

Leonardo V. Academy



Leonardo
V. Academy

**Curriculum Leonardo V. Academy
(Grade 4, Year 5)**

Framework for the Leonardo V. Academy Curriculum

Grade 4/Year 5 (Key Stage 2)

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Disclaimer

To ensure the very best standards of learning and a quality education for our students, Leonardo V. Academy, aims to offer an up-to-date, comprehensive, unique, as well as a thoroughly modern curriculum. Combining the high level of British academic standards with a forward-thinking, international outlook, our curriculum intends to be innovative and challenging, whilst also being accessible in addition to making a challenging learning environment enjoyable for any student that is already enrolled or is thinking of joining our school.

In keeping with these high academic standards, the Leonardo V. Academy curriculum for Grade 4 has been developed from the following national government and private educational authorities:

- ❖ Her Majesty's Government Department for Education
 - <https://www.gov.uk/government/organisations/department-for-education>
- ❖ National Curriculum in England (Primary Education)
 - <https://www.gov.uk/government/publications/national-curriculum-in-england-primary-curriculum>
- ❖ Cambridge International Examinations (Primary)
 - <http://www.cie.org.uk/programmes-and-qualifications/cambridge-primary/cambridge-primary/curriculum/>
- ❖ Czech Republic Ministry of Education, Youth and Sports – Framework Educational Programme for Basic Education
 - <http://www.msmt.cz/areas-of-work/basic-education-1>

Subjects of Study

During Grade 4, students at Leonardo V. Academy focus on the following subjects of study.

* English	(5 hours)
* Mathematics	(5 hours)
* Science	(4 hours)
* Geography	(2 hours)
* History	(2 hours)
* Information Technology	(2 hours)
* Art and Design	(2 hours)
* Design Technology	(1 hour)
* Music	(2 hours)
* Modern Languages	(3 hours)
* Physical Education	(2 hours)

Each subject is taught in full compliance with the National Curriculum of England.

English (Course Description)

By the beginning of Grade 4, pupils should be able to read aloud a wider range of poetry and books written at an age-appropriate interest level with accuracy and at a reasonable speaking pace. They should be able to read most words effortlessly and to work out how to pronounce unfamiliar written words with increasing automaticity. If the pronunciation sounds unfamiliar, they should ask for help in determining both the meaning of the word and how to pronounce it correctly.

They should be able to prepare readings, with appropriate intonation to show their understanding, and should be able to summarise and present a familiar story in their own words. They should be reading widely and frequently, outside as well as in school, for pleasure and information. They should be able to read silently, with good understanding, inferring the meanings of unfamiliar words, and then discuss what they have read.

Pupils should be able to write down their ideas quickly. Their grammar and punctuation should be broadly accurate. Pupils' spelling of most words taught so far should be accurate and they should be able to spell words that they have not yet been taught by using what they have learnt about how spelling works in English.

During Grades 4 and 5, teachers should continue to emphasise pupils' enjoyment and understanding of language, especially vocabulary, to support their reading and writing. Pupils' knowledge of language, gained from stories, plays, poetry, non-fiction and textbooks, will support their increasing fluency as readers, their facility as writers, and their comprehension. As in Grades 2 and 3, pupils should be taught to enhance the effectiveness of their writing as well as their competence.

It is essential that pupils whose decoding skills are poor are taught through a rigorous and systematic phonics programme so that they catch up rapidly with their peers in terms of their decoding and spelling. However, as far as possible, these pupils should follow the upper key stage 2 programme of study in terms of listening to books and other writing that they have not come across before, hearing and learning new vocabulary and grammatical structures, and having a chance to talk about all of these.

By the end of Grade 5, pupils' reading and writing should be sufficiently fluent and effortless for them to manage the general demands of the curriculum in Grade 6, across all subjects and not just in English, but there will continue to be a need for pupils to learn subject-specific vocabulary. They should be able to

reflect their understanding of the audience for and purpose of their writing by selecting appropriate vocabulary and grammar. Teachers should prepare pupils for secondary education by ensuring that they can consciously control sentence structure in their writing and understand why sentences are constructed as they are. Pupils should understand nuances in vocabulary choice and age-appropriate, academic vocabulary. This involves consolidation, practice and discussion of language. **English – key stages 1 and 2.**

Specific requirements for pupils to discuss what they are learning and to develop their wider skills in spoken language form part of this programme of study. In Grades 4 and 5, pupils' confidence, enjoyment and mastery of language should be extended through public speaking, performance and debate.

