Year 3 National Curriculum

Mathematics

Number and Place Value

- count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- compare and order numbers up to 1000
- identify, represent and estimate numbers using different representations
- read and write numbers up to 1000 in numerals and in words
- solve number problems and practical problems involving these ideas.

Addition and Subtraction

- add and subtract numbers mentally, including:
  - a three-digit number and ones
  - a three-digit number and tens
  - a three-digit number and hundreds
- add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- estimate the answer to a calculation and use inverse operations to check answers
- solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Multiplication and Division

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Fractions (including decimals and percentages)

- 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
- 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
- recognise and show, using diagrams, equivalent fractions with small denominators
- add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]
- compare and order unit fractions, and fractions with the same denominators
- solve problems that involve all of the above

Measurement

- 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, using both £ and p in practical contexts
- 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 vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight
- know the number of seconds in a minute and the number of days in each month, year and leap year
- compare durations of events [for example to calculate the time taken by particular events or tasks]

Geometry - properties of shapes

- 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

Statistics

- 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 and pictograms and tables

Science

Working scientifically (LKS2)

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings

Light

- 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

Animals, including humans

- identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- identify that humans and some other animals have skeletons and muscles for support, protection and movement

Plants

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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 part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal

Forces and magnets

- 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

Rocks

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock
- recognise that soils are made from rocks and organic matter

Other Subjects (KS2)

History

- changes in Britain from the Stone Age to the Iron Age. Examples:
  - late Neolithic hunter-gatherers and early farmers, for example, Skara Brae
  - Bronze Age religion, technology and travel, for example, Stonehenge
  - Iron Age hill forts: tribal kingdoms, farming, art and culture
- the Roman Empire and its impact on Britain. Examples:
  - Julius Caesar's attempted invasion in 55-54 BC
  - the Roman Empire by AD 42 and the power of its army
  - successful invasion by Claudius and conquest, including Hadrian's Wall
  - British resistance, for example, Boudica
  - 'Romanisation' of Britain: sites such as Caerwent and the impact of technology, culture and beliefs, including early Christianity
- Britain's settlement by Anglo-Saxons and Scots. Examples:
  - Roman withdrawal from Britain in c. AD 410 and the fall of the western Roman Empire
  - Scots invasions from Ireland to north Britain (now Scotland)
  - Anglo-Saxon invasions, settlements and kingdoms: place names and village life
  - Anglo-Saxon art and culture
  - Christian conversion – Canterbury, Iona and Lindisfarne
- the Viking and Anglo-Saxon struggle for the Kingdom of England to the time of Edward the Confessor. Examples:
  - Viking raids and invasion
  - resistance by Alfred the Great and Athelstan, first king of England
  - further Viking invasions and Danegeld
  - Anglo-Saxon laws and justice
  - Edward the Confessor and his death in 1066
- a local history study. Examples:
  - a depth study linked to one of the British areas of study listed above
  - a study over time tracing how several aspects of national history are reflected in the locality (this can go beyond 1066)
  - a study of an aspect of history or a site dating from a period beyond 1066 that is significant in the locality
- a study of an aspect or theme in British history that extends pupils' chronological knowledge beyond 1066. Examples:
  - the changing power of monarchs using case studies such as John, Anne and Victoria
  - changes in an aspect of social history, such as crime and punishment from the Anglo-Saxons to the present or leisure and entertainment in the 20th Century
  - the legacy of Greek or Roman culture (art, architecture or literature) on later periods in British history, including the present day
  - a significant turning point in British history, for example, the first railways or the Battle of Britain
- the achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one of the following: Ancient Sumer; The Indus Valley; Ancient Egypt; The Shang Dynasty of Ancient China
- Ancient Greece – a study of Greek life and achievements and their influence on the western world
- a non-European society that provides contrasts with British history – one study chosen from: early Islamic civilization, including a study of Baghdad c. AD 900; Mayan civilization c. AD 900; Benin (West Africa) c. AD 900-1300

Geography

Locational knowledge

- locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities
- name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time
- identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)

Place knowledge

- understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region within North or South America

Human and physical geography

- 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: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water

Geographical skills and fieldwork

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world
- use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies

Design and technology

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 [for example, 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 [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, 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

Languages

- listen attentively to spoken language and show understanding by joining in and responding
- explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words
- engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help*
- speak in sentences, using familiar vocabulary, phrases and basic language structures
- develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases*
- present ideas and information orally to a range of audiences*
- read carefully and show understanding of words, phrases and simple writing
- appreciate stories, songs, poems and rhymes in the language
- broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary
- write phrases from memory, and adapt these to create new sentences, to express ideas clearly
- describe people, places, things and actions orally* and in writing
- understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English
- The starred (*) content above will not be applicable to ancient languages

Computing

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to 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
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Physical Education

