Use the properties of rectangles to deduce related facts and find missing lengths and angles.
- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- 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.
- Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.
- 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.
- Convert between different units of metric measure.
- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
- Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes.
- Estimate volume and capacity.
- Solve problems involving converting between units of time.
- Use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.
- 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 (cm³) and cubic metres (m³), and extending to other units.
- Solve comparison, sum and difference problems using information presented in a line graph.
- Complete, read and interpret information in tables, including timetables.
- Interpret and construct pie charts and line graphs and use these to solve problems.
- Calculate and interpret the mean as an average.
- 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.

Science Years 5 and 6

In Years 5 and 6 pupils:

- Plan enquiries, including recognising and controlling variables where necessary.
- Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.
- Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.
- Present findings in written form, displays and other presentations.
- Use test results to make predictions to set up further comparative and fair tests.
- Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.
- Relate knowledge of plants to studies of evolution and inheritance.
- Relate knowledge of plants to studies of all living things.
- Describe the changes as humans develop to old age.
- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions.
- Describe the ways in which nutrients and water are transported within animals, including humans.
- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- Describe the life process of reproduction in some plants and animals.
- Describe how living things are classified into broad groups according to common observable characteristics.
- Give reasons for classifying plants and animals based on specific characteristics.
- 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.
- Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets.
- Understand how some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

- Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning, oxidation and the action of acid on bicarbonate of soda.

Magnets

- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Forces

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces.
- Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.
- Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.
- Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect.
- Understand 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 eyes.
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes.
- 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.
- Find patterns between the pitch of a sound and features of the object that produced it.
- Find patterns between the volume of a sound and the strength of the vibrations that produced it.
- Recognise that sounds get fainter as the distance from the sound source increases.
- 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.
- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.

- Describe the Sun, Earth and Moon as approximately spherical bodies.
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Art and Design Years 5 and 6

In Years 5 and 6 pupils:

- Develop and imaginatively extend ideas from starting points throughout the curriculum.
- Collect information, sketches and resources and present ideas imaginatively in a sketch book.
- Use the qualities of materials to enhance ideas.
- Spot the potential in unexpected results as work progresses.
- Comment on artworks with a fluent grasp of visual language.
- Sketch (lightly) before painting to combine line and colour.
- Create a colour palette based upon colours observed in the natural or built world.
- Use the qualities of watercolour and acrylic paints to create visually interesting pieces.
- Combine colours, tones and tints to enhance the mood of a piece.
- Use brush techniques and the qualities of paint to create texture.
- Develop a personal style of painting, drawing upon ideas from other artists.
- Mix textures (rough and smooth, plain and patterned).
- Combine visual and tactile qualities.
- Use ceramic mosaic materials and techniques.
- Show life-like qualities and real-life proportions or, if more abstract, provoke different interpretations.
- Use tools to carve and add shapes, texture and pattern.
- Combine visual and tactile qualities.
- Use frameworks (such as wire or moulds) to provide stability and form.
- Use a variety of techniques to add interesting effects (e.g. reflections, shadows, direction of sunlight).
- Use a choice of techniques to depict movement, perspective, shadows and reflection.
- Choose a style of drawing suitable for the work (e.g. realistic or impressionistic).
- Use lines to represent movement.
- Build up layers of colours.
- Create an accurate pattern, showing fine detail.
- Use a range of visual elements to reflect the purpose of the work.
- Show precision in techniques.
- Choose from a range of stitching techniques.
- Combine previously learned techniques to create pieces.
- Enhance digital media by editing (including sound, video, animation, still images and installations).
- Give details (including own sketches) about the style of some notable artists, artisans and designers.
- Show how the work of those studied was influential in both society and to other artists.
- Create original pieces that show a range of influences and styles.

Computing Years 5 and 6

In Years 5 and 6 pupils:

- Set IF conditions for movements. Specify types of rotation giving the number of degrees.
- Change the position of objects between screen layers (send to back, bring to front).
- Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
- Combine the use of pens with movement to create interesting effects.
- Set events to control other events by 'broadcasting' information as a trigger.
- Use IF THEN ELSE conditions to control events or objects.
- Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
- Use lists to create a set of variables.
- Use the Boolean operators
 - `() < ()`
 - `() = ()`
 - `() > ()`
 - `()and()`
 - `()or()`
 - `Not()`to define conditions.
- Use the Reporter operators
 - `() + ()`
 - `() - ()`
 - `() * ()`
 - `() / ()`to perform calculations.
 - Pick Random `() to ()`
 - Join `() ()`
 - Letter `() of ()`
 - Length of `()`
 - `() Mod ()` This reports the remainder after a division calculation
 - Round `()`
 - `() of ()`.
- Collaborate with others online on sites approved and moderated by teachers.
- Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.
- Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder.
- Understand the effect of online comments and show responsibility and sensitivity when online.
- Understand how simple networks are set up and used.

