Develop ideas

This concept involves understanding how ideas develop through an artistic process.

- 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.

Master techniques

This concept involves developing a skill set so that ideas may be communicated.

- Use a number of brush techniques using thick and thin brushes to produce shapes, textures, patterns and lines.
- Mix colours effectively.
- Experiment with creating mood with colour.

Sculpture

• Create and combine shapes to create recognisable forms (e.g. shapes made from nets or solid materials).

Drawing

- 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.

Textiles

- Create weavings.
- Quilt, pad and gather fabric.

Take inspiration from the greats

This concept involves learning from both the artistic process and techniques of great artists and artisans throughout history.

- Replicate some of the techniques used by notable artists, artisans and designers.
- Create original pieces that are influenced by studies of others.

Computing

Code

This concept involves developing an understanding of instructions, logic and sequences.

- 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.
- Use IF THEN conditions to control events or objects.

Connect

This concept involves developing an understanding of how to safely connect with others.

- 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.

Communicate

This concept involves using apps to communicate one's ideas.

• Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.

Design and Technology

Master practical skills

This concept involves developing the skills needed to make high quality products (we have highlighted a range of skills but they may be added to or changed.

Food

- 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).

Materials

- 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.

Textiles

- Understand the need for a seam allowance.
- Select the most appropriate techniques to decorate textiles.

Construction

- Choose suitable techniques to construct products or to repair items.
- Strengthen materials using suitable techniques.

Design, make, evaluate and improve

This concept involves developing the process of design thinking and seeing design as a process.

- 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.

Take inspiration from design throughout history

This concept involves appreciating the design process that has influenced the products we use in everyday life.

- 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.

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Read fluently

This concept involves recognising key vocabulary and phrases.

- Read and understand the main points in short written texts.
- Read short texts independently.

Write imaginatively

This concept involves using key vocabulary and phrases to write ideas.

- Write a few short sentences using familiar expressions.
- Write short phrases from memory with spelling that is readily understandable.

Speak confidently

This concept involves using key vocabulary and phrases to verbally communicate ideas.

- Understand the main points from spoken passages.
- Ask and answer simple questions and talk about interests.
- Demonstrate a growing vocabulary.

Understand the culture of the countries in which the language is spoken

This concept involves the background knowledge and cultural capital needed to infer meaning from interaction.

- Describe with some interesting details some aspects of countries or communities where the language is spoken.
- Make comparisons between life in countries or communities where the language is spoken and this country.

Investigate places

This concept involves understanding the geographical location of places and their physical and human features.

- 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 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.

Investigate patterns

This concept involves understanding the relationships between the physical features of places and the human activity within them, and the appreciation of how t.....?

- 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.

Communicate geographically

This concept involves understanding geographical representations, vocabulary and techniques.

- 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.

Investigate and interpret the past

This concept involves understanding that our understanding of the past comes from an interpretation of the available evidence.

- 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.

Geography

Build an overview of world history

This concept involves an appreciation of the characteristic features of the past and an understanding that life is different for different section.

- 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.

Understand chronology

This concept involves an understanding of how to chart the passing of time and how some aspects of history studied were happening at similar times in different locations.

- Place events, artefacts and historical figures on a timeline using dates.
- Understand the concept of change over time, representing this, along with evidence, on a timeline.
- Use dates and terms to describe events.

Communicate historically

This concept involves using historical vocabulary and techniques to convey information about the past.

- 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.

Know and use numbers

This concept involves understanding the number system and how they are used in a wide variety of mathematical ways.

Counting

- Count in multiples of 2 to 9, 25, 50, 100 and 1000.
- Find 1000 more or less than a given number.

Representing

- 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.

Comparing

• Order and compare numbers beyond 1000.

Place value

- 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.

Solving problems

• Solve number and practical problems with increasingly large positive numbers.

Add and subtract

This concept involves understanding both the concepts and processes of addition and subtraction. Complexity

• Solve two-step addition and subtraction problems in contexts, deciding which operations and methods to use and why.

Mathematics

Methods

- 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.

Checking

• Estimate and use inverse operations to check answers to a calculation.

