



# The Core Knowledge Sequence UK

## English Language and Literature: Year 4

### I. READING AND WRITING

**Teachers:** Many of the following objectives and outcomes are designed to help children achieve the overall goal for reading in Year 4: to be able to read (both aloud and silently) with fluency, accuracy and comprehension any story or other text appropriately written for Year 4.

In Year 4, children should be competent decoders of most one- and two-syllable words, and they should become increasingly able to use their knowledge of phonemes, syllable boundaries, prefixes and suffixes to decode multi-syllable words. Systematic attention to decoding skills should be provided as needed for children who have not achieved the goals specified for Years 1, 2 and 3.

#### A. READING COMPREHENSION AND RESPONSE

- Independently read and comprehend longer works of fiction ('chapter books') and non-fiction appropriately written for Year 4 children or beyond.
- Point to specific words or passages that are causing difficulties in comprehension.
- Orally summarise main points from fiction and non-fiction read-alouds.
- Ask and pose plausible answers to how, why and what-if questions in interpreting texts, both fiction and non-fiction.
- Use a dictionary to answer questions regarding meaning and usage of words with which the child is unfamiliar.
- Know how to use a table of contents and index to locate information.

#### B. WRITING

**Teachers:** Children should be given many opportunities for writing, both imaginative and expository, with teacher guidance that strikes a balance between encouraging creativity and requiring correct use of conventions. The following guidelines build on the Year 3 guidelines: please refer to these guidelines to review and reinforce them as necessary to ensure children's mastery in Year 4.

- Produce a variety of types of writing—such as stories, reports, poems, letters and descriptions—and make reasonable judgements about what to include in children's own written work, based on the purpose and type of composition.
- Know how to gather information from basic print sources (such as a children's encyclopaedia), and write a short report presenting the information in his or her own words.
- Know how to use established conventions when writing a friendly letter: layout, heading, salutation (greeting), closing and signature.
- Produce written work with a beginning, middle and end.
- Organise material in paragraphs and understand the following:
  - How to use an introductory sentence
  - How to develop a paragraph with examples and details
  - That each new paragraph is indented
- In some writings, proceed with guidance through a process of gathering information, organising thoughts, composing a draft, revising to clarify and refine the child's meaning and proofreading with attention to spelling, grammar and presentation of a final draft.

**C. SPELLING, GRAMMAR AND USAGE**

- Spell most words correctly or with a highly probable spelling, and use a dictionary to check and correct spellings about which the child is uncertain.
- Use capital letters correctly.
- Understand what a complete sentence is.
  - Identify main clause and subordinate clause in a sentence.
    - For example (main clause in bold) *When I am older **I will ride in a hot air balloon.***
  - Distinguish complete sentences from fragments.
- Identify and use different sentence types:
  - Declarative (makes a statement)
  - Interrogative (asks a question)
  - Imperative (gives a command)
  - Exclamatory (for example: 'what a shot!')
- Know the following parts of speech and how they are used
  - Nouns (common, proper, collective, compound and abstract)
  - Pronouns (singular and plural)
  - Verbs: action verbs and auxiliary (helping) verbs
  - Adjectives (including articles: *a* before a consonant, *an* before a vowel, and *the*)
  - Adverbs
- Know how to use the following punctuation:
  - End punctuation: full stop, question mark or exclamation mark
  - Comma: between city and county in an address; in a series; after *yes* and *no*
  - Apostrophe: in contractions; in singular and plural possessive nouns
- Recognise and avoid the double negative.

**D. VOCABULARY**

- Know what prefixes and suffixes are and how they affect word meaning (see below).
- Prefixes:
  - *re* meaning 'again' (as in 'reuse', 'refill')
  - *un* meaning 'not' (as in 'unfriendly', 'unpleasant')
  - *dis* meaning 'not' (as in 'dishonest', 'disobey')
  - *un* meaning 'opposite of' or 'reversing in action' (as in 'untie', 'unlock')
  - *dis* meaning 'opposite of' or 'reversing in action' (as is 'disappear', 'dismount')
- Suffixes:
  - *er* and *or* (as in 'singer', 'painter' and 'actor')
  - *less* (as in 'careless', 'hopeless')
  - *ly*, (as in 'quickly', 'calmly')
- Know what homophones are (for example: by, buy; hole, whole) and correct usage of homophones that commonly cause problems:
  - There, their, they're
  - Your, you're
  - Its, it's
  - Here, hear
  - To, two, too
- Recognise common abbreviations (for example, St., Rd., Mr., Mrs., Dr., U.K., ft., in., km., kg.) [Cross-curricular link with Year 3 and Year 4 Mathematics]

## II. POETRY

**Teachers:** The poems listed here constitute a core of poetry for this year group. You are encouraged to expose children to more poetry, old and new, and to have children write their own poems. To bring children into the spirit of poetry, read it aloud and encourage them to read it aloud so they can experience the music in the words. At this age, poetry should be a source of delight; technical analysis should be delayed until later years.

