The William Amory

Primary School & Nursery

Where each child is encouraged to
explore and expand their potential.

Curriculum

KSI & KSII

September 2020

Curriculum

KS1 & KS11

The William Amory Curriculum
EYFS, KSI & KSII

Curriculum Intent

The William Amory have adopted The William Amory Curriculum (WAC) for Years One to Six.

At The William Amory we believe that children of all ages need to:

1. encounter,
2. learn,
3. rehearse,
4. apply, and
5. become experienced…

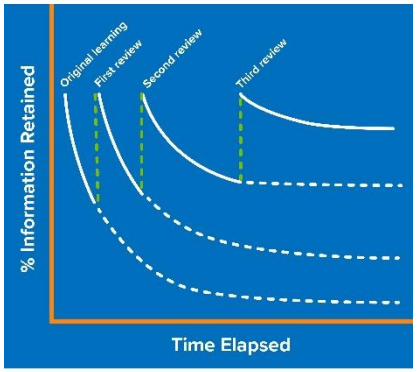
…in the basic skills or fundamental elements of an area of learning before they can exceed their expectations and reach beyond their potential.

Additional to this are two further elements.

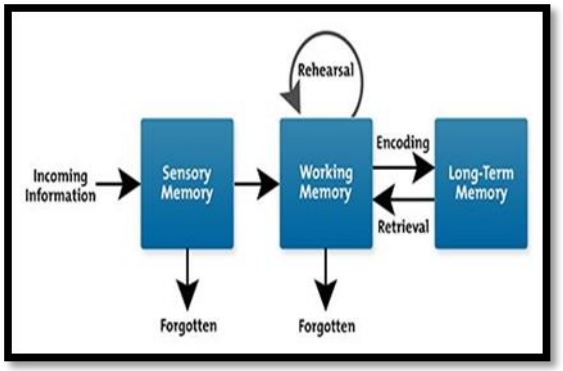
- Firstly the need to revisit learning. Strategies such as the school's WAPSHai or Number Sense maths illustrates the meaning here – we revisit core skills over a period of time to slowly embed those skills. The effectiveness of repeated drills in the core skills are clear in all fields such as sports and music. To repeat and to revisit embed learning.
- Secondly, the concept of failure as learning tool. Here Thomas Edison summarised this idea most effectively in his oft quoted (but not sourced) statement that he had not failed, just, "found a thousand ways to not make a lightbulb. I only needed to find one way to make it work." Terms such as trial and error and learning from our mistakes are core to much of learning pedagogy. We are not frightened to allow children to make mistakes and we aim to teach them that it is alright to make mistakes.

This rationale or intent came from work done by the staff in our curriculum development of 2014. This stemmed extensive collaboration taking experience from the many combined years of teaching and detailed examination of strategies that have been applied over the years and discussion about their efficacy.

Although drawn up by the school, our model of learning very closely emulates the established Cognitive Load Theory (John Sweller. Image courtesy of Mindtools.com) and The Forgetting Curve (Hermann Ebbinghaus. Image courtesy of Mindtools.com)



Ebbinghaus



Sweller

Curriculum Implementation for Key Stage I and Key Stage II

For that reason the WAC consists of two main elements – Core skills and Creative Application.

Stimulating a child will excite her.
Giving a child the skills she needs will develop her.
But only when a child is given the skills she needs and the inspiration to use them will she reach her potential and beyond.

Core Skills

Core skills are the fundamental elements that make up an area of learning. For example, in Sport it may be catching a high ball or floating in the water. In art it may be mixing paints for colours and densities or holding a brush correctly. In Computing it may be about keyboard skills. Tables and number bonds; reading strategies and sentence structure may be examples from maths and English. Core skills would form the majority of teaching, though this may not be reflected in time, ie. It may take longer to put a skill into practice than it takes to learn it. But the majority of teaching would focus on the skill.

Creative Application

Creative application is where there is a clear and obvious context within which to apply the skills that have been taught.
The term creative is used in order to recognise that the stimulus for applying skills plays an important part on the final outcome of a child's work. Stimuli that are interesting or motivating are far more likely to drive the children to create work beyond their expectations and will inspire them to stretch themselves. Nominally, application would account for 40% of teaching time. For example – in a PE lesson up to 60% of the time may be spent on skills development (catching a high ball, catching a low ball) and 40% spent putting those skills into practice.
Life Skills
We believe that the children of The William Amory will be best placed with life skills. For this reason, part of each child's learning will include developing a sense of respect, independence and similar.

Thinking Skills

We believe that divergent, lateral thinking; thinking outside the box is essential in the modern world. For this reason part of our curriculum includes teaching the children ways of thinking and extending their ability to reason, argue and evaluate amongst other skills. Blooms taxonomy and other strategies are employed to extend this.

Curriculum Structure

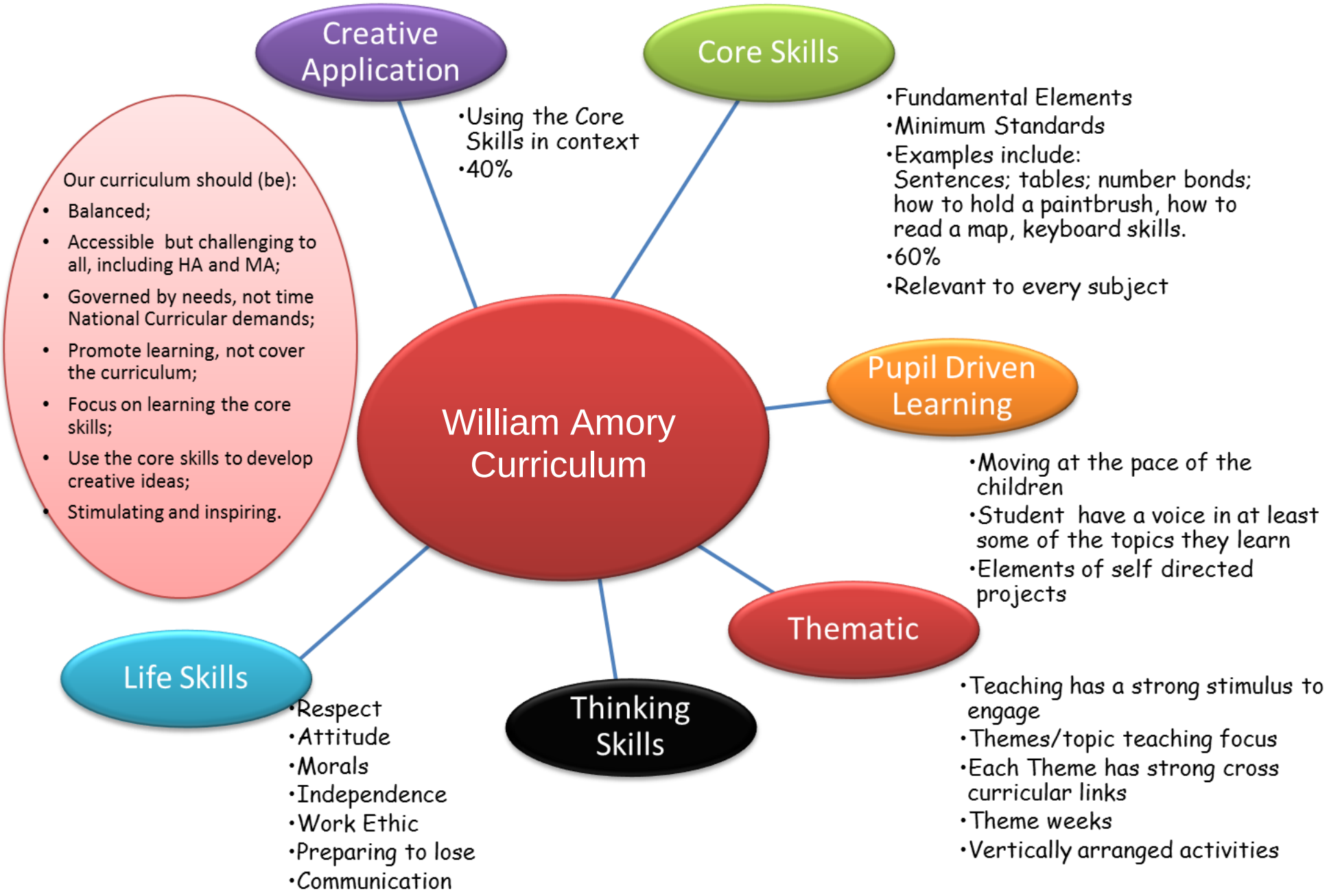
The demands of the Nantional Curriculum and the time available in the school timetable mean that the school does not provide discrete timetabled lessons as may well be seen in secondary schools. Here topics aim to cover areas of learning such as English, history, geography, art and design and others in a more holistic approach. Subjects such as art and design may be taught in a sold block of time (typically x number of afternoons for x number of terms) as more of a creative application. The table below illustrates the school's intent on teaching and teaching timescales.

English, maths, PE are allocated definite timetabled lessons but it should be noted that these are flexible and as such, lessons can be maneuvered over the weekly timetable for a teacher to best utilize learning time.

	KSI	KSII
English	6 hrs total Incl reading, core and creative	6 hrs total Incl reading, core and creative
Mathematics	5 hours Expectation of 20% Ma1	5 hours Expectation of 20% Ma1
Science	1½ hours	1½ hours
Creative Application Incl collective Worship	9 ¾ hour	10 ½ hour
Spanish	½ hour	40 mins
PE	1 hour	1½ hour
RE	½ hour	½ hour

Curriculum Configuration

As detailed above, the William Amory Curriculum for Key Stages I and II (often referred to as our syllabus in order to differentiate between the National Curriculum and our provided learning) is best understood by following the diagram below.

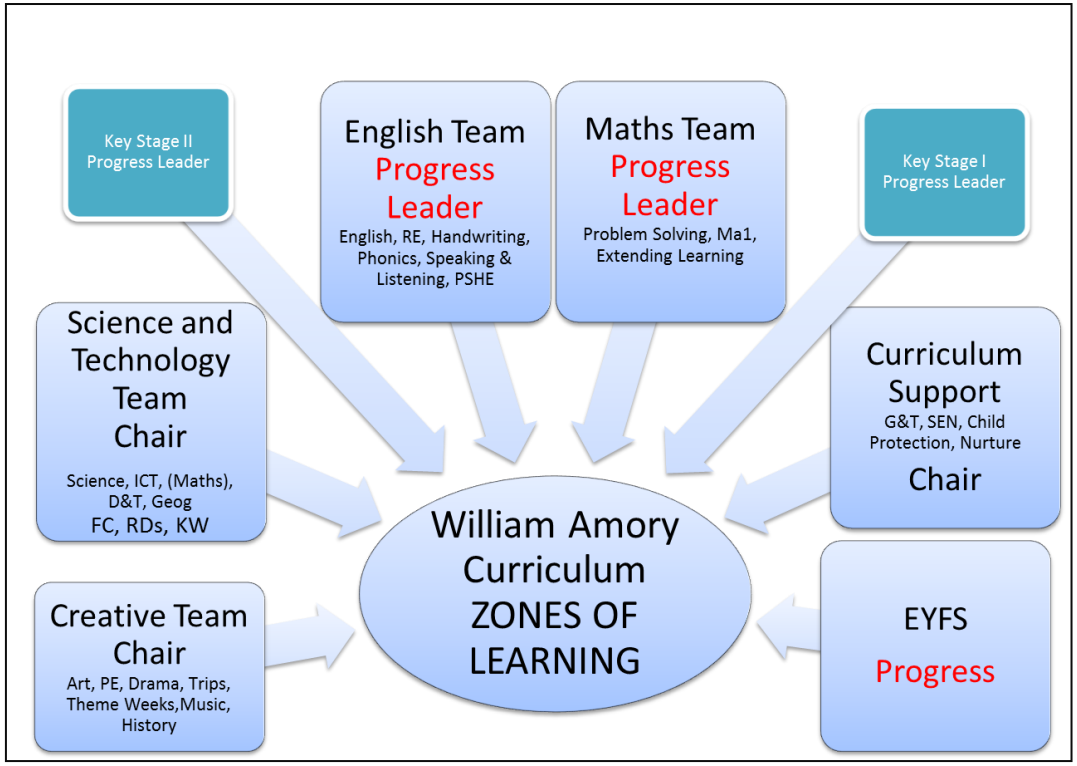

William Amory Curriculum
Creative Application
•Using the Core Skills in context
•40%
Core Skills
•Fundamental Elements
•Minimum Standards
•Examples include: Sentences; tables; number bonds; how to hold a paintbrush, how to read a map, keyboard skills.
•60%
•Relevant to every subject
Our curriculum should (be):
• Balanced;
• Accessible but challenging to all, including HA and MA;
• Governed by needs, not time National Curricular demands;
• Promote learning, not cover the curriculum;
• Focus on learning the core skills;
• Use the core skills to develop creative ideas;
• Stimulating and inspiring.
Pupil Driven Learning
•Moving at the pace of the children
•Student have a voice in at least some of the topics they learn
•Elements of self directed projects
Thematic
•Teaching has a strong stimulus to engage
•Themes/topic teaching focus
•Each Theme has strong cross curricular links
•Theme weeks
•Vertically arranged activities
Thinking Skills
Life Skills
•Respect
•Attitude
•Morals
•Independence
•Work Ethic
•Preparing to lose
•Communication

Curriculum Impact

The impact of the curriculum is monitored though management of outcomes: scrutiny of planning and books; pupil voice; assessment data: lesson observations and learning walks and in discussions with teaching staff, pupils and parents.

Through robust monitoring, coupled with regular pupil progress meetings, we aim to ensure that children make good progress. For individuals where this has not happened, actions are taken to monitor and intervene to ensure that every child has the support at their disposal to make progress in subsequent terms.

Organisation and planning



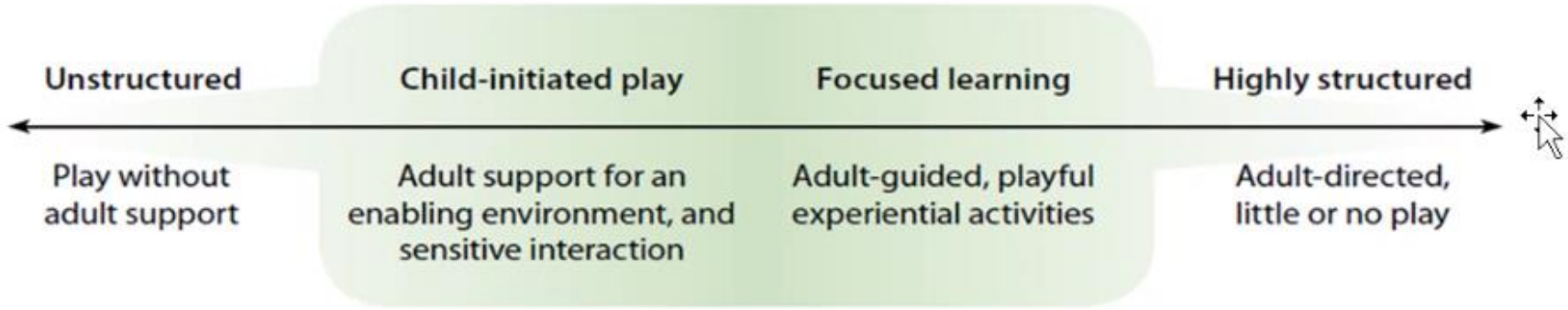
In order to ensure that the National Curriculum is covered and that skills, knowledge and understanding are progressive and challenging, we have adopted a subject leadership organisation that focuses on Zones of Learning as described in the diagram.

Such a structure ensures accountability in English and maths (with Progress Leaders having an overview of attainment, progress and teaching) whilst allowing a broader range of experiences to be brought to each subject area. The same is true for each Key Stage.

Each team will meet regularly and as required to ensure that teaching is both stimulating, challenging and appropriate, as well as covering the National Curriculum.
Progress leaders will be responsible for monitoring of planning, books and teaching and will conduct pupil interviews and feed back to staff and the SLT. Progress Leaders replacing Subject Leaders ensure the emphasis is on attainment and progress when examining the impact of any procedures, ideas or interventions.

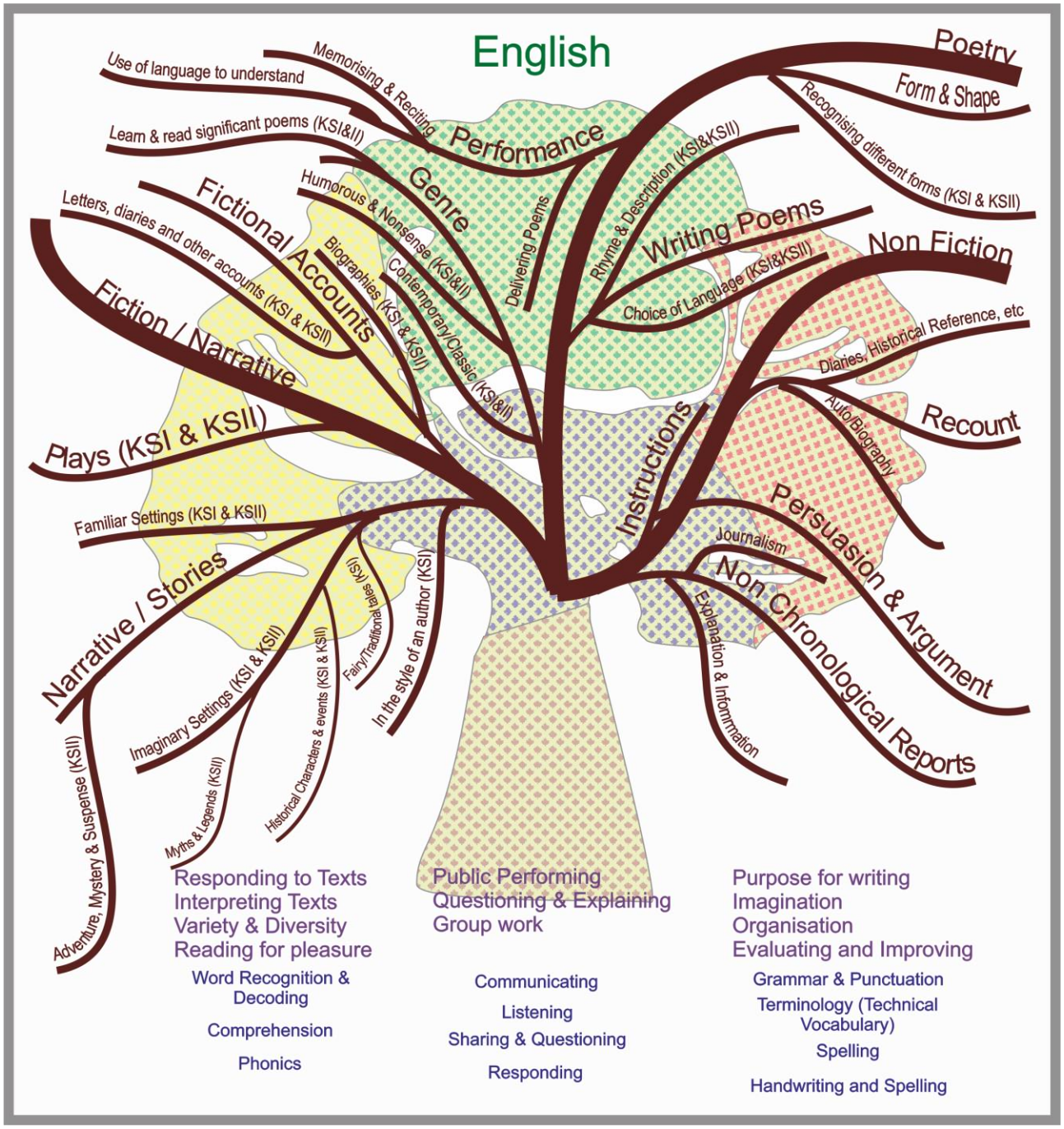
Curriculum Intent & Implementation for EYFS

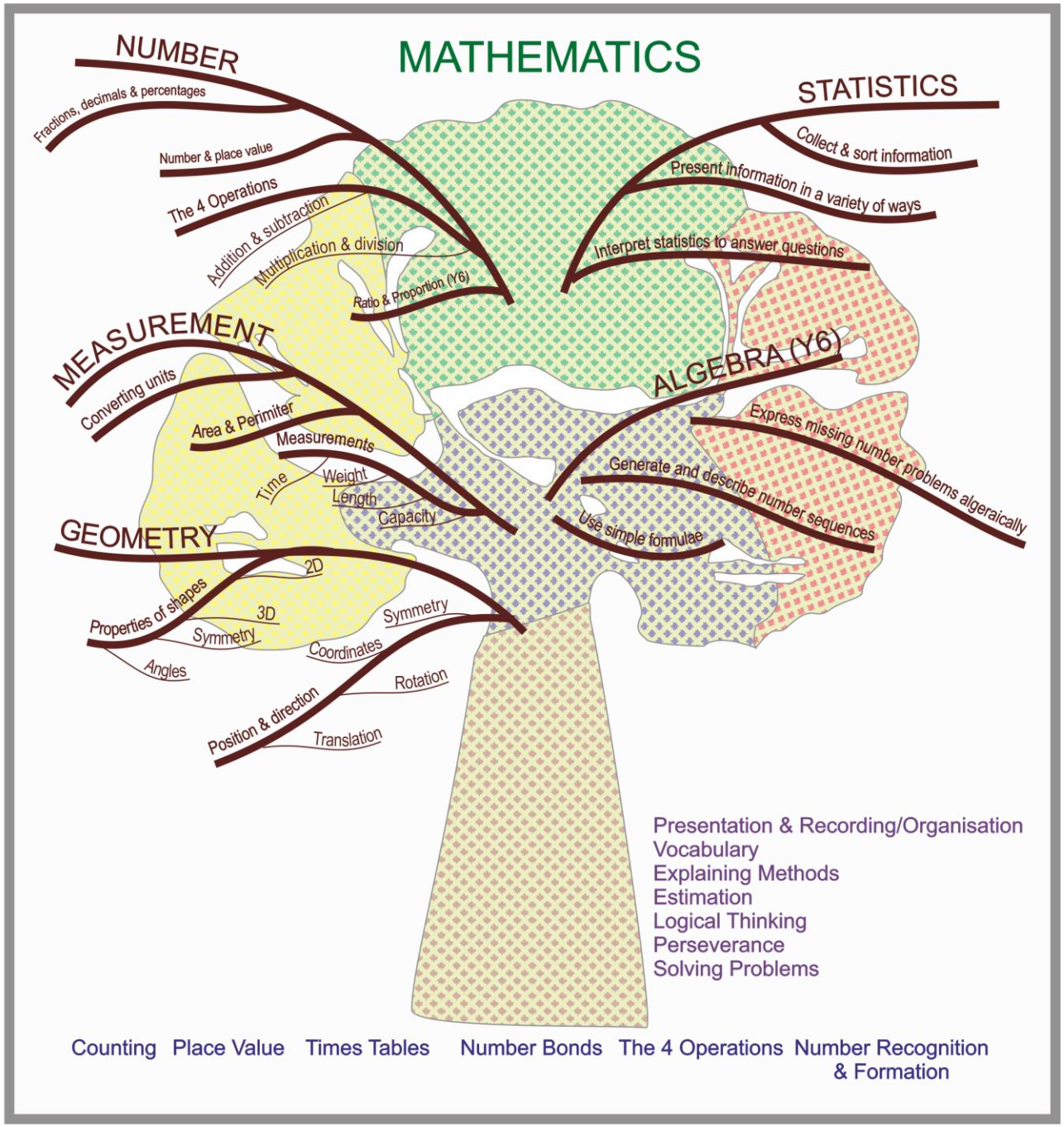
In addition to the pedagogy detailed above, the curriculum in our EYFS looks at taking advantage of the unique opportunities afforded to it. We follow the models above but also look to the role of the adult when children are learning. Teachers applying a given strategy to accommodate the different ways that individual children may learn in any moment in their journey. We aim to provide a balance of child initiated play and focused learning through a well-planned learning environment both indoors and outdoors.

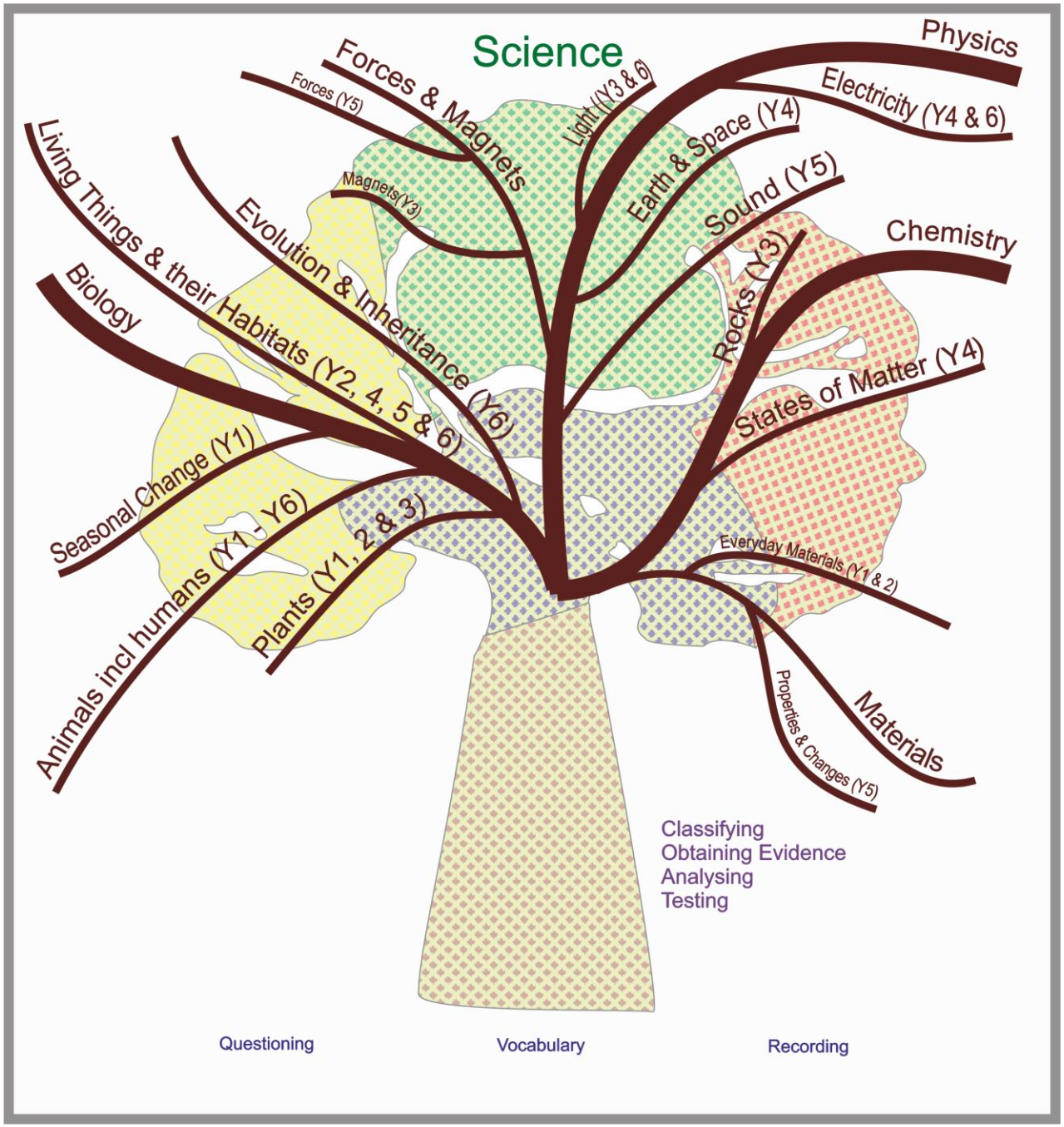


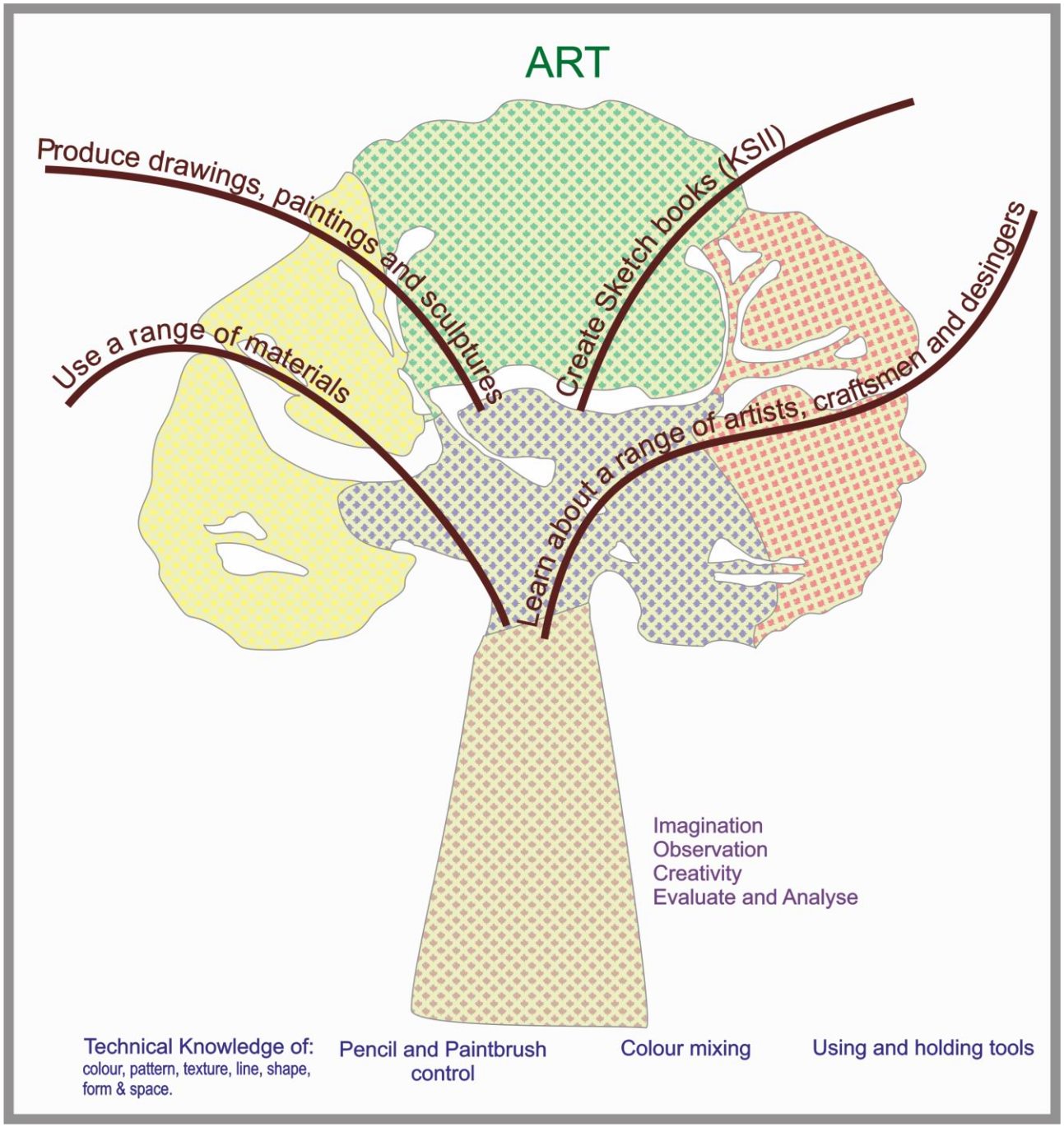
At The William Amory we aim to focus on key features of effective practice, both in KSI /KSII and EYFS:

