Year 5 — Curriculum

Our key curriculum drivers: COMMUNICATION, HEALTH & Well-Being & OUR SCHOOL VALUES

DESIGN TECHNOLOGY

National curriculum:

DEVELOPING, PLANNING & COMMUNICATING IDEAS

-Generate ideas through brainstorming and identify a purpose for their product
-Draw up a specification for their design
-Develop a clear idea of what has to be done, planning how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail
-Use results of investigations, information sources, including ICT when developing design ideas

WORKING WITH TOOLS, EQUIPMENT, MATERIALS & COMPONENTS TO MAKE QUALITY PRODUCTS

-Select appropriate materials, tools and techniques
-Measure and mark out accurately
-Use skills in using different tools and equipment safely and accurately
-Weigh and measure accurately (time, dry ingredients, liquids)
-Apply the rules for basic food hygiene and other safe practices *e.g. hazards relating to the use of ovens*
-Cut and join with accuracy to ensure a good-quality finish to the product

EVALUATING PROCESSES & PRODUCTS

-Evaluate a product against the original design specification
-Evaluate it personally and seek evaluation from others

MUSIC

National curriculum:

SINGING SONGS WITH CONTROL AND SINGING EXPRESSIVELY

-Sing songs with increasing control of breathing, posture and sound projection.
-Sing songs in tune and with an awareness of other parts.
-Identify phrases through breathing in appropriate places.
-Sing with expression and rehearse with others.
-Sing a round in two parts and identify the melodic phrases and how they fit together.
-Sing confidently as a class, in small groups and alone, and begin to have an awareness of improvisation with the voice.

LISTENING. MEMORY & MOVEMENT

-Internalise short melodies and play these on pitched percussion (play by ear).
-Create dances that reflect musical features.
-Identify different moods and textures.
-Identify how a mood is created by music and lyrics.
-Listen to longer pieces of music and identify features.

CONTROLLING PULSE & RHYTHM

-Identify different speeds of pulse (tempo) by clapping and moving.
-Improvise rhythm patterns.
-Perform an independent part keeping to a steady beat.
-Identify the metre of different songs through recognising the pattern of strong and weak beats.
-Subdivide the pulse while keeping to a steady beat.

EXPLORING SOUNDS, MELODY & ACCOMPANIMENT

-Skills development for this element are to be found within '— -Control of instruments' and 'Composition'.

CONTROL OF INSTRUMENTS

-Identify and control different ways percussion instruments make sounds.
-Play accompaniments with control and accuracy.
-Create different effects using combinations of pitched sounds.
-Use ICT to change and manipulate sounds.

COMPOSITION

-Identify different starting points or composing music.
-Explore, select combine and exploit a range of different sounds to compose a soundscape.
-Write lyrics to a known song.
-Compose a short song to own lyrics based on everyday phrases.
-Compose music individually or in pairs using a range of stimuli and developing their musical ideas into a completed composition.

READING & WRITING NOTATION

-Perform using notation as a support.
-Sing songs with staff notation as support

PERFORMANCE SKILLS

-Present performances effectively with awareness of audience, venue and occasion.

EVALUATING & APPRAISING

-Improve their work through analysis, evaluation

PSHE

Autumn 1: Keeping myself safe: Protective behaviours

Autumn 2: Diversity & communities: Anti-bullying

Spring 1: Mental health

Spring 2: Relationships & sex education & Counting sleep

Summer 1: Healthy and safer lifestyles: Drug education

Summer 2: British values & Teachers' choice

ART

National curriculum:

EXPLORING & DEVELOPING IDEAS

-Select and record from first hand observation, experience and imagination, and explore ideas for different purposes.
-Question and make thoughtful observations about starting points and select ideas and processes to use in their work.
-Explore the roles and purposes of artists, craftspeople and designers working in different times and cultures.

EVALUATING & DEVELOPING WORK

-Compare ideas, methods and approaches in their own and others' work and say what they think and feel about them.
-Adapt their work according to their views and describe how they might develop it further.

DRAWING

-Use a variety of source material for their work.
-Work in a sustained and independent way from observation, experience and imagination.
-Use a sketchbook to develop ideas.
-Explore the potential properties of the visual elements, line, tone, pattern, texture, colour and shape.

PAINTING

-Demonstrate a secure knowledge about primary and secondary, warm and cold, complementary and contrasting colours.
-Work on preliminary studies to test media and materials.
-Create imaginative work from a variety of sources.

PRINTING

-Explain a few techniques, inc' the use of poly-blocks, relief, mono and resist printing.
-Choose the printing method appropriate to task.
-Build up layers and colours/textures.
-Organise their work in terms of pattern, repetition, symmetry or random printing styles.
-Choose inks and overlay colours.