- Become familiar with the following works:
  - At the Zoo (William Makepeace Thackeray)
  - By Myself (Eloise Greenfield)
  - Catch a Little Rhyme (Eve Merriam)
  - Colonel Fazackerley (Charles Causley)
  - The Crocodile (Lewis Carroll) [In Alice in Wonderland]
  - The Dragon on the Playground (Kenn Nesbitt)
  - Daddy Fell into the Pond (Alfred Noyes)
  - Dream Variations (Langston Hughes)
  - Ducks' Ditty (Kenneth Grahame) [Cross-curricular connection to 'Wind in the Willows' story]
  - Eletelephony (Laura Richards)
  - Father William (Lewis Carroll) [In Alice in Wonderland]
  - For want of a nail, the shoe was lost... (traditional)
  - Happiness (A. A. Milne)
  - Topsy-Turvy World (William Brighty Rands)
  - Trees (Sergeant Joyce Kilmer)

## III. FICTION

**Teachers:** The titles here constitute a selected core of stories for this year group. Expose children to many more stories, and encourage children to write their own stories. Children should also be exposed to non-fiction prose: biographies, books about science and history, books on art and music, etc. Also, engage children in dramatic activities, possibly with one of the stories below in the form of a play. Some of the following works, such as *Alice in Wonderland* and *The Wind in the Willows*, lend themselves to reading aloud to children.

### A. STORIES

- Become familiar with the following works:
  - *Alice in Wonderland* (Lewis Carroll)
  - The Arabian Nights: Ali Baba and Aladdin (traditional)
  - The Butterfly Lion (Michael Morpurgo)
  - The Hunting of the Great Bear (an Iroquois legend about the origin of the Big Dipper)
  - The Legend of Finn MacCool (traditional Irish story)
  - The Little Match Girl (Hans Christian Andersen)
  - William Tell (traditional)
  - Selections from the *Wind in the Willows*: 'The River Bank' and 'The Open Road' (Kenneth Grahame)

### B. MYTHS AND MYTHICAL CHARACTERS

- Become familiar with the following from Norse Mythology:
  - Asgard (home of the gods)
  - Valhalla (heaven or afterlife)
  - Hel (Underworld)
  - Odin
  - Thor
  - Trolls
  - Loki and the Gift from the Gods

- Norse gods and English names for days of the week: Tyr, Odin [Wodin], Thor, Frigg [Freya]
- Become familiar with additional myths and legends of Ancient Greece and Rome [Builds on English Language and Literature from Year 3 and World History and Geography from Year 2: The Ancient Greek Civilisation.]
  - Jason and the Golden Fleece
  - Perseus and Medusa
  - Orpheus and Eurydice
  - The Sword of Damocles
  - Damon and Pythias
  - Androcles and the Lion
  - Horatius at the Bridge

### C. LITERARY TERMS

- Become familiar with and able to use the following literary terms:
  - Biography and autobiography
  - Fiction and non-fiction

### IV. SAYINGS AND PHRASES

**Teachers:** Every culture has phrases and proverbs that make no sense when carried over literally into another culture. For many children, this section may not be needed; they will have picked up these saying by hearing them at home and among friends. However, this section on sayings has been one of the categories most appreciated by teachers who work with children from home cultures that differ from British culture.

- Become familiar with the following sayings and phrases:
  - Actions speak louder than words.
  - His bark is worse than his bite.
  - Beat around the bush
  - Beggars can't be choosers.
  - Clean bill of health
  - Cold shoulder
  - Crossing the Rubicon [found in Year 4 World History: Ancient Rome]
  - *Et tu, Brute?* [found in Year 4 World History: Ancient Rome]
  - A feather in your cap
  - Last straw
  - Let bygones be bygones.
  - One rotten apple spoils the whole barrel.
  - On its last legs
  - Rule the roost
  - The show must go on.
  - Touch and go
  - When in Rome do as the Romans do. [cross-curricular connection with Year 4 World History: Ancient Rome]
  - Rome wasn't built in a day. [cross-curricular connection with Year 4 World History: Ancient Rome]
  - A stitch in time saves nine.
  - The writing is on the wall
  - *Veni vidi vici* (I came, I saw, I conquered) [cross-curricular connection with Year 4 World History: Ancient Rome]



## History and Geography: Year 4

**Teachers:** The study of geography embraces many topics throughout the *Core Knowledge Sequence UK*, including topics in history and science. Geographic knowledge includes a spatial sense of the world, an awareness of the physical processes that shape life, a sense of the interactions between humans and their environment, an understanding of the relations between place and culture, and an awareness of the characteristics of specific regions and cultures.

### WORLD HISTORY AND GEOGRAPHY

#### I. SPATIAL SENSE

- Draw maps of the local area using symbols and a key. For example, have pupils draw a map of their route to school.
- Use the points of the compass: north, south, east, west.
- Review scale and discuss how they will show this on their maps.
- Identify changes to a locality over time, sequence of change, and spread or growth. For example, study aerial photographs of a local place taken in different years.
- Use an atlas and online resources to find geographical information.
- On a globe, identify the tropics of Cancer and Capricorn and understand their significance.

#### II. MEDITERRANEAN EUROPE

##### A. GEOGRAPHY OF MEDITERRANEAN EUROPE (SOUTHERN FRANCE, PORTUGAL, SPAIN, ITALY, GREECE, MALTA, CYPRUS)

- The climate of Europe: A Mediterranean climate.
- Food grown in southern Europe
  - Grapes, olives, oranges, lemons, dates, other fruits and vegetables
- Landscape
  - Alpine mountain system (Sierra Nevada, Pyrenees, Alps, Apennines, Balkans)
  - Coastline, islands and beaches
- Turkey
  - Gateway to the Middle East, Istanbul, the Bosphorus.
- Settlements
  - Lisbon, Madrid, Rome, Milan, Venice, Athens.