- Swimming and water safety (KS1 or KS2)
  - swim competently, confidently and proficiently over a distance of at least 25 metres
  - use a range of strokes effectively [for example, front crawl, backstroke and breaststroke]
  - perform safe self-rescue in different water-based situations
- use running, jumping, throwing and catching in isolation and in combination
- play competitive games, modified where appropriate [for example, badminton, basketball, cricket, football, hockey, netball, rounders and tennis], and apply basic principles suitable for attacking and defending
- develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics]
- perform dances using a range of movement patterns
- take part in outdoor and adventurous activity challenges both individually and within a team
- compare their performances with previous ones and demonstrate improvement to achieve their personal best

Art and design

- to create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]
- about great artists, architects and designers in history

Music

- play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression
- improvise and compose music for a range of purposes using the inter-related dimensions of music
- listen with attention to detail and recall sounds with increasing aural memory
- use and understand staff and other musical notations
- appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians
- develop an understanding of the history of music

Year 3 National Curriculum

Spoken Language (Years 1 to 6)

o listen and respond appropriately to adults and their peers o ask relevant questions to extend their understanding and knowledge o use relevant strategies to build their vocabulary o articulate and justify answers, arguments and opinions o give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings o maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments o use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas o speak audibly and fluently with an increasing command of Standard English o participate in discussions, presentations, performances, role play, improvisations and debates o gain, maintain and monitor the interest of the listener(s)

Reading (LKS2)

Word Reading

- ☐ apply their growing knowledge of root words, prefixes and suffixes (etymology and morphology) as listed in English Appendix 1, both to read aloud and to understand the meaning of new words they meet
- ☐ read further exception words, noting the unusual correspondences between spelling and sound, and where these occur in the word

Comprehension

- ☐ develop positive attitudes to reading and understanding of what they read by:
  - o listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks
  - o reading books that are structured in different ways and reading for a range of purposes
  - o using dictionaries to check the meaning of words that they have read
  - o increasing their familiarity with a wide range of books, including fairy stories, myths and legends, and retelling some of these orally
  - o identifying themes and conventions in a wide range of books
  - o preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action
  - o discussing words and phrases that capture the reader's interest and imagination
  - o recognising some different forms of poetry [for example, free verse, narrative poetry]
- ☐ understand what they read, in books they can read independently, by:
  - o checking that the text makes sense to them, discussing their understanding and explaining the meaning of words in context
  - o asking questions to improve their understanding of a text
  - o drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence
  - o predicting what might happen from details stated and implied
  - o identifying main ideas drawn from more than one paragraph and summarising these
  - o identifying how language, structure, and presentation contribute to meaning
- ☐ retrieve and record information from non-fiction
- ☐ participate in discussion about both books that are read to them and those they can read for themselves, taking turns and listening to what others say

Writing (LKS2)

Transcription

Spelling (See English Appendix 1)

- ☐ use further prefixes and suffixes and understand how to add them (English Appendix 1)
- ☐ spell further homophones
- ☐ spell words that are often misspelt (English Appendix 1)
- ☐ 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

Handwriting and Presentation

- ☐ use the diagonal and horizontal strokes that are needed to join letters and understand which letters, when adjacent to one another, are best left unjoined
- ☐ increase the legibility, consistency and quality of their handwriting [for example, by ensuring that the downstrokes of letters are parallel and equidistant; that lines of writing are spaced sufficiently so that the ascenders and descenders of letters do not touch]

Vocabulary, Grammar and Punctuation

- ☐ develop their understanding of the concepts set out in English Appendix 2 by:
  - o extending the range of sentences with more than one clause by using a wider range of conjunctions, including when, if, because, although
  - o using the present perfect form of verbs in contrast to the past tense
  - o choosing nouns or pronouns appropriately for clarity and cohesion and to avoid repetition
  - o using conjunctions, adverbs and prepositions to express time and cause
  - o using fronted adverbials
  - o learning the grammar for years 3 and 4 in English Appendix 2
- ☐ indicate grammatical and other features by:
  - o using commas after fronted adverbials
  - o indicating possession by using the possessive apostrophe with plural nouns
  - o using and punctuating direct speech
- ☐ use and understand the grammatical terminology in English Appendix 2 accurately and appropriately when discussing their writing and reading

Composition

- ☐ plan their writing by:
  - o discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar
  - o discussing and recording ideas
- ☐ draft and write by:
  - o composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures (English Appendix 2)
  - o organising paragraphs around a theme
  - o in narratives, creating settings, characters and plot
  - o in non-narrative material, using simple organisational devices [for example, headings and sub-headings]
- ☐ evaluate and edit by:
  - o assessing the effectiveness of their own and others' writing and suggesting improvements
  - o proposing changes to grammar and vocabulary to improve consistency, including the accurate use of pronouns in sentences
- ☐ proof-read for spelling and punctuation errors
- ☐ read aloud their own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear

Grammar, Punctuation and Spelling (Appendix 2)