English (Course Objectives)

i) Reading – Word Reading:

- Apply their growing knowledge of root words, prefixes and suffixes (morphology and etymology) as listed in English Appendix 1, both to read and to understand the meaning of new words that they meet.

ii) Reading – Comprehension:

- 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
 - Make comparisons within and across books
 - Learn 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
- Understand what they read by:
 - 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
 - Summarizing 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.

iii) Writing – Transcription:

a) Spelling (see English Appendix 1)

- Use further prefixes and suffixes and understand the guidance for adding them
- Spell some words with “silent” letters [for example, knight, psalm, solemn]
- Continue to distinguish between homophones and other words which are often confused

- Use knowledge of morphology and etymology in spelling and understanding that the spelling of some words needs to be learnt specifically, as listed in English Appendix 1
- Use dictionaries to check the spelling and meaning of words
- Use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary
- Use a thesaurus

b) Handwriting and presentation:

- Write legibly, fluently and with increasing speed by:
 - Choosing which shape of a letter to use when given choices and deciding whether or not to join specific letters
 - Choosing the writing implement that is best suited for a task.

c) Composition:

- Plan their writing by:
 - 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
- Draft and write by:
 - 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 organizational and presentational devices to structure text and to guide the reader {for example, headings, bullet points, underlining}
- Evaluating and edit by:
- 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
- Perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear

iv) Writing – vocabulary, grammar and punctuation:

- Develop their understanding of the concepts set out in English Appendix 2 by:
- Recognizing vocabulary and structures that are appropriate for formal speech and writing, including using subjunctive forms
 - Using passive verbs to affect the presentation of information in a sentence
 - Using the perfect form of verbs to mark relationships of time and cause

- Using expanded noun phrases to convey complicated information concisely
 - Using modal verbs or adverbs to indicate degrees of possibility
 - Using relative clauses beginning with **who, which, where, when, whose, that** or with an implied (i.e. omitted) relative pronoun
 - Learning the grammar for Grades 4 and 5 in English Appendix 2.
- Indicate grammatically and other features by:
- Using commas to clarify meanings and avoid ambiguity in writing
 - Using hyphens to avoid ambiguity
 - Using brackets, dashes or commas to indicate parenthesis
 - Using semi-colons, colons or dashes to mark boundaries between independent clauses
 - Using a colon to introduce a list
 - Punctuating bullet points consistently
- Use and understand the grammatical terminology in English Appendix 2 accurately and appropriately in discussing their writing and reading

Appendix 1

Spelling

Most people read words more accurately than they spell them. The younger pupils are, the truer this is.

By the end of Pre-school, pupils should be able to read a large number of different words containing the GPCs that they have learnt, whether or not they have seen these words before. Spelling, however, is a very different matter. Once pupils have learnt more than one way of spelling particular sounds, choosing the right letter or letters depends on their either having made a conscious effort to learn the words or having absorbed them less consciously through their reading. Younger pupils have not had enough time to learn or absorb the accurate spelling of all the words that they may want to write.

This appendix provides examples of words embodying each pattern which is taught. Many of the words listed as ‘example words’ for Pre-school and Grade 1, including almost all those listed as ‘exception words’, are used frequently in pupils’ writing, and therefore it is worth pupils learning the correct spelling. The ‘exception words’ contain GPCs which have not yet been taught as widely applicable, but this may be because they are applicable in very few age-appropriate words rather than because they are rare in English words in general.

The word-lists for Grades 2 and 3 and Grades 4 and 5 are statutory. The lists are a mixture of words pupils frequently use in their writing and those which they often misspell. Some of the listed words may be thought of as quite challenging, but the 100 words in each list can easily be taught within the four years of key stage 2 alongside other words that teachers consider appropriate.