TEXTILES / COLLAGE

-Join fabrics in different ways, including stitching.
-Use different grades and uses of threads and needles.
-Extend their work within a specified technique.
-Use a range of media to create collage.
-Experiment with using batik safely.

3-D FORM

-Describe the different qualities involved in modelling, sculpture and construction.
-Use recycled, natural and man- made materials to create sculpture.
-Plan a sculpture through drawing and other preparatory work.

BREADTH OF STUDY

-Work on their own, and collaboratively with others, on projects in 2 and 3 dimensions and on different scales. Use ICT.
Investigate art, craft and design in the locality and in a variety of genres, styles and traditions.

Year 5 — Curriculum

GEOGRAPHY

National curriculum

GEOGRAPHICAL ENQUIRY
-Begin to suggest questions for investigating
-Begin to use primary and secondary sources of evidence in their investigations.
-Investigate places with more emphasis on the larger scale; contrasting and distant places
-Collect and record evidence unaided
-Analyse evidence and draw conclusions e.g. compare historical maps of varying scales
e.g. temperature of various locations - influence on people/ everyday life

DIRECTION / LOCATION
-Use 8 compass points;
-Begin to use 4 figure co- ordinates to locate features on a map.

DRAWING MAPS
-Begin to draw a variety of thematic maps based on their own data

REPRESENTATION
-Draw a sketch map using symbols and a key;
Use/recognise OS map symbols.

USING MAPS
-Compare maps with aerial photographs.
-Select a map for a specific purpose. (E.g. Pick atlas to find Taiwan, OS map to find local village.)
-Begin to use atlases to find out about other features of places. (e.g. find wettest part of the world)

SCALE / DISTANCE
-Begin to match boundaries (E.g. find same boundary of a county on different scale maps.)

PERSPECTIVE
-Draw a plan view map with some accuracy.

MAP KNOWLEDGE
-Identify significant places and environments

STYLE OF MAP
Use index and contents page within atlases.
Use medium scale land ranger OS maps.

HISTORY

National curriculum:

CHRONOLOGICAL UNDERSTANDING
-Know and sequence key events of time studied
-Use relevant terms and period labels
-Make comparisons between different times in the past

RANGE & DEPTH OF HISTORICAL KNOWLEDGE
-Study different aspects of different people - differences between men and women
-Examine causes and results of great events and the impact on people
-Compare life in early and late 'times' studied
-Compare an aspect of lie with the same aspect in another period

INTERPRETATIONS OF HISTORY
-Compare accounts of events from different sources - fact or fiction
Offer some reasons for different versions of events

HISTORICAL ENQUIRY
-Begin to identify primary and secondary sources
-Use evidence to build up a picture of a past event
-Select relevant sections of information
-Use the library and internet for research with increasing confidence

ORGANISATION & COMMUNICATION
-Recall, select and organise historical information
-Communicate their **knowledge and understanding**.

RE

THINKING ABOUT RELIGION & BELIEF
-Explain connections between questions, beliefs, values and practices in different belief systems.
-Recognise and explain the impact of beliefs and ultimate questions on individuals and communities.
-Explain how and why differences in belief are expressed.

ENQUIRING, INVESTIGATING & INTERPRETING
-Suggest lines of enquiry to address questions raised by the study of religions and beliefs.
-Suggest answers to questions raised by the study of religions and beliefs, using relevant sources and evidence.
-Recognise and explain diversity within religious expression, using appropriate concepts.

BELIEFS & TEACHINGS
-Explain how some beliefs and teachings are shared by different religions and how they make a difference to the lives of individuals and communities

PRACTICES & LIFESTYLE
-Explain how selected features of religious life and practice make a difference to the lives of individuals and communities

EXPRESSION & LANGUAGE
-Show, using technical terminology, how religious beliefs, ideas and feelings can be expressed in a variety of forms, giving meanings for some symbols, stories and language

IDENTIFY & EXPERIENCE
-Make informed responses to questions of identity and experience in the light of their learning

MEANING & PURPOSE
-Make informed responses to questions of meaning and purpose in the light of their learning

VALUES & COMMITMENTS
-Make informed responses to people's values and commitments (including religious ones) in the light of their learning

SCIENCE

WS1 planning different types of scientific enquiries to answer

WS2 taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate

WS3 recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs

WS4 using test results to make predictions to set up further comparative and fair tests

WS5 reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations

WS6 identifying scientific evidence that has been used to support or refute ideas or arguments.

WS7 explore and talk about their ideas; asking their own questions about scientific phenomena; and analysing functions, relationships and interactions more systematically.

WS8 recognise that scientific ideas change and develop over time.

WS9 draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings

WS10 Pupils should read, spell and pronounce scientific vocabulary correctly.

