The *Core Knowledge Sequence UK*

English Language and Literature: Year 6

I. WRITING, GRAMMAR, AND USAGE

Teachers: Children should be given many opportunities for writing with teacher guidance that strikes a balance between encouraging creativity and requiring correct use of conventions. The teacher must continue to develop imaginative writing but place a stronger emphasis than in previous years on expository writing including, for example, summaries, book reports, essays that explain a process and descriptive essays. In Year 6, it is appropriate to place a greater emphasis on revision, with the expectation that pupils will revise and edit to produce (in some cases) a finished product that is thoughtful; well-organised; and reasonably correct in grammar, mechanics and spelling. In Year 6, pupils should be reasonably competent spellers and in the habit of using a dictionary to check and correct words that present difficulty. They should regularly practise vocabulary enrichment.

A. WRITING AND RESEARCH

- Produce a variety of types of writing–including reports, summaries, letters, descriptions, informative and persuasive writing, stories, poems–with a coherent structure or story line.
- Know how to gather information from different sources (such as an encyclopaedia, magazines, interviews, observations, atlas, and the Internet) and write short reports synthesising information from at least three different sources, presenting the information in his or her own words.
    - Understand the purpose and audience of the writing.
    - Define a main idea and stick to it.
    - Provide an introduction and a conclusion.
    - Organise material in coherent paragraphs.
    - Illustrate points with relevant examples.
    - Document sources in a rudimentary bibliography.

B. GRAMMAR AND USAGE

- Understand the components of a complete sentence.
- Identify the subject and verb in a sentence and understand that they must agree.
- Know the following parts of speech and how they are used: nouns, verbs (action verbs and auxiliary verbs), adjectives (including articles), adverbs, conjunctions, prepositions and interjections.
- Understand that pronouns must agree with their antecedents in case (nominative, objective and possessive), number and gender.
- Correctly use punctuation studied in earlier years, as well as the colon before a list.
- Categories of nouns
- Verbs and objects
- Interjections
- Personal pronouns
    - Agreement in case
    - Possessive case
    - Agreement in gender
    - Agreement in number
- Punctuation: commas and brackets
- Prefixes and suffixes

C. VOCABULARY

- Know what prefixes and suffixes are and how they affect word meaning (see below).
- Prefixes:
  - *anti* (as in 'anti-social', 'anti-bacterial')
  - *co* (as in 'co-education', 'co-worker')
  - *fore* (as in 'forefather', 'foresee')
  - *il, ir* (as in 'illegal', 'irregular')
  - *inter* (as in 'interact', 'interchange')
  - *mid* (as in 'midnight', 'midway')
  - *post* (as in 'postpone', 'postwar')
  - *semi* (as in 'semicircle', 'semi-precious')
- Suffixes
  - *ist* (as in 'artist', 'pianist')
  - *ish* (as in 'stylish', 'foolish')
  - *ness* (as in 'forgiveness', 'happiness')
  - *tion, sion* (as in 'relation', 'extension')

II. POETRY

Teachers: The poems listed here constitute a selected core of poetry for this year group. Expose children to more poetry, old and new, and 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 primarily a source of delight. This is also an appropriate age at which to begin looking at poems in more detail, asking questions about the poet's use of language, noting the use of devices such as simile, metaphor, alliteration, etc.

A. POEMS

- Become familiar with the following works:
  - A Ballad of London (Richard Le Gallienne)
  - The Eagle (Alfred Lord Tennyson)
  - If (Rudyard Kipling)
  - Into My Heart an Air that Kills (A. E. Housman)
  - Jabberwocky (Lewis Carroll)
  - The Listeners (Walter de la Mare)
  - Little Red Riding Hood and the Wolf (Roald Dahl)
  - Macavity - The Mystery Cat (T. S. Eliot)
  - Some Opposites (Richard Wilbur)
  - The Tiger (William Blake)

B. LITERARY TERMS

- Become familiar with the following literary terms:
  - Onomatopoeia
  - Alliteration
  -

III. FICTION AND DRAMA

Teachers: In Year 6, pupils should be fluent, competent readers of appropriate materials. Regular independent silent reading should continue. Pupils should read outside of school for at least 30 minutes daily. The titles below constitute a selected core of stories for Year 6. 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. Some of the works below, such as *Kidnapped* and *A Midsummer Night's Dream* are available in editions adapted for younger readers. There are also some versions that are graphic novels.

A. STORIES

- Become familiar with the following works:
  - *Don Quixote* (Miguel de Cervantes)
  - *The Secret Garden* (Frances Hodgson Burnett)
  - *Oliver Twist* (Charles Dickens)
  - *The Death of Arthur* (Sir Thomas Malory)

B. DRAMA

- Become familiar with the following works:
  - *A Midsummer Night's Dream* (William Shakespeare)
  - *The Tempest* (William Shakespeare)
- Become familiar with the following literary terms:
  - Tragedy and comedy
  - Shakespeare's language

C. MYTHS AND LEGENDS

- Become familiar with the following:
  - The Samurai's Daughter (Japanese)

D. LITERARY TERMS

- Become familiar with the literary term:
  - Pseudonym (pen name)
- Become familiar with the following literal and figurative language terms:
  - Imagery
  - Metaphor and simile
  - Symbol
  - Personification

V. 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 of 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:
  - Birthday suit
  - Bite the hand that feeds you
  - Chip on your shoulder
  - Count your blessings
  - Eleventh hour
  - Eureka!
  - Every cloud has a silver lining
  - Few and far between
  - Forty winks
  - The grass is always greener
  - To kill two birds with one stone
  - Lock, stock and barrel
  - Make a mountain out of a molehill
  - A miss is as good as a mile
  - It's never too late to mend
  - Out of the frying pan and into the fire
  - A penny saved is a penny earned
  - Read between the lines
  - Sit on the fence

- Steal his/her thunder
- Take the bull by the horns
- 'Till the cows come home
- Time heals all wounds
- Tom, Dick and Harry
- Vice versa
- A watched pot never boils
- Well begun is half done
- What will be will be

History and Geography: Year 6

Teachers: The study of geography embraces many topics throughout the Core Knowledge Sequence, 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. Many geographic topics are listed below in connection with historical topics.