Word Structure

Formation of **nouns** using a range of **prefixes** [for example super–, *anti–*, *auto–*]

Use of the **forms** a or an according to whether the next word begins with a **consonant** or a **vowel** [for example, *a rock, an open box*]

Word families based on common **words**, showing how words are related in form and meaning [for example, *solve, solution, solver, dissolve, insoluble*]

Sentence Structure

Expressing time, place and cause using **conjunctions** [for example, *when, before, after, while, so, because*], **adverbs** [for example, then, *next, soon, therefore*], or **prepositions** [for example, *before, after, during, in, because of*]

Text Structure

Introduction to paragraphs as a way to group related material

Headings and sub-headings to aid presentation

Use of the **present perfect** form of **verbs** instead of the simple past [for example, *He has gone out to play contrasted with He went out to play*]

Punctuation

Introduction to inverted commas to **punctuate** direct speech

Terminology for Pupils

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

Spelling (Appendix 1)

New work for Years 3 and 4 Revision of work from years 1 and 2 (Pay special attention to the rules for adding suffixes.)

Adding suffixes beginning with vowel letters to words of more than one syllable If the last syllable of a word is stressed and ends with one consonant letter which has just one vowel letter before it, the final consonant letter is doubled before any ending beginning with a vowel letter is added. The consonant letter is not doubled if the syllable is unstressed.

The /ɪ/ (/'i'/) sound spelt y elsewhere than at the end of words These words should be learnt as needed.

The /ʌ/ (/'u'/) sound spelt ou These words should be learnt as needed.

More Prefixes Most prefixes are added to the beginning of root words without any changes in spelling, but see **in–** below. Before a root word starting with **l**, **in–** becomes **il**. Before a root word starting with **m** or **p**, **in–** becomes **im–**. Before a root word starting with **r**, **in–** becomes **ir–**. **re–** means 'again' or 'back'. **sub–** means 'under'. **inter–** means 'between' or 'among'. **super–** means 'above'. **anti–** means 'against'. **auto–** means 'self' or 'own'.

The suffix –ation The suffix **–ation** is added to verbs to form nouns. The rules already learnt still apply.

The suffix –ly The suffix **–ly** is added to an adjective to form an adverb. The rules already learnt still apply. The suffix **–ly** starts with a consonant letter, so it is added straight on to most root words. **Exceptions**: (1) If the root word ends in –y with a consonant letter before it, the y is changed to **i**, but only if the root word has more than one syllable. (2) If the root word ends with **–le**, the **–le** is changed to **–ly**. (3) If the root word ends with **–ic**, **–ally** is added rather than just **–ly**, except in the word *publicly*. (4) The words *truly, duly, wholly*.

Words with endings sounding like /ʒə/ (/'zhuh'/) or /tʃə/ (/'chuh'/) The ending sounding like /ʒə/ is always spelt **–sure**. The ending sounding like /tʃə/ is often spelt **–ture**, but check that the word is not a root word ending in **(t)ch** with an **er** ending – e.g. *teacher, catcher, richer, stretcher*.

Endings which sound like /ʒən/ (/'zhun'/) If the ending sounds like /ʒən/, it is spelt as **–sion**.

The suffix –ous Sometimes the root word is obvious and the usual rules apply for adding suffixes beginning with vowel letters. Sometimes there is no obvious root word. **–our** is changed to **–or** before **–ous** is added. A final 'e' of the root word must be kept if the /dʒ/ sound of 'g' is to be kept. If there is an /iː/ sound before the **–ous** ending, it is usually spelt as **i**, but a few words have **e**.

Endings which sound like /ʃən/ (/'shun'/), spelt –tion, –sion, –ssion, –cian Strictly speaking, the suffixes are **–ion** and **–ian**. Clues about whether to put **t**, **s**, **ss** or **c** before these suffixes often come from the last letter or letters of the root word. **–tion** is the most common spelling. It is used if the root word ends in **t** or **te**. **–ssion** is used if the root word ends in **ss** or **–mit**. **–sion** is used if the root word ends in **d** or **se**. **Exceptions**: *attend – attention, intend – intention*. **–cian** is used if the root word ends in **c** or **cs**.

Words with the /k/ sound spelt ch (Greek in origin)

Words with the /ʃ/ (/'sh'/) sound spelt ch (mostly French in origin)

Words ending with the /g/ sound spelt –gue and the /k/ sound spelt – que (French in origin)

Words with the /s/ sound spelt sc (Latin in origin) In the Latin words from which these words come, the Romans probably pronounced the **c** and the **k** as two sounds rather than one – /s/ /k/.

Words with the /eɪ/ (/'ay/') sound spelt ei, eigh, or ey

Possessive apostrophe with plural words The apostrophe is placed after the plural form of the word; **–s** is not added if the plural already ends in **–s**, but *is* added if the plural does not end in **–s** (i.e. is an irregular plural – e.g. *children's*).

Homophones or near-homophones