The rules and guidance are intended to support the teaching of spelling. Phonic knowledge should continue to underpin spelling after key stage 1 (grade 1); teachers should still draw pupils’ attention to GPCs that do and do not fit in with what has been taught so far. Increasingly, however, pupils also need to understand the role of morphology and etymology. Although particular GPCs in root words simply have to be learnt, teachers can help pupils to understand relationships between meaning and spelling where these are relevant. For example, understanding the relationship between *medical* and *medicine* may

help pupils to spell the /s/ sound in *medicine* with the letter ‘c’. Pupils can also be helped to spell words with prefixes and suffixes correctly if they understand some general principles for adding them. Teachers should be familiar with what pupils have been taught about spelling in earlier years, such as which rules pupils have been taught for adding prefixes and suffixes.

In this spelling appendix, the left-hand column is statutory; the middle and right-hand columns are non-statutory guidance.

The International Phonetic Alphabet (IPA) is used to represent sounds (phonemes). A table showing the IPA is provided in this document.

Spelling: Work for Grade 4

➤ Revision of Grade 3 Work

➤ New Work for Grade 4

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
Endings which sound like /ʃəs/ spelt –cious or –tious	Not many common words end like this. If the root word ends in –ce, the /ʃ/ sound is usually spelt as c – e.g. <i>vice</i> – <i>vicious</i> , <i>grace</i> – <i>gracious</i> , <i>space</i> – <i>spacious</i> , <i>malice</i> – <i>malicious</i> . Exception: <i>anxious</i> .	vicious, precious, conscious, delicious, malicious, suspicious ambitious, cautious, fictitious, infectious, nutritious
Endings which sound like /ʃəl/	– cial is common after a vowel letter and – tial after a consonant letter, but there are some exceptions. Exceptions: initial, financial, commercial, provincial (the spelling of the last three is clearly related to <i>finance</i> , <i>commerce</i> and <i>province</i>).	official, special, artificial, partial, confidential, essential
Words ending in –ant, –ance/–ancy,	Use – ant and – ance/–ancy if there is a related word with a /æ/ or /eɪ/ sound in the right position; – ation endings are	observant, observance, (observation), expectant (expectation), hesitant, hesitancy (hesitation), tolerant, tolerance (toleration), substance

–ent, –ence/–ency	often a clue. Use –ent and –ence/–ency after soft c (/s/ sound), soft g (/dʒ/ sound) and qu, or if there is a related word with a clear /ɛ/ sound in the right position. There are many words, however, where the above guidance does not help. These words just have to be learnt.	(substantial) innocent, innocence, decent, decency, frequent, frequency, confident, confidence (confidential) assistant, assistance, obedient, obedience, independent, independence
Words ending in –able and –ible Words ending in –ably and –ibly	The –able/–ably endings are far more common than the –ible/–ibly endings. As with –ant and –ance/–ancy, the –able ending is used if there is a related word ending in –ation. If the –able ending is added to a word ending in –ce or –ge, the e after the c or g must be kept as those letters would otherwise have their ‘hard’ sounds (as in <i>cap</i> and <i>gap</i>) before the a of the –able ending. The –able ending is usually but not always used if a complete root word can be heard before it, even if there is no related word ending in –ation. The first five examples opposite are obvious; in <i>reliable</i>, the complete word <i>rely</i> is heard, but the y changes to i in accordance with the rule. The –ible ending is common if a complete root word can’t be heard before it but it also sometimes occurs when a complete word <i>can</i> be heard (e.g. <i>sensible</i>).	adorable/adorably (adoration), applicable/applicably (application), considerable/considerably (consideration), tolerable/tolerably (toleration) changeable, noticeable, forcible, legible dependable, comfortable, understandable, reasonable, enjoyable, reliable possible/possibly, horrible/horribly, terrible/terribly, visible/visibly, incredible/incredibly, sensible/sensibly
Adding suffixes beginning with	The r is doubled if the –fer is still stressed when the ending is added.	referring, referred, referral, preferring, preferred, transferring, transferred reference, referee, preference,