- Choose the most suitable applications and devices for the purposes of communication.
- Use many of the advanced features in order to create high quality, professional or efficient communications.
- Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

Design and Technology Years 5 and 6

In Years 5 and 6 pupils:

- Understand the importance of correct storage and handling of ingredients (using knowledge of micro-organisms).
- Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.
- Demonstrate a range of baking and cooking techniques.
- Create and refine recipes, including ingredients, methods, cooking times and temperatures.
- Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).
- Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (such as the nature of fabric may require sharper scissors than would be used to cut paper).
- Create objects (such as a cushion) that employ a seam allowance.
- Join textiles with a combination of stitching techniques (such as back stitch for seams and running stitch to attach decoration).
- Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).
- Create circuits using electronics kits that employ a number of components (such as LEDs, resistors, transistors and chips).
- Write code to control and monitor models or products.
- Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding).
- Convert rotary motion to linear using cams.
- Use innovative combinations of electronics (or computing) and mechanics in product designs.
- Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).
- Make products through stages of prototypes, making continual refinements.
- Ensure products have a high quality finish, using art skills where appropriate.
- Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.
- Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.
- Create innovative designs that improve upon existing products.
- Evaluate the design of products so as to suggest improvements to the user experience.

Geography Years 5 and 6

In Years 5 and 6 pupils:

- Collect and analyse statistics and other information in order to draw clear conclusions about locations.
- Identify and describe how the physical features affect the human activity within a location.
- Use a range of geographical resources to give detailed descriptions and opinions of the characteristic features of a location.
- Use different types of fieldwork sampling (random and systematic) to observe, measure and record the human and physical features in the local area. Record the results in a range of ways.
- Analyse and give views on the effectiveness of different geographical representations of a location (such as aerial images compared with maps and topological maps - as in London's Tube map).
- Name and locate some of the countries and cities of the world and their identifying human and physical characteristics, including hills, mountains, rivers, key topographical features and land-use patterns; and understand how some of these aspects have changed over time.
- Name and locate the countries of North and South America and identify their main physical and human characteristics.
- Identify and describe the geographical significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, and time zones (including day and night).
- Understand some of the reasons for geographical similarities and differences between countries.
- Describe how locations around the world are changing and explain some of the reasons for change.
- Describe geographical diversity across the world.
- Describe how countries and geographical regions are interconnected and interdependent.
- 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: settlements, land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals, and water supplies.
- Use the eight points of a compass, four-figure grid references, symbols and a key (that uses standard Ordnance Survey symbols) to communicate knowledge of the United Kingdom and the world.
- Create maps of locations identifying patterns (such as: land use, climate zones, population densities, height of land).

History Years 5 and 6

In Years 5 and 6 pupils:

- Use sources of evidence to deduce information about the past.
- Select suitable sources of evidence, giving reasons for choices.
- Use sources of information to form testable hypotheses about the past.
- Seek out and analyse a wide range of evidence in order to justify claims about the past.
- Show an awareness of the concept of propaganda and how historians must understand the social context of evidence studied.
- Understand that no single source of evidence gives the full answer to questions about the past.
- Refine lines of enquiry as appropriate.
- Identify continuity and change in the history of the locality of the school.
- Give a broad overview of life in Britain from medieval until the Tudor and Stuarts times.
- Compare some of the times studied with those of the other areas of interest around the world.
- Describe the social, ethnic, cultural or religious diversity of past society.
- Describe the characteristic features of the past, including ideas, beliefs, attitudes and experiences of men, women and children.
- Describe the main changes in a period of history (using terms such as: social, religious, political, technological and cultural).
- Identify periods of rapid change in history and contrast them with times of relatively little change.
- Understand the concepts of continuity and change over time, representing them, along with evidence, on a time line.
- Use dates and terms accurately in describing events.
- Use appropriate historical vocabulary to communicate, including:
 - dates
 - time period
 - era
 - chronology
 - continuity
 - change
 - century
 - decade
 - legacy.
- Use literacy, numeracy and computing skills to an exceptional standard in order to communicate information about the past.
- Use original ways to present information and ideas.