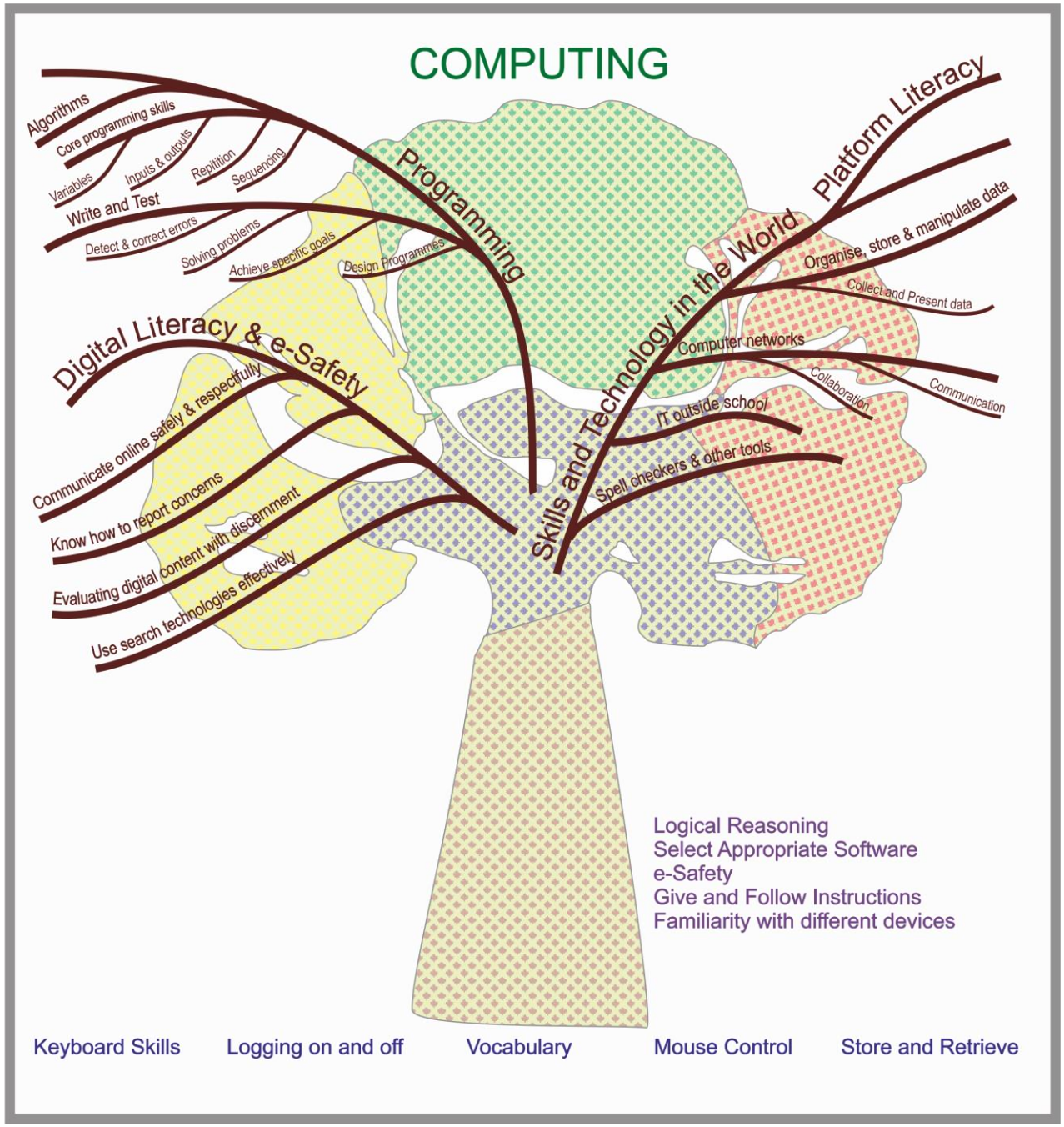
- To do our best for every child
- To provide high quality care
- To devise a curriculum clear in what we want the children to learn
- To adhere to a pedagogy that effectively mixes different approaches including play, modelling, observation as well as guided and directed learning
- Assess to ensure no child is being left behind
- Partner with parents and other providers .
- Promote strong self regulation and executive function


English
Use of language to understand
Memorising & Reciting
Learn & read significant poems (KSI&II)
Performance
Genre
Humorous & Nonsense (KSI&II)
Fictional Accounts
Letters, diaries and other accounts (KSI & KSII)
Biographies (KSI & KSII)
Contemporary/Classic (KSI&II)
Fiction / Narrative
Plays (KSI & KSII)
Familiar Settings (KSI & KSII)
Narrative / Stories
Imaginary Settings (KSI & KSII)
Myths & Legends (KSII)
Historical Characters & events (KSI & KSII)
Fairy/Traditional tales (KSI)
In the style of an author (KSI)
Adventure, Mystery & Suspense (KSII)
Delivering Poems
Rhyme & Description (KSI&KSII)
Writing Poems
Choice of Language (KSI&KSII)
Poetry
Form & Shape
Recognising different forms (KSI & KSII)
Non Fiction
Diaries, Historical Reference, etc
Auto/Biography
Recount
Instructions
Journalism
Persuasion & Argument
Explanation & Information
Non Chronological Reports
Responding to Texts
Interpreting Texts
Variety & Diversity
Reading for pleasure
Word Recognition & Decoding
Comprehension
Phonics
Public Performing
Questioning & Explaining
Group work
Communicating
Listening
Sharing & Questioning
Responding
Purpose for writing
Imagination
Organisation
Evaluating and Improving
Grammar & Punctuation
Terminology (Technical Vocabulary)
Spelling
Handwriting and Spelling

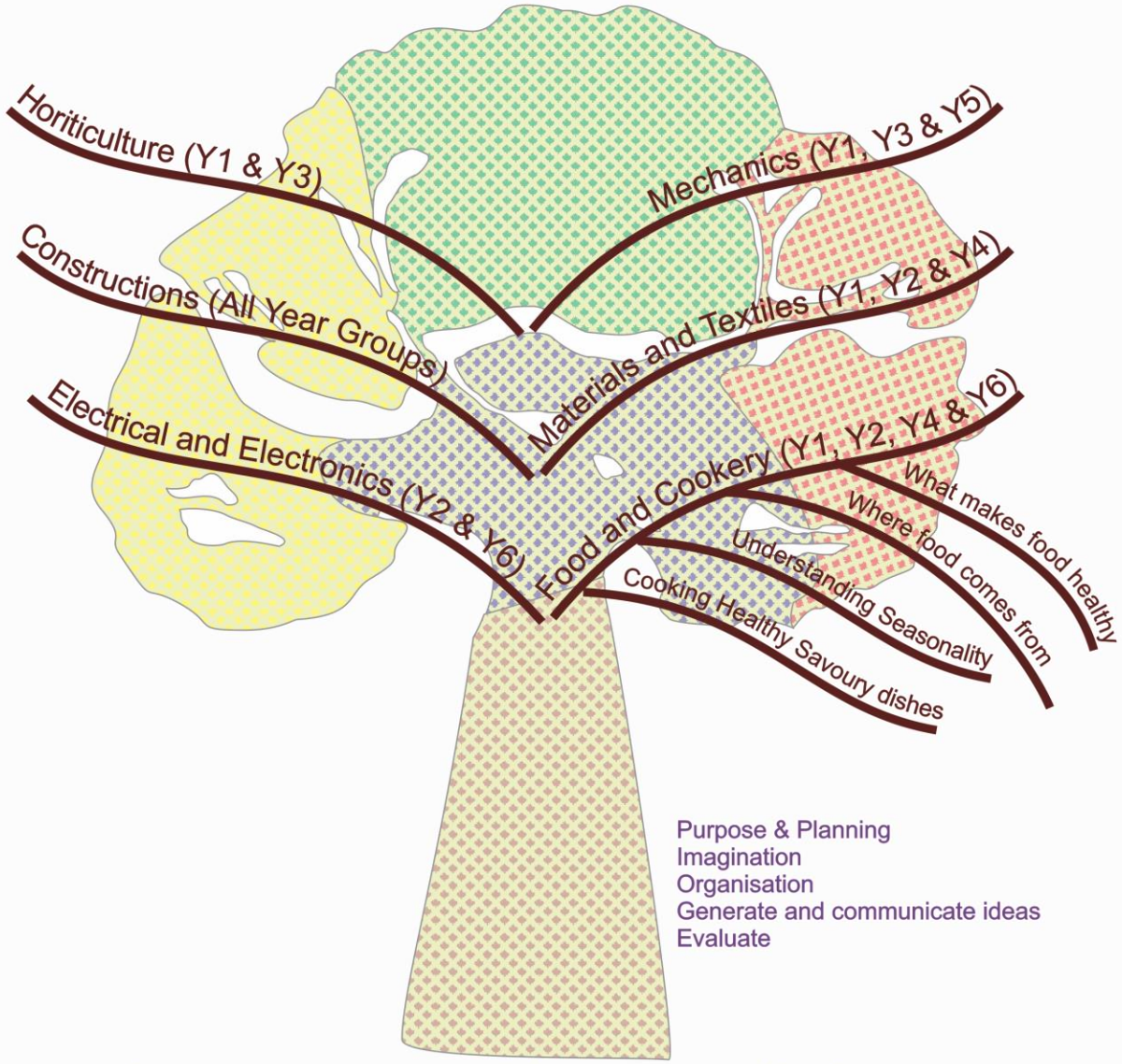

MATHEMATICS
NUMBER
Fractions, decimals & percentages
Number & place value
The 4 Operations
Addition & subtraction
Multiplication & division
Ratio & Proportion (Y6)
STATISTICS
Collect & sort information
Present information in a variety of ways
Interpret statistics to answer questions
MEASUREMENT
Converting units
Area & Perimiter
Measurements
Time
Weight
Length
Capacity
ALGEBRA (Y6)
Express missing number problems algeraically
Generate and describe number sequences
Use simple formulae
GEOMETRY
2D
Properties of shapes
3D
Symmetry
Angles
Symmetry
Coordinates
Rotation
Position & direction
Translation
Presentation & Recording/Organisation
Vocabulary
Explaining Methods
Estimation
Logical Thinking
Perseverance
Solving Problems
Counting
Place Value
Times Tables
Number Bonds
The 4 Operations
Number Recognition & Formation

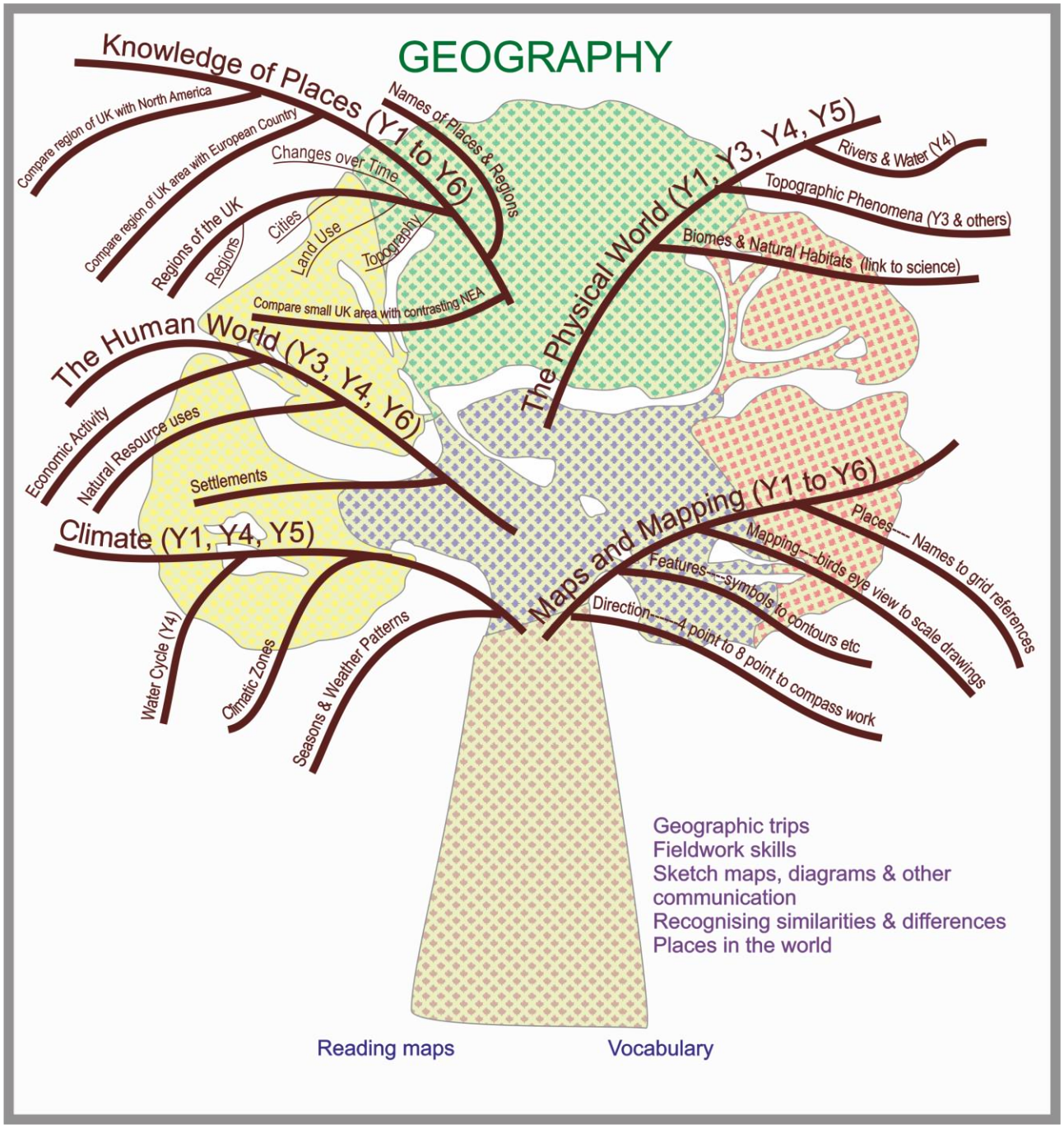

Science
Physics
Forces & Magnets
Forces (Y5)
Light (Y3 & 6)
Electricity (Y4 & 6)
Earth & Space (Y4)
Magnets(Y3)
Sound (Y5)
Chemistry
Living Things & their Habitats (Y2, 4, 5 & 6)
Evolution & Inheritance (Y6)
Rocks (Y3)
Biology
States of Matter (Y4)
Seasonal Change (Y1)
Everyday Materials (Y1 & 2)
Animals incl humans (Y1 - Y6)
Plants (Y1, 2 & 3)
Properties & Changes (Y5)
Materials
Classifying
Obtaining Evidence
Analysing
Testing
Questioning
Vocabulary
Recording

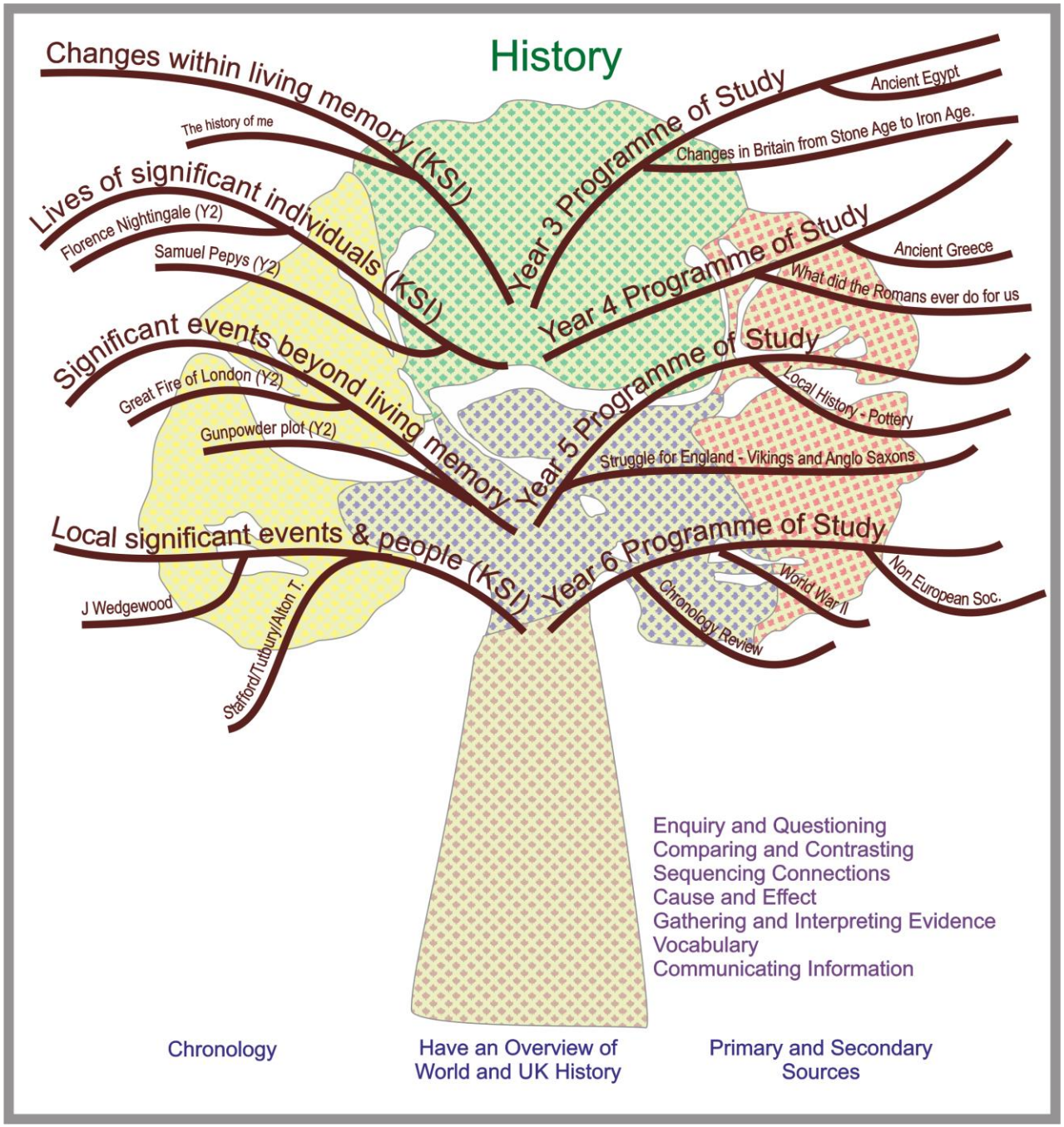

ART
Produce drawings, paintings and sculptures
Create Sketch books (KSII)
Use a range of materials
Learn about a range of artists, craftsmen and desingers
Imagination
Observation
Creativity
Evaluate and Analyse
Technical Knowledge of:
colour, pattern, texture, line, shape, form & space.
Pencil and Paintbrush control
Colour mixing
Using and holding tools

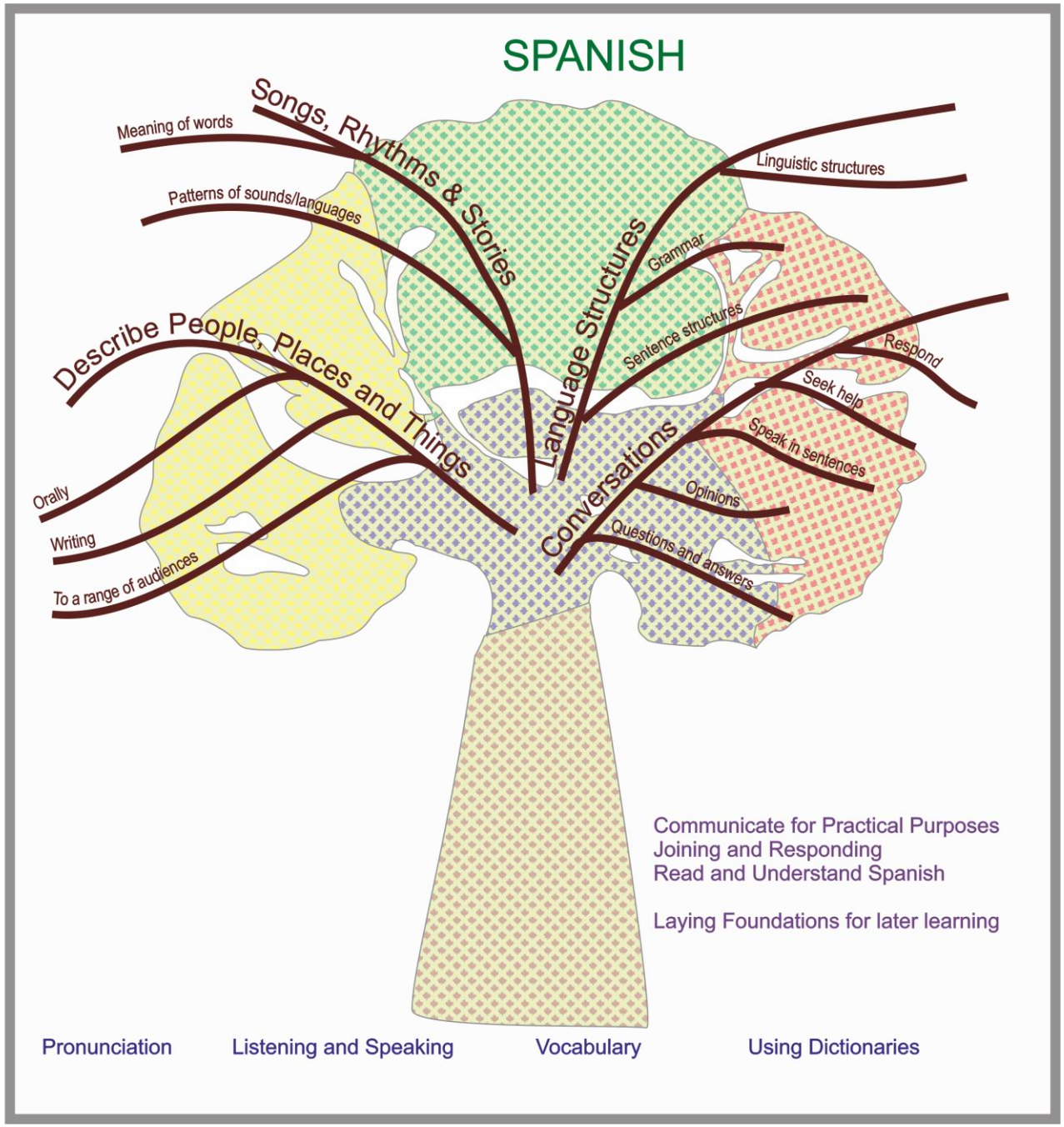

COMPUTING
Programming
Algorithms
Core programming skills
Variables
Inputs & outputs
Repitition
Sequencing
Write and Test
Detect & correct errors
Solving problems
Achieve specific goals
Design Programmes
Digital Literacy & e-Safety
Communicate online safely & respectfully
Know how to report concerns
Evaluating digital content with discernment
Use search technologies effectively
Skills and Technology in the World
Platform Literacy
Organise, store & manipulate data
Collect and Present data
Computer networks
Collaboration
Communication
IT outside school
Spell checkers & other tools
Logical Reasoning
Select Appropriate Software
e-Safety
Give and Follow Instructions
Familiarity with different devices
Keyboard Skills
Logging on and off
Vocabulary
Mouse Control
Store and Retrieve

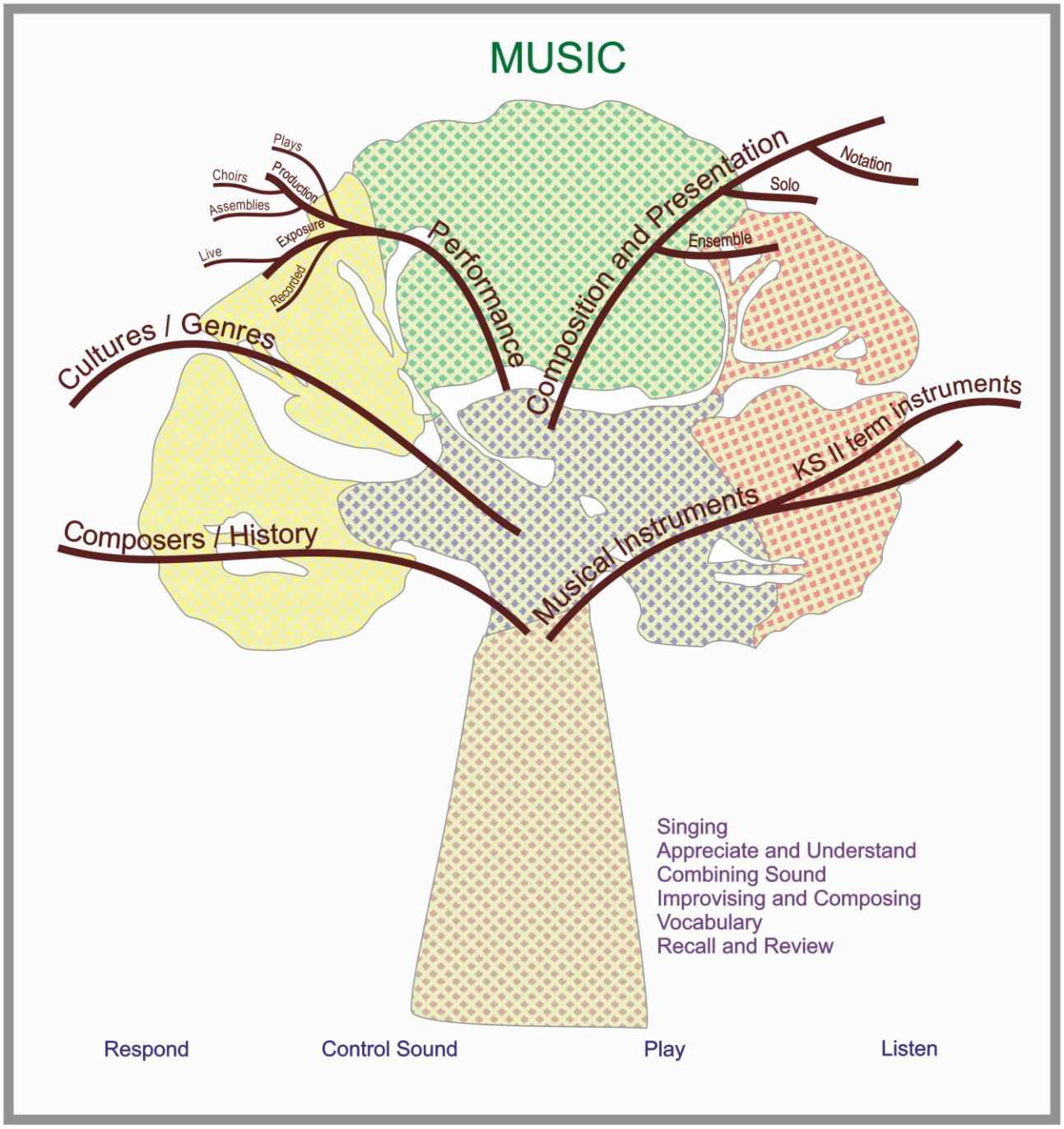
Design and Technology

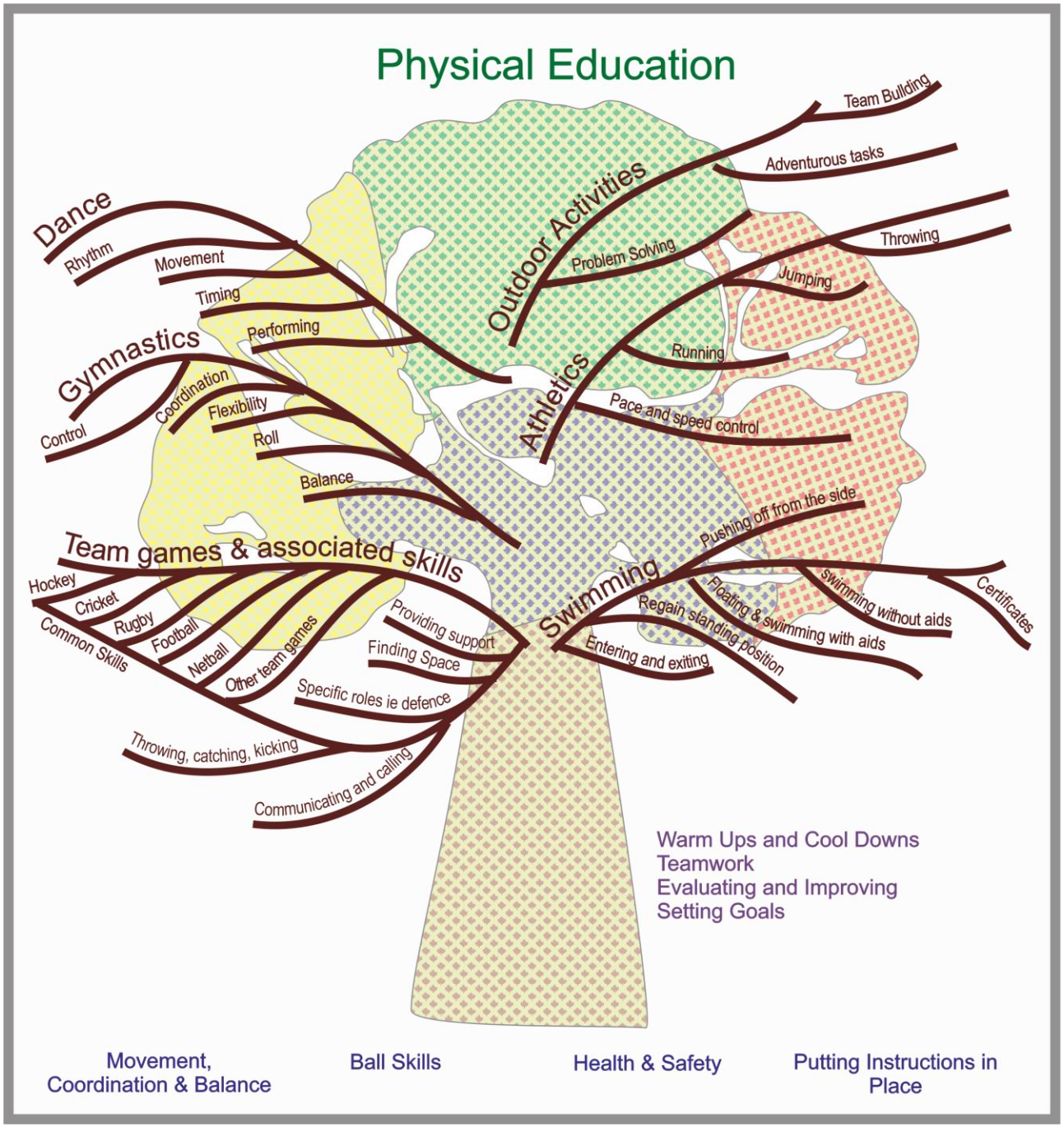



GEOGRAPHY
Knowledge of Places (Y1 to Y6)
Compare region of UK with North America
Compare region of UK area with European Country
Regions of the UK
Regions
Cities
Changes over Time
Land Use
Topography
Names of Places & Regions
Compare small UK area with contrasting NEA
The Human World (Y3, Y4, Y6)
Economic Activity
Natural Resource uses
Settlements
Climate (Y1, Y4, Y5)
Water Cycle (Y4)
Climatic Zones
Seasons & Weather Patterns
The Physical World (Y1, Y3, Y4, Y5)
Rivers & Water (Y4)
Topographic Phenomena (Y3 & others)
Biomes & Natural Habitats (link to science)
Maps and Mapping (Y1 to Y6)
Places---- Names to grid references
Mapping---birds eye view to scale drawings
Features---symbols to contours etc
Direction---A point to 8 point to compass work
Geographic trips
Fieldwork skills
Sketch maps, diagrams & other communication
Recognising similarities & differences
Places in the world
Reading maps
Vocabulary