LIVING THINGS AND THEIR HABITATS
LT1 describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird
LT2 describe the life process of reproduction in some plants and animals.
LT3 raise questions about their local environment throughout the year.
LT4 find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.
LT5 find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals

ANIMALS, INCLUDING HUMANS
AIH1 describe the changes as humans develop to old age.
AIH2 draw a timeline to indicate stages in the growth and development of humans.
AIH3 learn about the changes experienced in puberty.

PROPERTIES & CHANGES OF MATERIALS
PM1 compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets
PM2 know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution
PM3 use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating
PM4 give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic
PM5 demonstrate that dissolving, mixing and changes of state are reversible changes
PM6 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 and the action of acid on bicarbonate of soda.
PM7 explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes.
PM8 explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda.

EARTH & SPACE
ES1 describe the movement of the Earth, and other planets, relative to the Sun in the solar system
ES2 describe the movement of the Moon relative to the Earth
ES3 describe the Sun, Earth and Moon as approximately spherical bodies
ES4 use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.
ES5 learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). '
ES6 understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).

FORCES
F1 explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object
F2 identify the effects of air resistance, water resistance and friction, that act between moving surfaces
F3 recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
F4 explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall.
F5 explore the effects of friction on movement and find out how it slows or stops moving objects.
F6 find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation

COMPUTING

National curriculum

TEXT & MULTIMEDIA
-Use advanced tools in word processing
/ DTP software such as tabs, appropriate text formatting, line spacing etc appropriately to create quality presentations appropriate for a known audience.

DIGITAL IMAGES
-Make a short film / animation from images (still and / or moving) that they have sourced, captured or created.

SOUND & MUSIC
-Create multiple track compositions that contain a variety of sounds.

ELECTRONIC COMMUNICATION
-Share ICT work they have done electronically by email, VLE, or uploading to authorised sites.
-Where possible seek and respond to feedback.

RESEARCH & E-SAFETY
-Make use of copy and paste, beginning to understand the purpose of copyright regulations and the need to repurpose information for a particular audience.
-They show an understanding that not all information on the internet is accurate.
-Develop a growing awareness of how to stay safe when using the internet (in school and at home) and that they abide by the school's internet safety policy.

CONTROL (ALGORITHMS)
-Engage in Logo based problem solving activities that require children to write procedures etc. and to predict, test and modify.
-Use control software to control devices (using output commands) or to simulate this on screen. Predict, test and refine their programming.

HANDLING INFORMATION
-Children work as a class or group to create a data collection sheet and use it to setup a straight forward database to answer questions.
-Enter information and interrogate it (by searching, sorting, graphing etc).
-Begin to reflect on how useful the collected data and their interrogation was and whether or not their questions were answered.

MODELLING & SIMULATIONS
-Set up and use a spreadsheet model to explore patterns and relationships. Make predictions.
Know how to enter simple formulae to assist this process.

DATA LOGGING (SCIENCE & MATHS)
-Use a data logger confidently, connected to the computer or remotely, to capture continuous or intermittent data readings.
-Interpret the results and use these in their investigations.
-Realise the advantages of using ICT to collect data that might otherwise be problematic

UNDERSTANDING TECHNOLOGIES
-Make choices about the devices and tools they use for specific purposes and explain them in relation to the context.
-Begin to show an awareness of specific tools used in working life.

UNDERSTANDING NETWORKS
-Show an understanding of the school network and how it links computers to resources in school and beyond.
-Compare this with other networks they may encounter at home or in the wider world (e.g. banks)

UNDERSTANDING INTERNET
Perform a search using different search engines and check the results against each other, explaining why they might be different.
Show an awareness of the need for accuracy in spelling and syntax to search effectively.

Year 5 — Curriculum

MATHS

COUNTING
-Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
-Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

PLACE VALUE
-Read, write, order and compare numbers up to 1 000 000 and determine the value of each digit
-Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000

REPRESENTING NUMBER
-Read Roman numerals to 1000 (M) and recognise years written in Roman numerals
-Recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})

MENTAL (+/-)
-Add and subtract numbers mentally with increasingly large numbers

WRITTEN (+/-)
-Add and subtract whole numbers with more than 4 digits, including using formal written methods

PROBLEMS (+/-)
-Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
-Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

NUMBER FACTS (x/÷)
-Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
-Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
-Establish whether a number up to 100 is prime and -Recall prime numbers up to 19

MENTAL (x/÷)
-Multiply and divide numbers mentally drawing upon known facts
-Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

WRITTEN (x/÷)
-Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
-Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context

PROBLEMS (x/÷)
-Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes
-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

RECOGNISING FRACTIONS
-Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number

COMPARING FRACTIONS
-Compare and order fractions whose denominators are all multiples of the same number
-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

FRACTION CALCULATIONS
-Add and subtract fractions with the same denominator and denominators that are multiples of the same nUmber
-Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

FRACTION PROBLEMS
-Solve problems involving number up to three decimal places
-Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, 1/5 , 2/5 , 4/5 and those fractions with a denominator of a multiple of 10 or 25

DECIMALS AS FRACTIONAL AMOUNTS
-Read and write decimal numbers as fractions

ORDERING DECIMALS
-Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
-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

PERCENTAGES
-Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal

MEASURES
-Convert between different units of measure (e.g. Hours to minutes)
-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
-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

MONEY
-Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling

TIME
-Solve problems involving converting between units of time

PROPERTIES OF 2-D SHAPES
-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.

