Content of the Curriculum: Year 5

Year 5: Reading

I can use knowledge of morphology and etymology to read aloud and understand new words

I can make comparisons within and across books

I can read a range of modern fiction, fiction from literary heritage and books from other cultures and traditions

I can identify and discuss themes and conventions across a wide range of writing

I can discuss understanding of texts, including exploring meaning of words in context

I can ask questions to improve understanding of texts

I can summarise ideas drawn from more than one paragraphs, identifying key details

I can predict future events from details stated and implied

I can identify how language, structure and presentation contribute to meaning

I can discuss how authors use language, including figurative language, to affect the reader

I can make book recommendations, giving reasons for choices

I can participate in discussions about books, building on and challenging ideas

I can explain and discuss understanding of reading

I can participate in formal presentations and debates about reading

I can provide reasoned justifications for views

Year 5: Writing

I can spell some words with silent letters
I can recognise and use spellings for homophones and other often-confused words
I can use a dictionary to check spelling and meaning
I can identify the audience and purpose before writing, and adapt accordingly
I can select appropriate grammar and vocabulary to change or enhance meaning
I can develop setting, atmosphere and character, including through dialogue
I can précis longer passages
I can use a range of cohesive devices
I can use advanced organisational and presentational devices
I can use the correct tense consistently throughout a piece of writing
I can ensure correct subject and verb agreement
I can perform compositions using appropriate intonation, volume and movement
I can use a thesaurus
I can use expanded noun phrases to convey complicated information concisely
I can use modal verbs or adverbs to indicate degrees of possibility
I can use relative clauses
I can convert nouns or adjectives into verbs
I can use adverbials of time, place and number for cohesion
I can recognise vocabulary and structures that are appropriate for formal use
I can use passive verbs to affect the presentation of information
I can use the perfect form of verbs to mark relationships of time and cause
I can recognise difference in informal and formal language
I can use grammatical connections and adverbials for cohesion
I can use ellipsis
I can use commas to clarify meaning or avoid ambiguity
I can use brackets, dashes and commas to indicate parenthesis
I can use hyphens to avoid ambiguity
I can use semi-colons, colons and dashes between independent clauses
I can use a colon to introduce a list
I can punctuate bullet points consistently

Year 5: Maths

Number and place value

I can read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit

Interpret negative numbers in context

Read Roman numerals to 1000, including years

Use rounding to check answers and determine accuracy

Addition and subtraction

I can add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)

I can add and subtract numbers mentally with increasingly large numbers (eg 12,462 - 2,300 = 10,162)

Multiplication and division

I can identify multiples and factors, including finding factor pairs and common factors

I can recognise and use square and cube numbers, and know the notation

I can use vocabulary: prime numbers, prime factors and composite numbers

I know prime numbers up to 19

I can multiply and divide numbers by 10, 100 or 1000, including decimals

I can use long multiplication for multiplying numbers of up to 4 digits by one or two digits

I can divide numbers using standard written short division

Fractions (including decimals)

I can convert between mixed numbers and improper fractions

I can compare and order fractions whose denominators are multiples of the same number

I can identify, name and write equivalent fractions including tenths and hundredths

I can add and subtract fractions with denominators that are multiples of the same number

I can multiply proper fractions and mixed numbers by whole numbers with support

I can read and write decimal numbers as fractions

I can round decimals with 2 decimals places to whole number or to one decimal place

I can read, write, order and compare numbers with up to 3 decimal places

I can recognise % symbol and explain as a fraction with denominator 100 (parts out of 100)

Measurement

I can understand and use common approximate conversions between metric and imperial

I can measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres

I can calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2)

Geometry: Properties of shape

Identify 3-d shapes from 2-d representations

I can use the properties of rectangles to find missing lengths and angles

I can distinguish between regular and irregular polygons

I know angles are measured in degrees and compare acute, obtuse and reflex angles

I can draw and measure angles to the nearest degree

I can describe and represent the result of a reflection or translation

I can identify angles at a point, in a turn and on a straight line

Statistics

I can complete, read and interpret information in tables, including timetables

Year 5: Science

Across all year groups scientific knowledge and skills should be learned by working scientifically

Biology

Plants	Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal
Evolution and inheritance	Look at resemblance in offspring Look at changes in animals over time Look at adaptation to environments Look at differences in offspring Look at adaptation and evolution Look at changes to the human skeleton over time
Animals and humans	Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals Look at the digestive system in humans Look at teeth Look at the human circulatory system
All living things	Identify and name plants and animals Look at classification keys Look at the life cycle of animals and plants Look at classification of plants, animals and microorganisms Look at reproduction in plants and animals, and human growth and changes Look at the effect of diet, exercise and drugs

Chemistry

Rocks and fossils	Compare and group rocks and describe the formation of fossils
States of matter	Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle
Materials	Examine the properties of materials using various tests Look at solubility and recovering dissolved substances Separate mixtures Examine changes to materials that create new materials that are usually not reversible

Physics

Light	Look at sources, seeing, reflections and shadows Explain how light appears to travel in straight lines and how this affects seeing and shadow
Sound	Look at sources, vibration, volume and pitch
Electricity	Look at appliances, circuits, lamps, switches, insulators and conductors Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials
Forces and magnets	Look at contact and distant forces, attraction and repulsion, comparing and grouping materials Look at poles, attraction and repulsion Look at the effect of gravity and drag forces Look at transference of forces in gears, pulleys, levers and springs
Earth and space	Look at the movement of the Earth and the Moon Explain day and night

Year 5: Computing

Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Use sequence, selections and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs

Use logical reasoning to explain how a simple algorithm works, detect and correct errors in algorithms and programs

Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration

Describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely

Select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Year 5: Art and Design

Use experiences, other subjects across the curriculum and ideas as inspiration for artwork

Develop and share ideas in a sketchbook and in finished products

Improve mastery of techniques

Learn about the great artists, architects and designers in history

Year 5: Music

Play and perform in solo and ensemble contexts, using voice and playing instruments with increasing accuracy, control and expression

Improvise and compose music using the inter-related dimensions of music separately and in combination

Listen with attention to detail and recall sounds with increasing aural memory

Use and understand the basics of the stave and other musical notations

Appreciate and understand a wide range of high-quality live and recorded music from different traditions and from great musicians and composers

Develop an understanding of the history of music

Year 5: Design and Technology

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making.

Design	Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design
Make	Select from and use a wider range of tools and equipment to perform practical tasks, such as cutting, shaping, joining and finishing, accurately Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities
Evaluate	Investigate and analyse a range of existing products Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Understand how key events and individuals in design and technology have helped shape the world
Technical knowledge	Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Understand and use mechanical systems in their products, such as gears, pulleys, cams, levers and linkages Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors Apply their understanding of computing to programme, monitor and control their products
Cooking and nutrition	Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed

Year 5: PE

Play competitive games, modified where appropriate, such as football, netball, rounders, cricket, hockey, basketball, badminton and tennis and apply basic principles suitable for attacking and defending

Take part in gymnastics activities

Take part in athletics activities

Perform dances

Take part in outdoor and adventurous activity challenges both individually and within a team

Swimming and water safety: take swimming instruction in Key Stage 2

Year 5: PSHE

Learning about: family and relationships, health and wellbeing, safety and the changing body, citizenship, economic wellbeing, transition and British Values

Year 5: RE

Study the main stories of Christianity

Study at least one other religion. Choose from Buddhism, Hinduism, Islam, Judaism or Sikhism

Study other religions of interest to pupils