vowel letters to words ending in -fer	The r is not doubled if the -fer is no longer stressed.	transference
Use of the hyphen	Hyphens can be used to join a prefix to a root word, especially if the prefix ends in a vowel letter and the root word also begins with one.	co-ordinate, re-enter, co-operate, co-own
Words with the /i:/ sound spelt ei after c	The 'i before e except after c' rule applies to words where the sound spelt by ei is /i:/. Exceptions: <i>protein, caffeine, seize</i> (and <i>either</i> and <i>neither</i> if pronounced with an initial /i:/ sound).	deceive, conceive, receive, perceive, ceiling
Words containing the letter-string ough	ough is one of the trickiest spellings in English – it can be used to spell a number of different sounds.	ought, bought, thought, nought, brought, fought rough, tough, enough cough though, although, dough through thorough, borough plough, bough
Words with 'silent' letters (i.e. letters whose presence cannot be predicted from the pronunciation of the word)	Some letters which are no longer sounded used to be sounded hundreds of years ago: e.g. in <i>knight</i> , there was a /k/ sound before the /n/, and the gh used to represent the sound that 'ch' now represents in the Scottish word <i>loch</i> .	doubt, island, lamb, solemn, thistle, knight
Homophones and other words that are often confused	In the pairs of words opposite, nouns end -ce and verbs end -se . <i>Advice</i> and <i>advise</i> provide a useful clue as the word <i>advise</i> (verb) is pronounced with a /z/ sound – which could not be spelt c .	advice/advise device/devise licence/license practice/practice prophecy/prophecy

	<u>More examples:</u> aisle: a gangway between seats (in a church, train, plane). isle: an island. aloud: out loud. allowed: permitted. affect: usually a verb (e.g. <i>This weather may affect our plants</i>). effect: usually a noun (e.g. <i>It may have an effect on our plants</i>). If a verb, it means “bring about” (e.g. <i>He will effect changes in the running of the business</i>). altar: a table-like piece of furniture in a church. alter: to change. ascent: the act of ascending (going up). assent: to agree/agreement (verb and noun). bridal: to do with a bride at a wedding. bridle: reins etc. for controlling a horse. cereal: made from grain (e.g. breakfast cereal). serial: adjective from the noun <i>series</i> – a succession of things one after the other. compliment: to make nice remarks about someone (verb) or the remark that is made (noun). complement: related to the word <i>complete</i> – to make something complete or more complete (e.g. <i>her scarf complemented her outfit</i>).	farther: further father: a male parent guessed: past tense of the verb <i>guess</i> guest: a visitor heard: past tense of the verb <i>hear</i> herd: a group of animals led: past tense of the verb <i>lead</i> lead: present tense of that verb, or else the metal which is very heavy (<i>as heavy as lead</i>) morning: before noon mourning: grieving for someone who has died past: noun or adjective referring to a previous time (e.g. <i>in the past</i>) or preposition or adverb showing place (e.g. <i>he walked past me</i>) passed: past tense of the verb “pass” (e.g. <i>I passed him on the road</i>) precede: go in front of or before proceed: go on
Homophones and other words that are often confused (continued)	descent: the act of descending (going down). dissent: to disagree/disagreement (verb and noun). desert: as a noun – a barren place (stress on first syllable); as a verb – to abandon (stress on second syllable) dessert: (stress on second syllable) a sweet course after the main course of a	principal: adjective – most important (e.g. <i>principal ballerina</i>) noun – important person (e.g. <i>principal of a college</i>) principle: basic truth or belief profit: money that is made in selling things prophet: someone who foretells the future stationary: not moving

	meal. draft: noun – a first attempt at writing something; verb – to make the first attempt; also, to draw in someone (e.g. <i>to draft in extra help</i>) draught: a current of air.	stationery: paper, envelopes etc. steal: take something that does not belong to you steel: metal wary: cautious weary: tired who's: contraction of <i>who is</i> or <i>who has</i> whose: belonging to someone (e.g. <i>Whose jacket is that?</i>)
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Appendix 2: Vocabulary, grammar and punctuation