WORLD HISTORY AND GEOGRAPHY

Teachers: Review as necessary map-reading skills and concepts, as well as geographic terms, from previous years.

I. SPATIAL SENSE

A. READ MAPS AND GLOBES USING LONGITUDE AND LATITUDE, COORDINATES, DEGREES

- Time zones:
  - Prime Meridian (O degrees); Greenwich, England; 180° Line (International Date Line)
- Arctic Circle (imaginary lines and boundaries) and Antarctic Circle
- From a round globe to a flat map
  - Mercator projection, Gall-Peters projection, conic and plane projections

Terms: glaciers, industry, agriculture, services, tourism, recreation, tundra, steppe

UK GEOGRAPHY

I. NORTH EAST

A. NORTHUMBERLAND, TYNE AND WEAR, DURHAM

- Northumberland National Park, Cheviot Hills, Hadrian's Wall, former ship building (Sunderland, Newcastle-upon-Tyne), Durham

II. NORTH WEST

A. CUMBRIA, LANCASHIRE, GREATER MANCHESTER, MERSEYSIDE

- Lancashire Moors, Lake District, Scafell Pike (largest peak in England), William Wordsworth, Beatrix Potter, Sellafield nuclear power station, textile industry, Liverpool, Manchester

III. SCOTLAND

- Border regions, lowlands, uplands (granite, quartzite, schist, sandstone), volcanic islands, peninsulas, lochs (Loch Lomond, Lock Ness), glens, straths, Great Glen faultline, estuaries (Firth of Clyde, Firth of Forth), The Trossachs, Gaelic, Cairngorms National Park, bogs, fishing harbours, Scottish parliament, Robert Burns, clans, coal, iron ore, Glasgow, Edinburgh, Edinburgh festival, castles (Edinburgh, Balmoral), Stirling, Motherwell, Orkney Islands, Shetland Islands

IV. WALES

- Snowdonia, Cambrian Mountains, Black Mountains, Brecon Beacons, Cardigan Bay, Isle of Anglesey, Welsh valleys, coal, iron and steel works, railways, canals, slate mines, Welsh language, Wye valley, Rhondda valley, Merthyr Tydfil, Cardiff, docks, Welsh Assembly, Swansea, Dylan

Thomas, Gower Peninsula, seaside resorts, Pembrokeshire Coast national park, St. David's (Britain's smallest city), wind farms

WORLD GEOGRAPHY

I. NORTH AMERICA

Teachers: Introduce pupils to the North American continent.

A. USA, CANADA, MEXICO

- Climates
  - Arid, humid temperate, humid cold, tundra, Mediterranean (California/Southern Florida).
- Landscape
  - Rocky Mountains, Appalachian Mountains, plains, prairies, Great Lakes (Superior, Huron, Michigan, Erie, Ontario)
  - Important rivers: Mississippi and major tributaries (for example, Missouri River), Mackenzie, Yukon, Lawrence
- People and culture
  - Indigenous Native American communities
  - European settlers
  - Latino settlers
  - Asian settlers
  - The USA as a nation of immigrants, melting pot of cultures
- The United States
  - 48 continuous states, plus Alaska and Hawaii
- Canada
  - French and British heritage
  - French-speaking Quebec
  - Divided into provinces
- Settlements
  - New York City, Washington D.C., Chicago, Los Angeles, San Francisco, Boston, Houston, Miami, Seattle, Montreal, Toronto, Vancouver, Mexico City
- Economic activity
  - The USA as the largest economy in the world
  - American consumption (houses, cars, energy)
  - Migrant labour from Latin American countries

II. SOUTH AMERICA AND CENTRAL AMERICA

- South American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands (UK), French Guiana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela
- Central American countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama
- Important geographical features: Panama Canal, Amazon River, Amazon rainforest, Andes mountains, Patagonia, Galapagos Islands
- Indigenous peoples: Maya (Mexico, Guatemala), Quechua (Peru, Ecuador, Bolivia)
- Music and dancing: salsa, bachata, merengue, tango
- Biodiversity of animals: Galapagos Islands of Ecuador; Amazon Rainforest
- History
  - Ancient Inca civilization: Machu Picchu, Pisac ruins, Nazca Lines
  - Colonisation from 1493, primarily by Spain and Portugal
  - Legend of El Dorado
  - Independence of many countries in the 19th century, but lasting impact of colonisation

WORLD HISTORY

III. THE AMERICAN CIVIL WAR: CAUSES, CONFLICTS, CONSEQUENCES

Teachers: The American Civil War was a formative event in American history that contributed in many ways to the structure of American national identity (and regional identities). In addition to the issue of slavery, emphasise other political factors in the incitement of conflict, and ways in which the catastrophic loss of life gave the conflict an unassailable place in American national memory.

A. TOWARDS THE AMERICAN CIVIL WAR

- Industrial North versus agricultural South
- Slavery
    - Slave life and rebellions
    - Abolitionists: William Lloyd Garrison and, Frederick Douglass
    - Importance of Harriet Beecher Stowe's *Uncle Tom's Cabin*
- Lincoln elected president
    - Southern states secede

B. THE AMERICAN CIVIL WAR

- Yankees, representing the Union, blue
    - Ulysses S. Grant
- Rebels, representing the Confederacy, grey
    - Jefferson Davis chosen as first president
    - Robert E. Lee, General 'Stonewall' Jackson
- Soldiers and the misery of war
- The Emancipation Proclamation (Gettysburg Address)
- Richmond (Confederate capital) falls to Union forces
    - Surrender at Appomattox
- Assassination of President Lincoln by John Wilkes Booth

C. RECONSTRUCTION (1865 - 1877)

- The South in ruins
- Freedmen's Bureau
    - '40 acres and a mule'
- 13th, 14th, and 15th Amendments to the Constitution

BRITISH HISTORY

I. THE INDUSTRIAL REVOLUTION AND THE ECONOMY

Teachers: Emphasise how the Industrial Revolution was one of the most significant social and demographic changes in history. Discuss how the mechanisation and electrification of industry and transport created, for the first time, wealth for the many who were not landowners, and changed the social structures of Britain. The demographic and social changes it necessitated caused a reassessment of ideas about the role of the state and political representation.