Music Years 5 and 6

In Years 5 and 6 pupils:

- Sing or play from memory with confidence.
- Perform solos or as part of an ensemble.
- Sing or play expressively and in tune.
- Hold a part within a round.
- Sing a harmony part confidently and accurately.
- Sustain a drone or a melodic ostinato to accompany singing.
- Perform with controlled breathing (voice) and skillful playing (instrument).
- Create songs with verses and a chorus.
- Create rhythmic patterns with an awareness of timbre and duration.
- Combine a variety of musical devices, including melody, rhythm and chords.
- Thoughtfully select elements for a piece in order to gain a defined effect.
- Use drones and melodic ostinati (based on the pentatonic scale).
- Convey the relationship between the lyrics and the melody.
- Use digital technologies to compose, edit and refine pieces of music.
- Create songs with verses and a chorus.
- Create rhythmic patterns with an awareness of timbre and duration.
- Combine a variety of musical devices, including melody, rhythm and chords.
- Thoughtfully select elements for a piece in order to gain a defined effect.
- Use drones and melodic ostinati (based on the pentatonic scale).
- Convey the relationship between the lyrics and the melody.
- Use digital technologies to compose, edit and refine pieces of music.
- Choose from a wide range of musical vocabulary to accurately describe and appraise music including:
 - pitch
 - dynamics
 - tempo
 - timbre
 - texture
 - lyrics and melody
 - sense of occasion
 - expressive
 - solo
 - rounds
 - harmonies
 - accompaniments
 - drones
 - cyclic patterns
 - combination of musical elements
 - cultural context.
- Describe how lyrics often reflect the cultural context of music and have social meaning.

Physical Education Years 5 and 6

In Years 5 and 6 pupils:

- Choose and combine techniques in game situations (running, throwing, catching, passing, jumping and kicking, etc.).
- Work alone, or with team mates in order to gain points or possession.
- Strike a bowled or volleyed ball with accuracy.
- Use forehand and backhand when playing racket games.
- Field, defend and attack tactically by anticipating the direction of play.
- Choose the most appropriate tactics for a game.
- Uphold the spirit of fair play and respect in all competitive situations.
- Lead others when called upon and act as a good role model within a team.
- Compose creative and imaginative dance sequences.
- Perform expressively and hold a precise and strong body posture.
- Perform and create complex sequences.
- Express an idea in original and imaginative ways.
- Plan to perform with high energy, slow grace or other themes and maintain this throughout a piece.
- Perform complex moves that combine strength and stamina gained through gymnastics activities (such as cartwheels or handstands).
- Create complex and well-executed sequences that include a full range of movements including:
 - travelling
 - balances
 - swinging
 - springing
 - flight
 - vaults
 - inversions
 - rotations
 - bending, stretching and twisting
 - gestures
 - linking skills.
- Hold shapes that are strong, fluent and expressive.
- Include in a sequence set pieces, choosing the most appropriate linking elements.
- Vary speed, direction, level and body rotation during floor performances.
- Practise and refine the gymnastic techniques used in performances (listed above).
- Demonstrate good kinesthetic awareness (placement and alignment of body parts is usually good in well-rehearsed actions).
- Use equipment to vault and to swing (remaining upright).
- Swim over 100 metres unaided.
- Use breast stroke, front crawl and back stroke, ensuring that breathing is correct so as not to interrupt the pattern of swimming.

- Swim fluently with controlled strokes.
- Turn efficiently at the end of a length.
- Combine sprinting with low hurdles over 60 metres.
- Choose the best place for running over a variety of distances.
- Throw accurately and refine performance by analysing technique and body shape.
- Show control in take off and landings when jumping.
- Compete with others and keep track of personal best performances, setting targets for improvement.
- Select appropriate equipment for outdoor and adventurous activity.
- Identify possible risks and ways to manage them, asking for and listening carefully to expert advice.
- Embrace both leadership and team roles and gain the commitment and respect of a team.
- Empathise with others and offer support without being asked. Seek support from the team and the experts if in any doubt.
- Remain positive even in the most challenging circumstances, rallying others if need be.
- Use a range of devices in order to orientate themselves.
- Quickly assess changing conditions and adapt plans to ensure safety comes first.

Religious Education Years 5 and

6 In Years 5 and 6 pupils:

- Explain how some teachings and beliefs are shared between religions.
- Explain how religious beliefs shape the lives of individuals and communities.
- Explain the practices and lifestyles involved in belonging to a faith community.
- Compare and contrast the lifestyles of different faith groups and give reasons why some within the same faith may adopt different lifestyles.
- Show an understanding of the role of a spiritual leader.
- Explain some of the different ways that individuals show their beliefs.
- Recognise and express feelings about their own identities. Relate these to religious beliefs or teachings.
- Explain their own ideas about the answers to ultimate questions.
- Explain why their own answers to ultimate questions may differ from those of others.
- Explain why different religious communities or individuals may have a different view of what is right and wrong.
- Show an awareness of morals and right and wrong beyond rules (i.e. wanting to act in a certain way despite rules).
- Express their own values and remain respectful of those with different values.