Word	Converting nouns or adjectives into verbs using suffixes [for example, <i>-ate</i> ; <i>-ise</i> ; <i>-ify</i>] Verb prefixes [for example, <i>dis-</i> , <i>de-</i> , <i>mis-</i> , <i>over-</i> and <i>re-</i>]
Sentence	Relative clauses beginning with <i>who</i> , <i>which</i> , <i>where</i> , <i>when</i> , <i>whose</i> , <i>that</i> , or an omitted relative pronoun Indicating degrees of possibility using adverbs [for example, <i>perhaps</i> , <i>surely</i>] or modal verbs [for example, <i>might</i> , <i>should</i> , <i>will</i> , <i>must</i>]
Text	Devices to build cohesion within a paragraph [for example, <i>then</i> , <i>after that</i> , <i>this</i> , <i>firstly</i>] Linking ideas across paragraphs using adverbials of time [for example, <i>later</i>], place [for example, <i>nearby</i>] and number [for example, <i>secondly</i>] or tense choices [for example, he <i>had</i> seen her before]
Punctuation	Brackets, dashes or commas to indicate parenthesis Use of commas to clarify meaning or avoid ambiguity
Terminology for pupils	modal verb, relative pronoun relative clause parenthesis, bracket, dash cohesion, ambiguity

➤ Grade 4: Word List

accommodate

accompany

according
achieve
aggressive
amateur
ancient
apparent
appreciate
attached
available
average
awkward
bargain
bruise
category
cemetery
committee
communicate
community
competition
conscience
conscious
controversy
convenience
correspond
criticise
curiosity
definite
desperate
determined

develop
dictionary
disastrous
embarrass
environment
equip (-ped, -ment)
especially
exaggerate
excellent
existence
explanation
familiar
foreign
forty
frequently
government
guarantee
harass
hindrance
identity
immediate(ly)
individual
interfere
interrupt
language
leisure
lightning
marvelous
mischievous

muscle
necessary
neighbour
nuisance
occupy
occur
opportunity
parliament
persuade
physical
prejudice
privilege
profession
programme
pronunciation
queue
recognise
recommend
relevant
restaurant
rhyme
rhythm
sacrifice
secretary
shoulder
signature
sincere(ly)
soldier
stomach

sufficient

suggest

symbol

system

temperature

thorough

twelfth

variety

vegetable

vehicle

Mathematics (Course Description)

Learners identify and obtain information to solve problems, and check whether their results are sensible in the context of the problem. They describe situations mathematically using symbols, words and diagrams and draw their own conclusions, explaining their reasoning. They make general statements of their own, based on available evidence. They use their understanding of place value to multiply and divide whole numbers and decimals. They order, add and subtract negative numbers. They check their solutions by applying inverse operations or estimating using approximations. They calculate fractional or percentage parts of quantities and measurements. They construct and use simple formulae involving one or two operations. They use co-ordinates in all four quadrants. They measure and draw angles to the nearest degree. They recognise, identify and describe all the symmetries of 2D shapes. They convert one metric unit to another and know the rough metric equivalents of imperial units in daily use. They make sensible estimates of a range of everyday measures. They find areas of rectangles and triangles and volumes of cuboids. They read scales on maps, plans and graphs. They use the mean of discrete data and compare two simple distributions. They interpret graphs, diagrams and pie charts. They use the probability scale from 0 to 1, and appreciate that different outcomes may result from repeating an experiment.

Mathematics (Course Objectives)

i) Operations and Algebraic Thinking

Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

- Create patterns with two lines of symmetry, e.g. on a pegboard or squared paper.
- Know and apply the arithmetic laws as they apply to multiplication (without necessarily using the terms commutative, associative or distributive).

Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

- Example:
 - Express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.

Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

- Example:
 - Given the rule “Add 3” and the starting number 0, and given the rule “Add 6” and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

- Identify relationships between numbers and make generalised statements using words, then symbols and letters, e.g. the second number is twice the first number plus 5 (n , $2n+5$); all the numbers are multiples of 3 minus 1 ($3n-1$); the sum of angles in a triangle is 180 degrees.

ii) Number and Operations in Base 10

Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1/10$ of what it represents in the place to its left.

- Know what each digit represents in whole numbers up to a million.

Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

- Multiply and divide any whole number from 1 to 10,000 by 10, 100 or 1000 and explain the effect.

Read, write, and compare decimals to thousandths.

- Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
- Compare two decimals to thousandths based on meanings of the digit in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
- Use the $>$, $<$ and $=$ signs correctly.
- Order numbers with up to two decimal places (including different numbers of places).