A. THE INDUSTRIAL REVOLUTION

- Early technological developments
    - James Watt's steam engine, 1778
- Transport developments
    - George Stephenson's Rocket; Stockton-Darlington Railway

    - Canals; aqueducts
- Mechanisation of Industry
    - Invention of the power loom (1784), cotton mills in Lancashire; steam power
    - Gas lighting on streets
- Coal mining
    - Particularly, the northeast of England, south of Scotland , Wales and the Midlands,
- Social changes
    - Poor conditions, working hours and pay in factories, collieries and mills
    - Young children in factories, collieries and mills
    - Unionisation of workforce
- Rapid urbanisation
    - Mechanisation of agriculture, surplus population moved to cities
    - Liverpool as transport hub, shipbuilding in Glasgow, and manufacturing in Manchester and Birmingham
    - Political representation not adapted
    - Housing conditions very poor
    - Cholera epidemics were common

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II. VICTORIAN ERA

Teachers: Queen Victoria reigned throughout a period of rapid economic growth and dramatic social and political changes. Discuss the widespread confidence of the Victorian period, reinforced by prominence in manufacturing and trade, as well as the British Empire, and the results of this British exceptionalism. Make connections with both the previous and subsequent sections.

A. QUEEN VICTORIA

- Young Queen, Coronation at 18 in 1837
    - First monarch to live at Buckingham Palace
    - Marries first cousin Prince Albert of Saxe-Coburg Gotha
- Reign of 63 years
    - Longest reigning British monarch

B. OVERSAW PERIOD OF BRITISH ECONOMIC AND IMPERIAL GROWTH

- The Great Exhibition, 1851
    - Showcased global exhibits
    - Emphasised British manufacturing capabilities

C. VICTORIAN PARTY POLITICS

- Sir Robert Peel and the Peelites reject High Tories
    - Peelites join Whigs and Radicals to form Liberal Party
- William Gladstone and Benjamin Disraeli
    - Gladstone and the development of ‘Liberalism’
    - Disraeli and close relationship with Queen Victoria

III. SOCIAL AND POLITICAL REFORM

Teachers: Discuss the effects of the socio-economic changes caused by the Industrial Revolution, the growing disquiet about living conditions and the gap between the rich and poor. From the 1832 Reform Act onwards, government gradually became less dominated by the aristocratic landowning classes. The Labour party also developed at this time. Discuss ideas about popular involvement in government, and the changing roles and responsibilities of government in society.

A. SOCIAL PROBLEMS CAUSED BY INDUSTRIALISATION

- Wide and evident gap between rich and poor
    - Urbanisation

- Paternalist Industrialists
    - Robert Owen; New Lanark; Utopian Socialism
    - Cadbury's Bourneville; Lever's Port Sunlight

B. POLITICAL REFORM

- Battle of Peterloo ('Peterloo Massacre')
- The 1832 Great Reform Act
    - Limited middle class enfranchisement
    - Precedent; first break in unreformed system

C. SOCIAL REFORM

- Social reforms after the 1832 Great Reform Act
    - 1833 Factory Act; minimum age to work; limited hours for children; 1847 Factory Act (the 'Ten Hours Act')
    - 1834 Poor Law reform; workhouses and 'less eligibility'
- Health problems
    - Cholera epidemics
    - Public Health Act 1848; general and local boards of health
    - Improving sanitary conditions; London sewerage system

D. POPULAR REFORM

- Chartism
    - The Charter; six points; democratic ambitions
    - 1848 meeting, Kennington Common
- Post 1850s: liberal and humanitarian motivations gain prominence
    - National Elementary Education Act, 1870; state education provision until age 12
- Representation of the People Acts, 1867; 1884
    - Growing enfranchisement

IV. THE BRITISH EMPIRE

Teachers: Explain how British influence and control expanded across the globe. Initially based on the expansion of trade, the British Empire developed into a colonial empire that held territory across Africa, the Indian subcontinent and Australia. Discuss the motivations for forming and maintaining a global empire, as well as the consequences for the native populations. Discuss the development of nationalism and national self-determination.

A. GROWTH OF BRITISH EMPIRE

- Early exploration and trade
    - Plantation of Ireland
    - East India Company
- Americas
    - Caribbean colonies; Barbados; Jamaica; Bahamas
    - Jamestown 1607; colony of Virginia (see Year 2)
    - Foundation of the 'Thirteen Colonies'
- James Cook discovers Australia in 1770
    - Establishment of penal settlement; convict transportation
    - Australian colonies valuable for wool and gold

B. EAST INDIA COMPANY

- Trading outposts on Indian subcontinent
    - Growth in power and decline of Mughal rulers
    - British influence across Asia through the East India Company (EIC) and Royal Navy
- Indian Rebellion of 1857

    - Indian soldiers mutiny: long-term grievances and issue of tallow-greased cartridges
    - Siege of Delhi; Skirmishes at Cawnpore and Lucknow
- British retaliation
    - Massacre of Delhi
- British Raj
    - End of the British East India Company
    - British Crown takes control; Government of India Act 1858
    - Queen Victoria crowned Empress of India

C. SCRAMBLE FOR AFRICA

- British colonial rule
    - Ghana
    - Sudan
    - South Africa

V. IRISH FAMINE

Teachers: Use the Famine to discuss Ireland's close but ambiguous and troubled relationship with Britain. Ireland's Great Famine and subsequent mass emigration not only shaped Ireland, her national identity and diaspora, but also impacted heavily on the development of British politics in the period. Emphasise nationalism, religious identities, emigration and the role of the state as some of the major themes of this unit.