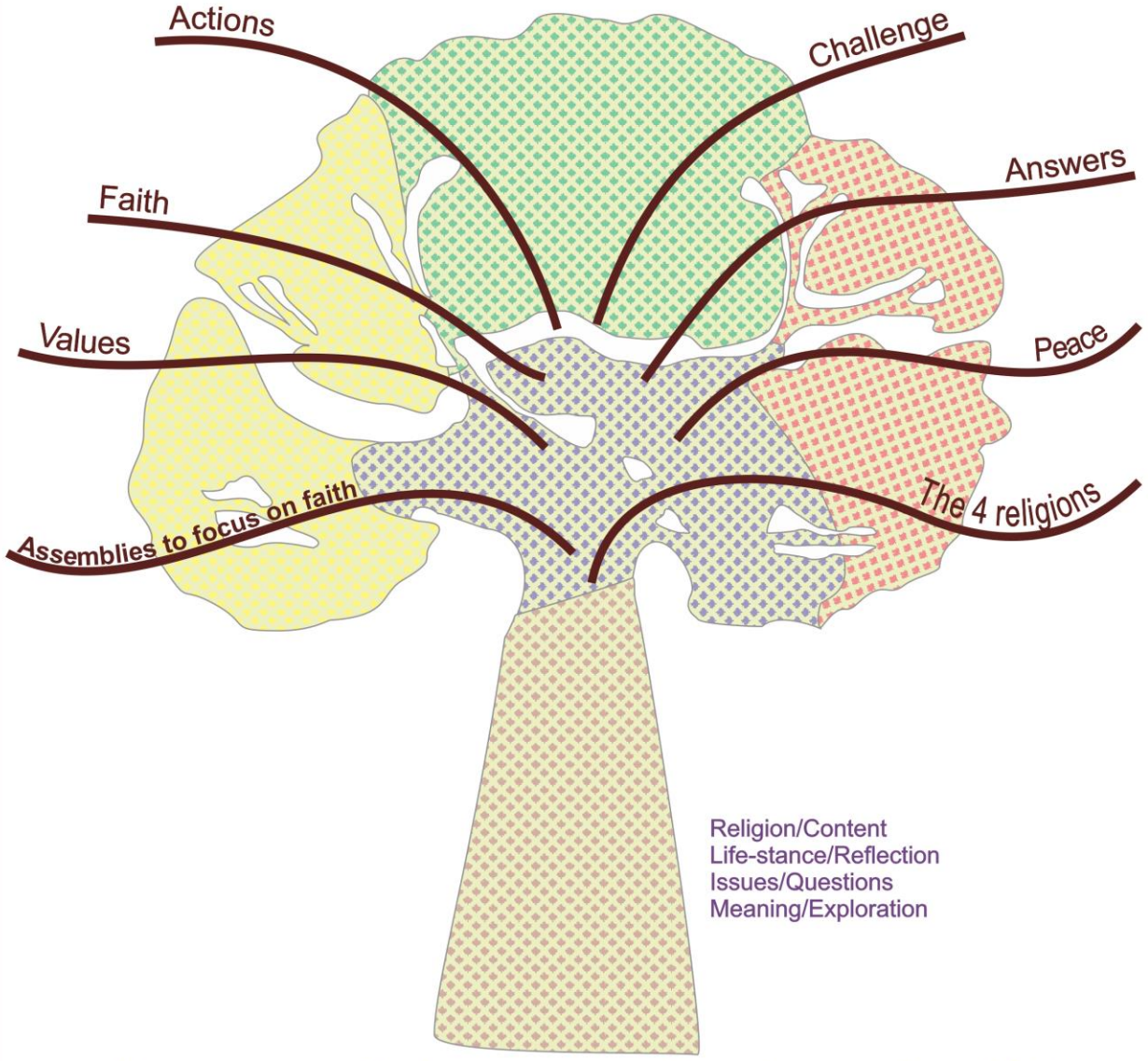

History
Changes within living memory (KSI)
The history of me
Lives of significant individuals (KSI)
Florence Nightingale (Y2)
Samuel Pepys (Y2)
Significant events beyond living memory
Great Fire of London (Y2)
Gunpowder plot (Y2)
Local significant events & people (KSI)
J Wedgewood
Stafford/Tutbury/Alton T.
Year 3 Programme of Study
Ancient Egypt
Changes in Britain from Stone Age to Iron Age.
Year 4 Programme of Study
Ancient Greece
What did the Romans ever do for us
Year 5 Programme of Study
Local History - Pottery
Struggle for England - Vikings and Anglo Saxons
Year 6 Programme of Study
Non European Soc.
World War II
Chronology Review
Enquiry and Questioning
Comparing and Contrasting
Sequencing Connections
Cause and Effect
Gathering and Interpreting Evidence
Vocabulary
Communicating Information
Chronology
Have an Overview of World and UK History
Primary and Secondary Sources

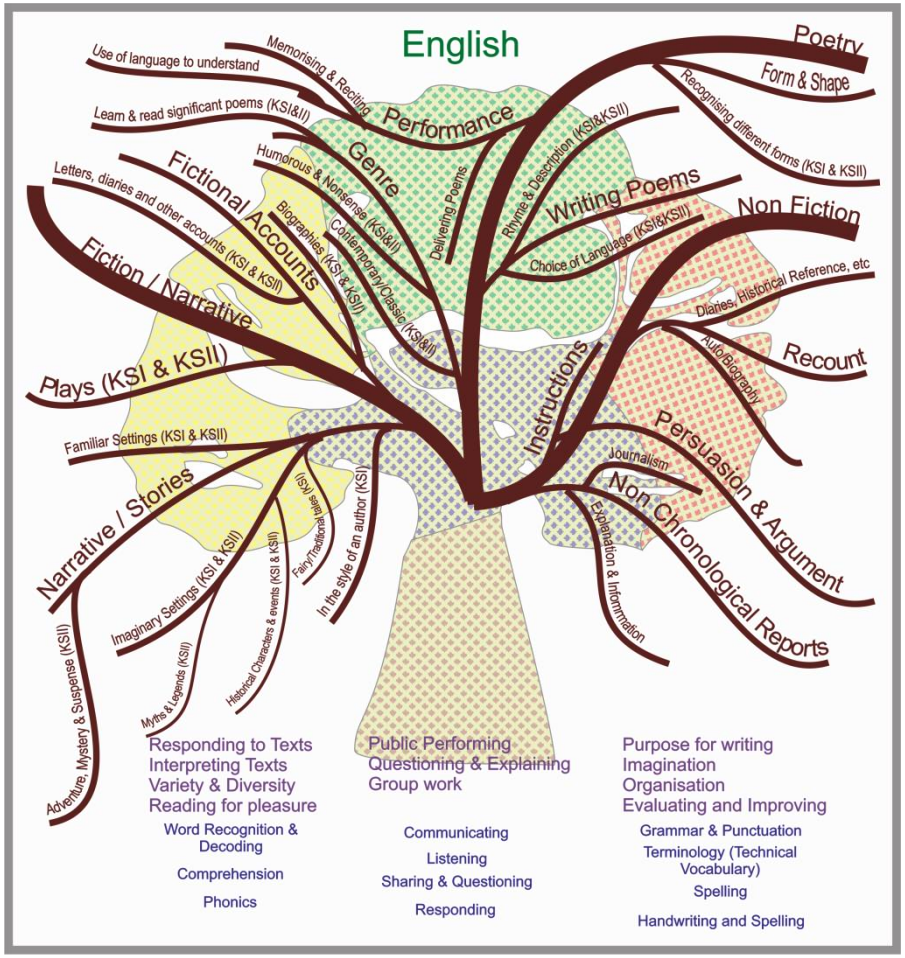

SPANISH
Songs, Rhythms & Stories
Meaning of words
Patterns of sounds/languages
Describe People, Places and Things
Orally
Writing
To a range of audiences
Language Structures
Grammar
Linguistic structures
Sentence structures
Conversations
Respond
Seek help
Speak in sentences
Opinions
Questions and answers
Communicate for Practical Purposes
Joining and Responding
Read and Understand Spanish
Laying Foundations for later learning
Pronunciation
Listening and Speaking
Vocabulary
Using Dictionaries


MUSIC
Plays
Choirs
Production
Assemblies
Exposure
Live
Recorded
Performance
Composition and Presentation
Notation
Solo
Ensemble
Cultures / Genres
Composers / History
Musical Instruments
KS II term instruments
Singing
Appreciate and Understand
Combining Sound
Improvising and Composing
Vocabulary
Recall and Review
Respond
Control Sound
Play
Listen


Physical Education
Dance
Rhythm
Movement
Timing
Performing
Gymnastics
Control
Coordination
Flexibility
Roll
Balance
Team games & associated skills
Hockey
Cricket
Rugby
Football
Netball
Other team games
Common Skills
Providing support
Finding Space
Specific roles ie defence
Throwing, catching, kicking
Communicating and calling
Outdoor Activities
Team Building
Adventurous tasks
Problem Solving
Athletics
Throwing
Jumping
Running
Pace and speed control
Swimming
Pushing off from the side
Certificates
swimming without aids
Floating & swimming with aids
Regain standing position
Entering and exiting
Warm Ups and Cool Downs
Teamwork
Evaluating and Improving
Setting Goals
Movement, Coordination & Balance
Ball Skills
Health & Safety
Putting Instructions in Place

RELIGIOUS EDUCATION





ENGLISH

Speaking and Listening is made up of the following areas:

ROOT SKILLS:

- Communicating
- Listening
- Sharing and Questioning
- Responding

CURRICULUM STEMS

- Public performing
- Questioning and explaining
- Group work

BRANCHES OF LEARNING

- Fiction/Narrative
- Non Fiction
- Poetry

Children will be encounter learning in speaking and listening through a balance of discrete lessons as well as through incidental learning in other subjects.

ROOT SKILLS – SPEAKING AND LISTENING

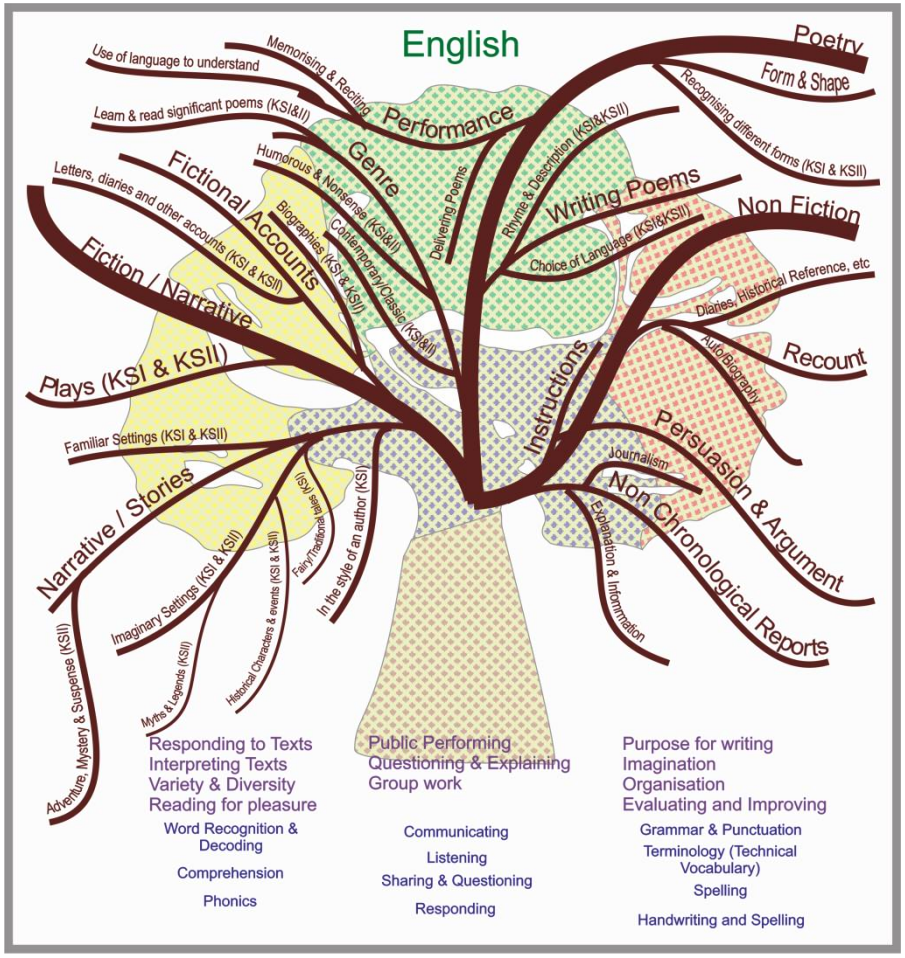
Summary of Root Skills for Key Stages I& II

Skills
• Listen and respond appropriately to adults and their peers • Ask relevant questions to extend their understanding and knowledge • Use relevant strategies to build their vocabulary

CURRICULUM STEMS – ORGANISATION, EVALUATING AND IMPROVING

SUMMARY OF CURRICULUM STEM SKILLS FOR KEY STAGES I & II

Skills
• Articulate and justify answers, arguments and opinions • Give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings • Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments • Use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas • Speak audibly and fluently with an increasing command of standard english • Participate in discussions, presentations, performances, role play, improvisations and debates • Gain, maintain and monitor the interest of the listener(s) • Consider and evaluate different viewpoints, attending to and building on the contributions of others • Select and use appropriate registers for effective communication.



ENGLISH

Reading is made up of the following areas:

ROOT SKILLS:

- Word recognition & decoding
- Comprehension
- Phonics

CURRICULUM STEMS

- Responding to texts
- Interpreting texts
- Variety and diversity
- Reading for pleasure

BRANCHES OF LEARNING

- Fiction/Narrative
- Non Fiction
- Poetry

Children will be taught reading through discrete lessons in reading skills, comprehension and phonics.
In addition, learning will also come through incidental learning in other subjects.

ROOT SKILLS – READING

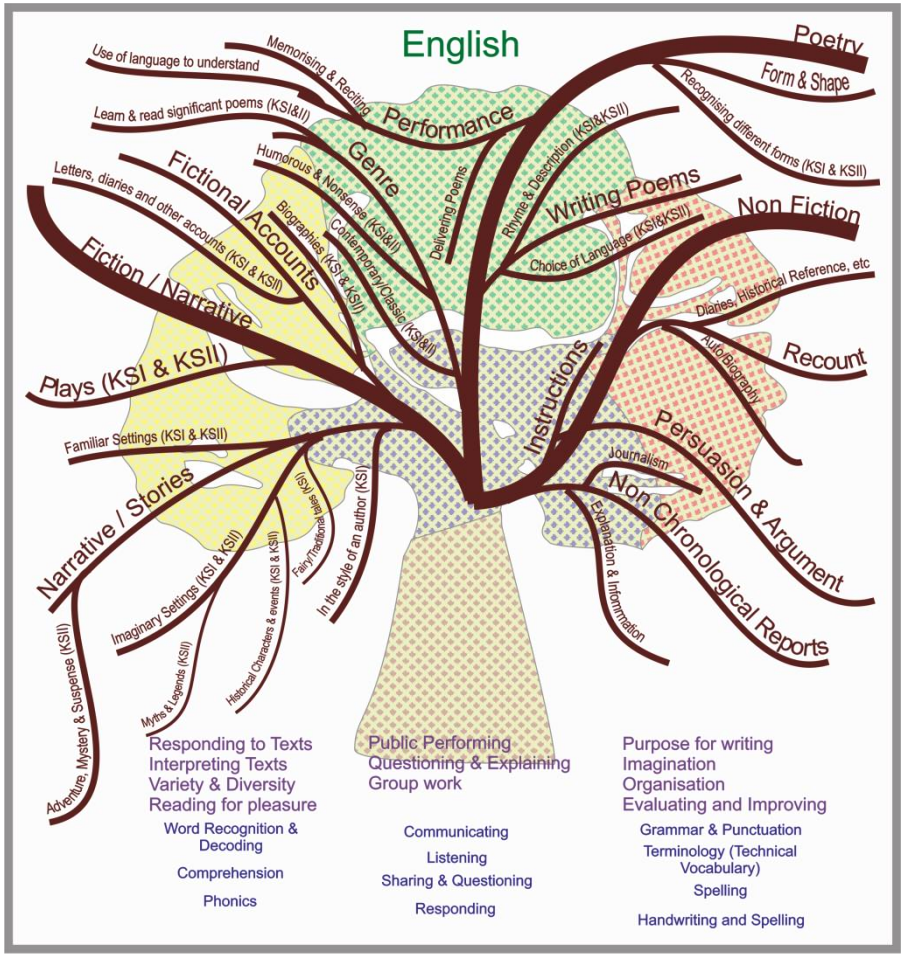
Summary of Root Skills for Key Stages I& II

	Word Recognition & Decoding	Comprehension	Phonics
Year 1	• Apply phonic knowledge and skills as the route to decode words • Respond speedily with the correct sound to graphemes (letters or groups of letters) for all 40+ phonemes, including, where applicable, alternative sounds for graphemes • Read accurately by blending sounds in unfamiliar words containing gpcs that have been taught • Read common exception words, noting unusual correspondences between spelling and sound and where these occur in the word • Read words containing taught gpcs and –s, –es, –ing, –ed, –er and –est endings • Read other words of more than one syllable that contain taught gpcs • Read words with contractions [for example, i'm, i'll, we'll], and understand that the apostrophe represents the omitted letter(s) • Read aloud accurately books that are consistent with their developing phonic knowledge and that do not require them to use other strategies to work out words • Re-read these books to build up their fluency and confidence in word reading.	Develop pleasure in reading, motivation to read, vocabulary and understanding by: • Listening to and discussing a wide range of poems, stories and non-fiction at a level beyond that at which they can read independently • Being encouraged to link what they read or hear read to their own experiences • Becoming very familiar with key stories, fairy stories and traditional tales, retelling them and considering their particular characteristics • Recognising and joining in with predictable phrases • Learning to appreciate rhymes and poems, and to recite some by heart • Discussing word meanings, linking new meanings to those already known	See Writing Phonics
Year 2	• Continue to apply phonic knowledge and skills as the route to decode words until automatic decoding has become embedded and reading is fluent • Read accurately by blending the sounds in words that contain the graphemes taught so far, especially recognising alternative sounds for graphemes • Read accurately words of two or more syllables that contain the same graphemes as above • Read words containing common suffixes • Read further common exception words, noting unusual correspondences between spelling and sound and where these occur in the word • Read most words quickly and accurately, without overt sounding and blending, when they have been frequently encountered • Read aloud books closely matched to their improving phonic knowledge, sounding out unfamiliar words accurately, automatically and without undue hesitation • Re-read these books to build up their fluency and confidence in word reading.	Develop pleasure in reading, motivation to read, vocabulary and understanding by: • Listening to, discussing and expressing views about a wide range of contemporary and classic poetry, stories and non-fiction at a level beyond that at which they can read independently • Discussing the sequence of events in books and how items of information are related • Becoming increasingly familiar with and retelling a wider range of stories, fairy stories and traditional tales • Being introduced to non-fiction books that are structured in different ways • Recognising simple recurring literary language in stories and poetry • Discussing and clarifying the meanings of words, linking new meanings to known vocabulary • Discussing their favourite words and phrases • Continuing to build up a repertoire of poems learnt by heart, appreciating these and reciting some, with appropriate intonation to make the meaning clear	

Y 3 & 4	• Apply their growing knowledge of root words, prefixes and suffixes (etymology and morphology – see Writing Root Skills)to read aloud and to understand the meaning of new words they meet • Read further exception words, noting the unusual correspondences between spelling and sound, and where these occur in the word	Develop positive attitudes to reading and understanding of what they read by: • Listening to and discussing a wide range of fiction, poetry, plays, non-fiction and reference books or textbooks • Reading books that are structured in different ways and reading for a range of purposes • Using dictionaries to check the meaning of words that they have read • Increasing their familiarity with a wide range of books, including fairy stories, myths and legends, and retelling some of these orally • Identifying themes and conventions in a wide range of books • Preparing poems and play scripts to read aloud and to perform, showing understanding through intonation, tone, volume and action • Discussing words and phrases that capture the reader's interest and imagination • Recognising some different forms of poetry [for example, free verse, narrative poetry]	
Y 5 & 6	• Apply their growing knowledge of root words, prefixes and suffixes (morphology and etymology - see Writing Root Skills), both to read aloud and to understand the meaning of new words that they meet.	Maintain positive attitudes to reading and understanding of what they read by: • Continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks • Reading books that are structured in different ways and reading for a range of purposes • Increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions • Recommending books that they have read to their peers, giving reasons for their choices • Identifying and discussing themes and conventions in and across a wide range of writing • Making comparisons within and across books • Learning a wider range of poetry by heart • Preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience	

CURRICULUM STEMS – READING
SUMMARY OF CURRICULUM STEM SKILLS FOR KEY STAGES I & II

	Skills
Year 1	• Drawing on what they already know or on background information and vocabulary provided by the teacher • Checking that the text makes sense to them as they read and correcting inaccurate reading • Discussing the significance of the title and events • Making inferences on the basis of what is being said and done • Predicting what might happen on the basis of what has been read so far • Participate in discussion about what is read to them, taking turns and listening to what others say • Explain clearly their understanding of what is read to them
Year 2	• Drawing on what they already know or on background information and vocabulary provided by the teacher • Checking that the text makes sense to them as they read and correcting inaccurate reading • Making inferences on the basis of what is being said and done • Answering and asking questions • Predicting what might happen on the basis of what has been read so far • Participate in discussion about books, poems and other works that are read to them and those that they can read for themselves, taking turns and listening to what others say • Explain and discuss their understanding of books, poems and other material, both those that they listen to and those that they read for themselves.
Y 3 & 4	• Checking that the text makes sense to them, discussing their understanding and explaining the meaning of words in context • Asking questions to improve their understanding of a text • Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence • Predicting what might happen from details stated and implied • Identifying main ideas drawn from more than one paragraph and summarising these • Identifying how language, structure, and presentation contribute to meaning • Retrieve and record information from non-fiction • Participate in discussion about both books that are read to them and those they can read for themselves, taking turns and listening to what others say.
Y 5 & 6	• Checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context • Asking questions to improve their understanding • Drawing inferences such as inferring characters' feelings, thoughts and motives from their actions, and justifying inferences with evidence • Predicting what might happen from details stated and implied • Summarising the main ideas drawn from more than one paragraph, identifying key details that support the main ideas • Identifying how language, structure and presentation contribute to meaning • Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader • Distinguish between statements of fact and opinion • Retrieve, record and present information from non-fiction • Participate in discussions about books that are read to them and those they can read for themselves, building on their own and others' ideas and challenging views courteously • Explain and discuss their understanding of what they have read, including through formal presentations and debates, maintaining a focus on the topic and using notes where necessary • Provide reasoned justifications for their views.



ENGLISH

Writing is made up of the following areas:

ROOT SKILLS:

- Grammar & punctuation
- Terminology (Technical vocabulary)
- Spelling
- Handwriting & presentation

CURRICULUM STEMS

- Purpose for writing
- Imagination
- Organisation
- Evaluating and improving

BRANCHES OF LEARNING

- Fiction/Narrative
- Non Fiction
- Poetry

The William Amory Curriculum expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

It is expected that children will encounter each element of Branches of learning in approximate balance.
For example, children may encounter narrative up to 6 times a year but each time there may be a different emphasis on learning, scaffolded from previous encounters as appropriate. However, at the start of each encounter, there should be some form of recap of previous learning.
Writing has to fit into the balance of reading and Speaking & listening.