Use place value understanding to round decimals to any place.

- Round whole numbers to the nearest 10, 100 or 1000.

- Round a number with two decimal places to the nearest tenth or to the nearest whole number.

Fluently multiply multi-digit whole numbers using the standard algorithm.

- Multiply pairs of multiples of 10, e.g. 30×40 , or multiples of 10 and 100, e.g. 600×40 .
- Multiply two-, three- or four-digit numbers (including sums of money) by a single-digit number and two- or three-digit numbers by two-digit numbers.

Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

- Multiply and divide any whole number from 1 to 10,000 by 10, 100 or 1000 and explain the effect.
- Divide two-digit numbers by single-digit numbers, including leaving a remainder.
- Divide three-digit numbers by single-digit numbers, including those leaving a remainder and divide three-digit numbers by two-digit numbers (no remainder) including sums of money.

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

- Multiply and divide any whole number from 1 to 10,000 by 10, 100 or 1000 and explain the effect.
- Divide two-digit numbers by single-digit numbers, including leaving a remainder.
- Divide three-digit numbers by single-digit numbers, including those leaving a remainder and divide three-digit

numbers by two-digit numbers (no remainder) including sums of money.

- Add/subtract near multiples of one when adding numbers with one decimal place, e.g. $5.6+2.9$; $13.5-2.1$.

iii) Fractions

Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

- Example:

- $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)

- Compare fractions with the same denominator and related denominators, e.g. $3/4$ with $7/8$.

Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

- Example:

- Recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$).

- Example:

- Interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 whole numbers are shared equally among 4 people each person has a share of size $3/4$.

- If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

- Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)
- Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

Interpret multiplication as scaling (resizing), by:

- Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
- Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

- Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.
- Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (1/5)$, and use a visual fraction model to show the quotient.
- Use the relationship between multiplication and division to explain that $4 \div (1/5) = 20$ because $20 \times (1/5) = 4$.
- Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $1/2$ lb of chocolate equally? How many $1/3$ -cup servings are in 2 cups of raisins?
- Relate finding fractions to division and use them as operators to find fractions including several tenths and hundredths of quantities.

iv) **Measurement and Data**

Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

- Convert between units of measurement (kg and g, l and ml, km, m, cm and mm), using decimals to three places, e.g. recognising that 1.245 m is 1 m 24.5 cm.

Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.

- Example:
 - Given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.
- Solve a problem by representing, extracting and interpreting data in tables, graphs, charts and diagrams, e.g. line graphs for distance and time; a price ‘ready-reckoner’ for currency conversion; frequency tables and bar charts with grouped discrete data.

Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

- A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
- A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft., and improvised units.

- Select and use standard units of measure. Read and write to two or three decimal places.

Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

- Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show

that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

- Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.
- Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

v) **Geometry**

Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates.

- Read and plot co-ordinates in all four quadrants.
- Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

- Read and plot co-ordinates in all four quadrants.

Understand that attributes belonging to a category of two dimensional figures also belong to all subcategories of that category.

- Example:

- All rectangles have four right angles and squares are rectangles, so all squares have four right angles.
- Identify and describe properties of quadrilaterals (including the parallelogram, rhombus and trapezium), and classify using parallel sides, equal sides, equal angles.

Classify two-dimensional figures in a hierarchy based on properties.

- Classify different polygons and understand whether a 2D shape is a polygon or not.

Science (Course Description)

The main aim of science teaching in Grade 4 is to enable pupils to develop a deeper understanding of a wide range of scientific ideas. Pupils will do this through exploring and talking about their ideas; asking their own questions about scientific phenomena; and analyzing functions, relationships and interactions more systematically. At upper Key Stage 2, pupils will encounter more abstract ideas and begin to recognize how these ideas help them to understand and predict how the world operates. They will be taught to recognize that scientific ideas change and develop over time. They will learn how to select the most appropriate way to answer science questions using different types of scientific enquiry, including observing changes over different periods of time, noticing patterns, grouping and classifying things, carrying out comparative and fair tests and finding things out using a wide range of secondary sources of information. Pupils will draw conclusions based on their data and observations, use evidence to justify their ideas, and use their scientific knowledge and understanding to explain their findings.