##### B.

#### III. EASTERN EUROPE

##### A. ALBANIA, ARMENIA, AZERBAIJAN, BELARUS, BOSNIA HERZEGOVINA, BULGARIA, CZECH REPUBLIC, CROATIA, ESTONIA, GEORGIA, HUNGARY, KOSOVO, LATVIA, LITHUANIA, MOLDOVA, MONTENEGRO, POLAND, ROMANIA, SERBIA, SLOVAKIA, SLOVENIA, UKRAINE

- Russia: borders China in the East and Finland in the West, Ural mountains, Ural river, Moscow, St Peterburg
- The Baltic Countries: Latvia, Lithuania, Estonia and Poland
- The Balkan Countries: Croatia, Albania, Bosnia-Herzegovina, Bulgaria and Kosovo
- Landscape: lowlands and river valleys (Danube, Dniester), Balkan Mountains
- Religion and alphabet: Cyrillic alphabet

## UK GEOGRAPHY

**Teachers:** Pupils should study each region of the UK including: climate, landscape, resources, ecosystems, population distribution, people, cultural practices, economic activities, political status (Scotland, Wales and Northern Ireland) and places of interest. The aim is for pupils to develop their knowledge of the geography of the UK in more detail. The lists of regional geography are by no means extensive or final. They are included as examples of geographical knowledge that pupils might study. The regions covered in Years 4-6 can be taught in any order. In Year Four, teachers may like to begin with the region in which the school is located and then study a different region. The remaining regions should be taught in Years 5 and 6.

### I. LONDON AND THE SOUTH EAST

- Greater London, Surrey, East Sussex, West Sussex, Kent, Berkshire, Buckinghamshire, Hertfordshire, Oxfordshire, Isle of Wight
  - Transport, River Thames, Houses of Parliament, Tower Bridge, St Paul's Cathedral, Buckingham Palace, Thames Barrier, Dover, Channel Tunnel, Battle of Hastings, Brighton, Southampton and Portsmouth, Titanic, hi-tech industry, M4 corridor.

### II. SOUTH WEST

- Dorset, Wiltshire, Cornwall, Devon, Somerset
  - For example: South Downs, Exmoor, Bodmin Moor, Dartmouth National Park, Lands End, dairy/sheep/arable farming, thatched cottages, Stonehenge, Bristol, Exeter, Plymouth, Bath, Bournemouth, Great Western Railway, rural, coastline, wave erosion, tides, limestone/granite/chalk, caves (e.g. Cheddar Gorge), holiday resorts, Durdle Door
  - Monuments: Stonehenge, Tintagel Castle, Glastonbury Tor

### III. NORTHERN IRELAND

- Part of the UK, separate from the Republic of Ireland
- Lough Neagh, Lough Erne, Sperrin Hills, Mourne Mountains, limestone (Marble Arch caves), Basalt (Ring of Gullion), peat bogs, Giant's Causeway, Glens, Belfast, Londonderry, Gaelic, ship building, farmland, dairy

## WORLD HISTORY

### I. ANCIENT ROME

- Background
  - Our calendar; a gift from Rome
  - Define B.C. / A.D. and B.C.E. / C.E.
  - The legend of Romulus and Remus
  - Latin as the language of Rome
  - Worship of gods and goddesses
    - Largely based on Greek religion
  - The Republic
    - Senate, Patricians, Plebeians
  - Punic Wars
    - Carthage, Hannibal
- The Empire
  - Julius Caesar
    - Defeats Pompey in civil war; becomes dictator
    - 'Veni, vidi, vici' ('I came, I saw, I conquered')
    - Cleopatra of Egypt
    - Caesar assassinated in the Senate, Brutus

- Augustus Caesar
- Life in the Roman Empire
  - The Forum: temples, marketplaces, etc.
  - The Colosseum: circuses, gladiator combat, chariot races
  - Roads, bridges, and aqueducts
- Eruption of Mt. Vesuvius
  - Destruction of Pompeii
- Persecution of Christians
- The 'decline and fall' of Rome
  - Weak and corrupt emperors
    - Legend of Nero fiddling as Rome burns
  - Civil wars
  - City of Rome sacked
- The Eastern Roman Empire: Byzantine Civilisation
  - The rise of the Eastern Roman Empire, known as the Byzantine Empire
  - Constantine
    - Emperor who made Christianity the official religion of Rome
    - Constantinople (now called Istanbul) merges diverse influences and cultures.
  - Justinian, Justinian's Code

## BRITISH HISTORY

### I. JAMES I AND JAMES VI (1567-1625)

**Teachers:** Important aspects to emphasise include the origins of the Civil War, the importance of the union of crowns between England and Scotland, and the growth of trade and global exploration to connect to the growth of the British Empire in later years

#### MONARCHS OF THE HOUSE OF STUART

##### THE UNION OF THE CROWNS

- King of Scots as James VI from 1567
- King of England and Ireland as James I from the union of the English and Scottish crowns on 24 March, 1603
  - Belief in the Divine Right of Kings
  - Gunpowder Plot, 1605
  - Parliament unwilling to grant the King money; dissolved by the King

### II. CHARLES I AND THE ORIGINS OF THE CIVIL WAR (1625-1642)

[Builds on Year 1 British History and Geography]

**Teachers:** Demonstrate how the causes of the Civil War connect religion and politics together. The cost of financing war was again a significant cause of political conflict and popular unrest.