ROOT SKILLS – GRAMMAR, PUNCTUATION & TERMINOLOGY

Summary of Root Skills for Key Stages I& II

Year	Word structure	Sentence structure	Text structure	Punctuation	Terminology for pupils
1	Regular plural noun suffixes –s or –es [for example, dog, dogs; wish, wishes], including the effects of these suffixes on the meaning of the noun Suffixes that can be added to verbs where no change is needed in the spelling of root words (e.g. helping, helped, helper) How the prefix un– changes the meaning of verbs and adjectives [negation, for example, unkind, or undoing: untie the boat]	How words can combine to make sentences Joining words and joining clauses using and	Sequencing sentences to form short narratives	Separation of words with spaces Introduction to capital letters, full stops, question marks and exclamation marks to demarcate sentences Capital letters for names and for the personal pronoun I	letter, capital letter word, singular, plural sentence punctuation, full stop, question mark, exclamation mark
2	Formation of nouns using suffixes such as –ness, –er and by compounding [for example, whiteboard, superman] Formation of adjectives using suffixes such as –ful, –less (A fuller list of suffixes can be found on page **Error! Bookmark not defined.** in the year 2 spelling section in English Appendix 1) Use of the suffixes –er, –est in adjectives and the use of –ly in Standard English to turn adjectives into adverbs	Subordination (using when, if, that, because) and co-ordination (using or, and, but) Expanded noun phrases for description and specification [for example, the blue butterfly, plain flour, the man in the moon] How the grammatical patterns in a sentence indicate its function as a statement, question, exclamation or command	Correct choice and consistent use of present tense and past tense throughout writing Use of the progressive form of verbs in the present and past tense to mark actions in progress [for example, she is drumming, he was shouting]	Use of capital letters, full stops, question marks and exclamation marks to demarcate sentences Commas to separate items in a list Apostrophes to mark where letters are missing in spelling and to mark singular possession in nouns [for example, the girl's name]	noun, noun phrase statement, question, exclamation, command compound, suffix adjective, adverb, verb tense (past, present) apostrophe, comma
3	Formation of nouns using a range of prefixes [for example super–, anti–, auto–] Use of the forms a or an according to whether the next word begins with a consonant or a vowel [for example, a rock, an open box] Word families based on common words, showing how words are related in form and meaning [for example, solve, solution, solver,	Expressing time, place and cause using conjunctions [for example, when, before, after, while, so, because], adverbs [for example, then, next, soon, therefore], or prepositions [for example, before, after, during, in, because of]	Introduction to paragraphs as a way to group related material Headings and sub-headings to aid presentation Use of the present perfect form of verbs instead of the simple past [for example, He has gone out to play contrasted with He went out to play]	Introduction to inverted commas to punctuate direct speech	preposition, conjunction word family, prefix clause, subordinate clause direct speech consonant, consonant letter vowel, vowel letter inverted commas (or 'speech marks')

Year	Word structure	Sentence structure	Text structure	Punctuation	Terminology for pupils
	dissolve, insoluble]				
4	The grammatical difference between plural and possessive –s Standard English forms for verb inflections instead of local spoken forms [for example, we were instead of we was, or I did instead of I done]	Noun phrases expanded by the addition of modifying adjectives, nouns and preposition phrases (e.g. the teacher expanded to: the strict maths teacher with curly hair) Fronted adverbials [for example, Later that day, I heard the bad news.]	Use of paragraphs to organise ideas around a theme Appropriate choice of pronoun or noun within and across sentences to aid cohesion and avoid repetition	Use of inverted commas and other punctuation to indicate direct speech [for example, a comma after the reporting clause; end punctuation within inverted commas: The conductor shouted, "Sit down!"] Apostrophes to mark plural possession [for example, the girl's name, the girls' names] Use of commas after fronted adverbials	determiner pronoun, possessive pronoun adverbial
5	Converting nouns or adjectives into verbs using suffixes [for example, –ate; –ise; –ify] Verb prefixes [for example, dis–, de–, mis–, over– and re–]	Relative clauses beginning with who, which, where, when, whose, that, or an omitted relative pronoun Indicating degrees of possibility using adverbs [for example, perhaps, surely] or modal verbs [for example, might, should, will, must]	Devices to build cohesion within a paragraph [for example, then, after that, this, firstly] Linking ideas across paragraphs using adverbials of time [for example, later], place [for example, nearby] and number [for example, secondly] or tense choices [for example, he had seen her before]	Brackets, dashes or commas to indicate parenthesis Use of commas to clarify meaning or avoid ambiguity	modal verb, relative pronoun relative clause parenthesis, bracket, dash cohesion, ambiguity
6	The difference between vocabulary typical of informal speech and vocabulary appropriate for formal speech and writing [for example, find out – discover; ask for – request; go in – enter] How words are related by meaning as synonyms and antonyms [for example, big, large, little].	Use of the passive to affect the presentation of information in a sentence [for example, I broke the window in the greenhouse versus The window in the greenhouse was broken (by me)]. The difference between structures typical of informal speech and structures appropriate for formal speech and writing [for example, the use of question tags: He's your friend, isn't he?, or the use of subjunctive forms such as If I were or Were they to come in some very formal writing and speech]	Linking ideas across paragraphs using a wider range of cohesive devices: repetition of a word or phrase, grammatical connections [for example, the use of adverbials such as on the other hand, in contrast, or as a consequence], and ellipsis Layout devices [for example, headings, sub-headings, columns, bullets, or tables, to structure text]	Use of the semi-colon, colon and dash to mark the boundary between independent clauses [for example, It's raining; I'm fed up] Use of the colon to introduce a list and use of semi-colons within lists Punctuation of bullet points to list information How hyphens can be used to avoid ambiguity [for example, man eating shark versus man-eating shark, or recover versus re-cover]	subject, object active, passive synonym, antonym ellipsis, hyphen, colon, semi-colon, bullet points

ROOT SKILLS – SPELLING

Summary of Root Skills for Key Stages I& II

YEAR 1			
The sounds /f/, /l/, /s/, /z/ and /k/ spelt ff, ll, ss, zz and ck	The /ŋ/ sound spelt n before k	Division of words into syllables	
-tch	The /v/ sound at the end of words	Adding s and es to words (plural of nouns and the third person singular of verbs)	
Adding the endings –ing, –ed and –er to verbs where no change is needed to the root word	Adding –er and –est to adjectives where no change is needed to the root word	Words ending –y (/i:/ or /ɪ/)	
New consonant spellings ph and wh	Using k for the /k/ sound	Adding the prefix –un	
Compound words	Common exception words		
Vowel digraphs and trigraphs	Vowel digraphs and trigraphs		
ay, ai, oi i–e ee er (/ə/)	oy o–e ea (/i:/) ur	a–e u–e ea (/ɛ/) ir	e–e ar er (/ɜ/)
oo (/u:/) ou ew or air	oo (/ʊ/) ow (/aʊ/) ie (/aɪ/) ore ear	oa ow (/əʊ/) ie (/i:/) aw ear (/ɛə/)	oe ue igh au are (/ɛə/)

YEAR 2		
The /dʒ/ sound spelt as ge and dge at the end of words, and sometimes spelt as g elsewhere in words before e, i and y	The /s/ sound spelt c before e, i and y	The /n/ sound spelt kn and (less often) gn at the beginning of words
The /r/ sound spelt wr at the beginning of words	The /l/ or /əl/ sound spelt –le at the end of words	he /l/ or /əl/ sound spelt –el at the end of words
The /l/ or /əl/ sound spelt –al at the end of words	Words ending –il	The /aɪ/ sound spelt –y at the end of words
Adding –es to nouns and verbs ending in –y	Adding –ed, –ing, –er and –est to a root word ending in –y with a consonant before it	Adding the endings –ing, –ed, –er, –est and –y to words ending in –e with a consonant before it
Adding –ing, –ed, –er, –est and –y to words of one syllable ending in a single consonant letter after a single vowel letter	he /ɔ/ sound spelt a before l and ll	The /ʌ/ sound spelt o
The /i:/ sound spelt –ey	The /ɒ/ sound spelt a after w and qu	The /ɜ/ sound spelt or after w
The /ɔ/ sound spelt ar after w	The /ʒ/ sound spelt s	The suffixes –ment, –ness, –ful , –less and –ly
Contractions	The possessive apostrophe (singular nouns)	Words ending in –tion
Homophones and near-homophones Ie there/their/they're, here/hear, quite/quiet, see/sea, bare/bear, one/won, sun/son, to/too/two, be/bee, blue/blew, night/knight	Common exception words ie door, floor, poor, because, find, kind, mind, behind, child, children*, wild, climb, most, only, both, old, cold, gold, hold, told, every, everybody, even, great, break, steak, pretty, beautiful, after, fast, last, past, father, class, grass, pass, plant, path, bath, hour, move, prove, improve, sure, sugar, eye, could, should, would, who, whole, any, many, clothes, busy, people, water, again, half, money, Mr, Mrs, parents, Christmas – and/or others according to programme used. Note: 'children' is not an exception to what has been taught so far but is included because of its relationship with 'child'.	

YEAR 3 & 4		
Adding suffixes beginning with vowel letters to words of more than one syllable	The /ɪ/ sound spelt y elsewhere than at the end of words	The /ʌ/ sound spelt ou
More prefixes ie: Before a root word starting with l, in– becomes il. Before a root word starting with m or p, in– becomes im–. Before a root wrd starting with r, in– becomes ir–. re– means 'again' or 'back'. sub– means 'under'. inter– means 'between' or 'among'. super– means 'above'. anti– means 'against'. auto– means 'self' or 'own'.	The suffix –ation	The suffix –ly
Words with endings sounding like /ʒə/ or /tʃə/	Endings which sound like /ʒən/	The suffix –ous
Endings which sound like /ʃən/, spelt –tion, –sion, –ssion, –cian	Words with the /k/ sound spelt ch (Greek in origin)	Words with the /ʃ/ sound spelt ch (mostly French in origin)
Words ending with the /g/ sound spelt –gue and the /k/ sound spelt –que (French in origin)	Words with the /s/ sound spelt sc (Latin in origin)	Words with the /eɪ/ sound spelt ei, eigh, or ey
Possessive apostrophe with plural words	Homophones and near-homophones ie: accept/except, affect/effect, ball/bawl, berry/bury, brake/break, fair/fare, grate/great, groan/grown, here/hear, heel/heal/he'll, knot/not, mail/male, main/mane, meat/meet, medal/meddle, missed/mist, peace/piece, plain/plane, rain/rein/reign, scene/seen, weather/whether, whose/who's	

YEAR 5&6		
Endings which sound like /ʃəs/ spelt –cious or –tious	Endings which sound like /ʃəl/	Words ending in –ant, –ance/–ancy, –ent, –ence/–ency
Words ending in –able and –ible Words ending in –ably and –ibly	Adding suffixes beginning with vowel letters to words ending in –fer	Use of the hyphen
Words with the /i:/ sound spelt ei after c	Words containing the letter-string ough	Words with 'silent' letters (i.e. letters whose presence cannot be predicted from the pronunciation of the word)
Homophones and other words that are often confused ie: device/devise licence/license practice/practise prophecy/prophesy farther: further father: a male parent guessed: past tense of the verb guess guest: visitor heard: past tense of the verb hear herd: a group of animals and others		

Year 3 & 4 Spellings					
actual(ly)	circle	extreme	important	ordinary	reign
address	complete	famous	interest	particular	remember
answer	consider	favourite	island	peculiar	sentence
appear	continue	February	knowledge	perhaps	separate
arrive	decide	forward(s)	learn	popular	special
believe	describe	fruit	length	position	straight
bicycle	different	grammar	library	possess(ion)	strange
breath	difficult	group	material	possible	strength
breathe	disappear	guard	medicine	potatoes	suppose
build	early	guide	mention	pressure	surprise
busy/business	earth	heard	minute	probably	therefore
calendar	eight/eighth	heart	natural	promise	though/although
caught	enough	height	naughty	purpose	thought
centre	exercise	history	notice	quarter	through
century	experience	imagine	occasion(ally)	question	various
certain	experiment	increase	often	recent	weight
			opposite	regular	woman/women

Year 5 & 6					
accommodate	communicate	equip (–ped, –ment)	interrupt	profession	sufficient
accompany	community	especially	language	programme	suggest
according	competition	exaggerate	leisure	pronunciation	symbol
achieve	conscience*	excellent	lightning	queue	system
aggressive	conscious*	existence	marvellous	recognise	temperature
amateur	controversy	explanation	mischievous	recommend	thorough
ancient	convenience	familiar	muscle	relevant	twelfth
apparent	correspond	foreign	necessary	restaurant	variety
appreciate	criticise (critic + ise)	forty	neighbour	rhyme	vegetable
attached	curiosity	frequently	nuisance	rhythm	vehicle
available	definite	government	occupy	sacrifice	yacht
average	desperate	guarantee	occur	secretary	
awkward	determined	harass	opportunity	shoulder	
bargain	develop	hindrance	parliament	signature	
bruise	dictionary	identity	persuade	sincere(ly)	
category	disastrous	immediate(ly)	physical	soldier	
cemetery	embarrass	individual	prejudice	stomach	
committee	environment	interfere	privilege		

ROOT SKILLS – HANDWRITING & PRESENTATION

Summary of Root Skills for Key Stages I& II

	Letter Formation	Presentation
Y1/2	In latter Key stage I children would be expected to start with cursive writing in handwriting sessions with increasing evidence of it in their work. During this phase joins become a focus.	• Children would increasingly be expected to form letters correctly in all their work and that the letters would be of increasingly consistent sizes, with clear ascenders and descenders and letters on the lines. • Those children who were deemed capable of starting on cursive writing would commence. This would typically be those on Phase 3 of letters and sounds and would be introduced to assist letter blends. • Children would not be expected to move onto cursive if would be inappropriate, for example, where their writing is not sufficiently legible or where letter sizes differ or do not touch the line. • Children should not move onto cursive writing if their letter formation is incorrect. • Throughout, during practice children should use standard three lined paper until they move onto cursive handwriting.
Y3/4		Handwriting in early Key Stage II should move progressively to cursive style, with the proviso that children are not moved if there are issues with legibility in pre cursive writing or if letters are still being formed incorrectly. The main focus of teaching at this stage would be the joins, but correct letter formation would still need to be maintained.
Y5/6		Should children need to move beyond this, say in latter Key Stage II, the development points would be to ensure that all letters are joined and that s, j and similar letters are formed correctly. In addition, writing would expect to be sloped towards the right ("walking into the wind") if appropriate. Note that z would remain the same. Further individual styles may be added as well, such as loops at the top of letters.

CURRICULUM STEMS – PURPOSE FOR WRITING & IMAGINATION

SUMMARY OF CURRICULUM STEM SKILLS FOR KEY STAGES I & II

Purpose for writing	Imagination
Stimulate as appropriate	Allow sufficient opportunities to (amongst other things): • Read stories to pupils. • Construction toys. • Open ended activities. • Model Imagination. • Don't Demand Imagination. • Mind Maps. • Offer experiences. • Engaging activities such as Liar liar.

	• But…! Whilst on the subject of writing the word 'but' can be a great challenge for developing imaginative ideas. At the end of writing a sentence, challenge pupils to add the word 'but' to develop their ideas, taking their stories off in a surprising direction which they probably did not predict.

CURRICULUM STEMS – ORGANISATION, EVALUATING AND IMPROVING
SUMMARY OF CURRICULUM STEM SKILLS FOR KEY STAGES I & II

	Planning	Drafting and Writing	Evaluating and Improving
Year 1	▪ Saying out loud what they are going to write about ▪ Composing a sentence orally before writing it	▪ Sequencing sentences to form short narratives	▪ Re-reading what they have written to check that it makes sense ▪ Discuss what they have written with the teacher or other pupils ▪ Read aloud their writing clearly enough to be heard by their peers and the teacher.
Year 2	▪ Planning or saying out loud what they are going to write about ▪ Writing down ideas and/or key words, including new vocabulary	▪ Encapsulating what they want to say, sentence by sentence	▪ Make simple additions, revisions and corrections to their own writing by: ▪ Evaluating their writing with the teacher and other pupils ▪ Re-reading to check that their writing makes sense and that verbs to indicate time are used correctly and consistently, including verbs in the continuous form ▪ Proof-reading to check for errors in spelling, grammar and punctuation [for example, ends of sentences punctuated correctly] ▪ Read aloud what they have written with appropriate intonation to make the meaning clear.
Year 3 & 4	▪ Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar ▪ Discussing and recording ideas	▪ Composing and rehearsing sentences orally (including dialogue), progressively building a varied and rich vocabulary and an increasing range of sentence structures ▪ Organising paragraphs around a theme ▪ In narratives, creating settings, characters and plot ▪ In non-narrative material, using simple organisational devices [for example, headings and sub-headings]	▪ Assessing the effectiveness of their own and others' writing and suggesting improvements ▪ Proposing changes to grammar and vocabulary to improve consistency, including the accurate use of pronouns in sentences ▪ Proof-read for spelling and punctuation errors ▪ Read aloud their own writing, to a group or the whole class, using appropriate intonation and controlling the tone and volume so that the meaning is clear.
Year 5 & 6	▪ Identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own ▪ Noting and developing initial ideas, drawing on reading and research where necessary ▪ In writing narratives, considering how authors have developed characters and settings in what pupils have read, listened to or seen performed.	▪ Selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning ▪ In narratives, describing settings, characters and atmosphere and integrating dialogue to convey character and advance the action ▪ Précising longer passages ▪ Using a wide range of devices to build cohesion within and across paragraphs ▪ Using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining]	▪ Assessing the effectiveness of their own and others' writing ▪ Proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning ▪ Ensuring the consistent and correct use of tense throughout a piece of writing ▪ Ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register ▪ Proof-read for spelling and punctuation errors

BRANCHES OF LEARNING – FICTION/NARRATIVE

Common to all:

Beginning, middle and end	Full Stops & Capital Letters	Imaginative description	
Character(s)	Plot	Settings	Organisation

Hierarchy of skills

Character	Plot/Organisation
• Simple description such as, "She was tall." • might include size, hair and eye colour; words like happy and sad; **1a** • More complex description such as two adjectives, "The tall and thin girl walked up the hill." **2b** • Even more complex description reflecting movement or speech, "The raging giant stamped angrily into the castle." • Additional characters though may not be developed in full. May be at the beginning of the story but not referred to again. **3b** • Additional characters but fully developed through story. "Jack and Jill went up the hill.....Both came tumbling after" • Additional characters wholly developed and embedded into story or else purposefully incidental. **4b** • Description of character based on elements other than physical appearance and words like "happy" or "sad". "The man's eyes were red through, as if he'd been squeezing them tight, fearful of what he may see." • Description of a character draws from a number of sources including eyes, hands, surroundings, mannerisms, clothing and appearance. See The Demon Headmaster as an example. **5b**	• Role-play and oral sequencing **(FSP 6.7.8)** • Retell a simple story for a scribe. • Use simple structures to sequence events in sentence form. • Use simple structure to sequence events in sentence form. • Use simple openings dg one day, once upon **(1a).** • Retell and write familiar stories or own simple stories including a simple ending **(1a).** • Inclusion of more than one character **(2a).** • Include key features of narrative - beginning middle and end **(2a).** • Make clear links between events or ideas eg time connectives. • Sequence of events that are related **(3c).** • Sequence of sentences develop and extend ideas logically. • Clear story structure with simple resolution as ending (3b) • Develop character through dialogue. • Plot is well paced with sensibly related events. • Writing is organised and imaginative with clear feature of genre adapted for different readers **(3a).** • Begin to paragraph • Awareness and the inclusion of a complication • Ending in developed an appropriate in length. • Clear organised plot • Story structure is well developed with paragraphs marking changes in time, scene, action, person **(4a).** • Paragraph and sequence of events are around a main sentence. • Significant interaction between characters including dialogue **(4a)** • Show a clear awareness of purpose and audience. • Use a variety of narrative techniques to engage the reader eg flashback, time-shift **(5)** • Evidence of writer's viewpoint • Use of narrative structure of chosen narrative genre **(5)** • Ideas controlled in well organised paragraphs. • Develop interaction between character dialogue to move a story forward

BRANCHES OF LEARNING – NON FICTION

Common to all:

Instructions	Recounts incl Biographies	Non Chronological Reports including Journalism
• Connective development (First, second, then, etc) • Imperative verb	• Short paragraphs • Headings and sub headings • Technical words and specific vocab appropriate to subject • Sequencing sentences to extend ideas logically, usually with a chronological element • Awareness of reader and viewpoint • Intro and conclusions • Past tense	• Short paragraphs • Headings and sub headings • Technical words & topic related words • Sequencing sentences to extend ideas logically, usually not with a chronological element • Intro and conclusions • Present tense (generally)

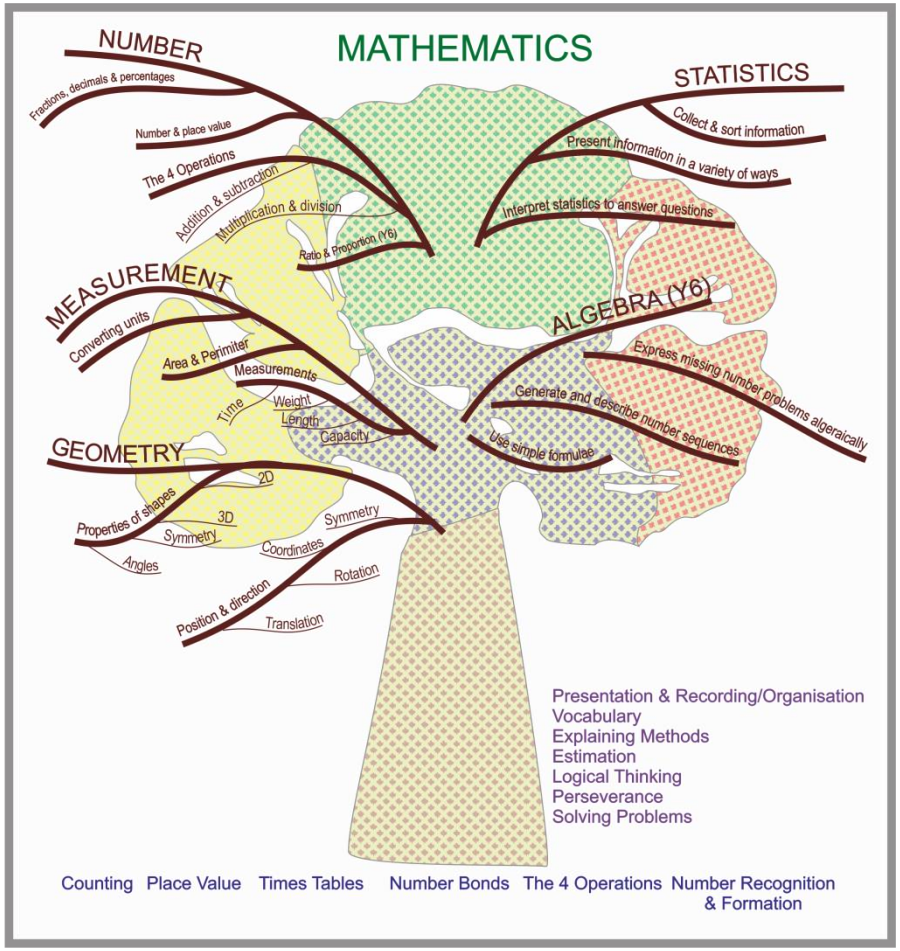
Hierarchy of skills

Instructions	Recounts & Biographies	Non Chronological Reports
• Increasingly complex instructions	• Simple words and phrases **(1b)** • Text relates to topic **(1b)** • Ideas in sequence of sentences **(2b)** • Sequences extend over paragraphs **(3b)** • Detail included to support purpose **(3b)** • Text organised to purpose for reader **(4b)** • Viewpoint established **(4b)** • Sets of paragraphs **(5b)** • Comes in a range of forms for readers	• Topic related words **(1b)** • Use of noun phrases **(3b)** • Use of adverbial and expanded noun phrases (4b)

BRANCHES OF LEARNING – POETRY

Hierarchy of skills

Skills
• Increase and refine.



MATHEMATICS

Mathematics is made up of the following areas:

ROOT SKILLS:

- Counting
- Place value
- Number recognition and formation
- Times tables
- Number bonds
- The 4 operations

CURRICULUM STEMS

- Presentation & recording/organising
- Vocabulary
- Explaining methods
- Estimation
- Logical thinking
- Perseverance
- Solving problems

BRANCHES OF LEARNING

- Number
- Measurement
- Geometry
- Statistics
- Algebra

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively or in real life situations.

ROOT SKILLS – COUNTING, PLACE VALUE & NUMBER RECOGNITION & FORMATION

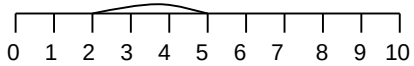
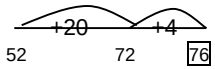
Summary of Root Skills for Key Stages I & II

Year	Counting	Place Value	Number Recognition & Formation
EYFS	• Count to and across 20, forwards and backwards, beginning with 0 or 1, or from any number. • Count in multiples of two and ten.	• Given a number, identify one more and one less, to 20.	• Read and write numbers to 20 in numerals.
1	• Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any number. • Count in multiples of twos, fives and tens.	• Given a number, identify one more and one less, to 100. • Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least.	• Read and write numbers to 100 in numerals. • Read and write numbers form 1-20 in words.
2	• Count to 1000 beginning with 0 or 1, or from any number. • Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward.	• Recognise the place value of each digit in a two-digit number (tens, ones). • Identify and represent numbers using objects and pictorial representations including the number line. • Compare and order numbers from 0-100; use <, > and = signs. • Use place value and number facts to solve problems.	• Read and write numbers to at least 100 in numerals and in words.
3	• Count from 0 in multiples of 4, 8, 50 and 100. • Solve number problems and practical problems involving these ideas.	• Find 10 or 100 more or less than a given number. • Recognise the place value of each digit in a three-digit number (hundreds, tens or ones). • Identify, represent and estimate numbers using different representations. • Compare and order numbers up to 1000. • Solve number problems and practical problems involving these ideas.	• Read and write numbers up to 1000 in numerals and words. • Read Roman numerals to 12 (I to XII) in the context of time.
4	• Count in multiples of 6, 7, 9, 25 and 1000. • Count backwards through zero to include negative numbers. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	• Find 1000 more or less than a given number. • Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). • Order and compare numbers beyond 1000. • Round any number to the nearest 10, 100 or 1000.	• Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of 0 and place value.

		• Identify, represent and estimate numbers using different representations. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	
5	• Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. • Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero. • Solve number and practical problems that involve all of the above.	• Compare and order numbers to at least 1 000 000 and determine the value of each digit. • Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 or 100 000. • Solve number and practical problems that involve all of the above.	• Read and write numbers to at least 1 000 000. • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
6		• Compare and order numbers to at least 10 000 000 and determine the value of each digit. • Round any whole number to a required degree of accuracy. • Use negative numbers in context and calculate intervals across zero. • Solve number and practical problems that involve all of the above.	• Read and write numbers to 10 000 000.

ROOT SKILLS –THE 4 OPERATIONS – ADDITION incl NUMBER BONDS

Summary of Root Skills for Key Stages I & II

Year	National Curriculum Expectations (WAPS Minimum expectations in blue.)	Calculation Progression ~ Addition
EYFS	• I can understand and use the addition (+) sign. • I can add numbers within 10. • I can solve simple one-step problems (number stories) that involve addition.	Practical, counting objects and relating addition to combining two groups of objects. Recognise and use + sign. Use of number tracks. Vocabulary of addition in practical activities.
Y1	• Read, write and interpret mathematical statements involving addition (+) and equals (=) signs. • Represent and use number bonds within 20. • Rapidly recall number bonds to 10. • Add a 1 digit and a 2 digit numbers to 20, including 0. • Solve one step problems that involve addition using concrete objects and pictorial representations and missing number problems such as 3 + ? = 5	Use of the number track and number line - hopping and recording. (a)  2 add 3 equals 5 (b) 2 + 3 = ☐ ☐ + △ = 4 10 = 6 + ☐ (c) 5 + 3 + 1 = 9 Continue to develop pupil's understanding of addition with practical activities using concrete apparatus such as bundles of straws, counters and dienes.
Y2	• Solve problems with addition ○ Using concrete objects and pictorial representations, including those involving numbers, quantities and measures. ○ Apply their increasing knowledge of mental and written methods. • Recall and use addition facts to 20 fluently and derive and use related facts up to 100. • Rapidly recall number bonds to 20. • Add numbers using concrete objects, pictorial representations and mentally, including ○ A two digit number and ones. ○ A two digit number and 10s. ○ Two 2-digit numbers. ○ Adding 3 1-digit numbers. • Show that addition of two numbers can be done in any order (commutative). • Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Pupils continue to use the number line to calculate with bigger numbers, partitioning the smaller number and adding the most significant digit first. (a) 52 + 24  (b) 61 + 14 = ☐ (c) 2 + 7 + 4 = ☐ (D) ☐ + △ = 9 When children have a good understanding of place value and partitioning, introduce the columnar methods with additions that DO NOT cross the 10s boundary using concrete apparatus laid out in a columnar form. 22 + 33 = 22 = 20 + 2 33 = 30 + 3 55 = 50 + 5

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<td>Y3</td>
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Add numbers mentally, including:

A three-digit number and ones
A three-digit number and tens
A three-digit number and hundreds

Add numbers with up to three digits, using formal written methods of columnar addition.
Estimate the answer to a calculation and use inverse operations to check answers.
Solve problems, including missing number problems, using number facts, place value and more complex addition.

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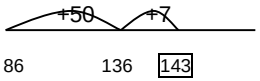
Pupils continue to use the number line to support mental calculations.

(a) 86 + 57


Pupils build on their understanding of place value, partitioning and their concrete experiences to develop columnar methods of addition which bridge the 10s, then 100s, initially in the expanded form.
(b)

<u>Expanded method</u>

It is important that the children have a good understanding of place value and partitioning using concrete resources and visual images to support calculations. The expanded method enables children to see what happens to numbers in the standard written method.

(c) Expanded method should be developed to use digits, bridging a multiple of 10.
47 + 39 =

47 = 40 + 7
39 = 30 + 9
86 = 70 + 16

(d) Formal column method with 2 and 3 digits.

7 6 + 4 7 = 1 1 / 1 4 3
3 9 5 + 2 8 8 = 1 1 / 6 8 3
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<tr>
<td>Y4</td>
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Add numbers with up to four digits using the formal written methods of columnar addition where appropriate.
Estimate and use inverse operations to check answers to a calculation.
Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.

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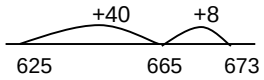
Partition one number when adding mentally.
(a) 625 + 48 =


Pupils use their understanding of the expanded columnar method of addition to progress to use the compact methods for numbers up to 4 digits.

(b) 625 + 48 = 1 / 673
1367 + 1285 = 11 / 2652
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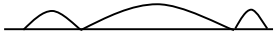
Y5	• Add whole numbers with more than four digits, including using formal written methods (columnar addition). • Add numbers mentally with increasingly large numbers. • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.	Adding larger numbers mentally, continuing to rehearse and develop mental strategies. Pupils use the compact column method to calculate with decimal numbers and with larger whole numbers. (a) 3587 + 1675 = 5262 (111) b) 32985 + 17437 = 50422 (1111) (c) £ 6.72 + 2.3**0*** = £ 9.02 (1) *Fill empty columns with zero
Y6	• Perform mental calculations, including with mixed operations and large numbers. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.	Pupils add larger whole numbers using the columnar method. They add decimals with differing numbers of decimal places using the columnar method. Pupils may fill empty columns with zeros initially, to preserve place value. (c) 8.654 km 6.72**0** + 2.3**00*** = 17.674 km (11) * Fill “empty” columns with zero

ROOT SKILLS –THE 4 OPERATIONS – SUBTRACTION incl NUMBER BONDS

Summary of Root Skills for Key Stages I & II

Year	National Curriculum Expectations (WAPS Minimum expectations in blue.)	Minimum expectations for each year group
EYFS	• I can understand and use the subtraction (-) sign. • I can subtract numbers within 10. • I can solve simple one-step problems (number stories) that involve subtraction.	Teacher modelling, pictorial representation Practical demonstrations of subtraction relating to 'take away'. Use of number tracks. Vocabulary of subtraction in practical activities Recognise and use the - sign
Y1	• Read, write and interpret mathematical statements involving subtraction (-) and equals (=) signs. • Represent and use number bonds and related subtraction facts within 20. • Subtract a 1 digit and a 2 digit number to 20, including 0. • Solve one step problems that involve subtraction using concrete objects and pictorial representations and missing number problems such as 7 = ? - 3	Number tracks leading to number lines introduced for recording 'jumps' back. 1 2 3 4 5 6 7 8 ● Can you count back 5? Take away 5. Subtract 5. Difference introduced practically and then on number tracks and lines e.g. 12-7 Can you make a rod 12 blocks long? My block is 7 blocks long. What is the difference? difference 0 1 2 3 4 5 6 7 0 1 2 3 4 5 6 7 8 9 10 11 12 Pupils use concrete apparatus to experience take away and difference in practical activities. Count out 16 straws. If you give your friend 5, how many will you have left?