Pupils in Grade 4 should use their science experiences to: explore ideas and raise different kinds of questions; select and plan the most appropriate type of scientific enquiry to use to answer scientific questions; recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. They should use and develop keys and other information records to identify, classify and describe living things and materials, and identify patterns that might be found in the natural environment.

Students should make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; choose the most appropriate equipment to make measurements and explain how to use it accurately. They should decide how to record data from a choice of familiar approaches; look for different causal relationships in their data and identify evidence that refutes or supports their ideas. They should use their results to identify when further tests and observations might be needed; recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact.

They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas and should talk about how scientific ideas have developed over time.

Science (Course Objectives)

i) Living Things and Their Habitats

Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.

Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.

Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.

Pupils should be taught to:

- Describe the differences in the life cycles of a mammal, an amphibian, and insect and a bird
- Describe the life process of reproduction in some plants and animals

ii) Animals and Humans

Pupils should be taught to:

- Describe the changes as humans develop to old age
- Draw and describe a timeline to indicate stages in the growth and development in humans
- Describe the changes experienced in puberty

iii) Material Properties

Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in year 3 and about electricity in Grade 3. They should explore reversible changes, including evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes. Pupils should explore changes that are difficult to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They should find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.

Pupils should be taught to:

- 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

iv) Earth and Space

Pupils should be introduced to a model of the sun and Earth that enables them to explain day and night. Pupils should learn that the sun is a star at the centre of our solar system and that it has 8 planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006). They should understand that a moon is a celestial body that orbits a planet (Earth has 1 moon; Jupiter has 4 large moons and numerous smaller ones). Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen, and Copernicus.

Pupils should be taught to:

- 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

v) Forces

Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers, pulleys and simple machines on movement. Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.

Pupils should be taught to:

- 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

Geography (Course Description)

During Grade 4, the key topics of study are: continents and oceans; water; South America; Atlas Skills; Transport; the European Union; Coastal Settlements; and Wind.

In Grade 4, a high-quality geography education should inspire in pupils a curiosity and fascination about the world and its people that will remain with them for the rest of their lives. Teaching should equip pupils with knowledge about diverse places, people, resources and natural and human environments, together with a deep understanding of the Earth's key physical and human processes. As pupils progress, their growing knowledge about the world should help them to deepen their understanding of the interaction between physical and human processes, and of the formation and use of landscapes and environments. Geographical knowledge, understanding and skills provide the frameworks and approaches that explain how the Earth's features at different scales are shaped, interconnected and change over time.

The national curriculum for geography aims to ensure that all pupils:

- Develop contextual knowledge of the location of globally significant places – both terrestrial and marine – including their defining physical and human characteristics and how these provide a geographical context for understanding the actions of processes
- Understand the processes that give rise to key physical and human geographical features of the world, how these are interdependent and how they bring about spatial variation and change over time
- Are competent in the geographical skills needed to: collect, analyse and communicate with a range of data gathered through experiences of fieldwork that deepen their understanding of geographical processes
- Interpret a range of sources of geographical information, including maps, diagrams, globes, aerial photographs and Geographical Information Systems (GIS)
- Communicate geographical information in a variety of ways, including through maps, numerical and quantitative skills and writing at length.

Geography (Course Objectives)

i) Continents and Oceans

- Why do we need water?
- Water supply
- Deserts and irrigation
- Life in the desert
- Tropical rainforests
- Droughts

ii) South America

- South American geography
- South American countries
- Traditions and festivals in South America
- Languages and people
- Human geography of South America
- Colombia and Brazil

iii) Atlas Skills

- Understanding maps
- Reading maps
- Locating mountain ranges

iv) Transport

- Forms of transport
- Road traffic
- Traffic problems
- Do we want new roads?

v) Coasts

- Coastal features
- Movements on the ocean floor
- Waves and coastal erosion
- Beaches

vi) The European Union

- Location of countries
- Languages
- European traditions
- European rivers
- European mountains
- The EU and the Euro

vii) Coastal Settlements

- Types of coastal settlement
- Coastal holiday resorts

- Coastal city of Aqaba, Port of Jebel Ali
- Singapore
- Rotterdam

viii) Wind

- Using the wind
- Hurricanes
- Tornadoes

History (Course Description)

During Grade 3, the topics of study are: The Tudors; The Victorians; WWII; and Anne Frank.