Using number facts

• Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.

Multiply and divide

This concept involves understanding both the concepts and processes of multiplication and division. Complexity

• Solve problems involving multiplying and dividing.

Methods

- Multiply two-digit and three-digit numbers by a one-digit number.
- 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.

Checking

• Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems.

Using multiplication and division facts

• Recall multiplication and division facts for multiplication tables up to 12 × 12.

Fractions

This concept involves understanding the concept of part and whole and ways of calculating using it. Recognising fractions

- 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.
- Compare and order unit fractions and fractions with the same denominators.

Equivalence

• Recognise and show, using diagrams, families of common equivalent fractions.

Solving problems

- 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
- Solve simple measure and money problems involving fractions

Understand the properties of shapes

This concept involves recognising the names and properties of geometric shapes and angles.

- 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.

Describe position, direction and movement

This concept involves recognising various types of mathematical movements.

- 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.

Use measures

This concept involves becoming familiar with a range of measures, devices used for measuring and calculations.

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (I/mI).
- 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.

Use statistics

This concept involves interpreting, manipulating and presenting data in various ways.

- 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.

Use algebra

This concept involves recognising mathematical properties and relationships using symbolic representations.

• Solve addition and subtraction, multiplication and division problems that involve missing numbers.

Music

Perform

This concept involves understanding that music is created to be performed.

- 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.
- Perform with control and awareness of others.

Compose

This concept involves appreciating that music is created through a process which has a number of techniques.

- Compose and perform melodic songs.
- Use sound to create abstract effects.
- Choose, order, combine and control sounds to create an effect.

Describe music

This concept involves appreciating the features and effectiveness of musical elements.

- 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.

Develop practical skills in order to participate, compete and lead a healthy lifestyle This concept involves learning a range of physical movements and sporting techniques.

- 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.

Dance

- Plan, perform and repeat sequences.
- Move in a clear, fluent and expressive manner.
- Refine movements into sequences.
- Create dances and movements that convey a definite idea.
- Change speed and levels within a performance.
- Develop physical strength and suppleness by practising moves and stretching.

Athletics

- 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.

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Try new things

This concept involves appreciating the range of life opportunities.

- Try new things when encouraged.
- Enjoy new experiences.
- Join clubs or groups.
- Talk about new experiences with others.

Work hard

This concept involves understanding the importance of effort.

- Enjoy working hard in a range of activities.
- Reflect on how effort leads to success.
- Begin to encourage others to work hard.

Concentrate

This concept involves understanding how to become focused.

- Focus on activities.
- 'Tune out' some distractions.
- Search for methods to help with concentration.
- Develop areas of deep interest.

Push themselves

This concept involves understanding how to overcome doubts and insecurities.

- Begin to understand why some activities feel uncomfortable.
- Show a willingness to overcome fears.
- Push past fears and reflect upon the emotions felt afterwards.
- Begin to take encouragement and advice from others.
- Keep trying after a first attempt.

Imagine

This concept involves understanding how to apply knowledge inventively.

- Begin to enjoy having new ideas.
- Show some enthusiasm for the ideas of others.
- Ask some questions in order to develop ideas.
- Show enjoyment in trying out some ideas.

Improve

This concept involves an appreciation that small improvements make big differences.

- Share with others a number of positive features of own efforts.
- Identify a few areas for improvement.
- Attempt to make improvements.

Understand others

This concept involves an appreciation of others.

• Listen to others, showing attention.

- Think of the effect of behaviour on others before acting.
- Describe the points of view of others.

Not give up

This concept involves the understanding of the importance of persistence.

- Find alternative ways if the first attempt does not work.
- Bounce back after a disappointment or failure.
- Show the ability to stick at an activity (or a club or interest).
- See oneself as lucky.

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Understand beliefs and teachings

This concept involves understanding the key teachings of various religions.

- Present the key teachings and beliefs of a religion.
- Refer to religious figures and holy books to explain answers.

Understand practices and lifestyles

This concept involves understanding the day to day lives and practices of various religions.

- 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.

Reflect

This concept involves an appreciation of how religion plays an important role in the lives of some people.