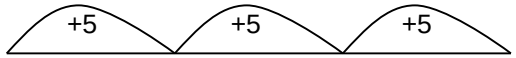
Y2	• Solve problems with subtraction
	  ○ Using concrete objects and pictorial representations, including those involving numbers, quantities and measures.
	  ○ Apply their increasing knowledge of mental and written methods.
	• Recall and use subtraction facts to 20 fluently and derive and use related facts up to 100.
	• Subtract numbers using concrete objects, pictorial representations and mentally, including
	  ○ A two digit number and ones.
	  ○ A two digit number and 10s.
	  ○ Two 2-digit numbers.
	  ○ Subtracting 3 1-digit numbers.
	• Show that subtraction of two numbers cannot be done in any order.
	• Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.
		Pupils practice finding the difference by counting on using a number line. They are able to choose when to take away and when to find the difference when answering a subtraction problem.
		
		a)Subtraction using a number line.
		-2 -5 -20
		28 30 35 55
		
		55 – 27 = 28
		
		b) Difference (counting on)
		0 27 difference
		0 55
		
		+3 +20 +5 so 55 – 27 = 28
		27 30 50 55
		
		55 – 27 = 28 27 + ? = 55 55 - ? =27 ? + 28 = 55

Y2 Cont.		c) Pupils use concrete apparatus to explore exchange in practical activities. E.g. Subtract 18p from 33p d) Pupils begin to organise their subtractions using expanded columnar methods 87-54 80 7 -50 4 30 3
Y3	• Subtract numbers mentally, including: ○ A three-digit number and ones ○ A three-digit number and tens ○ A three-digit number and hundreds • Subtract numbers with up to three digits, using formal written methods of columnar addition. • Estimate the answer to a calculation and use inverse operations to check answers. • Solve problems, including missing number problems, using number facts, place value and more complex subtraction.	(a) 81-57 = difference +3 +20 +1 =24  57 60 80 81 (b) 81 – 57 = take away 81 = 80 1 "1 take away 7 is tricky so exchange" - 57 - 50 7 70 11 ~~8~~0 ~~1~~ - 50 7 20 4 = 24 and check answers with inverse Pupils progress to subtract numbers with up to 3 digits. 341-123 30 11 300 ~~40~~ ~~1~~ -100 20 3 200 10 8

Y4	• Subtract numbers with up to four digits using the formal written methods of columnar addition where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in context, deciding which operations and methods to use and why.	a) Pupils continue to calculate difference mentally using a number line. b) Pupils progress to using the compact columnar method for subtraction. (a) 784 = 700 ~~80~~ 4 adjust from T to U - 56 - 50 6 700 20 8 = 728 Progressing to 4 digit numbers 2754 = 2000 ~~700~~ ~~50~~ ~~4~~ -1562 1000 500 60 2 1192 1000 100 90 2
Y5	• Subtract whole numbers with more than four digits, including using formal written methods (columnar addition). • Subtract numbers mentally with increasingly large numbers. • Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.	a) Pupils continue to calculate difference mentally, supported with a number line. b) Pupils use the column method to solve increasingly more complex calculations involving many exchanges; and solve subtractions with more than 4 digits. ~~6~~ ~~4~~ 6 7 - 2 6 8 4 3 7 8 3 3783 + 2684 11 and check answer 6467 c) Pupils subtract decimals with more than one decimal place and with differing numbers of digits. ~~1~~ ~~2~~ ~~3~~ 0 4 - 8 5 . 6 0 3 7 . 4 4
Y6	• Perform mental calculations, including with mixed operations and large numbers. • Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.	a) Pupils continue to calculate the difference mentally using increasingly large numbers. b) Pupils use the column method to solve increasingly more complex calculations involving more digits and many exchanges. They continue to use the inverse operation to check answers.

ROOT SKILLS –THE 4 OPERATIONS – MULTIPLICATION incl TIMES TABLES

Summary of Root Skills for Key Stages I & II

Year	National Curriculum Expectations (WAPS minimum standards in blue, if different)	Calculation Progression ~ Multiplication
EYFS	• Count in multiples of two and ten. • Solve problems including doubling to 10.	Jumping along number lines in steps of…. 100 square to look at patterns of multiples. Grouping – counting groups of the same size
1	• Solve one step problems involving multiplication, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. • Count in multiples of 2s, 5s and 10s.	Solve practical problems involving groups of 2, 5 or 10 ~ draw pictures, groups or arrays. 3 groups of 2 stars. How many stars altogether? 2 + 2 + 2 = 6
2	• Recall and use multiplication facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication (x) and equals (=) signs. • Show that multiplication of two numbers can be done in any order (commutative). • Solve problems involving multiplication using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Vocabulary of doubles, multiply, groups of, lots of etc. Use of arrays to solve simple problems. ♦ ♦ ♦ ♦ ♦ ♦ ♦ ♦ 4 x 2 = 8 2 x 4 = 8 Use of x and = signs to record number sentences Four ladybirds with 5 spots each. 5 + 5 + 5 + 5 = 20 4 x 5 = 20 Multiplication as repeated addition, using hops or jumps along a number line. Three friends have 5 pencils each. How many pencils do they have altogether.  3 x 5 = 15 5 + 5 + 5 = 15

3	• Recall and use multiplication facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements from multiplication using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving multiplication, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Recalling facts including commutative nature of multiplication. 4 x 5 = 20, 5 x 4 = 20. Draw arrays and relate x and ÷ 5 x 2 = 10 10 ÷ 5 = 2 2 x 5 = 10 10 ÷ 2 = 5 Use table facts to multiply by multiples of 10 40 x 7 = 4 x 7 x 10 Informal recording of partitioned numbers, 15 x 5 = 10 x 5 and 5 x 5 Calculations with missing numbers. 5 x ? = 10 ? x 3 = 24 Relate multiplication to scaling. Eg: My string is 12cm long. Cut a piece of string 3 times longer. 12cm x 3 = 36cm Start to use grid method for TU x U 23 x 8 = 184 x 20 3 8 160 24 1 6 0 + 2 4 1 8 4

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Recall multiplication facts for multiplication tables up to 12 x 12.
Use place value, known and derived facts to multiply mentally, including: multiply by 0 and 1; multiplying together three numbers.
Recognise and use factor pairs and commutativity in mental calculations.
Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and harder correspondence problem such as n objects are connected to m objects.

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Continue to partition HTU x U

423 x 8 = 3384

<table>
<tr><td>x</td><td>400</td><td>20</td><td>3</td></tr>
<tr><td>8</td><td>3200</td><td>160</td><td>24</td></tr>
</table>

3 2 0 0
1 6 0
+ 2 4
_____
3 3 8 4

Move into formal written method of short multiplication.

1 3 6
x 5
6 8 0
1 3
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5	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Multiply numbers up to 4-digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. • Multiply numbers mentally drawing upon known facts. • Multiply whole numbers and those involving decimals by 10, 100 and 1000.	Continue to use grid method, developing to ThHTU x U or TU and TU x TU. 2136 x 5 = 10680 1 0 0 0 0 5 0 0 1 5 0 TU x TU using grid method 72 x38 2 1 0 0 5 6 0 6 0 Use grid to multiply one place decimal by unit Develop short multiplication for up to ThHTU x U. 1234 x 6 7404 1 2 2 Introduce TU x TU long multiplication 54 x 32 1520 (x30) 108 (x2) 1628

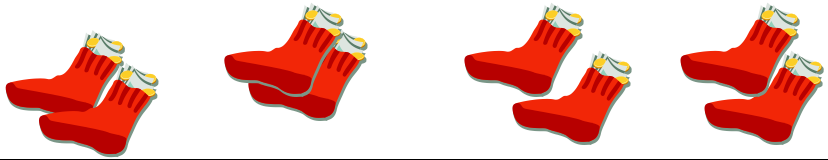
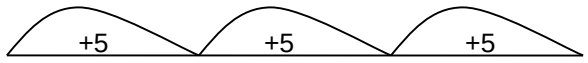
x	2000	100	30	6
5	10000	500	150	30

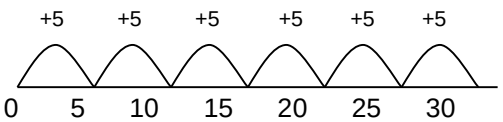
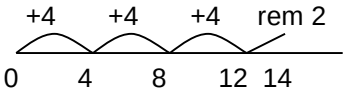
x	70	2
30	2100	60
8	560	16

6	• Multiply multi-digit numbers up to 4-digits by a two-digit whole number using the formal written method of long multiplication. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.	Multiply decimals by single digits using column multiplication. 45.6 x 7 = 4 5 . 6 x 7 3 1 9 .2 3 4 Introduce HTU x TU long multiplication and develop to ThHTU x TU. 254 x 32 7620 (x30) 508 (x2) 8128

ROOT SKILLS –THE 4 OPERATIONS -DIVISION

Summary of Root Skills for Key Stages I & II

Year	National Curriculum Expectations (WAPS minimum standards in blue.)	Calculation Progression ~ Division
EYFS	• Solve problems including halving and sharing to 10.	Sharing objects into equal groups and count how many in each group, such as sharing biscuits so everyone has the same number. Cut the sandwich in half. How many pieces are there?
1	• Solve one step problems involving division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. • Count forwards and backwards in multiples of 2, 5 and 10.	Use of pictures, 100 square or number tracks/ lines, to solve problems Sharing: 6 cakes are shared equally between 2 people. How many cakes does each person get? Grouping: How many pairs of socks can we make from this pile? Count the pairs. 
2	• Recall and use division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. • Calculate mathematical statements for division within the multiplication tables and write them using the division (÷) and equals (=) signs. • Show that division of two numbers cannot be done in any order. • Solve problems involving division using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	Record using the correct division symbol. 6 ÷ 2 = ☐ 20 ÷ ☐ = 2 ☐ ÷ 5 = 15 Solve problems using division as repeated subtraction on a number line. 15 pencils are put into boxes of 5. How many boxes of pencils will there be?  Missing number calculations. 24 ÷ ? = 4 Use arrays to model division.

		15 ÷ 5 = 3 and 15 ÷ 3 = 5
3	• Recall and use division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for division using the multiplication tables that they know, using mental and progressing to formal written methods. • Solve problems, including missing number problems, involving division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	Write division facts based on known tables. 36 ÷ 4 = ☐ 360 ÷ 4 = ☐ 5 x 6 = 30, 6 x 5 = 30, 30 ÷ 5 = 6, 30 ÷ 6 = 5 (inverse relationship) Pupils explore the use of scaling as a model for division. Eg: My ribbon is 24cm long. Can you cut a ribbon 3 times shorter? Solve problems using repeated addition along a number line.  30 ÷ 5 = 6 Finding remainders after simple division Know when to round the remainder up or down, depending on context of problem  14 ÷ 4 = 3 r 2 Introduce formal written method – bus stop. 1 4 7 | 9 ^{2}8

4	• Recall division facts for multiplication tables up to 12 x 12. • Use place value, known and derived facts to divide mentally, including: dividing by 1 • Recognise and use factor pairs and commutativity in mental calculations.	Continue to develop formal written method: Bus stop $\begin{array}{r\|ll} & 1 & 5 \\ \hline 4 & 9 & {}^{2}8 \end{array}$ Extend to 3 digits.
5	• Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. • Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19. • Divide numbers mentally drawing upon known facts. • Divide numbers up to 4 digits by a 1 digit number using the formal written method of short division and interpret remainders appropriately for the context. • Divide whole numbers and those involving decimals by 10, 100 and 1000.	Continue to use number lines if necessary, to check. A number cannot be divided by 0. Extend bus stop method to ThHTU ÷ U.
6	• Divide numbers up to 4 digits by a 2 digit whole number using the formal written method and interpret remainders as whole number remainders, fractions or by rounding, as appropriate to the context. • Divide numbers up to 4 digits by a 2 digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers. • Identify common factors, common multiples and prime numbers. • Use their knowledge of the order of operations to carry out calculations involving the four operations. • Use estimation to check answers and determine, in the context of a problem, an appropriate degree of accuracy.	Continue to develop bus stop method when dividing by TU. Write out relevant multiplication table first to aid. 567 ÷ 23 = 24 r 15 or 24 15/23 $\begin{array}{r\|llll} & 0 & 2 & 4 & r\ 15 \\ \hline 23 & 5 & 6 & {}^{10}7 & \end{array}$ 23 46 69 92 115 138 161

STEMS SKILLS –VOCABULARY - NUMBER

Summary of Root Skills for Key Stages I & II

	Number & Place value	Addition & subtraction	Multiplication & division	Fractions, decimals & percentages	Ratio & proportion
EYFS	NUMBER number zero, one, two, three… to twenty and beyond zero, ten, twenty… one hundred none how many…? count, count (up) to count on (from, to) count back (from, to) count in ones, twos… tens… more, less, many, few odd, even every other how many times? pattern, pair guess how many, estimate nearly, close to, about the same as just over, just under too many, too few, enough, not enough PLACE VALUE the same number as, as many as *Of **two** objects/amounts:* greater, more, larger, bigger less, fewer, smaller *Of **three** or more objects/amounts:* greatest, most, biggest, largest least, fewest, smallest one more, ten more one less, ten less compare order size first, second, third… tenth last, last but one before, after next between above, below	add, more, and make, sum, total altogether score double one more, two more, ten more… how many more to make… ? how many more is… than…? take (away), leave how many are left/left over? how many have gone? one less, two less… ten less… how many fewer is… than…? difference between is the same as			
1	NUMBER As EYFS	*As EYFS and:* +, *plus* *how much more is…?* -, *minus*	*lots of, groups of*		

	PLACE VALUE As EYFS and: *units, ones* *tens* *exchange* *digit* *'teens' number* first, second, third… tenth, *eleventh… twentieth* last, last but one between, *half-way between* *above, below*	*how much less is…?* *half, halve* *=, equals, sign,* is the same as			
2	NUMBER As Year 1 and: zero, one hundred, *two hundred… one thousand* count in ones, twos, *threes, fours, fives and so on* *tally* *multiple of* *sequence* *continue* *predict* pattern, pair, *rule* PLACE VALUE *hundreds* digit *one-, two- or three-digit number* 'teens' number *place, place value* *stands for, represents* *exchange* first, second….*twenty-first, twenty-second…*	As Year 1 and: *addition,* *tens boundary*	*lots of, groups of* *x, times, multiply, multiplied by* *multiple of* *once, twice, three times,* *four times, five times… ten times…* *times as (big, long, wide and so on)* *repeated addition* *array* *row, column* double, halve share, *share equally* *one each, two each, three each…* *group in pairs, threes… tens* *equal groups of* *÷, divide, divided by, divided into,* left, left over	*part, equal parts* *fraction* *one whole* *one half, two halves* *one quarter, two… three… four quarters*	
3	NUMBER As Year 2 and: count in tens, *hundreds* *relationship* PLACE VALUE	As Year 2 and: *hundreds boundary*	As Year 2 and: *multiplication,* *product* *division,* *remainder*	As Year 2 and: *one third, two thirds* *one tenth*	
4	NUMBER As Year 2 and: *thousands* *ten thousand, hundred thousand, million* digit, one-, two-, three- or *four*-digit number *numeral* one… ten… one hundred… *one thousand* more/less	As Year 3 and: *increase* *decrease*	As Year 3 and: *divisible by* *factor*	As Year 3 and: *Eighth, sixth, fifth*	

	round to the nearest hundred *integer, positive, negative* *above/below zero, minus* PLACE VALUE As Year 3 and: *consecutive* *sort, classify, property*				
5	NUMBER As Year 4 PLACE VALUE As Year 4 and: *≥, greater than or equal to* *≤, less than or equal to* *ascending/descending order* *round to the nearest thousand* *divisibility*, factor *square number* *one squared, two squared....(1^2, 2^2...)*	As Year 4 and: *units boundary, tenths boundary* inverse	As Year 4 and: factor, quotient, divisible by inverse	As Year 4 and: *proper/improper fraction* *mixed number* *numerator, denominator* *equivalent, reduced to, cancel* *ninth, twelfth*, *hundredth* decimal, decimal fraction decimal point, decimal place *percentage, per cent, %*	
6	NUMBER As Year 5 and: PLACE VALUE As Year 5 and: divisible (by), divisibility, factor, *factorise* *prime, prime factor*	As Year 5	As Year 5	As Year 5 and: *thousandth* decimal, decimal fraction decimal point, decimal place percentage, per cent, %	proportion, ratio, in every, for every to every, as many as

STEMS SKILLS –VOCABULARY – PROBLEM SOLVING, THINKING AND EXPLAINING

Summary of Root Skills for Key Stages I & II

	Logical Thinking, Estimations	Misc
EYFS	guess how many, estimate nearly, close to about the same as just over, just under too many, too few, enough, not enough pattern puzzle answer right, wrong what could we try next? how did you work it out? count out, share out, left, left over	same number/s different number/s missing number/s number facts number line, number track number square number cards counters, cubes, blocks, rods die, dice Same way, different way best way, another way in order, in a different order all, every, each
1	As EYFS and: Roughly, Making decisions and reasoning *number sentence* *sign, operation*	As EYFS and: *abacus*
2	As Year 1 and: *exact, exactly* Making decisions and reasoning *calculate, calculation* *mental calculation* *jotting* *correct*,	As EYFS and: General *number pairs* *number bonds* *hundred square* *number grid* *geo-strips*
3	*approximate, approximately* exactly *method* *equation*	As EYFS and: *greatest value, least value*
4	As Year 3	As EYFS and: General *pin board*
5	As Year 4 and: *strategy*	As EYFS and: Using a calculator *calculator* *display, key, enter, clear* *constant*
6	As Year 5	As EYFS and: Using a calculator *sign change , recurring, memory, operation key* *identical*,

STEMS SKILLS –VOCABULARY – MEASUREMENT, GEOMETRY & STATISTICS

Summary of Root Skills for Key Stages I & II

	Area & perimeter, Converting units	Units	Properties of shapes	2D/3D	Statistics
EYFS	measure size compare guess, estimate enough, not enough too much, too little too many, too few nearly, close to,	**Length** long, short, tall high, low wide, narrow thick, thin longer, shorter, taller, higher… longest, shortest, tallest, highest far, near, close **Mass** weigh, weighs, heavy/light, heavier/lighter, heaviest/lightest balance, weight **Capacity** full half full empty holds container **Time** time days of the week: Monday, Tuesday… seasons: spring, summer, autumn, winter day, week, month, year, weekend, birthday, holiday morning, afternoon, evening night, midnight bedtime, dinnertime, playtime today, yesterday, tomorrow before, after next, last now, soon, early, late quick, quicker, quickest, quickly fast, faster, fastest slow, slower, slowest, slowly old, older, oldest	shape, pattern flat straight round corner size bigger, larger, smaller pattern over, under, underneath above, below top, bottom, side on, in outside, inside around in front, behind front, back before, after beside, next to opposite between middle, edge corner direction forwards, backwards, sideways close, far, near along through to, from, towards, away from movement slide roll turn, whole turn, half turn stretch, bend	cube pyramid circle triangle square rectangle star	count, sort, list group, set

		new, newer, newest takes longer, takes less time clock, watch, hands always, never, sometimes, once, twice			
1	As EYFS:	As EYFS and: **Length** length, width, height, depth wide, narrow thick, thin ruler, metre stick **Mass** balances heavy/light, heavier/lighter, heaviest/lightest balance, scales, weight **Capacity** full half full empty holds container **Time** **Length** length, width, height, depth long, short, tall high, low wide, narrow deep, shallow thick, thin longer, shorter, taller, higher… and so on longest, shortest, tallest, highest… and so on far, near, close metre ruler, metre stick **Mass** weigh, weighs, balances heavy/light, heavier/lighter, heaviest/lightest balance, scales, weight **Capacity**	As EYFS and: curved, hollow, solid point, pointed sort symmetrical pattern repeating pattern match turn, whole turn, half turn stretch, bend	As EYFS and: cuboid pyramid cone cylinder	As EYFS and: vote list table

		Time hour, o'clock, half past clock, watch, hands always, never, often,			
2	As Year 1 and: nearly, roughly, about, close to, about the same as just over, just under	As Year 1 and: **Length** far, further, furthest, near, close metre (m), centimetre (cm) ruler, tape measure **Mass** kilogram (kg), half-kilogram, gram(g) **Capacity** capacity litre (l), half-litre, millilitre (ml) **Time** time always, never, often, sometimes, usually once, twice	As Year 1 and: face, side, edge, end sort surface clockwise, anti-clockwise right angle straight line stretch, bend	As Year 1 and: circle, circular triangle, triangular square rectangle, rectangular star pentagon hexagon octagon	As Year 1 and: tally, graph, block graph, pictogram represent label, title most popular, most common least popular, least common
3	As Year 2 and: measuring scale, division guess, estimate enough, not enough	As Year 2 and: **Length** distance apart/between… to… from kilometre (km), metre (m), centimetre (cm) mile **Mass** **Capacity** **Time** hour, minute, second o'clock, half past, quarter to, quarter past clock, watch, hands digital/analogue clock/watch, timer	As Year 2 and: vertex, vertices layer, diagram grid row, column clockwise, anti-clockwise compass point north, south, east, west, (N, S, E, W) horizontal, vertical diagonal movement angle, …is a greater/smaller angle than right angle straight line stretch, bend	As Year 2 and: hemi-sphere prism pentagon, pentagonal hexagon, hexagonal octagon, octagonal quadrilateral	As Year 2 and: chart, bar chart frequency table Carroll diagram, Venn diagram axis, axes diagram
4	As Year 3 and:	As Year 3 and:	As Year 3 and:	As Year 3 and:	As Year 3 and:

	compare unit, standard unit metric unit, imperial unit	**Length** depth, breadth edge, perimeter millimetre (mm) mile **Mass** mass **Capacity** measuring cylinder **Area** area, covers, surface square centimetre (cm2) **Time** calendar	line construct, sketch base, square-based regular, irregular concave, convex open, closed line symmetry reflect origin, coordinates north-east, north-west, south-east, south-west (NE, NW, SE, SW)	3D, three-dimensional prism tetrahedron, polyhedron 2D, two-dimensional equilateral triangle, isosceles triangle square rectangle, rectangular, oblong pentagon, pentagonal hexagon, hexagonal heptagon octagon, octagonal polygon quadrilateral	survey, questionnaire, data tally chart
5	As Year 4	As Year 4 and: **Length** **Mass** **Capacity** pint, gallon **Area** area, covers, surface square centimetre (cm2), square metre (m2) square millimetre (mm2) **Time** 24-hour clock, 12-hour clock	As Year 4 and: axis of symmetry reflective symmetry parallel, perpendicular x-axis, y-axis quadrant	As Year 4	As Year 4 and database line graph bar line chart maximum/minimum value Probability fair, unfair likely, unlikely, likelihood certain, uncertain probable, possible, impossible chance, good chance poor chance, no chance
	As Year 5	As Year 5 and: **Length** mile, yard, feet, foot, inches, inch compasses **Mass** pound, ounce	As Year 5 and: circumference, concentric, arc intersecting, intersection plane tangram protractor	As Year 5 and: rhombus heptagon octagon, octagonal polygon quadrilateral kite parallelogram, trapezium	As Year 5 and: mode, range, mean, average, median statistics, distribution equal chance, even chance, fifty-fifty chance biased, random

		Capacity pint, gallon **Area** **Time** timetable, arrive, depart Greenwich Mean Time, British Summer Time International Date Line			

STEMS SKILLS –PROBLEM SOLVING, EXPLAINING METHODS, LOGICAL THINKING & PERSEVERANCE

Summary of Root Skills for Key Stages I & II

	Problem solving	Explaining, thinking and persevering
1	• Solve problems and practical problems involving all of the above	As required
2	• Use place value and number facts to solve problems	As required
3	• Solve number problems and practical problems involving these ideas	As required
4	• Solve number and practical problems that involve all of the above and with increasingly large numbers	As required
5	• Solve number problems and practical problems that involve all of the above	As required
6	• Solve number and practical problems that involve all of the above	As required

BRANCHES OF LEARNING – FRACTIONS, PERCENTAGES & DECIMALS, MEASURMENT

Summary of Curriculum Branches of Learning for Key Stages I & II

Year	Fractions, Decimals & Percentages	Measurement
EYFS	• Find half of quantities up to 10.	• Order two or three items by length or height. • Order two items by weight or capacity. • Use everyday language related to time. • Order and sequence familiar events. • Measure short periods of time in simple ways.

1	• recognise, find and name a half as one of two equal parts of an object, shape or quantity
	• recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.
		• compare, describe and solve practical problems for:
		  ○ lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]
		  ○ mass/weight [for example, heavy/light, heavier than, lighter than]
		  ○ capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]
		  ○ time [for example, quicker, slower, earlier, later]
		• measure and begin to record the following:
		  ○ lengths and heights
		  ○ mass/weight
		  ○ capacity and volume
		  ○ time (hours, minutes, seconds)
		• recognise and know the value of different denominations of coins and notes
		• sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]
		• recognise and use language relating to dates, including days of the week, weeks, months and years
		• tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.

2	• recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, shape, set of objects or quantity • write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½..	• choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and = • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • compare and sequence intervals of time • tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times • know the number of minutes in an hour and the number of hours in a day.
3	• count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7] • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above.	• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple 2-D shapes • add and subtract amounts of money to give change, using both £ and p in practical contexts • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events [for example to calculate the time taken by particular events or tasks].

4	• recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to ¼, ½, ¾ • find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places.	• Convert between different units of measure [for example, kilometre to metre; hour to minute] • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares • estimate, compare and calculate different measures, including money in pounds and pence • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
5	• compare and order fractions whose denominators are all multiples of the same number • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5] • add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • read and write decimal numbers as fractions [for example 0.71 = 71/100] • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • read, write, order and compare numbers with up to three decimal places • solve problems involving number up to three decimal places • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal	• convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes • estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water] • solve problems involving converting between units of time • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

	equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	
6	• use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ x ½ = 1/8] • divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] • associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example,3/8] • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	• solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places • convert between miles and kilometres • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].

BRANCHES OF LEARNING – NUMBER – NUMBER & PLACE VALUE AND THE 4 OPERATIONS
For details, please see root skills for Key Stages I & II

BRANCHES OF LEARNING – NUMBER (RATIO & PROPORTION) AND ALGEBRA
Summary of Curriculum Branches of Learning for Key Stages I & II

Year	Ratio & Proportion	Algebra
Y6	• solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	• use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables.

BRANCHES OF LEARNING – GEOMETRY & STATISTICS

Summary of Curriculum Branches of Learning for Key Stages I & II

Year	Geometry ~ Properties of Shapes	Geometry ~ Position and Direction	Statistics
EYFS	• Begin to use mathematical names for solid 3D shapes and flat 2D shapes and mathematical terms to describe shapes. • Select a particular named shape. • Use familiar objects and common shapes to create and re-create patterns and build models.	• Can describe their relative position, such as 'behind' or 'next to'.	

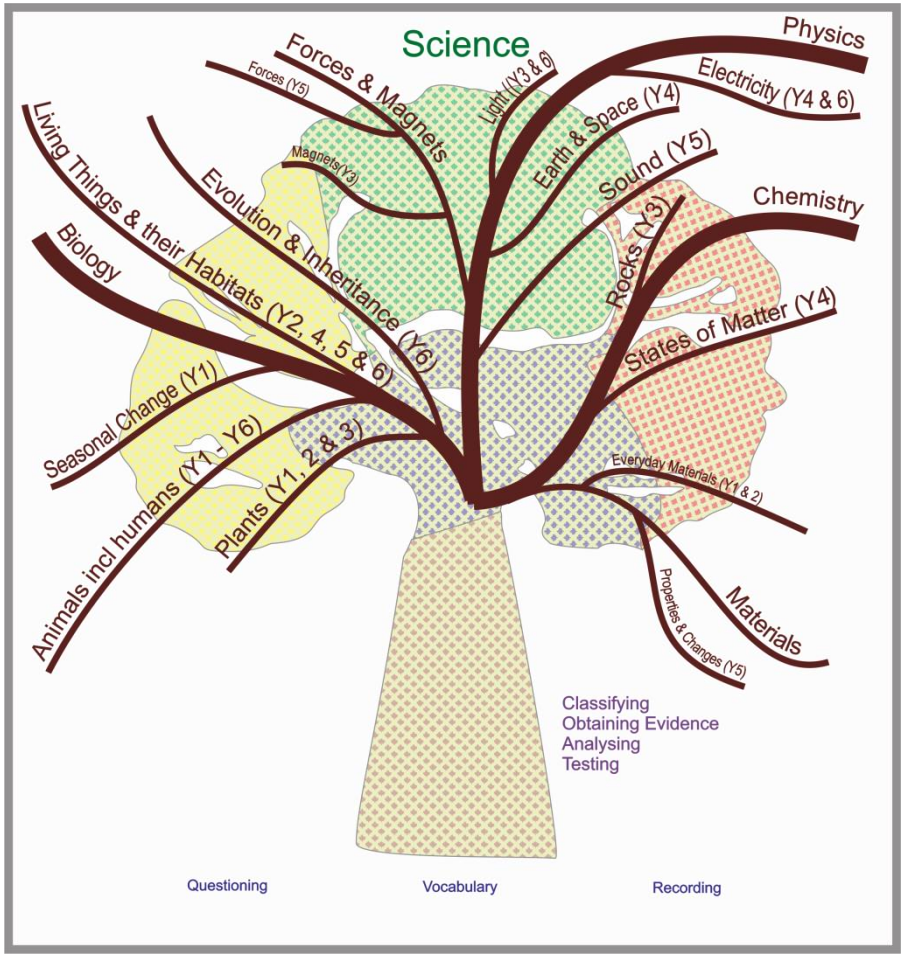
1	• recognise and name common 2-D and 3-D shapes, including:
	  ○ 2-D shapes [for example, rectangles (including squares), circles and triangles]
	  ○ 3-D shapes [for example, cuboids (including cubes), pyramids and spheres].
		• describe position, direction and movement, including whole, half, quarter and three-quarter turns.	

2	• identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D and 3-D shapes and everyday objects.	• order and arrange combinations of mathematical objects in patterns and sequences • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	• interpret and construct simple pictograms, tally charts, block diagrams and simple tables • ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data.
3	• draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • recognise angles as a property of shape or a description of a turn • identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle • identify horizontal and vertical lines and pairs of perpendicular and parallel lines.		• interpret and present data using bar charts, pictograms and tables • solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

4	• compare and classify geometric shapes, including quadrilaterals and triangles**,** based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry.	• describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon.	• interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

5	• identify 3-D shapes, including cubes and other cuboids, from 2-D representations
	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
	• draw given angles, and measure them in degrees (°)
	• identify:
	  ○ angles at a point and one whole turn (total 360°)
	  ○ angles at a point on a straight line and ½ a turn (total 180°)
	  ○ other multiples of 90°
	• use the properties of rectangles to deduce related facts and find missing lengths and angles
	• distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
		• identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	• solve comparison, sum and difference problems using information presented in a line graph
			• complete, read and interpret information in tables, including timetables.