A. THE IRISH FAMINE AND INDEPENDENCE MOVEMENTS

- Background: Irish political and social situation
    - Protestant Ascendancy
    - Wolfe Tone and the United Irish rebellion of 1798
- Act of Union in 1800
    - Ireland joins Britain as part of the United Kingdom
- Outbreak of Famine
    - Potato blight
    - Actions of the landlords
    - Death toll
- Government responses
    - Sir Robert Peel and American maize; corn laws
    - Lord John Russell and Charles Trevelyan; soup kitchens
    - Charitable responses
- Emigration
    - United States and Great Britain
    - Development of Irish Diaspora
- Legacy
    - Importance of memory of Famine in Ireland and diaspora
    - Creation of an Irish identity
    - Migration and depopulation

VI. THE BOER WARS

Teachers: The conflict was a large and bloody one, and involved the largest British military force abroad so far. It was notable as one of the final expansionist military campaigns of the British Empire, and for the negative reactions of the British public to British operations.

A. ATTEMPTS TO ANNEX THE SOUTH AFRICAN REPUBLIC (TRANSVAAL) AND THE ORANGE FREE STATE

- First Boer war in 1880
    - Boers successfully resisted annexation
- Discovery of gold

- Influx of foreign immigrants; more British interest in annexation

B. SECOND BOER WAR DECLARED IN OCTOBER 1899

- Initial Boer offensive
  - Boers besiege British settlements
- British offensive
  - The republics were formally annexed in 1900
- Boer guerrilla attacks on British supply lines
  - British scorched earth policy and concentration camps
- Public opinion in Britain turned against the war
  - Horrified at treatment of Boer civilians
- Conflict came to an end in May, 1902
  - South African Republic and Orange Free state became part of the British Empire

VII. DEATH OF VICTORIA: THE END OF AN ERA

Teachers: The death of Victoria signalled the end of the Victorian period. She had presided over a period of British history that had seen huge economic growth, a process of social and political democratisation and an extension of political influence worldwide.

A. QUEEN VICTORIA

- Reigns for 63 years and 7 months
- Death of Prince Albert
  - Retires from public life
- Golden and Diamond Jubilees
- Death in 1901; end of Victorian Era

FEATURED GREAT EXPLORER

A. DAVID LIVINGSTONE

Visual Arts: Year 6

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 they may visit at first-hand.

In studying the works of art specified below, and in creating their own art, students should review, develop and apply concepts introduced in previous years, such as line, shape, form, space, texture, colour, light, design, symmetry and style.

I. THE LANGUAGE OF ART

A. UNDERSTAND AND BE ABLE TO APPLY APPROPRIATELY THE FOLLOWING TERMS:

- Renaissance: comes from the Italian word 'Rinascita' (meaning re-birth), applied to describe a regeneration of the arts along classical lines, which took place after the Middle—or so-called 'Dark' Ages
- Figurative: refers to the style of works of art which attempt to depict convincing reality or life-like forms
- Abstract: the opposite of figurative, referring to artworks wherein the depicted reflects an idea or suggestion of something, rather than the thing itself
- Genre: a term to describe distinct types of subject matter, applicable in literature as well as art, such as landscape or portrait
- Perspective: in art refers to the mathematical techniques, and linear arrangements used to rationalise space in two-dimensional art works

II. ART AND ARCHITECTURE OF THE ITALIAN RENAISSANCE

[Cross-curricular links with Year 5 World History]

Teachers: you could introduce the students to Renaissance art by reviewing previously observed works and also looking at:

- Leonardo da Vinci's Vitruvian Man (Year 2: Shape), Mona Lisa (Year 2: Portraits) and Last Supper (Year 2: Murals)
- Bruegel's *Peasant Wedding* (Year 4: Space in Artworks)
- Dürer's *Self-Portrait* (Year 2: Portraits and Self-Portraits)
- Raphael (Raffaello Sanzio da Urbino), *The School of Athens,* 1510-1511 (Vatican Museums and Galleries), Vatican City

A. UNDERSTAND THE TERM RENAISSANCE

- See section I, part A, above
- Recognise that Renaissance art is not only defined by style but reflects new attitudes, achievements and influences; namely:
    - A shift in world view from medieval to Renaissance art, with a new emphasis on humanity and the natural world
    - The influence of Greek and Roman art on Renaissance artists (a return to classical subject matter; idealisation of the human form; balance and proportion in design; the literal re-discovery of classical art works, such as Laocoon Group by Michelangelo, or Apollo Belvedere)

- The development of linear perspective during the Italian Renaissance (the vantage point or point-of-view of the viewer; convergence of lines toward a vanishing point; the horizon line)

B. OBSERVE AND DISCUSS A RANGE OF PAINTINGS BY ITALIAN RENAISSANCE ARTISTS

- Consider what makes them 'Renaissance' works, including:
  - Sandro Botticelli, *The Birth of Venus*, c. 1485 (Uffizi, Florence)
  - Raphael, *Madonna of the Pinks* (La Madonna dei Garofani), 1506-7 (National Gallery, London)
  - Michelangelo, Sistine Chapel decorations, 1508-12 (Vatican, Rome)

C. BECOME FAMILIAR WITH RENAISSANCE SCULPTURE

- Consider what makes sculptures 'Renaissance', including:
  - Donatello, *Saint George*, (Bronze cast after stone original), c. 1415-17 (Orsanmichele—the Kitchen Garden of St Michael, Florence)
  - Michelangelo, *David*, 1504 (Galleria dell'Accademia, Florence)

D. BECOME FAMILIAR WITH RENAISSANCE ARCHITECTURE

- Consider—where possible—who the buildings were designed and built by, who used them and what for, and how they were decorated (often with works by important Renaissance artists):
  - Il Duomo (Florence Cathedral), particularly Brunelleschi's Dome which completed it in 1436 (consider the role of Cosimo de Medici as a patron, supporting Brunelleschi to win the commission over Ghiberti)
  - Palazzo Pitti, Florence, begun 1458, (from 1549 chief residence of the Medici and the ruling families of the Grand Duchy of Tuscany)
  - The Basilica of St Peter's, Vatican City, Rome, 1506 (includes Michelangelo's Pietà, and later additions by Bernini)
  - Villa Farnesina, 1506-10 (Trastevere, Rome) (Retreat of Papal banker Agostino Chigi, who commissioned decorations from Raphael, del Piombo and Guilio Romano)

III. VICTORIAN ART

- Augustus Welby Pugin 'a Catholic town in 1440' and 'a town in 1840', *Contrasts: Or A Parallel between the Noble Edifices of the Middle Ages and Corresponding Buildings of the Present Day*, 1836 (Cambridge University Press, 2013)
- Gothic Revival: a return to the gothic style of architecture from the Middle Ages
- The Houses of Parliament: designed in a gothic style
- William Morris: wallpaper, tiles, furniture, fabrics and books
- Sir Edward Coley Burne-Jones, The last sleep of Arthur in Avalon, 1881-98 (Museo de Arte de Ponce), Puerto Rico

Music: Year 6

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.