- 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.

Understand values

This concept involves an appreciation of how many people place values as an important aspect of their lives.

- 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.

Reading

Read words accurately

This concept involves decoding and fluency.

- Apply a growing knowledge of root words, prefixes and suffixes (etymology and morphology).
- Read further exception words, noting the spellings.

Understand texts

This concept involves understanding both the literal and more subtle nuances of texts. • 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.

Work scientifically

This concept involves learning the methodologies of the discipline of science.

- 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.

Biology

Understand plants

This concept involves becoming familiar with different types of plants, their structure and reproduction.

- 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.

Investigate living things

This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.

- 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.

Understand evolution and inheritance

This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.

- 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.

Chemistry

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.

Physics

- 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.

Investigate sound and hearing

This concept involves understanding how sound is produced, how it travels and how it is heard.

- Identify how sounds are made, associating some of them with something vibrating.
- Recognise that vibrations from sounds travel through a medium to the ear.

Understand the Earth's movement in space This concept involves understanding what causes seasonal changes, day and night.

- Describe the movement of the Earth relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.

Composition

Write with purpose

This concept involves understanding the purpose or purposes of a piece of writing.

- Use the main features of a type of writing (identified in reading).
- Use techniques used by authors to create characters and settings.
- Compose and rehearse sentences orally.
- Plan, write, edit and improve.

Use imaginative description

This concept involves developing an appreciation of how best to convey ideas through description.

- Create characters, settings and plots.
- Use alliteration effectively.
- Use similes effectively.
- Use a range of descriptive phrases including some collective nouns.

Organise writing appropriately

This concept involves developing an appreciation of how best to convey ideas through description.

- Use organisational devices such as headings and sub headings.
- Use the perfect form of verbs to mark relationships of time and cause.
- Use connectives that signal time, shift attention, inject suspense and shift the setting.

Use paragraphs

This concept involves understanding how to group ideas so as to guide the reader.

- Organise paragraphs around a theme.
- Sequence paragraphs.

Use sentences appropriately

This concept involves using different types of sentences appropriately for both clarity and for effect.

- Use a mixture of simple, compound and complex sentences.
- Write sentences that include:
 - conjunctions
 - adverbs
 - direct speech, punctuated correctly
 - clauses

Transcription

Present neatly

This concept involves developing an understanding of handwriting and clear presentation.

Vriting

- Join letters, deciding which letters are best left un-joined.
- Make handwriting legible by ensuring down strokes of letters are parallel and letters are spaced appropriately.

Spell correctly

This concept involves understanding the need for accuracy.

- Use prefixes and suffixes and understand how to add them.
- Spell homophones correctly.
- Spell correctly often misspelt words.
- Place the possessive apostrophe accurately in words with regular plurals (for example, girls', boys') and in words with irregular plurals (for example, children's).
- Use the first two or three letters of a word to check its spelling in a dictionary.
- Write from memory simple sentences, dictated by the teacher, that include words and punctuation taught so far.

Punctuate accurately

This concept involves understanding that punctuation adds clarity to writing.

- Develop understanding of writing concepts by:
- Extending the range of sentences with more than one clause by using a wider range of conjunctions, including when, if, because, although.
 - Using the present perfect form of verbs in contrast to the past tense.
 - Choosing nouns or pronouns appropriately for clarity and cohesion and to avoid repetition.
 - Using conjunctions, adverbs and prepositions to express time and cause.
- Indicate grammatical and other features by:
 - Using commas after fronted adverbials.
 - Indicating possession by using the possessive apostrophe with plural nouns.
 - Using and punctuating direct speech.

Analysis and presentation

Analyse writing

This concept involves understanding how grammatical choices give effect and meaning to writing.

• Use and understand grammatical terminology when discussing writing and reading:

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• word family, conjunction, adverb, preposition, direct speech, inverted commas (or 'speech marks'), prefix, consonant, vowel, clause, subordinate clause.

Present writing

This concept involves learning to reflect upon writing and reading it aloud to others.

• Read aloud writing to a group or whole class, using appropriate intonation.