6	• draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.	• describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	• interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average.



Science

Science is made up of the following areas:
Working scientifically which encompasses

ROOT SKILLS:

- Questioning
- Vocabulary
- Recording

CURRICULUM STEMS

- Classifying
- Obtaining evidence
- Analysis
- Testing

Scientific knowledge and conceptual understanding which encompasses:

BRANCHES OF LEARNING

- Biology
- Physics
- Chemistry

To a great extent, Root and Curriculum Stem Skills
The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose.

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ROOT SKILLS

Summary of Root Skills for Key Stages I & II

Questioning	Vocabulary	Recording
As a guide to hierarchy: • Ask simple questions about how and why. • Ask simple questions about how and why and suggest different ways of obtaining results. • Ask relevant questions • Raise their own questions about the world around them and start to make own decision about appropriate scientific enquiry • Refer to scientific experience to explore ideas and raise different types of questions • Refer to scientific experience to develop more abstract questioning. Identify evidence which has been used to support or refute ideas or arguments	• Use scientific words in correct context • Use scientific words associated with topics being learned.	Record findings, ideas and questions in appropriate ways, including: • Discussion • Drawings • Annotations • Presenting to others • Shared IT presentations • Video/Radio/Podcast • Topic books • Individual IT presentations

CURRICULUM STEMS

Summary of Curriculum Stem Skills for Key Stages I & II

Classifying	Obtaining evidence	Analysis	Testing
As a guide to hierarchy: • Identify and classify • Use classification to sort into groups • Talk about criteria for grouping, sorting and classifying • Start to draw up simple keys to group and sort • Use increasingly complex criteria for classification and grouping.	As a guide to hierarchy: • Use simple equipment to observe closely (ie magnifying glass) • Make decisions about what observation are needed to be made • Select the equipment to be used to obtain results (eg data loggers), • Recognise when and how secondary data sources are useful • Choose the most appropriate equipment and be able to explain how to use it more accurately • Use a range of scientific equipment with increasing accuracy and precision	As a guide to hierarchy: • Use observation to suggest answers to questions • With guidance notice patterns and relationships • Look for changes, patterns and similarities with data and begin to draw conclusions • Draw conclusions form findings • Identify new questions from data and find ways of improving investigations • Look for relationships in data to identify where further testing may be needed • Use test results to make predictions and to set up further comparative and fair tests	As a guide to hierarchy: • Perform simple tests • Begin to choose how to answer questions (ie starting to understand fair testing) • Recognise when a simple and fair test is necessary and assist in setting it up • Identify constants and variables • Begin to plan for fair tests with guidance • Select and plan the most appro0raite type of scientific tests. Recognise when, how and why to use a fair test and explain which are the variables and which are the constants

BRANCHES OF LEARNING – BIOLOGY

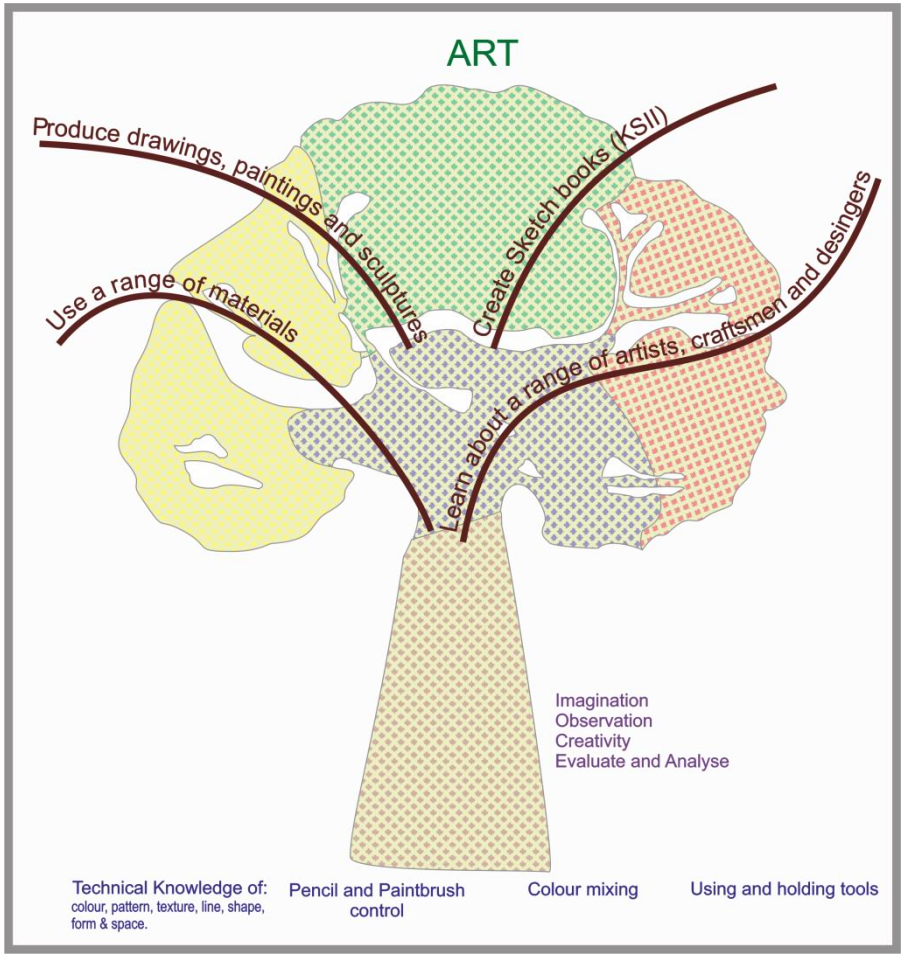
Plants	Animals Including Humans	Living things & their habitats	Evolution and inheritance	Seasonal Change
Year 1 • identify and name a variety of common wild and garden plants, including deciduous and evergreen trees • identify and describe the basic structure of a variety of common flowering plants, including trees. Year 2 • observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. Year 3 • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. •	Year 1 • identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • identify and name a variety of common animals that are carnivores, herbivores and omnivores • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets) • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Year 2 • explore and compare the differences between things that are living, dead, and things that have never been alive • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • identify and name a variety of plants and animals in their habitats, including micro-habitats • describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. Year 3 • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat • identify that humans and some other animals have skeletons and muscles for support, protection and movement. Year 4 • describe the simple functions of the basic parts of the digestive system in humans • identify the different types of teeth in humans and their simple functions • construct and interpret a variety of food chains, identifying producers, predators and prey. Year 5 • describe the changes as humans develop to old age. Year 6 • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans.	Year 4 • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things. Year 5 • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals. Year 6 • describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics.	Year 6 • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Year 1 • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies.

BRANCHES OF LEARNING – PHYSICS

Forces & magnetism	Light	Sound	Electricity	Earth & Space
Year 3 • compare how things move on different surfaces • notice that some forces need contact between two objects, but magnetic forces can act at a distance • observe how magnets attract or repel each other and attract some materials and not others • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • describe magnets as having two poles • predict whether two magnets will attract or repel each other, depending on which poles are facing. Year 5 • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Year 3 • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change. Year 6 • recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Year 5 • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance from the sound source increases.	Year 4 • identify common appliances that run on electricity • construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit • recognise some common conductors and insulators, and associate metals with being good conductors. Year 6 • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram. • Building on their work in year 4, pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols.	• Year 4 • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

BRANCHES OF LEARNING – CHEMISTRY

Materials	Rocks	States of matter
Year 1 • distinguish between an object and the material from which it is made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials • compare and group together a variety of everyday materials on the basis of their simple physical properties. Year 2 • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Year 3 • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • describe in simple terms how fossils are formed when things that have lived are trapped within rock • recognise that soils are made from rocks and organic matter. •	Year 4 • compare and group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. Year 5 • compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic • demonstrate that dissolving, mixing and changes of state are reversible changes • explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.



ART

Art is made up of the following areas:

ROOT SKILLS:

- Technical knowledge of:
  - Colour
  - Pattern
  - Texture
  - Line
  - Shape & form
  - Space
- Pencil and paintbrush control
- Colour mixing
- Using and holding tools

CURRICULUM STEMS

- Imagination
- Observation
- Creativity
- Evaluate and analyse

BRANCHES OF LEARNING

- Use a range of materials
- Produce drawings, paintings and sculptures
- Create Sketch books (KSII)
- Learn about a range of artists, craftsmen and designers

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

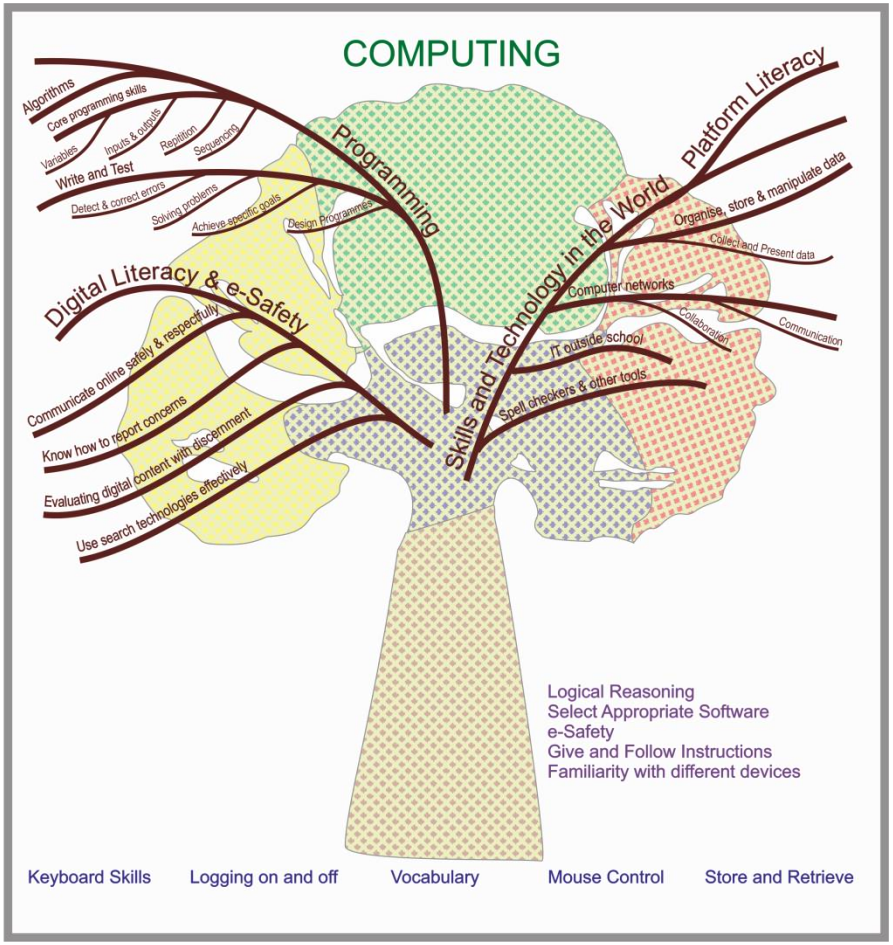
Summary of Root Skills for Key Stages I & II

Technical art knowledge	Pencil & paintbrush control	Colour mixing	Using and holding tools
In Key Stage I children should be given specific, dedicated lessons on the following: • Colour • Pattern • Texture • Line • Shape & form • Space In Key Stage II children should be given specific, dedicated lessons on the following and this should be evident in their sketchbooks: • Colour • Pattern • Texture • Line • Shape & form • Space •	In Key Stage I children should be given specific, dedicated lessons on painting and drawing techniques including where appropriate: • Poster paint work • Water colour work • Oil and/or chalk pastels • Coloured and plain pencil • Other media such as Brusho, fabric paint, glass paint etc. In Key Stage II children should be given specific, dedicated lessons on painting and drawing techniques. Where appropriate these *may* be included in their sketchbooks. Control to include, where appropriate: • Poster paint work • Water colour work • Oil and/or chalk pastels • Coloured and plain pencil • Other media such as Brusho, fabric paint, glass paint etc.	In Key Stage I children should be given specific, dedicated lessons colour mixing and blending colours. In Key Stage II children should be given specific, dedicated lessons colour mixing and blending colours. Children should have colour mixing wheels or similar in their sketchbooks to refer to on the last pages of the book. In addition, Sketchbooks should have a: • shading wheel or similar to refer to on the last pages of the book. • Colour wheel or similar Paint and pencil examples to refer to (ie a swatch of watercolour to compare with poster paint)	Children should be given specific, dedicated teaching on using and holding tools.

Curriculum Stems

Summary of Curriculum Stem Skills for Key Stages I & II

Imagination	Observation	Creativity	Evaluate and analyse
Children should be given opportunities to explore their imagination.	Children should be given opportunities to observe in and outside the classroom.	Children should be given opportunities to explore their creativity.	Children should be given opportunities to effectively evaluate their work and given the opportunity to improve.



COMPUTING

Computing is made up of the following areas:

ROOT SKILLS:

- Keyboard skills
- Logging on and off
- Vocabulary
- Mouse control
- Store and retrieve
- Keeping safe online

CURRICULUM STEMS

- Logical reasoning
- Selecting appropriate software
- e-safety
- Give and follow instructions
- Familiarity with different devices

BRANCHES OF LEARNING

- Computer Science
- Information Technology
- Digital Literacy

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

Summary of Root Skills for Key Stages I & II

Keyboard skills	e-safety	Vocabulary	Mouse control	Store and retrieve
Become increasingly adept at using keyboard.	Increasing degrees of safety including: ▪ Keeping personal information secure, ▪ Sexting, ▪ Cyberbullying ▪ XXXXXXXXXXX	Computer & hardware specific: Monitor, Keyboard, Mouse, Pointer, Tab, Caps Lock, Shift, Enter/return, Backspace, Delete, Cursor, Click Platform specific: PC/Computer, Tablet, Window/Android/Apple Other words Email, Internet/web, Printer, Memory stick/flash drive/USB stick/etc, Wifi/Ethernet, Vocabulary specific to topics ie shared folder, etc.	Become increasingly adept at using mouse.	Store in default locations Store on external USB drives Moving files and creating folders Store on the cloud in collaborative work.

A further Root Skill is keeping safe online.

Curriculum Stems

Summary of Curriculum Stem Skills for Key Stages I & II

Logical reasoning	Selecting appropriate software	e-safety	Give and follow instructions	Familiarity with different devices
As appropriate to task and ability of children.	As appropriate to task and ability of children.	As appropriate to task and ability of children.	As appropriate to task and ability of children.	As appropriate to task and ability of children.

Branches of Learning
Summary of Branches of Learning for Key Stages I & II

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%
Overview **KSI** • Recognise common uses of information technology beyond school • Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies **KSII** • Understand the opportunities [networks] offer for communication and collaboration • Be discerning in evaluating digital content • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact • **EYFS** • *Learn that staying safe online is similar to staying safe in the real world.* • *Explore and comment on different types of websites with the teacher, which are pupils' favourites and why?* • *Discuss how they use the computer/tablets at home and the difference between home and school use.* **Below are modules to use in the following years:** **Year 1** • **Online Safety** o *Use technology safely and respectfully*	**Overview** KSI • Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions • Create and debug simple programs Use logical reasoning to predict the behaviour of simple programs KSII • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs • Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web • Appreciate how [search] results are	**Overview** KSI • Use technology purposefully to create, organise, store, manipulate and retrieve digital content KSII • Use search technologies effectively • Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information **EYFS** • Practice logging on and off from a computer. • Improve mouse control. • Learn how to print. **Year 1** • Correct Posture for working at computers • The need for screen breaks • **Year 2** • Writing stories, communication information using text • Use a digital video camera to record and make simple edits • ICT in the World Around You - Illustrate

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%
○ *Recognise common uses of information technology beyond school* **Year 2** • **Staying Safe Online** ○ *understand that being safe when they visit websites is similar to staying safe in real life.* ○ *learn to recognize websites that are good for them to visit.* ○ *recognize if they should ask an adult they trust before they visit a particular website.* • **Follow the Digital Trail** ○ *learn that the information they put online leaves a digital footprint or "trail."* ○ *explore what information is appropriate to be put online.* ○ *judge the nature of different types of digital footprints by following the information trails of two fictional animals.* • **Screen out the Mean** ○ *analyse online behaviours that could be considered cyberbullying.* ○ *explain how to deal with a cyberbullying situation.* ○ *recognize the importance of engaging a trusted adult when they experience cyberbullying.* • **Using Keywords** ○ *understand the function of keywords and keyword searches.* ○ *learn a step-by-step procedure for selecting suitable keywords.* ○ *apply their chosen keywords to find the information they are looking for on the Internet.* • **Sites I like** ○ *identify and explore different features of an informational website.* ○ *understand that not everyone will rate a website the same way.* ○ *evaluate whether they like or dislike features of a site.* **Year 3** • **Powerful Passwords** ○ *understand the functions of passwords.* ○ *identify strategies for creating and protecting secure passwords.* ○ *create their own secure passwords using the lesson guidelines.* • **My Online Community** ○ *consider what it means to go online and use the Internet.* ○ *compare and contrast how they are connected to different people and places, in person and on the Internet.* ○ *demonstrate an understanding of how people can connect on the Internet by drawing a map of their online community.*	selected and ranked **EYFS** • *Recognise that many different everyday devices, including toys, respond to signals and instructions.* • *Make choices when using such devices to produce different outcomes.* • *Be able to talk about how they use controls and instructions in the home and outside school.* • *Understand and sometimes use everyday language to describe position, for example under, in, on, between, over.* • *Be able to order a collection of pictures into the correct sequence.* • *Recognise a simple set of instructions (algorithms).* **Year 1** • **Programming** • Understand that programmes execute by following precise and unambiguous instructions. • Understand what algorithms are and that programs execute by following precise and unambiguous instructions. • Create and debug simple programs.	information with pictures using presentation software • Questions and answers **Year 3** • Combining text and graphics/digital images • Compose, record and edit sounds • Introduction to databases • Develop images using repeating patterns eg Christmas wrapping paper • 2D Animations **Year 4** • Writing for different audiences (QCA 4A) • Multimedia Presentation • Collecting and presenting information; questionnaires and pie charts • Branching databases • PROJECT –Mad About Ads **Year 5** • Produce a story for Reception to include narration and music using one or more multimedia programs of their choice • 3D Animations • Introduction to spreadsheets **Year 6** • PROJECT - It's a Dog's Life • Spreadsheet Modelling • Understanding the internet

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%

• **Things for Sale**
  ○ *understand that the main purpose of product sites is to encourage viewers to buy the product.*
  ○ *recognize how a site's fun and interesting features help sell the product.*
  ○ *create their own product site home pages with features designed to sell their products.*
• **Show Respect Online**
  ○ *understand how to show respect in social situations.*
  ○ *recognize the importance of tone in both face-to-face and online communications.*
  ○ *learn rules for writing clear and respectful emails by editing an email message*
• **Writing Good emails**
  ○ *identify the five main parts of letter/email writing.*
  ○ *compare and contrast the format of letter writing to that of writing emails.*
  ○ *proofread a draft of an email*
 	
Year 4
• **Rings of Responsibility**
  ○ *reflect upon their offline responsibilities.*
  ○ *examine their online responsibilities.*
  ○ *learn that good digital citizens are responsible and respectful in the digital world (and beyond)*
• **Private and Personal Information**
  ○ *learn about the benefits of sharing information online, but also about the safety and security risks of sharing certain types of information.*
  ○ *understand what type of information can put them at risk for identity theft and other scams.*
  ○ *distinguish between personal information, which is safe to share online, and private information, which is unsafe to share.*
• **The Power of Words**
  ○ *empathize with those who have received mean and hurtful messages.*
  ○ *judge what it means to cross the line from harmless to harmful communication online.*
  ○ *generate solutions for dealing with cyberbullying.*
• **The Key to Keywords**
  ○ *experiment with different keyword searches and compare their results.*
  ○ *refine their searches by using multiple words, synonyms, and alternative words and phrases.*
	• Use technology purposefully to create digital content.
	
	Year 2
	• Create and debug simple programs.
	• Use logical reasoning to predict the behaviour of simple programs.
	• Learn to program a floor turtle to move around an area by using single instructions, a sequence of instructions and repeated sequences.
	• Develop understanding of programmed devices used outside school.
	• Recognise patterns in simple sets of data.
	• Children should be able to apply what they have learnt when: creating and using maps in geography; working with shape and space in mathematics; and using devices in design and technology.
	
	Year 3
	• Be able to plan and give a linear (non-branching) sequence of instructions to control a screen turtle.
	• Design, write and debug programs that accomplish specific goals.
	• Learn how to write a procedure that 'teaches' the turtle a new word.
	• Write short sequences to produce particular shapes on screen.	

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%
○ *draw inferences to explain their search results.* • **Whose is it Anyway** ○ *define plagiarism and describe its consequences.* ○ *explain how giving credit is a sign of respect for people's work.* ○ *articulate when it is acceptable to use people's work, and how to write a citation.* **Year 5** • **Strong Passwords** ○ *identify the characteristics of strong passwords.* ○ *apply characteristics of strong passwords to create new passwords.* ○ *create secure passwords with their family members.* ○ *define plagiarism and describe its consequences.* ○ *explain how giving credit is a sign of respect for people's work.* ○ *articulate when it is acceptable to use people's work, and how to write a citation.* • **Digital Citizenship Pledge** ○ *establish expectations and norms for the group related to appropriate online behaviour.* ○ *participate responsibly and respectfully in an online community.* ○ *collaborate on a classroom motto about digital citizenship.* • **You've Won a Prize** ○ *define what spam is.* ○ *explore strategies for safely managing unwanted messages.* ○ *identify different forms of spam.* • **How to Cite a Site** ○ *explain the value of giving proper citations.* ○ *name the components of an MLA style citation for different types of websites.* ○ *create MLA style citations for online articles and professional sites.* ○ *learn how to search online by using the alphabet.* ○ *understand how to search for a specified letter of the alphabet on a children's directory site.* ○ *apply the results of their alphabet search to create a picture dictionary.* • **Picture Perfect** ○ *recognize that photos can be altered digitally, and consider the upsides and downsides of this practice.* ○ *discuss how photo alteration can distort our perceptions and affect our self-image.* ○ *analyse how advertising uses photo alteration to help sell products*	• Use sequence, selection and repetition in programs; work with variables. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. **Year 4** • Design, write…solve problems by decomposing them into smaller parts. • Be able to present data in a systematic way in order to learn how to write repeating procedures to produce desired outcomes by rotating the screen turtle through 360 degrees. • Be able to refine and improve their instructions. **Year 5** • Be able to identify devices at home and at school which operate on instructions. • Discuss whether they rely on a single instruction or a sequence, i.e. Light switch on/off, Turning the kettle on/off, Recording TV programs, Pelican crossing. • Be able to sequence a set of instructions in the correct order. • Understand that some devices operate	

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%

Year 6
• **Talking Online Safely**
  ○ *compare and contrast online-only friends and in-person, face-to-face pals.*
  ○ *analyse why private information should not be given to anyone online without the permission of a trusted adult.*
  ○ *debate how to respond if an online-only friend asks them personal questions.*
  ○ *discover that the Internet can be used to visit far-away places and learn new things.*
  ○ *compare how staying safe online is similar to staying safe in the real world.*
  ○ *explain rules for traveling safely on the Internet. Reproduce simple representations of a journey in a story.*
• **Super Digital Citizen**
  ○ *compare and contrast their responsibilities to their offline and online communities.*
  ○ *reflect on the characteristics that make someone an upstanding citizen.*
  ○ *devise resolutions to digital dilemmas.*
  ○ *learn how to search online by using the alphabet.*
  ○ *understand how to search for a specified letter of the alphabet on a children's directory site.*
  ○ *apply the results of their alphabet search to create a picture dictionary.*
• **Privacy Rules**
  ○ *learn which information they should avoid sharing online because it is private.*
  ○ *understand which kinds of websites have privacy policies, and why.*
  ○ *practice checking websites they visit for privacy policies and privacy seals of approvals.*
  ○ *learn how to search online by using the alphabet.*
  ○ *understand how to search for a specified letter of the alphabet on a children's directory site.*
  ○ *apply the results of their alphabet search to create a picture dictionary.*
• **What is Cyberbullying**
  ○ *empathize with the targets of cyberbullying.*
  ○ *recognize some of the key similarities and differences between in-person bullying and cyberbullying.*
  ○ *identify strategies for dealing responsibly with cyberbullying*
  ○ *learn how to search online by using the alphabet.*
  ○ *understand how to search for a specified letter of the alphabet on a children's directory site.*
	automatically and that things do not happen without cause and effect.
	• Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
	• Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
	• Be able to represent symbolically a sequence of events – i.e. turning on the computer.
	• Recognise that devices can be controlled by a computer.
	• Recognise the need for precision when writing simple procedures.
	• To be able to control more than one output device. Use simple control languages to activate multiple devices concurrently.
	• Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
	• Develop a system that controls events in response to conditions – i.e. House alarm/Security light.
	• Use input and output devices and produce a simple set of instructions	

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%
○ *apply the results of their alphabet search to create a picture dictionary.* • **Selling Stereotypes** ○ *compare and contrast gender stereotypes.* ○ *evaluate online media messages that convey gender stereotypes.* ○ *reflect on why gender stereotypes sometimes can be limiting*	linking causes and effects. **Year 6** • Be able to use object orientated programming to control on screen 'actors'. • Understand the application of event and actions. • They will develop, test and refine sequences of instructions to produce a simple animation. • Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. • Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. • Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.	

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%

Digital Literacy 20% raising to 40% UKSII	Computer Science 40% timetable	Information Technology 20%

Notes

Note that this Scheme of work is not WAPS originated but Entrust. A trial year will need to be run to ensure it is appropriate to the needs of our children

- Still need to have full details from Entrust regarding Programming SOW.
- Need to verify appropriateness of Common Sense Media and that the related schemes are useful and workable
- Balance of teaching needs to be agreed. After Root and Stem Skills, the majority of Computing teaching should refer to the Programming and Skills elements of the schemes of work with the e-safety and Technology in the World taking second place in priority. Note that this is to be decided by the staff at WAPS
- At time of press – access to Common Sense Media (www.commonsensemedia.org) is via headteacher@williamamory.co.uk password Wapsisfab@1
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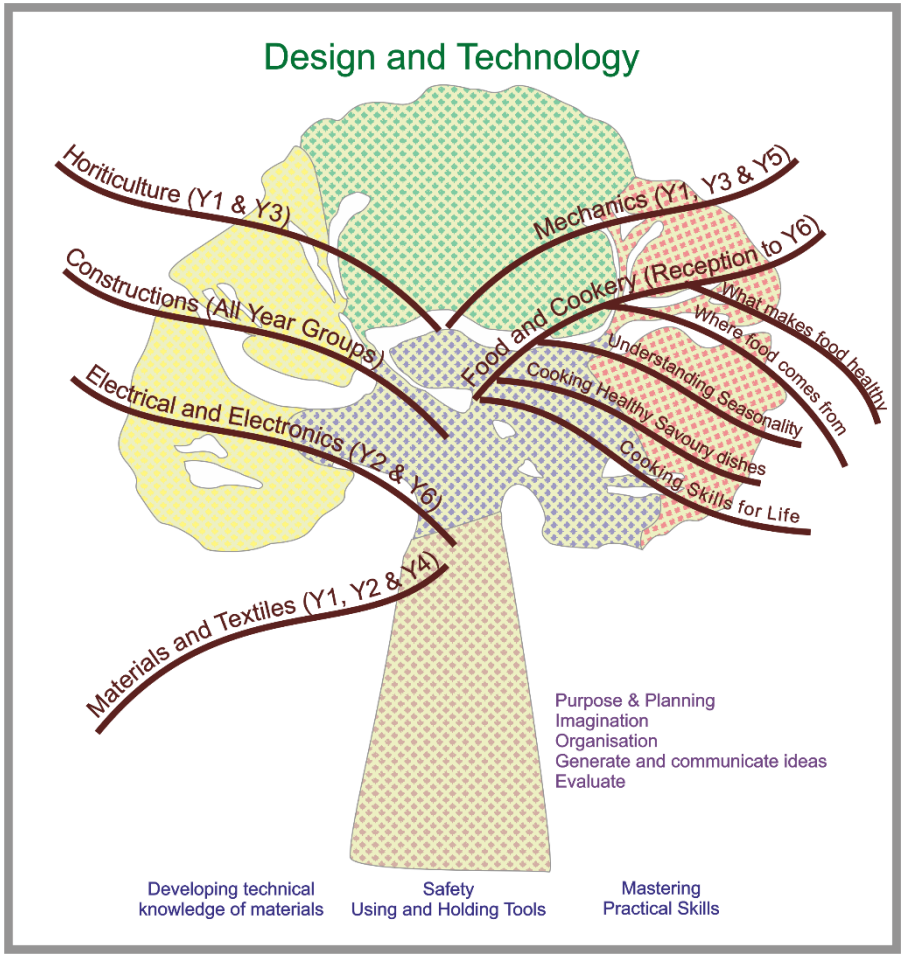

DESIGN & TECHNOLOGY

Design and Technology is made up of the following areas:

ROOT SKILLS:

- Developing a knowledge of materials
- Safely using and holding tools
- Mastering practical skills

CURRICULUM STEMS

- Purpose & planning
- Imagination
- Organisation
- Generating and communicating ideas
- Evaluating

BRANCHES OF LEARNING

- Mechanics
- Materials and textiles
- Food and Cookery
- Horticulture
- Construction
- Electrics and Electronics

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

Summary of Root Skills for Key Stages I & II

Developing a knowledge of materials	Safely using and holding tools	Mastering practical skills
• **Joining materials effectively** ○ Card & Paper ○ Fabrics ○ Wood ○ Pritt, PVA, sellotape ○ Needle & thread/pins ○ Screws and nails ○ Glue guns ○ Clips, pins, tags ○ Methods that are ineffective.	• **Storing tools safely** • **Carrying tools safely** • **Using tools safely** ○ Scissors ○ Needles & Pins ○ Saws (including grip) ○ Glues guns ○ Knives (including grip), chopping boards, mixers and other food prep • **Hazards** ○ Heavy objects such as vices ○ Cuts ○ Burns ○ Materials danger (from paper cut to splinters, etc) ○ Infection – particularly in cooking • **Food** ○ Hand cleaning ○ Food prep area cleaning ○ Hygiene whilst cooking or preparing ○ Coughs and sneezes ○ Cleaning after cooking or preparing ○ Storing equipment	• **Disassembly & Assembly** • **Measuring (length, volume, weight)** • **Following a pattern/template** • **Marking** ○ Pencil or other ○ Use of Square for 90o ○ Increasing accuracy ○ Perpendicular pencil mark for accuracy ○ Parallax • **Cutting & scoring** ○ Scissors ○ Blades ○ Saws ○ Kitchen knives • **Assembling** ○ Following instructions ○ Assembly before joining ○ Correct joining application • **Finishing** ○ Smoothing edges ○ Trimming ○ Removing overlaps etc ○ Hems, loose threads etc. ○ Improving appearance/presentation • **Choosing tools** ○ Comparison scissors to blades ○ Correct saws, wood tools ○ Correct knife and chopping block etc.