#### A. ORIGINS OF CIVIL WAR IN THE REIGN OF CHARLES I

- Charles I came to the thrones of England and Scotland in 1625
  - Believed in the Divine Right of Kings
  - Charles taxed without parliamentary consent
- 'Eleven Years tyranny' or 'Charles' Personal Rule'; did not call parliament
- William Laud, Archbishop of Canterbury
  - Advocated High Anglicanism and opposed Puritanism

### III. THE CIVIL WAR (1642-1649)

**Teachers:** Emphasise the social as well as the political and military aspects of the Civil War, how families were divided and many suffered, with large casualties on both sides during what was a series of bloody conflicts across England, Scotland and Ireland.

#### A. LEAD-UP TO THE CIVIL WAR

- Charles confronts parliament, 1641
  - Charles forcibly enters parliament to arrest five members
  - Parliament refuses; Speaker William Lenthall; Charles left powerless
  - Charles flees London; Parliament in control of London

#### B. THE CIVIL WAR

- In general, cities and the Royal Navy supported Parliament; rural communities supported the King
  - Roundheads (Parliamentarians) and Cavaliers (Royalists)
  - Edgehill, 1642; Charles withdraws to Oxford
  - Battle of Marston Moor, 1644, victory for Parliamentarians
- New Model Army; first permanent national standing army in Britain
  - Oliver Cromwell
  - The Rump Parliament

#### C. THE TRIAL AND EXECUTION OF CHARLES I

- Beheaded on the 30<sup>th</sup> January, 1649
- Charles II proclaimed King in Scotland
- Battle of Worcester; Charles escaped to France

#### D. THE COMMONWEALTH, 1649-1660

- An Act declaring England to be a Commonwealth was passed
- Oliver Cromwell's Protectorate, 1653; Rump Parliament dissolved
  - Cromwell becomes Lord Protector in December 1653
  - Son Richard becomes Lord Protector in 1658

### IV. THE RESTORATION: POLITICS

**Teachers:** Explain how popular attachment to the idea of monarchy is reaffirmed with the Restoration, but the opposing political ideas are not properly reconciled until the Glorious Revolution.

#### A. THE RESTORATION

- Overthrow of Richard Cromwell
- Parliament invites Charles II to return from France
- Charles crowned King in London

### VI. THE RESTORATION: SCIENCE

**Teachers:** Emphasise the importance of the peace that followed the restoration in the flourishing of scientific activity.

#### A. SCIENTIFIC REVOLUTION

- Francis Bacon (1561-1626); Scientific Method
  - Scientific discoveries through empirical observation and inductive reasoning; not relying on accepted assumptions and ancient authority
- Royal Society founded, 1660
  - Scientific forum for new discoveries
  - Isaac Newton and Gravity



## VII. THE RESTORATION: PLAGUE AND FIRE

### A. THE GREAT PLAGUE

- Outbreak of plague in London during very hot summer
- Nearly 100,000 die before cold weather in October kills it off

### B. THE GREAT FIRE OF LONDON

- Fire breaks out in Pudding Lane on 2 September 1666
- By the time it is extinguished five days later, more than three quarters of the City has been destroyed
- Christopher Wren and Robert Hooke in charge of rebuilding. Wren designs many new churches and St Paul's Cathedral

## VIII. THE RESTORATION: RELIGION

**Teachers:** Demonstrate how connections between religion and politics continue to dominate in Britain, especially establishment hostility towards Catholics and dissenters. Continued divisions between Catholics and Protestants led to the following:

### JAMES II BECOMES KING IN 1685

- Monmouth rebellion defeated
- James' actions create concern
  - James suspended parliament and it was never recalled
  - Wanted to repeal the Test Act for Catholics
- Declaration of Indulgence, 1687
  - Trial of seven opposing Bishops, including the Archbishop of Canterbury
- James' Catholic son, James Francis Edward Stuart, born in June 1688
  - Possibility of a Catholic monarchy becomes real

## IX. THE GLORIOUS REVOLUTION AND THE BILL OF RIGHTS

[Builds on Year 1 History and Geography]

**Teachers:** Explain the importance of the real restrictions that were placed on the power of the monarch. Introduce the idea, supported by some at the time, that political power is based on the consent of the people

### A. GLORIOUS REVOLUTION

- William of Orange; Protestant opponent of Catholicism
- The invitation to invade
  - William landed at Torbay and marched to London; welcomed by crowds
  - James fled to France
- William and Mary crowned joint monarchs

### B. BILL OF RIGHTS

- The Bill passed in December 1689
  - No taxation without parliamentary consent
  - No standing army during peacetime
  - Free and fair elections
- Wider significance
  - Officially curtailed royal power; gave parliament financial power
  - Still a long way from Constitutional monarchy or democracy
- Shaped political landscape and language over the next two centuries

## FEATURED GREAT EXPLORER

### A. SIR FRANCIS DRAKE [Builds on History and Geography, Year 3]



## Visual Arts: Year 4

**Teachers:** In schools, lessons on the visual arts should illustrate important elements of making and appreciating art, and emphasise important artists, works of art, and artistic concepts. When appropriate, topics in the visual arts may be linked to topics in other disciplines. While the following guidelines specify a variety of artworks in different media and from various cultures, they are not intended to be comprehensive. Teachers are encouraged to build upon the core content and expose children to a wide range of art and artists, particularly those which may be locally accessible to the children and their carers.