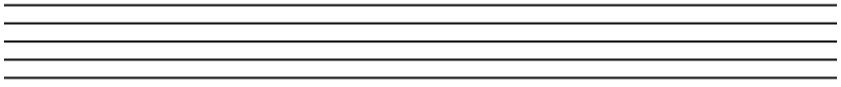
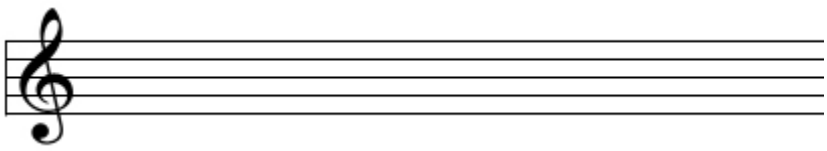
The following guidelines focus on content, not performance skills, though many concepts are best learned through active practice (singing, clapping rhythms, playing instruments, etc.).

I. ELEMENTS OF MUSIC

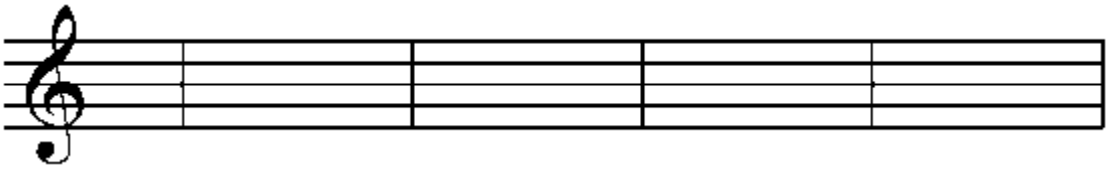
A. ELEMENTS

- 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, a simple rhythm pattern, and syncopation patterns.
    - Discriminate between fast and slow; gradually slowing down and getting faster; *accelerando* and *ritardando*.
    - Discriminate between differences in pitch: high and low.
    - Discriminate between loud and soft; gradually increasing and decreasing volume; *crescendo* and *diminuendo*
    - Understand *legato* (smoothly flowing progression of notes) and *staccato* (crisp, distinct notes).
    - Sing unaccompanied, accompanied, and in unison.
    - Recognise harmony; sing rounds and canons; two- and three-part singing.
    - Recognise verse and refrain.
    - Recognise theme and variations.

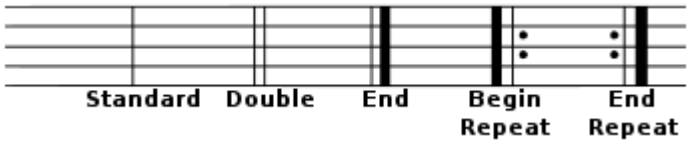
B. NOTATION

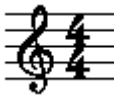
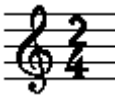
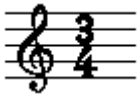
- Review the following notation
    - Crotchet 
    - Minim 
    - Semi-breve 
    - Stave 
    - Treble clef and names of lines and spaces in the treble clef 
    - Crotchet rest 

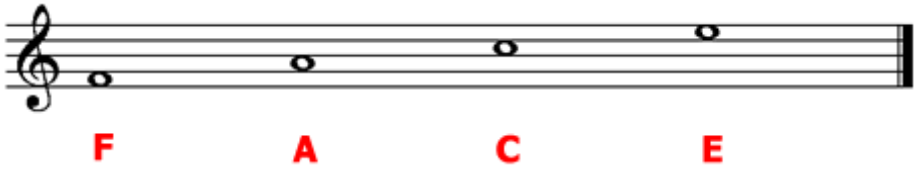
- Minim rest 
- Semibreve rest 
- Bar line

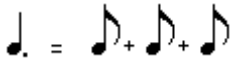


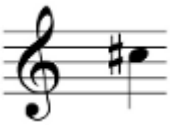
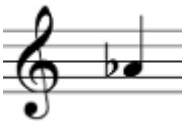
- Double bar line, bar, repeat signs



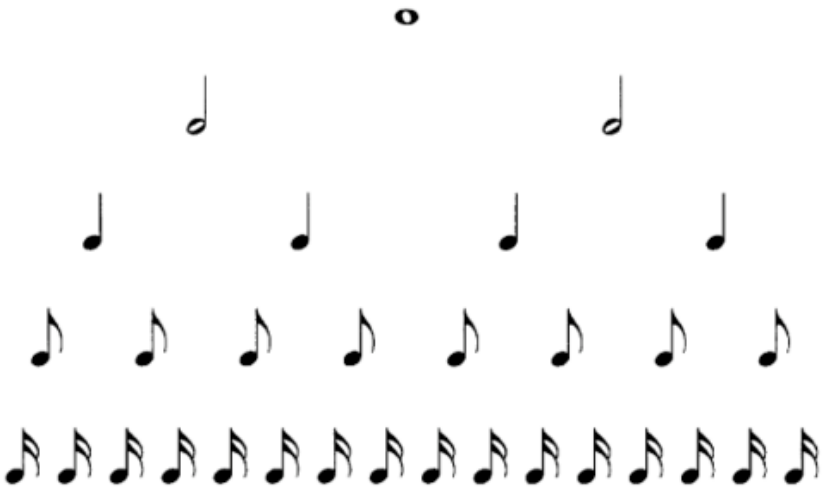
- Quaver 
- Time signature: **4** quadruple time 
  4
- Time signature: **2** duple time 
  4
- Time signature: **3** triple time 
  4
- Soft: ***p***
- Very soft: ***pp***
- Loud: ***f***
- Very loud: ***ff***
- Moderately soft: ***mp***
- Moderately loud: ***mf***
- Middle C in the treble clef



- Tied notes 
- Dotted notes 

- Sharps 
- Flats 
- *Da Capo* (*D.C.*): meaning 'from the beginning'
- *Da Capo al fine* (*D.C. al fine*): meaning 'repeat from beginning to the *fine* (end) mark'

- Understand the following notation and terms:
  - Time signature $\frac{4}{4}$ can be expressed as **C** ('Common' time)
  - Semi-quavers: the length of a quarter of a crotchet (or half of a quaver) 
  - The number of beats for semi-breves, minims, crotchets, quavers, and semi-quavers



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.