CURRICULUM STEMS
Summary of Curriculum Stem Skills for Key Stages I & II

Purpose	Imagination	Organisation	Generating and communicating idea	Evaluating
• **Criteria, Purpose or Design Brief** ○ Progression from being given clear criteria to coming up with own brief in open ended challenge (ie design product that will carry 1kg 50cm) • **Developing a design brief (ie must be able to hold 10 coins; over 50cm high and carrying 1kg)** • **Ensure design meets design brief**	• **Using models or prototypes to develop ideas**	• **Planning for joining** ○ How are edges, corners, materials going to be joined • **Identifying what is needed** ○ Tools ○ Materials ○ Quantities. • **Identifying and following a work order sequence**	• **Coming up with ideas** ○ Discussion ○ Drawings ○ Annotations ○ Presenting to others • **Identifying problems before starting** •	• **Evaluating Prototypes** ○ Learning from prototypes for future planning ○ Comparing products with criteria for future planning ○ Tasting to adjust ○ Recognising what hasn't worked and how to make it work next time • **Trial and Error** ○ Value ○ Making prototypes ○ Evaluating lessons learnt from prototypes ○ Disassembly & Assembly

LEARNING BRANCH – COOKING FOR LIFE

As part of their work with food, pupils should be taught how to cook as learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes,
- understand where food comes from.

Key stage 2

- understand and apply the principles of a healthy and varied diet (D&T Curriculum),
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques,
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 1	**With Close Supervision:** ○ Use the bridge hold to cut harder foods using a serrated vegetable knife (eg apple) ○ Use the claw grip to cut soft foods using a serrated vegetable knife (eg tomato) ○ Mash cooked food ○ Peel soft vegetables using a peeler ○ Using physical guidance if necessary, peel harder food (eg apple, potato) ○ Cut food into evenly sized largish pieces ○ Use a melon baller to core an apple ○ Grate soft food using a grater **Independently:** ○ Drain away liquids from packaged food using a sieve or colander (eg tuna or sweet corn ○ Use a lemon squeezer	**With moderate supervision:** ○ Sift flour into bowl ○ Mix, stir and combine liquid and dry ingredients (eg muffins) ○ With help, use hands to rub fat into flour (eg rock buns) ○ With help crack an egg and beat together using a fork ○ With physical guidance, use a small table knife for spreading soft spreads on to bread ○ Use hands to shape dough in to small balls or shapes ○ With help assemble and arrange cold ingredients (eg sandwich, fruit kebabs, bruschetta)	**Children will not be cooking hot food, but should understand how hot food is cooked safely by:** ○ Observing adults using the hob, oven, toaster and/or microwave **With close supervision:** ○ Be able to prepare food for baking and frying such as greasing baking tins and adding oil to frying pans / saucepans.	**2 half termly topics** **Health & Safety** ○ How to clean hands. ○ Safety around heat. **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.

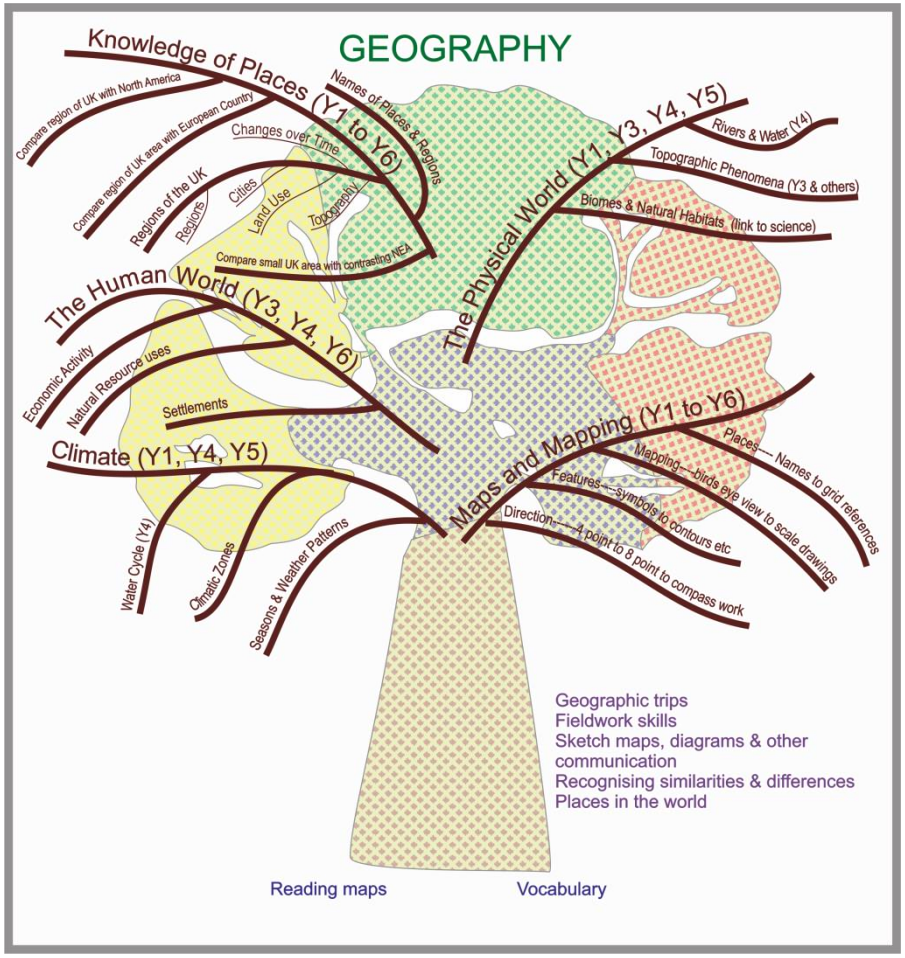
Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 2	**With close supervision:** ○ Use the bridge hold to cut harder foods using a serrated vegetable knife (eg apple) ○ Use the claw grip to cut soft foods using a serrated vegetable knife (eg tomato) ○ Cut food into evenly sized largish pieces (eg potatoes) **With moderate supervision:** ○ Peel soft vegetables using a peeler (eg cucumber) ○ Using physical guidance if necessary, peel harder food (eg apple, potato) ○ Grate soft food, using a grater (eg cheese) ○ Use a melon baller to core an apple **Independently:** ○ Mash cooked food (eg potatoes with a masher) ○ Drain away liquids from packaged food using a sieve or colander (eg tuna or sweet corn ○ Use a lemon squeezer	**With moderate supervision:** ○ Mix, stir and combine liquid and dry ingredients (eg muffins) ○ Use hands to rub fat into flour (eg rock buns) ○ Crack an egg and beat together using a fork ○ Use a small table knife for spreading soft spreads on to bread ○ Use hands to shape dough in to small balls or shapes ○ Assemble and arrange cold ingredients (eg sandwich, fruit kebabs, bruschetta) **Independently:** ○ Sift flour into bowl	**Children will not be cooking hot food, but should understand how hot food is cooked safely by:** ○ Observing adults using the hob, oven, toaster and/or microwave **With close supervision:** ○ Be able to prepare food for baking and frying such as greasing baking tins and adding oil to frying pans / Saucepans	**2 half termly topics** **Health & Safety** ○ How to clean hands. ○ Hygiene & Hair. ○ Coughs and Sneezes ○ Safety around heat. ○ Storing knives etc **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.

Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 3	**With moderate supervision:** ○ Begin to use the claw grip to cut harder foods using a serrated vegetable knife (eg carrot) ○ Begin to use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (eg onion) ○ Use a masher to mash hot food to a fairly smooth texture ○ Cut foods into evenly sized strips or cubes (eg peppers, cheese) ○ Crush garlic using a garlic press ○ Grate harder food using a grater (eg apples, carrots) **Independently:** ○ Begin to peel harder food (eg apple, potato)	**With moderate supervision:** ○ Mix, stir and combine wet and dry ingredients uniformly (eg to form a dough) ○ Crack an egg and beat with balloon whisk ○ Cream fat and sugar together using a mixing spoon ○ Use a rolling pin to flatten and roll out dough (eg scones) ○ Coat food with egg and breadcrumbs (eg fish cakes) ○ **Independently:** ○ Sieve flour, raising agents and spices together in to a bowl ○ Use hands to rub fat into flour (eg scones, apple crumble) ○ Knead and shape dough in to evenly sized shapes ○ Assemble and arrange ingredients for simple dishes (eg apple crumble, scrambled egg on toast)	**Children will not be cooking hot food, but should understand how hot food is cooked safely by:** ○ Observing adults cooking on the hob and putting in and removing food from the oven **With close supervision:** ○ Begin to use a toaster or microwave (e.g beans on toast) ○ Using physical guidance when necessary, handle hot food safely once adults have removed food from the hob or oven (e.g. use oven gloves and a fish slice to remove scones from the baking tray)	**2 half termly topics** **Health & Safety** ○ How to clean hands. ○ Hygiene & Hair. ○ Coughs and Sneezes ○ Safety around heat. ○ Storing knives etc ○ Basic Cross Contamination ○ Handling Hot product (especially microwave) **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.

Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 4	**With moderate supervision:** ○ Use the claw grip to cut harder foods using a serrated vegetable knife (eg carrot) ○ Use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (eg onion) ○ Use a masher to mash hot food to a fairly smooth texture ○ Cut foods into evenly sized strips or cubes (eg peppers, cheese) **Independently:** ○ Peel harder food (eg apple, potato) ○ Crush garlic using a garlic press ○ Grate harder food using a grater (eg apples, carrots)	**With moderate supervision:** ○ Mix, stir and combine wet and dry ingredients uniformly (eg to form a dough) ○ Cream fat and sugar together using a mixing spoon **Independently:** ○ Sieve flour, raising agents and spices together in to a bowl ○ Use hands to rub fat into flour (eg scones, apple crumble) ○ Crack an egg and beat with balloon whisk ○ Use a rolling pin to flatten and roll out dough (eg scones) ○ Coat food with egg and breadcrumbs (eg fish cakes) ○ Knead and shape dough in to evenly sized shapes ○ Assemble and arrange ingredients for simple dishes (eg apple crumble, scrambled egg on toast)	**Children will not be cooking hot food, but should understand how hot food is cooked safely by:** ○ Observing adults cooking on the hob and putting in and removing food from the oven **With close supervision:** ○ Confidently use a toaster or microwave (e.g beans on toast) ○ Handle hot food safely once adults have removed food from the hob or oven (e.g. use oven gloves and a fish slice to remove scones from the baking tray).	**2 half termly topics** **Health & Safety** ○ Personal Hygiene (reminders) ○ Basic Cross Contamination ○ Sources of contamination with particular reference to bacteria ○ Handling Hot product (especially microwave) **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.

Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 5	**With moderate supervision:** ○ Finely grate hard foods (eg zesting, parmesan cheese) ○ With support, use a can opener and open ring-pull tin ○ Dice foods and cut them into evenly sized, fine pieces (eg garlic, vegetable batons, herbs) **Independently:** ○ Confidently use the claw grip to cut harder foods using a serrated vegetable knife (eg carrot) ○ Confidently use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (eg onion) ○ Confidently peel harder food using a peeler (eg apple, potato)	**With close supervision:** ○ Use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (eg chickpeas for hummus or vegetables for soup) **With moderate supervision:** ○ With help begin to separate eggs ○ Whisk using an electric hand mixer (eg eggs) ○ Cream fat and sugar together using an electric hand mixer ○ Use a rolling pin to roll out dough to a ○ specific thickness (eg pizza) **Independently:** ○ Use finger tips to rub fat into flour to make fine 'bread crumbs' (eg apple crumble) ○ Sieve wet and dry ingredients with precision ○ Confidently crack an egg ○ Spread food evenly with a coating, paste or glaze ○ Knead and shape dough in to a variety of shapes ○ Use hands to shape mixtures in to evenly sized pieces (eg burgers)	**Children will not be putting in or removing food from the oven, they should understand how to use the oven safely by observing adults:** ○ Observing adults using the hob, oven, toaster and/or microwave **With close supervision:** ○ With help, begin to use the hob or electric saucepan (wok or stock pot) to cook simple dishes (eg burgers, soup) ○ Handle hot food safely, using oven gloves to carefully remove cooked food with a fish slice from a baking tray on to a cooling rack	**2 half termly topics** **Health & Safety** ○ Personal Hygiene (reminders) ○ Sharps safety – storage, handling, keeping out of harm's way, blade facing down/sideways when on worktop ○ Basic Cross Contamination ○ Sources of contamination with particular reference to bacteria ○ Fridge Storage ○ Preparation and cleaning down ○ Handling Hot product (especially microwave) **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.

Year & Expectations	Tool Skills	Shaping, Assembling and Mixing	Cooking & Cooling	Additional Learning
YEAR 6	**With moderate supervision:** ○ Begin to use a can opener and open ring-pull tin ○ Dice foods and cut them into evenly sized, fine pieces (eg garlic, vegetable batons, herbs) **Independently:** ○ Finely grate hard foods (eg zesting, parmesan cheese) ○ Confidently use the claw grip to cut harder foods using a serrated vegetable knife (eg carrot) ○ Confidently use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (eg onion) ○ Confidently peel harder food using a peeler (eg apple, potato)	**With close supervision:** ○ Use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (eg chickpeas for hummus or vegetables for soup) **With moderate supervision:** ○ Separate eggs ○ Whisk using an electric hand mixer (eg eggs) ○ Cream fat and sugar together using an electric hand mixer ○ Use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (eg chickpeas for hummus or vegetables for soup) **Independently:** ○ Use finger tips to rub fat into flour to make fine ○ bread crumb materials (eg apple crumble) ○ Sieve wet & dry ingredients with precision ○ Confidently crack an egg ○ Use a rolling pin to roll out dough to a specific thickness (eg pizza) ○ Spread food evenly with a coating, paste or glaze ○ Knead and shape dough in to a variety of shapes ○ Use hands to shape mixtures in to evenly sized pieces (eg burgers)	**Children will not be putting in or removing food from the oven, they should understand how to use the oven safely by observing adults:** ○ observing adults using the hob, oven, toaster and/or microwave **With close supervision:** ○ Use the hob or electric saucepan (wok or stock pot) to cook simple dishes (eg burgers, soup) ○ Handle hot food safely, using oven gloves to carefully remove cooked food with a fish slice from a baking tray on to a cooling rack.	**2 half termly topics** **Health & Safety** ○ Personal Hygiene (reminders) ○ Sharps safety (reminders) ○ Cross Contamination ○ Sources of contamination with particular reference to bacteria ○ Fridge Storage ○ Preparation and cleaning down ○ Handling Hot products ○ Emergencies – burns **Planning, Weighing & Measuring:** ○ Linked to age related expectations of the William Amory Syllabus.



GEOGRAPHY

Geography is made up of the following areas:

ROOT SKILLS:

- Reading maps
- Vocabulary

CURRICULUM STEMS

- Geographic trips
- Fieldwork skills
- Sketch mapping and other communication
- Recognising similarities and differences
- Places of the UK and world

BRANCHES OF LEARNING

- Maps and mapping
- The physical world
- Knowledge of places
- The human world
- Climate

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- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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Hierarchy of map reading skills

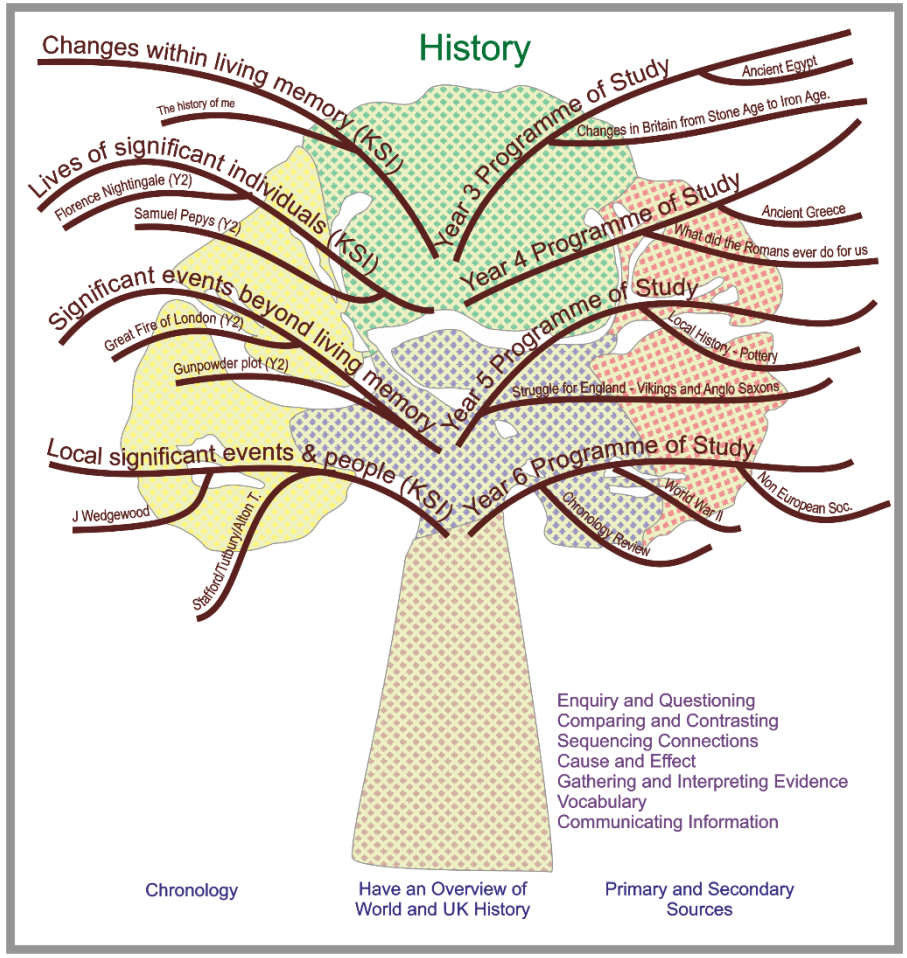
Reading maps
Step 1 • Locate an object represented on a simple – real life – plan, ie, a PC on a class plan or pictorial map; • Place objects in approximate area of a scale plan, ie. put a model of a PC on a scale drawing of a classroom; • Understand that objects look different when viewed in a bird's eye view. **Step 2** • Understand a map is a drawing of a place; • Reproduce simple representations of a journey in a story; • Recognise that objects can be represented in a clump of trees for a forest. • Recognise a pictorial map as a representation of a village/town. **Step 3** • Locate objects represented on a more complex plan, ie pen pot on a class plan; • Read a OS map and trace a motorway, river, etc. • Draw a simple plan of a mat/table showing a very approximate reference to location on the map. • Know the compass points and have some understanding of their relationship or order (ie NSEW). • Match schematic drawings of everyday objects with photos taken from a bird's eye view. • Locate obvious landmarks and houses from a pictorial map. **Step 4** • Locate objects on a map using number/letter coordinates. • Recognise common symbols (ie roads, woodland). • Produce plans of increasing complexity with a reasonable degree of accuracy (ie the classroom with everything in approximately the right place and some attention to scale. • Know the four cardinal points and understand that North and South are opposite. • Find things represented on a pictorial map on an OS map. **Step 5** • Know and use 2 digit references (number/number or letter/number). • Recognise common OS symbols (church, railway, river, A & B roads) • Draw a scaled plan of the classrooms (simple scale ie. 1sq is 1m). • Use keys (ie colour to represent zones/equipment/functions). • Know the relationship between the cardinal points and point to them on maps. • Know that X is East of Y, etc. • Locate features on OS maps (ie specific towns, woodlands, rivers, etc). **Step 6**

Reading maps
• Use four digit coordinates. • Recognise that maps at different scales show different things with varying accuracy (ie river bends, minor road, etc). • Draw a simple, scaled plan of the school and its grounds, using a key. • Begin to understand that contours represent elevation and that proximity represent steepness. • Know and use the 8 point compass. • Recognise 90, 180 & 270 bearings. **Step 7** • Locate x in relation to y by comparing bearings, 6 fig grid references and distances. • Plan journeys taking elevation and steepness into account. • Draw a plan at 1:25, 1:12.5 scales. • Produce relief maps using ICT.

Curriculum Stems
Summary of Curriculum Stem Skills for Key Stages I & II
Geographical Knowledge and Skills

Locational Knowledge	Place Knowledge	Human & Physical	Key Vocabulary	Skills and Framework
Year 1 • Name and locate the four countries and capital cities of the UK. • Name and locate the seas surrounding the UK. **Year 2** • Name and locate the world's seven continents and five oceans. • Identify characteristics of the four countries and capital cities of the UK. **Year 3** • Revise the countries, capital cities and seas of the UK and continents and oceans of the world. • Name and locate Staffordshire and surrounding counties and cities (Birmingham, Stoke-on-Trent, Derby, Nottingham, Leicester, Telford). • Geographical regions and their identifying human and physical characteristics (including hills and mountains). • West Midlands, Stoke-on-Trent pottery town, Staffordshire Moorlands, Derbyshire Peak District. • Land use patterns ~ understand how these have changed over time. **Year 4** • Revise the countries, capital cities and seas of the UK and continents and oceans of the world and capital cities. • Name and locate counties and major cities of the UK (Manchester, Liverpool, Newcastle-upon-Tyne, Glasgow,	**Year 1** • Understand geographical similarities and differences between a small area of the UK and a small area of non-European. **Year 2** • Understand geographical similarities and differences between a small area of the UK and a small area of non-European **Year 3** • Understand geographical similarities and differences through the study of human and physical geography of a region of the UK. **Year 4** • Understand geographical similarities and differences through the study of human and physical geography of a region of the UK. **Year 5** • Understand geographical similarities and differences through the study of human and physical geography of a region of Europe. **Year 6** • Understand geographical	**Year 1** • Identify seasonal and daily weather patterns in the UK. **Year 2** • Identify the location of hot and cold areas of the world in relation to the Equator and the North and South Poles. **Year 3** • Volcanoes and Earthquakes, Mountains, types of settlements and land use. **Year 4** • Rivers, the water cycle. **Year 5** • Climate Zones, distribution of natural resources including energy, food, minerals, water.	**Year 1** • Forest, hill, mountain, sea, river, soil, valley, vegetation, season, weather, city, town, village, farm, house. **Year 2** • Beach, cliff, coast, ocean, port, harbour, factory, office.	**Year 1** • World maps, globes. • Use locational and directional language, e.g.: near and far, right and left to describe the location of features and routes on a map. • Use aerial photos to recognise landmarks and basic human and physical features. • Use a simple map e.g.: on a local walk • Use basic symbols in a key. • Use simple fieldwork and observational skills to study the geography of their school and it's grounds and the key human and features of its surrounding environment. **Year 2** • World maps, globs and atlases. • Use simple compass directions ~ North, South, East and West to describe the location of features and routes on a map. • Use plan perspectives to recognise landmarks and basic human and physical features. • Devise a simple map. • Use and construct basic symbols in a key. • Use simple fieldwork and observational skills to study the geography of their school and it's grounds and the key physical features of its surrounding environment. **Year 3** • Use maps, atlases globes and digital/computer mapping (e.g. Google maps) to locate countries and describe features studied. • Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs and digital

Locational Knowledge	Place Knowledge	Human & Physical	Key Vocabulary	Skills and Framework
Aberdeen, Oxford, Bristol, Norwich, Southampton, Plymouth). • Geographical regions and their identifying human and physical characteristics (including coasts and rivers). • Land use patterns ~ understand how these have changed over time. • Day and Night. **Year 5** • Locate the world's countries using maps to focus on Europe (including the location of Russia). • Concentrate on their environmental regions, key physical and human characteristics, countries and major cities. • Identify position and significance of latitude, longitude, Northern Hemisphere, the Prime/Greenwich Meridian, European Time Zones. **Year 6** • Locate the world's countries using maps to focus on North and South America. • Concentrate on their environmental regions, key physical and human characteristics, countries and major cities. • Identify the position and significance of the Equator, Northern and Southern Hemisphere, the Tropics of Cancer and Capricorn • Arctic and Antarctic Circle, World Time Zones (and date line).	similarities and differences through the study of human and physical geography of a region within North or South America.	**Year 6** • Biomes and vegetation belts, economic activity including trade links.		technologies (photos). **Year 4** • Use maps, atlases, globes and digital/computer mapping (e.g. Google maps) to locate countries and describe features studied. • Use the eight points of a compass, symbols and keys to build their knowledge of the UK and the wider world. **Year 5** • Use maps, atlases, globes and digital/computer mapping (e.g. Google maps) to locate countries and describe features studied. • Use four figure grid references and OS maps, symbols and keys to build their knowledge of the UK and the wider world. **Year 6** • Use maps, atlases, globes and digital/computer mapping (e.g. Google maps) to locate countries and describe features studied. • Use six figure grid references and OS maps, symbols and keys to build their knowledge of the UK and the wider world.



HISTORY

History is made up of the following areas:

ROOT SKILLS:

- Chronology
- Overview of world and UK history
- Primary and secondary sources

CURRICULUM STEMS

- Knowledge and understanding of events, people and changes in the past
- Historical interpretation
- Historical enquiry and questioning
- Organisation and communication
- Language and vocabulary

BRANCHES OF LEARNING

- Local significant events and people
- Significant events beyond living memory
- Lives of significant individuals
- Changes within living memory
- Ancient Egypt
- Changes in Britain from Stone Age to Iron Age
- Ancient Greece
- Roman legacy for UK
- Local history
- Struggle for England and Settlements– Vikings and Anglo Saxons
- World War II
- Chronology review

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- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

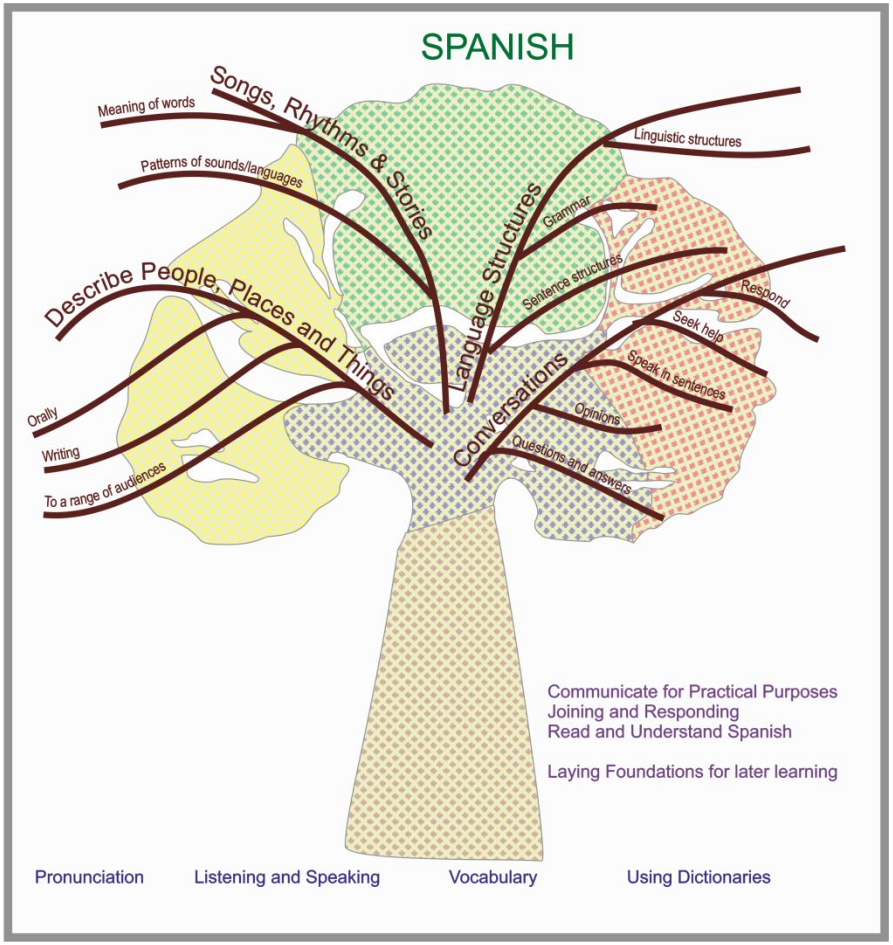
Summary of Root Skills for Key Stages I & II

Chronology	Overview of world and UK history	Primary and secondary sources

• Year 1
• Can place a few events and objects in order.
 	
Year 2
• Use knowledge of the passing of time to place events and objects in order. Begin to place dates on a timeline.
 	
Year 3
• Begin to understand the past can be divided into different periods of time, including BC and AD.
 	
Year 4
• Recognise some similarities and differences between periods of time.
• Order significant events within historical period being studied.
 	
Year 5
• Identify changes within and across different periods.
• Make connections to previous learning.
• Calculate the length of historical periods.
 	
Year 6
• Describe features of past societies and periods.
• Make links between past societies and periods.
• Recall significant dates and place them in time order.
•
	The Stone Age and Iron Age
	Ancient Egypt
	Ancient Greece
	The Roman Empire and its impact on Britain
	The Anglo Saxon settlers and the Viking struggles
	Life during World War II
	Non European Society
		Know and use sources of evidence for learning.
		