### I. ELEMENTS OF ART: LIGHT, SPACE AND DESIGN

**Teachers:** The generally recognised elements of art include line, shape, form, space, light, texture, and colour. In Year 4, build on what the children have learned in earlier years as you introduce concepts of light, space and design.

#### A. LIGHT

- Observe how artists use light and shadow (to focus our attention, create mood, etc.) in:
  - Caravaggio, *Supper at Emmaus*, 1601 (National Gallery, London) [Explain that Caravaggio pioneered a very dramatic lighting contrasting dark shade with bright light, known as 'chiaroscuro', combining the Italian words for light and dark.]
  - Rembrandt van Rijn, *Belshazzar's Feast*, 1636 (National Gallery, London)
  - Johannes Vermeer, *The Milkmaid*, c. 1658 (Rijksmuseum, Amsterdam)
  - Joseph Mallord William Turner, *The Fighting Temeraire*, 1859 (National Gallery, London)

#### B. SPACE IN ARTWORKS

- Understand the following terms: two-dimensional (height, width), and three-dimensional (height, width, depth). [Note: perspective will be considered in Year 6.]
- Observe the relationship between two-dimensional and three-dimensional shapes: square to cube, triangle to pyramid, circle to sphere and cylinder.
- Observe how artists can make what they depict look three-dimensional, despite working in two-dimensions, by creating an illusion of depth. Also examine the foreground, middle ground, and background in paintings, including:
  - Pieter Bruegel the Younger, *The Peasant Wedding*, 1620 (National Gallery of Ireland, Dublin)
  - Jean-François Millet, *The Gleaners*, 1857 (Musée d'Orsay, Paris)

#### C. DESIGN: HOW THE ELEMENTS OF ART WORK TOGETHER

- Examine design—how the elements of art work together to create a balanced or coherent whole—in:
  - Henri Matisse (collage): *The Fall of Icarus (from Jazz)*, 1943 (Tate, London; Metropolitan Museum of Art, New York)

Additionally in:

- Edvard Munch, *The Scream*, 1893 (National Gallery, Oslo)
- Anthony van Dyck, *Portrait of Charles I, Henrietta Maria and their Children*, 1632 (Royal Collection, Buckingham Palace, London) [Cross-curricular links with Year 4 English History]

### II. TYPES OF ART: EMBROIDERY AND NEEDLEWORK

**Teachers:** Embroidery and needlework are important aspects of art and sewing is also a practical life skill for children to learn.

- Understand the basic principles of sewing techniques. Children can experiment with making their own cross-stitch design and appreciate the time and effort involved in needlework.
- Understand the basic principles of weaving.
- Recognise embroidery and tapestry and discuss examples:

- Kate Farrer, *Icarus*, 2012 (Artist's Collection, now on display at the Royal School of Needlework at Hampton Court) [Cross-curricular connections with *Icarus* by Matisse and with Year 3 and Year 4 Language and Literature: Ancient Greek and Roman Mythology]
- *Christ's Charge to Peter* tapestry commissioned by King Charles I and made in Mortlake (Forde Abbey, Boughton House, Belvoir Castle and Chatsworth House) and original cartoons by Raphael (Victoria and Albert Museum, London)
- Norman Hartnell, Queen Elizabeth II's Coronation Robes (Royal Collection)
- Royal School of Needlework, Queen Elizabeth II's Robes of Estate (Royal Collection)
- Royal School of Needlework, Kate Middleton's Wedding Dress (Royal Collection)

### III. MONUMENTS OF ROME AND BYZANTIUM

[Cross-curricular links with Year 4 World History]

- Become familiar with the public monuments of ancient Rome such as:
  - Trajan's Column (113 AD) [Note: there is a cast in the Victoria and Albert Museum, London.]
  - The Pantheon (126 AD)
  - The Arch of Constantine (dedicated in 315 AD)
- Become familiar with the public monuments of ancient Byzantium such as:
  - Hagia Sofia (537 AD)
  - The Great Palace of Constantinople (330 AD)
  - The Walls of Constantinople (4th to 5th centuries AD)
- Explore how Emperors used and adapted these monuments to display their images, show power and represent history.
- Observe examples of Christian art works of the later Roman Empire (or Byzantium), such as the mosaics of Ravenna:
  - *Justinian I and Theodora*, mosaic panels in the apse of San Vitale, 548 AD (Ravenna, Italy)



## Music: Year 4

**Teachers:** In schools, lessons on music should feature activities and works that illustrate important musical concepts and terms, and should introduce important composers and works. When appropriate, topics in music may be linked to topics in other disciplines.

The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).




### I. ELEMENTS OF MUSIC

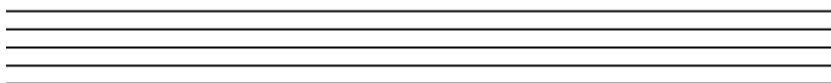
#### A. ELEMENTS

- Through participation, become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.).
  - Recognise a steady beat, accents, and the downbeat; play a steady beat.
  - Move responsively to music.
  - Recognise short and long sounds.
  - Discriminate between fast and slow; gradually slowing down and getting faster.
  - Discriminate between differences in pitch: high and low.
  - Discriminate between loud and soft; gradually increasing and decreasing volume.
  - Understand that melody can move up and down.
  - Hum the melody while listening to music.
  - Echo short rhythms and melodic patterns.
  - Play simple rhythms and melodies.
  - Sing unaccompanied, accompanied, and in unison.
  - Recognise harmony; sing rounds.
  - Recognise verse and refrain.
  - Continue work with timbre and phrasing.
  - Review names of musical notes; scale as a series of notes; singing the C major scale using 'do re mi' etc.