A. COMPOSERS AND THEIR MUSIC

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

- Ludwig van Beethoven, *Symphony No. 5* [Builds on children's first introduction to Beethoven in Year 3.]
- Ralph Vaughn Williams, *Greensleeves*

B. MUSICAL CONNECTIONS

Teachers: Introduce children to the following::

- Polyphonic Music
- Canons and Rounds

III. MUSICAL TRADITIONS

A. ENGLISH FOLK MUSIC

- Listen to Vaughan Williams English Folk Song Suite.
- Understand that folk music is passed on by each generation and generally not written down.
- Recognise folk songs that are still familiar today:
    - Early One Morning
    - Drunken Sailor (revise from Year 2)
    - Scarborough Fair

A. SPIRITUALS

- Sorrow songs

IV. SONGS

A. WORKS OF MUSIC

- The Blaydon Races [Cross-curricular connection with Year 6 British History]
- Food Glorious Food
- Greensleeves
- Lean On Me
- The Mountains of Mourne
- Sumer is Icumen In
- Swing Low
- Widdecombe Fair

Mathematics: Year 6

I. NUMBERS AND THE NUMBER SYSTEM

A. WHOLE NUMBERS

- Read and write whole numbers in figures and words.
- Know what each digit represents in whole numbers and partition, compare, order and around these numbers.
- Recognise and extend number sequences formed by counting on or back from any number in whole number or decimal steps of constant size, extending beyond zero when counting backwards, e.g. a sequence of square or triangular numbers.
- Identify Roman numerals from 1 to 1000 (I – M), and recognise years written in Roman numerals.
- Find the difference between a positive and a negative integer, or two negative integers, in context such as the number line or temperature.

B. FRACTIONS

- Order a set of fractions by converting them to fractions with a common denominator.
- Convert improper fractions to mixed numbers and vice versa.
- Express a larger whole number as a fraction of a smaller one, e.g. $^{7}/_{3} = 2^{1}/_{3}$.
- Reduce a fraction to its simplest form by cancelling common factors.
- Determine the lowest common denominator (LCD) of fractions with unlike denominators.
- Add or subtract mixed numbers, e.g. $2^{3}/_{4} + 4^{5}/_{6}$.
- Add or subtract fractions with like or unlike denominators, e.g. $^{1}/_{5} + {}^{2}/_{5}$, $^{3}/_{4} - {}^{2}/_{3}$.
- Identify the reciprocal of a given fraction and know that the product of a given number and its reciprocal equals 1.
- Multiply simple unit fractions by fractions, e.g. $^{1}/_{4} \times {}^{2}/_{3}$, and multiply a pair of proper fractions, e.g. $^{3}/_{4} \times {}^{2}/_{3}$, expressing the answer in its simplest form.
- Divide proper fractions by whole numbers, e.g. $^{2}/_{3} \div 4$, expressing the answer in its simplest form.
- Use a fraction as an operator to find fractions of numbers or quantities, e.g. $^{5}/_{8}$ of 48, $^{7}/_{10}$ of £50.
- Associate a fraction with division to calculate a decimal fraction equivalent.

C. DECIMALS

- Explain what each digit represents in decimals with up to three decimal places, and partition such numbers.
- Compare decimals with up to three decimal places using the signs <, >, and =.
- Order a set of decimals with up to three decimal places and position them on a number line.
- Round decimals to the nearest whole number, tenth and hundredth.
- Relate fractions to their decimal representations, e.g. 0.45 = $^{45}/_{100}$.

D. PERCENTAGES

- Recall, derive and use equivalences between fractions, decimals and percentages.
- Find percentages of whole numbers or quantities, e.g. 45% of 160, 15% of £70.

E. RATIO AND PROPORTION

- Use the vocabulary of ratio and proportion to describe the relationship between two quantities.
- Scale numbers or quantities up or down.
- Create simple scale drawings.
- Recognise equivalent ratios and reduce a given ratio to its simplest form.

II. NUMBER OPERATIONS AND CALCULATIONS

A. ADDITION AND SUBTRACTION

- Use the principles of the commutative and associative laws as they apply to addition.
- Use known number facts and place value to mentally add or subtract decimals, e.g. 3.6 + 8.7, 9.4 – 5.8.
- Use efficient written methods to add and subtract whole numbers and decimals.

B. MULTIPLICATION AND DIVISION

- Use the principles of the commutative, associative and distributive laws as they apply to multiplication:
    - example of commutative law: 8.4 × 7 = 7 x 8.4
    - example of associative law: 16.8 × 50 = 16.8 x (10 x 5) or (16.8 x 10) x 5 = 168 x 5 = 840
    - example of distributive law: 7.6 × 95 = 7.6 x (100 – 5) = (7.6 x 100) – (7.6 × 5) = 760 – 38 = 722
- Recall quickly multiplication facts up to 12 x 12 and the corresponding division facts.
- Recall square numbers to 12 x 12, e.g. 12^2, and the corresponding square roots, e.g. √144, and use known square numbers to derive squares of multiples of 10.
- Identify and use multiples, common multiples, lowest common multiples (LCM), factors, common factors and highest/greatest common factors (HCF/GCF).
- Know and use the meanings of prime number, prime factor and composite number.
- Use known number facts and place value to mentally multiply or divide decimals by a one-digit number, e.g. 5.8 x 6, 8.6 ÷ 3.
- Use efficient written methods to:
    - multiply a two-, three- or four-digit number by a two-digit number, e.g. 574 x 42;
    - multiply decimals with one or two decimals places by a one-digit or two-digit number, e.g. 6.8 x 12, £9.25 x 8;
    - divide a three-digit or four-digit number by a two-digit number, including division with remainders, rounding up or down depending on the context, e.g. 465 ÷ 16;
    - divide decimals with one or two decimals places by a one-digit or two-digit number, e.g. £14.65 ÷ 4, 54.6 ÷ 12.