PROPERTIES OF 3-D SHAPES
-Identify 3-D shapes, including cubes and other cuboids, from 2-D representations

ANGLES
-Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
-Draw given angles, and measure them in degrees (°)
-Identify angles at a point and one whole turn (total 360°); at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
-Identify other multiples of 90°

POSITION & DIRECTION
-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

INTERPRETING DATA
-Complete, read and interpret information in tables, including timetables

EXTRACT INFO FROM DATA
solve comparison, sum and difference problems using information presented in a line graph

ENGLISH WRITING

PHONIC & WHOLE WORD SPELLING
-Spell some words with 'silent' letters
-Continue to distinguish between homophones and other words which are often confused
-Use knowledge of morphology and etymology in spelling and understand that the spelling of some words needs to be learnt specifically, as listed in Appendix 1

OTHER WORD BUILDING SPELLING
-Use further prefixes and suffixes and understand the guidance for adding them
-Use dictionaries to check the spelling and meaning of words
-Use the first 3 or 4 letters of a word to check spelling, meaning or both of these in a dictionary

HANDWRITING
-Choosing which shape of a letter to use when given choices and deciding whether or not to join specific letters
-Choosing the writing implement that is best suited for a task

CONTEXTS FOR WRITING
-Identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own
-In writing narratives, considering how authors have developed characters and settings in what pupils have read, listened to or seen performed

PLANNING WRITING
-Noting and developing initial ideas, drawing on reading and research where necessary

DRAFTING WRITING
-Selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning
-In narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action
-Précising longer passages
-Using a wide range of devices to build cohesion within and across paragraphs
-Using further organisational and presentational devices to structure text and to guide the reader

EDITING
-Assessing the effectiveness of their own and others' writing
proposing changes to vocabulary, grammar and punctuation to -Enhance effects and clarify meaning
-Ensuring the consistent and correct use of tense throughout a piece of writing
-Ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register
-Proofread for spelling and punctuation errors

PERFORMING WRITING
-Perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.

VOCABULARY
-Use a thesaurus
-Using expanded noun phrases to convey complicated information concisely
-Using modal verbs or adverbs to indicate degrees of possibility

GRAMMAR
-Using the perfect form of verbs to mark relationships of time and cause
-Using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun
-Converting nouns or adjectives into verbs
verb prefixes
-Devices to build cohesion, including adverbials of time, place and number

PUNCTUATION
-Using commas to clarify meaning or avoid ambiguity in writing
-Using brackets, dashes or commas to indicate parenthesis

GRAMMATICAL TERMINOLOGY
modal verb, relative pronoun, relative clause, parenthesis, bracket, dash, cohesion, ambiguity

ENGLISH READING

DECODING / FLUENCY
-Apply their growing knowledge of root words, prefixes and suffixes (morphology and etymology), both to read aloud and to understand the meaning of new words that they meet

RANGE OF READING
-Continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
-Reading books that are structured in different ways and reading for a range of purposes
-Making comparisons within and across books

FAMILIARITY WITH TEXTS
-Increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions
-Identifying and discussing themes and conventions in and across a wide range of writing

POETRY & PERFORMANCE
-Learning a wider range of poetry by heart
preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience

UNDERSTANDING
-Checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context
-Asking questions to improve their understanding
-Summarising the main ideas drawn from more than one paragraph, identifying key details to support the main ideas

INFERENCE
—Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence

PREDICTION
-Predicting what might happen from details stated and implied

AUTHORIAL INTENT
-Identifying how language, structure and presentation contribute to meaning
-Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader

NON-FICTION
-Distinguish between statements of fact and opinion
-Retrieve, record and present information from non-fiction

DISCUSSING READING
—Recommending books that they have read to their peers, giving reasons for their choices
-Participate in discussions about books, building on their own and others' ideas and challenging views courteously
-Explain and discuss their understanding of what they have read, including through formal presentations and debates,
-Provide reasoned justifications for their views

SPOKEN LANGUAGE

-Articulate and justify common opinions

-Speakaudiblyin Standard English

-Gain, maintain and monitor interest of listeners