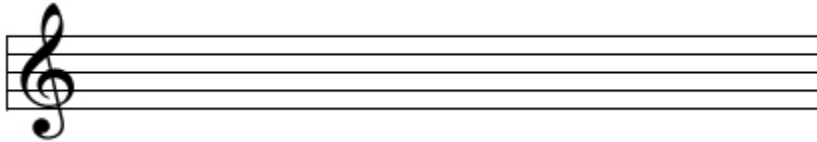
#### B. NOTATION

- Review the following notation


- Crotchet 
- Minim 
- Semi-breve 
- Stave



- Treble clef and names of lines and spaces in the treble clef



- Crotchet rest 

- Minim rest 

- Semibreve rest 

- Understand the following notation

- Bar line, dividing the staff into measures



- Quaver: the length of half a crotchet 

- Time signature:  $\frac{4}{4}$  quadruple time, as in four crotchet beats



- Time signature:  $\frac{2}{4}$  duple time, as in two crotchet beats



- Time signature:  $\frac{3}{4}$  triple time, as in three crotchet beats



- Soft: *p*
- Very soft: *pp*
- Loud: *f*
- Very loud: *ff*

## II. LISTENING AND UNDERSTANDING

**Teachers:** Expose children to a wide range of music, including children’s music, popular instrumental music, and music from various cultures.

[See below, *re* brass instruments, Composers and Their Music: Aaron Copland’s *Fanfare for the Common Man*, and Edward Elgar, *Pomp and Circumstance March No. 4*. See also English Language and Literature 4: William Tell.]

### A. THE ORCHESTRA

- Review families of instruments: strings, brass, woodwinds, percussion.
- Become familiar with brass instruments—trumpet, French horn, trombone, tuba—and listen to:
  - Gioacchino Rossini, *William Tell Overture*, finale (trumpet)
  - Wolfgang Amadeus Mozart, selections from the *Horn Concertos* (French horn)
- Become familiar with woodwind instruments—flute and piccolo (no reeds), clarinet, oboe, bassoon (with reeds)—and listen to:
  - Claude Debussy, *Prelude to the Afternoon of a Faun* (flute)
  - Opening of George Gershwin, *Rhapsody in Blue* (clarinet)
  - Jean Sibelius, *The Swan Of Tuonela* (cor anglais)

### B. COMPOSERS AND THEIR MUSIC

**Teachers:** Provide brief, child-friendly biographical profiles of the following composers, and listen to representative works:

- Peter Tchaikovsky, *Suite from Swan Lake*
- Edward Elgar, *Pomp and Circumstance March No. 4*
- Gustav Holst, *Mars, Jupiter and Neptune* from *The Planets Suite*

### C. MUSICAL CONNECTIONS

**Teachers:** Introduce children to the following in connection with topics in other disciplines:

- Nikolai Rimsky-Korsakov, part one: *The Sea and Sinbad’s Ship* from *Scheherazade*,

## III. SONGS

- Aiken Drum
- All Through the Night
- Alouette
- Annie Laurie
- Cockles and Mussels
- London’s Burning
- On Ilkley Moor Baht ’At



## Mathematics: Year 4

### I. NUMBERS AND THE NUMBER SYSTEM

#### A. WHOLE NUMBERS

- Read and write numbers to at least 10 000 in figures and words.
- Recognise and extend number sequences formed by counting on or back from any number in steps of constant size.
- Identify Roman numerals from 1 to 20 (I - XX).
- Recognise odd and even numbers to at least 1000.
- Recognise the place value of each digit in any four-digit number, and partition four-digit numbers into multiples of 1000, 100, 10 and 1.
- Compare numbers to at least 10 000 using the  $<$ ,  $>$ , and  $=$  signs.
- Order a set of numbers to at least 10 000.
- Round numbers to at least 10 000 to the nearest 10, 100 or 1000.
- Understand what negative numbers are in relation to familiar uses (such as temperatures below zero).
- Position positive and negative numbers on a number line.

#### B. FRACTIONS

- Recognise unit fractions to  $\frac{1}{10}$  and fractions whose denominator is 10 or 100.
- Compare fractions with like denominators, using the signs  $<$ ,  $>$ , and  $=$ .
- Interpret mixed numbers, e.g.  $2\frac{1}{2}$ .
- Recognise the equivalence of simple fractions, e.g.  $\frac{1}{2} = \frac{3}{6}$ .
- Find fractions of shapes, numbers or quantities, e.g.  $\frac{1}{3}$  of 12,  $\frac{2}{3}$  of 18.

#### C. DECIMALS

- Understand decimal notation and place value for tenths and hundredths, and use it in context.
- Compare and order decimals, and position decimals on a number line.
- Recognise the equivalence between the decimal and fraction forms of one half, quarters, tenths and hundredths.