		Primary
		• written sources:
		  • official document,
		  • entries from a diary,
		  • an inventory,
		  • extracts from a newspaper,
		  • maps
		• Images:
		  • photographs,
		  • cartoons, sketches or doodles
		  • film or newsreel
		• artefacts
		• oral testimony.
		
		Secondary sources
		• Text books,
		• websites,
		• anything with an interpretation or which used other sources for evidence.

Curriculum Stems
Summary of Curriculum Stem Skills for Key Stages I & II

Knowledge of events, people in history	Historical interpretation	Historical enquiry	Organisation & Communication	Language & Vocabulary
As a guide to hierarchy: **Year 1 & 2** • Recognise a past and present in their own and other people's lives. • Recognise that their own lives are different from the lives of people in the past. **Year 3 & 4** • Show knowledge and understanding of some of the main periods studied. • Show knowledge and understanding of some of the main periods in history including beliefs, ideas, attitudes and experiences. **Year 5& 6** • Show factual knowledge and understanding of periods of history and describe main events. • Show increasing factual knowledge of periods in history and its causes and effects.	As a guide to hierarchy: **Year 1 & 2** • Discuss a range of historical artefacts • Interpret whether artefacts are from past or present • Express opinions about historical stories • Begin to recognise that there are reasons why people acted as they did • Begin to understand some of the different ways of understanding the past (ie books, films, etc) **Year 3 & 4** • Identify how the past can be represented differently • Begin to recognise the difference between primary and secondary sources • Give cause and effect of events and changes in periods studied Year 5&6 • Describe and make links between main events and changes within and across different periods in history • Start to identify bias and why this may occur • Evaluate sources of information for accuracy.	As a guide to hierarchy: **Year 1 & 2** • Find answers to simple questions about history using sources • Ask simple questions • Raise historical questions from sources of information such as artefacts or videos **Year 3 & 4** • Begin to give a few reasons for main events and changes • Use sources of information to assist Year 5&6 • Describe and make links between main events and changes from different periods in history • Use a large range of sources • Identify the most useful source for a particular task	Including: • Discussion • Drawings • Annotations • Presenting to others • Shared IT presentations • Video/Radio/Podcast • Topic books • Individual IT presentations	Vocab specific to study including names of individuals, places etc. In addition, by the end of Y6 children to know the following terms: • BC • AD • Ancient • Timeline • Settlement • Chronology • Monarch • Empire • Ages (ie Stone Age, Iron Age etc)



SPANISH

Spanish is made up of the following areas:

ROOT SKILLS:

- Pronunciation
- Listening and speaking
- Vocabulary
- Using dictionaries

CURRICULUM STEMS

- Communicate for practical purposes
- Joining and Responding
- Read and understand Spanish

- Laying foundations for future learning

BRANCHES OF LEARNING

- Describe people, places and things
- Songs, rhythms and stories
- Language structures
- Conversations

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

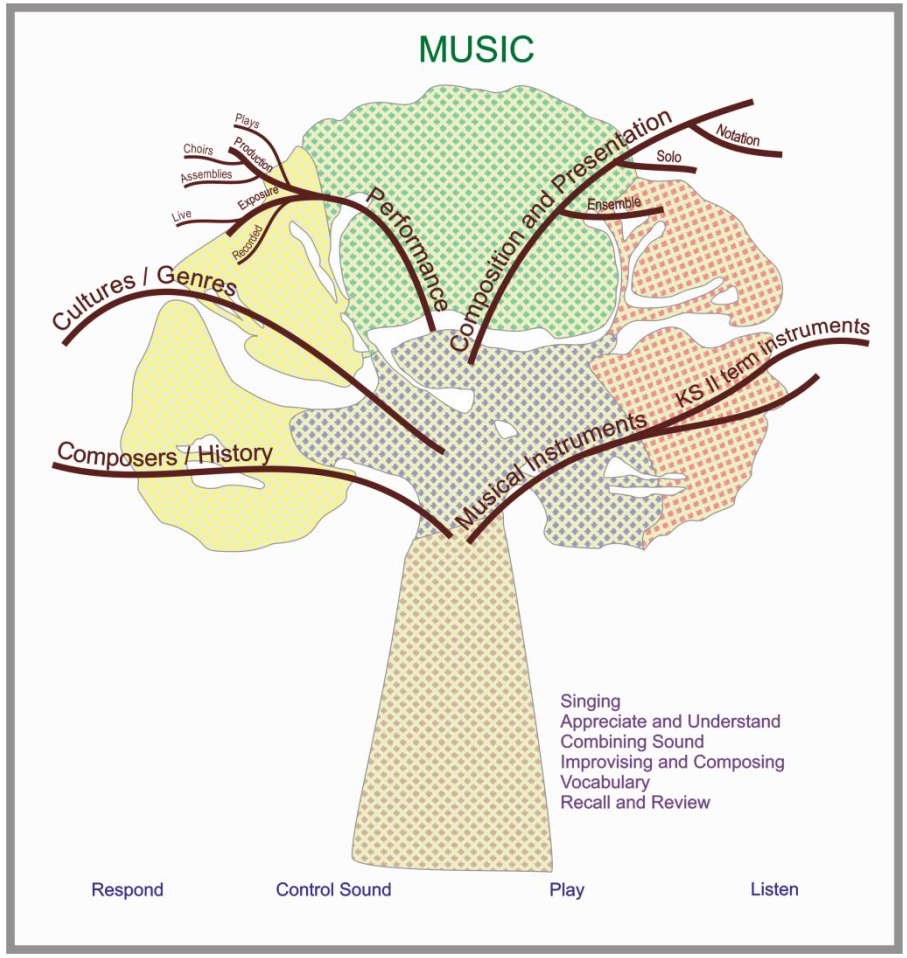
Summary of Root Skills for Key Stages I & II

Pronunciation	Listening & speaking	Vocabulary	Using dictionaries
Children should be taught to pronounce Spanish words. Children should be given opportunities to practice and refine pronunciation. •	Children should be taught to listen to and say Spanish words. Children should be given the opportunity to practice saying and hearing Spanish words.	**Key Vocab** • 100 High frequency words • Food words • Colours • Household objects • Words for shopping	Children should be taught to use dictionaries Children should be given the opportunity to use dictionaries.

Curriculum Stems

Summary of Curriculum Stem Skills for Key Stages I & II

Communicate for practical purposes	Joining and responding	Read and understand Spanish
Through application of root skills children should be taught to communicate in various practical situations.	Through application of root skills children should be taught to communicate, listen and respond in various practical situations.	Children should be taught to read high frequency and Spanish words and phrases, emphasising on building up skills for future learning and focusing on practical purposes.



MUSIC

Music is made up of the following areas:

ROOT SKILLS:

- Respond
- Control sound
- Play
- Listen

CURRICULUM STEMS

- Singing
- Appreciate and understand
- Improvising and composing
- Vocabulary
- Recall and review

BRANCHES OF LEARNING

- Composers/history
- Cultures/genres
- Performance
- Composition and presentation
- Musical instruments

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- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

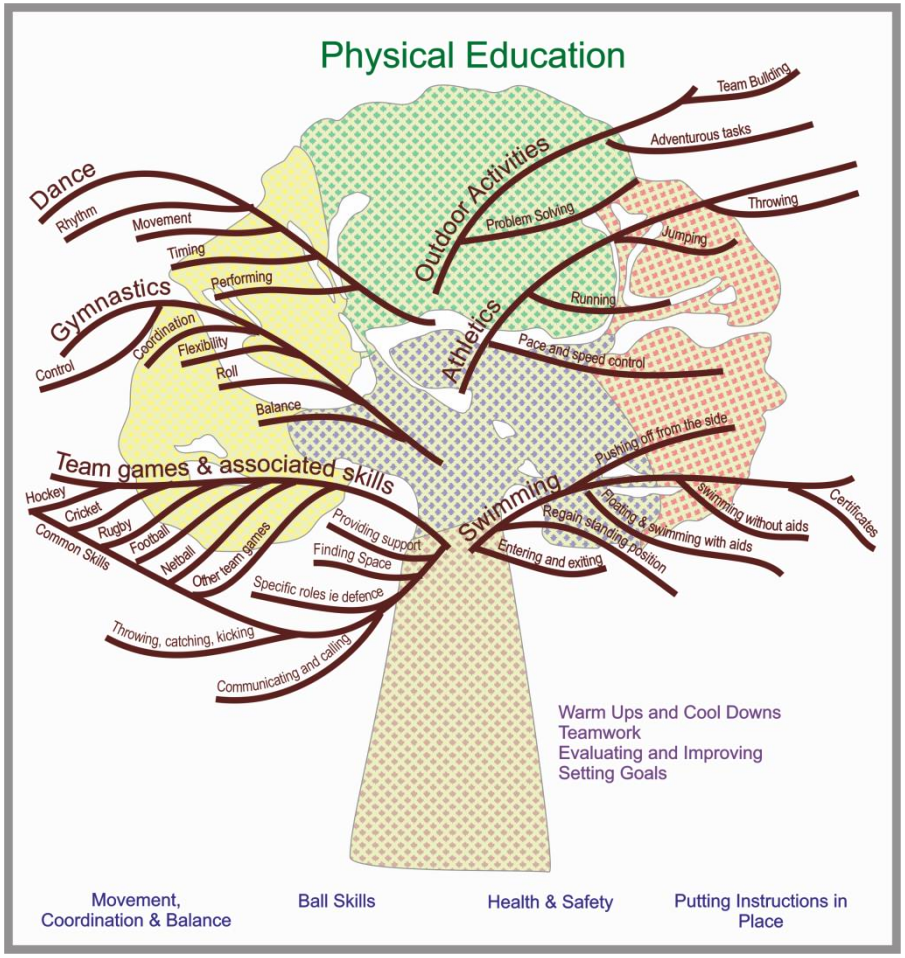
Summary of Root Skills for Key Stages I & II

Respond	Control sound	Play	Listen
Children should be taught how to respond to music, with opinions and observations and comments. Children should be given the opportunity to respond to a variety of music.	Children should be taught how to control sound. Children should be given the opportunity to control sound.	Children should be taught how to play instruments or in groups or alone. Children should be given the opportunity to put this learning into practice.	Children should be taught how to listen to music, taking note of the different elements they may find including: Rhythm Melody Timbre Dynamics Harmony Instruments. Children should be given the opportunity to listen to a variety of music.

Curriculum Stems

Summary of Curriculum Stem Skills for Key Stages I & II

Singing	Appreciate & understand	Improvising and Composing	Vocabulary	Recall & review
Children should be taught how to sing. Children should be given the opportunity to sing.	Children should be taught how to appreciate and understand music through a balance of learning from root skills and learning branches. Children should be given the opportunity to appreciate and understand music.	Children should be given the opportunity to compose and improvise through a balance of learning from root skills and learning branches.	This list is by no means exhaustive: • Tempo • Quiet • Dynamic • Lyrics • Unison/solo • Melody • Verse • Beat • Wind instrument • Clarinet • Recorder • tambourine • Scale incl pentatonic • Texture • Fast • Steady • Harmony • Interval • Rhythm • Chorus • Brass instrument • Trumpet • Violin • Drum • Maracas • Loud • Slow • Percussion • Accent • Pitch – high/low • Timbre • Ostinato • String instrument • Flute • guitar • Piano/keyboard • Cymbals	Children should be given the opportunity to recall and review musical experiences and pieces.



Physical Education

Physical Education is made up of the following areas:

ROOT SKILLS:

- Movement, coordination and balance
- Ball skills
- Health and safety
- Putting instructions in place

CURRICULUM STEMS

- Warm up and cool downs
- Teamwork
- Evaluating and Improving
- Setting goals

BRANCHES OF LEARNING

- Team games and associated skills
- Gymnastics
- Dance
- Athletics
- Swimming
- Outdoor Activities

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

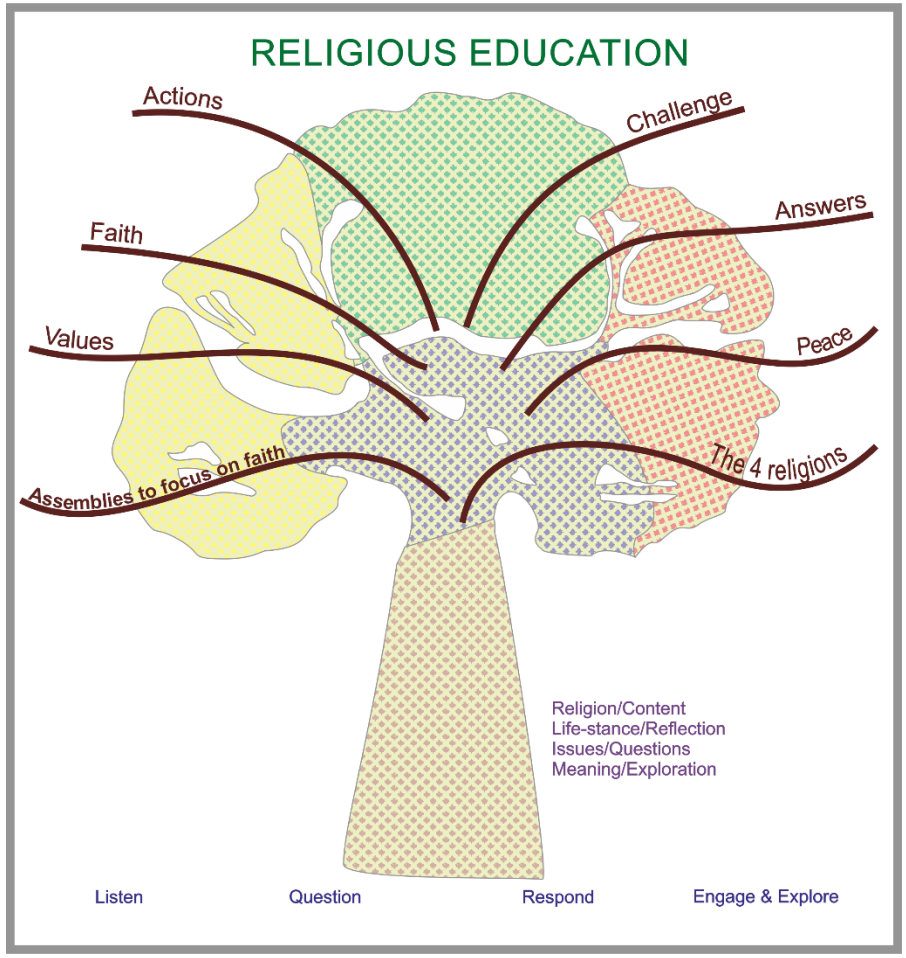
Summary of Root Skills for Key Stages I & II

Movement, coordination & balance	Ball skills	Health and safety	Putting instructions in place
Moving Balancing Coordinating movement and balance	Throwing, catching, hitting and kicking Moving with the ball Passing the ball Maximising distance and accuracy	Specific rules regarding equipment etc	Steps in skill development Incremental development Watching examples Practice time.

CURRICULUM STEMS

Summary of Curriculum Stem Skills for Key Stages I & II

Warm up and cool downs	Teamwork	Evaluating and improving	Setting goals
The value of warm up and cool downs	Teamwork Respect Enjoyment Discipline Sportsmanship •	• Evaluating skills ○ Learning from examples ○ Comparing examples ○ Adjusting own habits ○ Recognising what hasn't worked and how to make it work next time • Trial and Error ○ Value of practicing ○ Evaluating lessons learnt from examples and own actions (ie when the ball went further – what did you do different?)	Setting personal and small incremental goals.



RELIGIOUS EDUCATION

RE is made up of the following areas:

ROOT SKILLS:

- Listen
- Question
- Respond
- Engage and Explore

THE 4 RELIGIONS

- Christianity
- Judaism
- Islam
- Hindu & Sikh

CURRICULUM STEMS

- Religion/Content
- Life-stance/Reflection
- Issues/Questions
- Meaning/Exploration

BRANCHES OF LEARNING

- Values
- Faith
- Actions
- Challenge
- Answers
- Peace

The William Amory Curriculum and Syllabus expects children to encounter writing in the following proportions:

- 60% on a balance of activities that focus on the Root Skills and the Curriculum Stems, and,
- 40% applying these creatively to writing with a purpose. The focus of which may be topic or English based.

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ROOT SKILLS

Summary of Root Skills for Key Stages I & II

Listening, Questioning, Responding, Engaging and Exploring
Progression as appropriate

Curriculum Stems

Summary of Curriculum Stem Skills for Key Stages I & II

Religion/Content, Life-stance/Reflection, Issues/Questions, Meaning/Exploration
Progression as appropriate

The 4 religions form the basis of all the studies below

Branches of Learning

Summary of Curriculum Branches of Learning for Key Stage I

	Autumn 1 *Values*	**Autumn 2** *Faith*	**Spring 1** *Action*	**Spring 2** *Challenge*	**Summer 1** *Answers*	**Summer 2** *Peace*
Year 1 *What does it mean to belong to a faith community?*	**Listen to** examples of care and concern shown by believers and religious communities and **explore** the reasons for these actions **1.6b**	**Find out about** ceremonies in which special moments in the life cycle are marked **1.4c**	**Explore** the preparations for and **find out about** the celebration of festivals **1.2b**	**Listen to** and **ask questions about** stories of individuals and their relationship with God **1.5b**	**Engage with** stories and extracts from religious literature and **talk about** their meanings **1.1a**	**Find out about** how and when people worship and **ask questions about** why this is important to believers **1.2a**

Year 2 *What does it mean to be a part of a faith tradition?*	**Explore** stories from religious traditions and **find out about** attitudes to the natural world **1.6c**	**Engage with** religious beliefs and ideas expressed through story, symbol and other visual forms of expression **1.3c**	**Identify** symbolic actions, gestures and rituals and **talk about** how they are used as part of worship and ceremonies **1.3b**	**Identify** the importance for some people of belonging to a religion and **recognise** the difference this makes to their lives **1.2c**	**Explore** a range of stories and extracts from sacred writings and **talk about** meaning they have for believers **1.5c**	**Listen and respond to** stories highlighting the morals and values of believers in practice **1.6a**

Branches of Learning
Summary of Curriculum Branches of Learning for Key Stage II

	Autumn 1 *Values*	**Autumn 2** *Faith*	**Spring 1** *Action*	**Spring 2** *Challenge*	**Summer 1** *Answers*	**Summer 2** *Peace*
Year 3 *How do people show they belong to a faith community?*	**Explore** rules for living found in sacred writings and teachings and **ask questions** about their impact on the lives of believers **2.6a**	**Compare and contrast** the use of symbols, actions and gestures used in worship by different communities **2.3c**	**Compare and contrast** the practice of religion in the home in different religious communities **2.2a**	**Enter imaginatively** into the life of key religious figures and **make links with** teachings and practices of special significance to followers **2.1c**	**Consider** the meaning of a wide range of stories about the beginnings of the world and **ask questions** about their importance for believers **2.1d**	**Explore** the diversity of a range of religious traditions and **identify** similarities and differences **2.4a**
Year 4 *How does belonging to a faith community affect people's lives?*	**Explore** religious stories and teachings about the environment and **identify** their impact on behaviour **2.6d**	**Investigate** the importance for believers of ceremonies in which special moments in the life cycle are marked **2.4d**	**Talk to** a variety of people about their beliefs and values and **ask questions** about the way commitment affects their lives **2.6c**	**Research** some key events in the development of a religious tradition and **explain** the impact on believers today **2.4c**	**Identify** some of the ways in which religions name and describe attributes of God and **make links** with belief and practice **2.3d**	**Identify** the main features and patterns of an act of worship and **talk about** the importance of worship for believers **2.2b**

Year 5 *How do believers find out about their faith?*	**Identify** a variety of forms of literature found in sacred books and **investigate** a range of religious teachings **2.1b**	**Explore** the symbolic use of a wide range of objects, sounds, visual images, actions and gestures and **make suggestions** as to the intended meaning they might have for believers **2.3a**	**Investigate** some features of key religious festivals and celebrations and **identify** similarities and differences **2.2c**	**Investigate and talk about** a range of religious responses to suffering, hardship and death **2.5b**	**Find out about** the origins of sacred writings and **consider** their importance for believers today **2.1a**	**Investigate** the life of a person who has been inspired by their faith and **make links** between belief and action **2.2d**
Year 6 *What does it mean to be committed to a faith?*	**Investigate** ceremonies associated with joining or belonging to a faith community and **talk about** the meaning of commitment **2.6b**	**Reflect imaginatively** on the meaning of stories drawn from religious sources and **explore** the significance of key words, phrases or expressions **2.3b**	**Find out about** the activities of a local religious community and **make links** with key religious teachings **2.4b**	**Make links** between beliefs and action and **show** how this might have local, national and international impact **2.5d**	**Raise questions** about issues which cause people to wonder and **investigate** some answers to be found in religious writings and teachings **2.5a**	**Investigate** stories about God's relationship with people and **suggest** how, for some people, this helps them to make sense of life **2.5c**

Personal, Social, Health & Emotional Education
&
Relationship and Sex Education
including
Life Skills & Thinking

Thinking and Life Skills are made up of the following areas:

ROOT SKILLS:

- Expressing feelings and thoughts
- Awareness of others
- Boundaries

CURRICULUM STEMS

- Respect
- Attitude
- Morals
- Independence
- Work ethic
- Preparing to lose
- Communication

BRANCHES OF LEARNING

- Health and wellbeing
- Relationships
- Living in the wider world
- Relationship and Sex Education

Life Skills should be taught in a variety of ways from discrete lessons to supplementary learning in other fields including assembly; PE and sports; circle time and on the playground.

Thinking skills should be taught in discrete lessons and then opportunities should be taken to ensure children can apply these in their learning.

ROOT SKILLS

Summary of Root Skills for Key Stages I & II

Expressing feelings and thoughts	Awareness of others	Boundaries
• Able to express when they are feeling happy, sad, worried or concerned and similar • Able to explain why they have these feelings • Able to listen to the expressions of others • Understanding the appropriate people to express them to.	• Aware that others have equal status • Dealing with others civilly	• Recognising boundaries including race, gender, sexual orientation, religion and values • Recognise when to get involved and when not to • Physical, verbal and mental boundaries

CURRICULUM STEMS – LIFE SKILLS

Summary of Curriculum Stem Skills for Key Stages I & II

Respect	Attitude	Morals	Independence	Work ethic	Preparing to lose	Communication
Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.	Opportunities should be taken where appropriate to teach these skills.

BRANCHES OF LEARNING – LIFE SKILLS

Summary of Branches of Learning for Key Stages I & II

	Health and wellbeing	Relationships & Sex Education	Living in the wider world
Summary	• what is meant by a healthy lifestyle • how to maintain physical, mental and emotional health and wellbeing • how to manage risks to physical and emotional health and wellbeing • ways of keeping physically and emotionally safe • about managing change, such as puberty, transition and loss • how to make informed choices about health and wellbeing and to recognise sources of help with this • how to respond in an emergency • to identify different influences on health and wellbeing	• how to develop and maintain a variety of healthy relationships, within a range of social/cultural contexts • how to recognise and manage emotions within a range of relationships • how to recognise risky or negative relationships including all forms of bullying and abuse • how to respond to risky or negative relationships and ask for help • how to respect equality and diversity in relationships.	• about respect for self and others and the importance of responsible behaviours and actions • about rights and responsibilities as members of families, other groups and ultimately as citizens • about different groups and communities • to respect equality and to be a productive member of a diverse community • about the importance of respecting and protecting the environment • about where money comes from, keeping it safe and the importance of managing it effectively • how money plays an important part in people's lives • a basic understanding of enterprise.
Key Stage I	• What constitutes a healthy lifestyle including the benefits of physical activity, rest, healthy eating and dental health • To recognise what they like and dislike, how to make real, informed choices that improve their physical and emotional health, to recognise That choices can have good and not so good consequences • To think about themselves, to learn from their experiences, to recognise and celebrate their strengths and set simple but challenging goals • about good and not so good feelings, a vocabulary to describe their feelings to others and simple strategies for managing feelings • About change and loss and the associated feelings (including moving home, losing toys, pets or friends) • The importance of and how to maintain personal hygiene • How some diseases are spread and can be controlled and the responsibilities they have for their own health and that of others • About the process of growing from young to old and how people's needs change	In Year One the children cover these aspects of the PSHE Framework, • Know how to keep clean and look after oneself • Know how people grow and change • Understand that babies become children and then adults • Know the differences between boy and girl babies • Know there are different types of families • Know which people we can ask for help In Year Two the children cover these aspects of the PSHE Framework, • Talk about the ways boys and girls can be the same and different • Understand that some people have fixed ideas about what boys and girls can do • Describe the difference between male and female babies • Describe some differences between male and female animals • Describe some differences between boys and girls	• how to contribute to the life of the classroom • to help construct, and agree to follow, group and class rules and to understand how these rules help them • that people and other living things have needs and that they have responsibilities to meet them (including being able to take turns, share and understand the need to return things that have been borrowed) • that they belong to various groups and communities such as family and what improves and harms their local, natural and built environments and about some of the ways people look after them • that money comes from different sources and can be used for different purposes, including the concepts of spending and saving • about the role money plays in their lives

	• About growing and changing and new opportunities and responsibilities that increasing independence may bring • The names for the main parts of the body (including external genitalia) • The similarities and differences between boys and girls • That household products, including medicines, can be harmful if not used properly • Rules for and ways of keeping physically and emotionally safe (including road safety, safety in the environment, safety online, the responsible • Use of the internet, the difference between secrets and surprises and understanding not to keep adults' secrets) • About people who look after them, their family networks, who to go to if they are worried and how to attract their attention, ways that pupils can help these people to look after them • to recognise that they share a responsibility for keeping themselves and others safe, when to say, 'yes', 'no', 'I'll ask' and 'I'll tell'	• Understand that making a new life needs a male and a female • Describe the physical differences between males and females • Name the male and female body parts	including how to manage their money, keep it safe, choices about spending money and what influences those choices
Key Stage II	• what positively and negatively affects their physical, mental and emotional health (including the media) • how to make informed choices (including recognising that choices can have positive, neutral and negative consequences) and to begin to • understand the concept of a 'balanced lifestyle' • to recognise opportunities to make their own choices about food, what might influence their choices and the benefits of eating a balanced diet • to reflect on and celebrate their achievements, identify their strengths, areas for improvement, set high aspirations and goals • to deepen their understanding of good and not so good feelings, to extend their vocabulary to enable them to explain both the range and intensity of their feelings to others • to recognise that they may experience conflicting emotions and when they might need to listen to their emotions or overcome them • about change, including transitions (between Key Stages and schools), loss, separation, divorce and bereavement • to differentiate between the terms, 'risk', 'danger' and	In Year Three the children cover these aspects of the PSHE Framework, • Know some differences and similarities between males and females • Name male and female body parts using agreed words • Identify different types of touch that people like and do not like • Understand personal space • Talk about ways of dealing with unwanted touch • Understand that all families are different and have different family members • Identify who to go to for help and support In Year Four the children cover these aspects of the PSHE Framework, • Describe the main stages of the human lifecycle • Describe the body changes that happen when a child grows up • Know that during puberty the body changes from a child into	• to research, discuss and debate topical issues, problems and events concerning health and wellbeing and offer their recommendations to appropriate people • why and how rules and laws that protect themselves and others are made and enforced, why different rules are needed in different situations and how to take part in making and changing rules • to realise the consequences of anti-social and aggressive behaviours such as bullying and discrimination on individuals and communities • that there are different kinds of responsibilities, rights and duties at home, at school, in the community and towards the environment • to resolve differences by looking at alternatives, seeing and respecting others' points of view, making decisions and explaining choices • what being part of a community means, and about the varied institutions that

	‘hazard’ • to deepen their understanding of risk by recognising, predicting and assessing risks in different situations and deciding how to manage them responsibly (including sensible road use and risks in their local environment) and to use this as an opportunity to build resilience • to recognise their increasing independence brings increased responsibility to keep themselves and others safe • that bacteria and viruses can affect health and that following simple routines can reduce their spread • that pressure to behave in an unacceptable, unhealthy or risky way can come from a variety of sources, including people they know and the media • to recognise when and how to ask for help and use basic techniques for resisting pressure to do something dangerous, unhealthy, that makes them uncomfortable, anxious or that they believe to be wrong • school rules about health and safety, basic emergency aid procedures, where and how to get help • what is meant by the term ‘habit’ and why habits can be hard to change • which, why and how, commonly available substances and drugs (including alcohol and tobacco) could damage their immediate and • future health and safety, that some are legal, some are restricted and some are illegal to own, use and supply to others • how their body will change as they approach and move through puberty • to recognise how images in the media do not always reflect reality and can affect how people feel about themselves • about human reproduction • strategies for keeping physically and emotionally safe including road safety, safety in the environment and safety online (including social media, the responsible use of ICT and mobile phones) • the importance of protecting personal information, including passwords, addresses and images • about people who are responsible for helping them stay healthy and safe and ways that they can help these people	a young adult • Understand why the body changes during puberty • Identify some basic facts about pregnancy • Know about the physical and emotional changes that happen in puberty • Know that each person experiences puberty differently In Year Five the children cover these aspects of the PSHE Framework, • Explain the main physical and emotional changes that happen during puberty. • Ask questions about puberty with confidence. • Understand how puberty affects the body and the emotions. • Describe how to manage physical and emotional changes. • Explain how to stay clean during puberty • Describe how emotions change during puberty • Know how to get help and support during puberty In Year Six the children cover these aspects of the PSHE Framework, • Describe how and why the body changes during puberty in preparation for reproduction • Talk about puberty and reproduction with confidence • Discuss different types of adult relationships with confidence • Explain how babies are made • Describe the decisions that have to be made before having a baby • Know some basic facts about pregnancy and conception • As part of our learning of British Values, children learn to be aware of and respect different types of relationships i.e. homosexuality	support communities locally and nationally • to recognise the role of voluntary, community and pressure groups, especially in relation to health and wellbeing • to appreciate the range of national, regional, religious and ethnic identities in the United Kingdom • to think about the lives of people living in other places, and people with different values and customs • about the role money plays in their own and others’ lives, including how to manage their money and about being a critical consumer • to develop an initial understanding of the concepts of ‘interest’, ‘loan’, ‘debt’, and ‘tax’ (e.g. their contribution to society through the payment • of VAT) • that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment • about enterprise and the skills that make someone ‘enterprising