C. MIXED OPERATIONS

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

III. MEASUREMENT

A. LENGTH, MASS, CAPACITY, VOLUME AND TEMPERATURE

- Estimate, measure and record lengths, masses, capacities and temperatures using standard units (km, m, cm, mm, kg, g, l, ml, °C) to a suitable degree of accuracy.
- Convert between different units of measure using decimals to three places, e.g. 2.475 kg = 2475 g, or vice versa.
- Read and interpret scales on a range of measuring instruments.
- Understand and use equivalencies between metric and common imperial units still in everyday use.
- Use the formula, and the standard units cm^3 and m^3, to calculate the volume of cubes and cuboids.

B. TIME

- Read a timetable using 24-hour clock notation and calculate time intervals.

C. MONEY

- Use all four operations, fractions and percentages to solve problems involving money.

D. PERIMETER AND AREA

- Measure and calculate the perimeter of regular and irregular polygons.
- Use the formula, and a variety of standard units (mm^2; cm^2; m^2; km^2), to calculate the area of rectangles and related compound shapes.
- Use the formulae to calculate the area of triangles and parallelograms.
- Use the formulae to calculate the surface area of cubes and cuboids.

IV. GEOMETRY

A. 2-D SHAPES AND 3-D SOLIDS

- Identify, visualise, describe and classify triangles, quadrilaterals, regular polygons and 3-D solids.
- Make and draw shapes with increasing accuracy and apply knowledge of their properties.
- Illustrate and name the parts of a circle including radius, diameter, circumference, arc and chord.

B. POSITION, DIRECTION AND MOVEMENT

- Use coordinates in all four quadrants to read and plot specified points.
- Draw the position of a shape after one or two translations on a coordinate plane.
- Estimate angles, and use a protractor to draw and measure angles with increasing accuracy.
- Calculate angles in a straight line, in a triangle, in a quadrilateral and around a point.

C. SYMMETRY

- Draw the reflection of a shape:
  - in a mirror line touching the shape at a point, where all sides of the shape are not necessarily parallel or perpendicular to the mirror line;
  - in two mirror lines at right angles, where the sides of the shape are parallel or perpendicular to the mirror line.
- Identify all the symmetries of 2-D shapes, cubes, cuboids and other common 3-D solids, including prisms.

V. DATA

A. DATA

- Collect, process, represent, interpret and discuss data in a frequency table, bar chart (with grouped discrete data), line graph or pie chart.
- Find and interpret the mode, range, median and mean of a set of data.

B. PROBABILITY

- Use the language of probability to describe the chance or likelihood of particular events.
- Express the probability of a given event as a fraction or percentage, or on a probability scale from 0 to 1.

VI. PROBLEM SOLVING AND REASONING

- Represent and interpret numerical and symbolic patterns and relationships.
- Solve mathematical problems and puzzles involving numbers or shapes.
- Suggest and test hypotheses involving numbers or shapes.
- Solve multi-step problems involving whole numbers, decimals, fractions and percentages, in the context of numbers or measurements, including money and time.

VII. PRE-ALGEBRA

- Construct and use simple expressions and formulae expressed in words then symbols.
- Generate and describe linear number sequences.
- Recognise variables and solve basic equations using variables, e.g. What is *7 - c* if *c* is 3.5?

Science: Year 6

I. CHEMISTRY: MATTER AND CHANGE

A. ATOMS, MOLECULES, AND COMPOUNDS

- Basics of atomic structure: nucleus, protons (positive charge), neutrons (neutral), electrons (negative charge)
- Atoms are constantly in motion, electrons move around the nucleus in paths called shells (or energy levels).
- Atoms may join together to form molecules or compounds.
- Common compounds and their formulas:
    - Water H_2O
    - Salt NaCl
    - Carbon Dioxide CO_2

B. ELEMENTS

- Elements have atoms of only one kind, having the same number of protons. There are a little more than 100 different elements.
- The periodic table: organises elements with common properties
    - Atomic symbol and atomic number
- Some well-known elements and their symbols
    - Hydrogen H
    - Helium He
    - Carbon C
    - Nitrogen N
    - Oxygen O
    - Sodium Na
    - Aluminium Al
    - Silicon Si
    - Chlorine Cl
    - Iron Fe
    - Copper Cu
    - Silver Ag
    - Gold Au
- Two important categories of elements: metals and non-metals
    - Metals comprise about 2/3 of the known elements
    - Properties of metals: most are shiny, ductile, malleable, conductive

C. CHEMICAL AND PHYSICAL CHANGE

- Chemical change changes what a molecule is made up of and results in a new substance with a new molecular structure. Examples of chemical change: rusting of iron, burning of wood, milk turning sour
- Physical change changes only the properties or appearance of the substance, but does not change what the substance is made up of. Examples of physical change: cutting wood or paper, breaking glass, freezing water

II. CLASSIFYING LIVING THINGS

Teachers: As the children study animal classifications, discuss: why do we classify? How does classification help us understand the natural world?