### II. NUMBER OPERATIONS AND CALCULATIONS

#### A. ADDITION AND SUBTRACTION

- Understand and use the principles (but not the names) of the commutative and associative laws as they apply to addition.
- Consolidate recall of all addition and subtraction facts for each number to 20.
- Add more than two one-digit or two-digit numbers, e.g.  $13 + 8 + 22$
- Use known number facts and place value to mentally:
  - derive sums and differences of multiples of 10, 100 and 1000, e.g.  $40 + 80$ ,  $300 + 500$
  - add or subtract pairs of two-digit numbers, e.g.  $35 + 68$ ,  $74 - 46$
- Use written methods to:
  - add or subtract pairs of three-digit or four-digit numbers, e.g.  $1982 + 726$ ,  $2846 + 1427$ ,  $746 - 317$ ,  $4298 - 2784$
  - add more than two numbers, e.g.  $376 + 716 + 123$
  - add or subtract calculations involving money, e.g.  $£5.58 + £7.84$ ,  $£9.32 - £4.77$

**B. MULTIPLICATION AND DIVISION**

- Use the principles (but not the names) of the commutative, associative and distributive laws as they apply to multiplication:
  - example of commutative law:  $8 \times 24 = 24 \times 8$
  - example of associative law:  $8 \times 24 = 8 \times (6 \times 4) = (8 \times 6) \times 4 = 48 \times 4 = 192$
  - example of distributive law:  $9 \times 26 = 9 \times (20 + 6) = (9 \times 20) + (9 \times 6) = 180 + 54 = 234$
- Recall multiplication facts up to  $10 \times 10$  and the corresponding division facts.
- Recognise multiples of numbers to 10 up to the tenth multiple.
- Recall doubles of all two-digit numbers, multiples of 10 and 100, and the corresponding halves.
- Multiply and divide whole numbers to 1000 by 0, 1, 10 or 100, and understand the effect.
- Use written methods to:
  - multiply a two-digit or three-digit number by a one-digit number, e.g.  $472 \times 6$
  - divide a two-digit or three-digit number by a one-digit number, including division with remainders, rounding up or down depending on the context, e.g.  $263 \div 8$

**C. MIXED OPERATIONS**

- Use knowledge of rounding, number operations and inverse relationships to estimate and check calculations.

**III. MEASUREMENT****A. LENGTH, MASS, CAPACITY AND TEMPERATURE**

- Estimate, measure and record lengths, masses, capacities and temperatures using standard units (km, m, cm, mm, kg, g, l, ml, °C).
- Convert between different units of measure, e.g. km to m, m to cm, cm to mm, kg to g, l to ml or vice versa.
- Begin to use decimal notation to record and convert measurements, e.g.  $2.3 \text{ kg} = 2300 \text{ g}$ , or vice versa.
- Read and interpret intervals and divisions on partially numbered scales.
- Use a ruler to measure and draw lengths to the nearest millimetre.

**B. TIME**

- Read a simple timetable.
- Calculate time intervals from clocks, calendars and simple timetables.
- Read the time to the nearest minute on an analogue clock and 12-hour digital clock.
- Use am and pm and 12-hour clock notation, e.g. 5:24.

**C. MONEY**

- Add and subtract amounts of money to find totals and give change, using £.p notation.

**D. PERIMETER AND AREA**

- Measure and calculate the perimeter of a rectilinear shape.
- Measure and calculate the area of rectangles and related compound shapes using counting methods and the standard unit  $\text{cm}^2$ .

**IV. GEOMETRY****A. 2-D AND 3-D SHAPES**



- Draw polygons and classify them using criteria such as the number of right angles, whether or not they are regular, and their symmetrical properties.
- Visualise 3-D solids and objects from 2-D drawings.

#### **B. POSITION, DIRECTION AND MOVEMENT**

- Read and plot coordinates in the first quadrant.
- Recognise and use the eight compass directions. [Cross-curricular connection with Geography: Year 4]
- Know that angles are measured in degrees and that:
  - one whole turn is  $360^\circ$  (four right angles);
  - a half turn is  $180^\circ$  (two right angles or a straight line);
  - a quarter turn is  $90^\circ$  (or one right angle);
  - half a right angle is  $45^\circ$ .
- Compare and order angles less than  $180^\circ$ .

#### **C. SYMMETRY**

- Draw the reflection of a shape or pattern in a mirror line parallel to one side, where all sides of the shape or pattern are parallel or perpendicular to the mirror line.

#### **V. DATA**

- Collect, process, represent, interpret and discuss data in a tally chart, frequency table, pictogram or bar chart.
- Read, interpret and represent data:
  - where symbols represent more than one unit, e.g. 2, 5, 10 or 20;
  - where scales have intervals of differing step size, e.g. axis labelled in 2s, 5s, 10s or 20s.

#### **VI. PROBLEM SOLVING AND REASONING**

- Identify, describe and use numerical and symbolic patterns and relationships.
- Solve mathematical problems and puzzles involving numbers or shapes.
- Investigate a general statement involving numbers or shapes.
- Solve one-step and two-step problems involving addition, subtraction, multiplication and division in the context of numbers or measurements, including money and time.