- Scientists have divided living things into five large groups called kingdoms, as follows:
    - Plant
    - Animal
    - Fungus (Mushrooms, yeast, mould, mildew)
    - Protist (algae, protozoans, amoeba, euglena)
    - Prokaryote (blue-green algae, bacteria)
- Each Kingdom is divided into smaller groupings as follows:
    - Kingdom
    - Phylum
    - Class
    - Order
    - Family
    - Genus
    - Species
    - Variety
- When classifying living things, scientists use special names made up of Latin words (or words made to sound like Latin words), which help scientists around the world understand each other and ensure that they are using the same names for the same living things
    - *Homo Sapiens*: the scientific name for the species to which human beings belong to (genus: *Homo*, species: *Sapiens*)
    - Taxonomists: biologists who specialise in classification
- Different classes of vertebrates and major characteristics: fish, amphibians, reptiles, birds, mammals (review from Year 4)

CELLS: STRUCTURES AND PROCESSES

- All living things are made up of cells
- Structure of cells (both plant and animal)
    - Cell membrane: selectively allows substances in and out
    - Nucleus: surrounded by nuclear membrane, contains genetic material, divides for reproduction
    - Cytoplasm contains organelles, small structure that carry out the chemical activities of the cell, including mitochondria (which produce the cell's energy) and vacuoles (which store food, water, or wastes)
- Plant cells, unlike animal cells, have cell walls and chloroplasts.
- Cells without nuclei: monerans (bacteria)
- Some organisms consist of only a single cell: for example, amoeba, protozoans, some algae.
- Cells are shaped differently in order to perform different functions.
- Organisation of cells into tissues, organs, and systems:
    - In complex organisms, groups of cells form tissues (for example: in animals, skin tissue or muscle tissue; in plants, the skin of an onion or the bark of a tree).
    - Tissues with similar functions form organs (for example: in some animals, the heart, stomach, or brain; in some plants, the root or flower).
    - In complex organisms, organs work together in a system (recall, for example, from earlier studies of the human body, the digestive, circulatory, and respiratory systems).

TAXONOMIES

Teachers: Introduce an example of how an animal is classified, in order for students to become familiar with the system of classification, not to memorise specific names. For example, a collie dog is classified as follows:

- Kingdom: Animalia

- Phylum: Chordata (Subphylum: Vertebrata)
- Class: Mammalia (mammal)
- Order: Carnivora (eats meat)
- Family: Canidae (a group with doglike characteristics)
- Genus: *Canis* (a coyote, wolf, or dog)
- Species: *Familiaris* (a domestic dog)
- Variety: Collie (a breed of dog)

IV. PLANT STRUCTURES AND PROCESSES

A. STRUCTURE: NON-VASCULAR AND VASCULAR PLANTS

- Non-vascular plants (for example: algae)
- Vascular plants
    - Vascular plants have tube-like structures that allow water and dissolved nutrients to move through the plant
    - Parts and functions of vascular plants: roots, stems and buds, leaves

B. PHOTOSYNTHESIS

- Photosynthesis is an important life process that occurs in plant cells, but not animal cells (photo = light; synthesis = putting together). Unlike animals, plants make their own food, through the process of photosynthesis.
- Role in photosynthesis of: energy from sunlight, chlorophyll, carbon dioxide and water, xylem and phloem, stomata, oxygen, sugar (glucose)

V. LIFE CYCLES AND REPRODUCTION

A. THE LIFE CYCLE AND REPRODUCTION

- Life cycle: development of an organism from birth to growth, reproduction, death
    - Example: Growth stages of a human: embryo, foetus, newborn, infancy, childhood, adolescence, adulthood, old age
- All living things reproduce themselves. Reproduction may be asexual or sexual.
    - Examples of asexual reproduction: fission (splitting) of bacteria, spores from mildews, moulds, and mushrooms, budding of yeast cells, regeneration and cloning
    - Sexual reproduction requires the joining of special male and female cells, called gametes, to form a fertilised egg.

B. SEXUAL REPRODUCTION IN ANIMALS

- Reproductive organs: testes (sperm) and ovaries (eggs)
- External fertilisation: spawning
- Internal fertilisation: birds, mammals
- Development of the embryo: egg, zygote, embryo, growth in uterus, foetus, newborn

C. REPRODUCTION IN PLANTS

- Asexual reproduction
    - Example of algae
    - Vegetative reproduction: runners (for example: strawberries) and bulbs (for example: onions), growing plants from eyes, buds, leaves, roots, and stems
- Sexual reproduction by spore bearing plants (for example: mosses and ferns)
- Sexual reproduction of non-flowering seed plants: conifers (for example: pines), male and female cones, wind pollination
- Sexual reproduction of flowering plants (for example: peas)
    - Functions of sepals and petals, stamen (male), anther, pistil (female), ovary (or ovule)

- Process of seed and fruit production: pollen, wind, insect and bird pollination, fertilisation, growth of ovary, mature fruit
- Seed germination and plant growth: seed coat, embryo and endosperm, germination (sprouting of new plant), monocots (for example: corn) and dicots (for example: beans)

VI. THE HUMAN BODY: HORMONES AND REPRODUCTION

A. HUMAN GROWTH STAGES

- Puberty
  - Glands and hormones (see below, Endocrine System), growth spurt, hair growth, breasts, voice change

B. THE REPRODUCTIVE SYSTEM

- Females: ovaries, fallopian tubes, uterus, vagina, menstruation
- Males: testes, scrotum, penis, urethra, semen
- Sexual reproduction: intercourse, fertilisation, zygote, implantation of zygote in the uterus, pregnancy, embryo, foetus, newborn

C THE ENDOCRINE SYSTEM

- The human body has two types of glands: duct glands (such as the salivary glands), and ductless glands, also known as the endocrine glands.
- Endocrine glands secrete (give off) chemicals called hormones. Different hormones control different body processes.
- Pituitary gland: located at the bottom of the brain; secretes hormones that control other glands, and hormones that regulate growth
- Thyroid gland: located below the voice box; secretes a hormone that controls the rate at which the body burns and uses food
- Pancreas: both a duct and a ductless gland; secretes a hormone called insulin that regulates how the body uses and stores sugar; when the pancreas does not produce enough insulin, a person has a sickness called diabetes (which can be controlled).
- Adrenal glands: secrete a hormone called adrenaline, especially when a person is frightened or angry, causing rapid heartbeat and breathing.

VII. SCIENCE BIOGRAPHIES

- Tim Burners-Lee (inventor of the World Wide Web)
- Humphry Davy (chemist and inventor; discovered alkaline earth metals, chlorine and iodine)
- Dorothy Hodgkin (British chemist, confirmed the structures of penicillin and vitamin B_{12})
- Carl Linnaeus (botanist and 'Father of taxonomy' who standardised the classification system)