## Science: Year 4

### I. INTRODUCTION TO CLASSIFICATION OF ANIMALS

- Scientists classify animals according to the characteristics they share, for example:
  - Cold-blooded or warm-blooded
  - Vertebrates (have backbones and internal skeletons) or invertebrates (do not have backbone or internal skeletons)
- Different classes of vertebrates

**Teachers:** Children should become familiar with examples of animals in each class and some basic characteristics of each class, such as:

- Fish: aquatic animals, breath through gills, cold-blooded, most have scales, most develop from eggs that the female lays outside her body
- Amphibians: live part of their life cycle in water and part on land, have gills when young, later develop lungs, cold-blooded, usually have moist skin
- Reptiles: hatch from eggs, cold-blooded, have dry, thick, scaly skin
- Birds: warm-blooded, most can fly, have feathers and wings, most build nests, hatch from eggs, most baby birds must be fed by parents and cared for until they can survive on their own (though some, like baby chickens and quail, can search for food a few hours after hatching)
- Mammals: warm-blooded, have hair on their bodies, parents care for the young, females produce milk for their babies, breathe through lungs, most are terrestrial (live on land) though some are aquatic

### II. ECOLOGY

**Teachers:** Some topics here, such as habitats, were introduced in Year One. In this year, these topics will be covered in more detail and new areas will be studied.

- Habitats, interdependence of organisms and their environment
- The concept of a 'balance of nature' (constantly changing, not a static condition)
- The food chain: producers, consumers, decomposers
- Ecosystems: how they can be affected by changes in environment (for example, rainfall, food supply, etc.) and by man-made changes
- Fossils and how they can tell us about the environment long ago
- Man-made threats to the environment
  - Air pollution: emissions, smog
  - Water pollution: industrial waste, run-off from farming
- Measures we can take to protect the environment (for example, conservation, recycling)

### III. THE HUMAN BODY: SYSTEMS, VISION AND HEARING

#### A. THE MUSCULAR SYSTEM

- Muscles
  - Involuntary and voluntary muscles

#### B. THE SKELETAL SYSTEM

- Skeleton, bones, marrow
- Musculo-skeletal connection
  - Ligaments
  - Tendons, Achilles tendon
  - Cartilage

- Skull, cranium
- Spinal column, vertebrae
- Joints
- Ribs, rib cage, sternum
- Scapula (shoulder blades), pelvis, tibia, fibula
- Broken bones, X-rays

### C. THE NERVOUS SYSTEM

- Brain: medulla, cerebellum, cerebrum, cerebral cortex
- Spinal cord
- Nerves
- Reflexes

### D. VISION: HOW THE EYE WORKS

- Parts of the eye: cornea, iris and pupil, lens, retina
- Optic nerve
- Farsighted and nearsighted

### E. HEARING: HOW THE EAR WORKS

- Sound as vibration
- Outer ear, ear canal
- Eardrum
- Three tiny bones (hammer, anvil and stirrup) pass vibrations to the cochlea
- Auditory nerve

## IV. LIGHT AND OPTICS

**Teachers:** Through experimentation and observation, introduce children to some of the basic physical phenomena of light, with associated vocabulary.

- The speed of light: light travels at an amazingly high speed.
- Light travels in straight lines (as can be demonstrated by forming shadows).
- Transparent and opaque objects
- Reflection
  - Mirrors: plane, concave, convex
  - Use of mirrors in telescopes and some microscopes
- The spectrum: use a prism to demonstrate that white light is made up of a spectrum of colours.
- Lenses can be used for magnifying and bending light (as in magnifying glass, microscope, camera, telescope, binoculars).

## V. SOUND

**Teachers:** Through experimentation and observation, introduce children to some of the basic physical phenomena of sound, with associated vocabulary.

- Sound is caused by an object vibrating rapidly.
- Sounds travel through solids, liquids and gases.
- Sound waves are much slower than light waves.
- Speed of sound: Concorde
- Qualities of sound
  - Pitch: high or low, faster vibrations = higher pitch, slower vibrations = lower pitch
  - Intensity: loudness and quietness
- Human voice
  - Larynx (voice box)
  - Vibrating vocal chords: longer, thicker vocal chords create lower, deeper voices
- Sound and how the human ear works
- Protecting your hearing

## VI. ASTRONOMY

- The 'Big Bang' as one theory
- The universe: an extent almost beyond imagining
- Galaxies: Milky Way and Andromeda
- Our solar system
  - Sun: source of energy (heat and light)
  - The nine planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto [Note that, in 2006, Pluto was classified as a dwarf planet]
- Planetary motion: orbit and rotation
  - How day and night on Earth are caused by the Earth's rotation
  - Sunrise in the east and sunset in the west
  - How the seasons are caused by the Earth's orbit around the sun, tilt of the Earth's axis
- Gravity, gravitational pull
  - Gravitational pull of the moon (and to a lesser degree, the sun) causes ocean tides on Earth
  - Gravitational pull of 'black holes' prevents light from escaping
- Asteroids, meteors ('shooting stars'), comets, Halley's Comet
- How an eclipse happens
- Stars and constellations
- Orienteering (finding your way) by using North Star, Big Dipper
- Exploration of space
  - Observation through telescopes
  - Rockets and satellites: from unmanned flights
  - Apollo 11, first landing on the moon: 'One small step for a man, one giant leap for mankind'
  - Space shuttle

## VII. SCIENCE BIOGRAPHIES

- Alexander Graham Bell (invented the telephone)
- Copernicus (had new sun-centred idea about the solar system)
- Galileo Galilei ('Father of modern science', provided scientific support for Copernicus's theory)
- Caroline Herschel (German-British astronomer, discovered several comets, worked with brother William)
- Isaac Newton (English physicist, mathematician, astronomer, natural philosopher and alchemist)