A high-quality history education will help pupils gain a coherent knowledge and understanding of Britain's past and that of the wider world. It should inspire pupils' curiosity to know more about the past. Teaching should equip pupils to ask perceptive questions, think critically, weigh evidence, sift arguments, and develop perspective and judgement. History helps pupils to understand the complexity of people's lives, the process of change, the diversity of societies and relationships between different groups, as well as their own identity and the challenges of their time.

Pupils should continue to develop a chronologically secure knowledge and understanding of British, local and world history, establishing clear narratives within and across the periods they study. They should note connections, contrasts and trends over time and develop the appropriate use of historical terms. They should regularly address and sometimes devise historically valid questions about change, cause, similarity and difference, and significance. They should construct informed responses that involve thoughtful selection and organisation of relevant historical information. They should understand how our knowledge of the past is constructed from a range of sources. In planning to ensure the progression described above through teaching the British, local and world history outlined below, teachers should combine overview and depth studies to help pupils understand both the long arc of development and the complexity of specific aspects of the content.

History (Course Objectives)

i) Tudors

- English monarchs from the Norman Conquest to the Tudors
- Richard III
- War of the Roses
- Battle of Bosworth field
- Henry VIII
- Henry VIII's Wives
- Breakdown of Church/Crown relations
- Thomas More
- Thomas Cromwell
- Reformation
- Tudor life

ii) The Victorians

- Victorian schools
- Different experiences for boys and girls
- Charles Dickens
- Oliver Twist

iii) World War II

- The road to war

- Nazi occupation of Poland
- Allies and Axis powers
- The Blitz
- Evacuation of children during WWII
- Rationing
- Women during the war
- Propaganda
- Who won the war?
- WWII in Asia

Information Technology (Course Description)

Information and Communication Technology (ICT) for Grade 4 prepares students for the middle-school ICT experience. These knowledge and skills are designed for students to be more creative, effective communicators, problem solvers, and critical thinkers fit for their level. It covers the proper keyboard typing, word processing, presentation and spreadsheet designing, utilizing computer operating system and its applications, meaningful online searching and filtering of information, online safety awareness, collaboration and communication with the use of Internet resources, and the help of multimedia applications.

Information Technology (Course Objectives)

In Grade 4 ICT, the students are expected to:

1. Communicate ideas with word processing using formatted text, a variety of graphics and tables.
2. Create presentations and communicate learning to others using digital tools.
3. Produce media-rich digital stories including the use of image, audio and/or video.
4. Use digital imaging technologies to modify or create images for use in digital presentations.
5. Plan writing and other projects using visual mapping tools.
6. Use appropriate digital tools to collect, organize and analyze data including the use of formulas and charts.
7. Recognize bias in digital resources.
8. Communicate electronically with others to collaboratively identify and investigate global issues in a supervised educational environment.
9. Practice injury prevention by applying a variety of ergonomic strategies when using technology.
10. Analyze and solve basic software problems (restart, refresh, close and reopen program after saving)
11. Demonstrate the safe and cooperative use of technology.

Skills developed

Learners should learn to:

1. Use ICT hardware and software and develop knowledge of ICT
 - use a variety of ICT hardware and software (which may include various kinds of computers and keyboards, as well as TV, DVD, video devices, music players and personal organisers) to carry out a variety of functions in a range of contexts
 - explore the use of computer systems and control technology in everyday life

- examine and discuss their experiences of ICT, and look at the use of ICT in the outside world
2. Communicate using ICT
 - begin to assemble text and images to communicate ideas in different forms using words, tables, pictures and sound
 - create, redraft and present ideas using text manipulation, laying out text, checking for errors and correcting them
 - utilise a paint or graphics package to present ideas
 3. Handle information using ICT
 - explore and use a variety of methods to enter and store information onto a computer
 - classify information using ICT
 - store, retrieve and process information that has been stored in a pre-prepared database or spreadsheet
 4. Measure and control using ICT
 - recognise that control is part of many everyday activities and devices
 - give simple commands to control a device or virtual device
 5. Model using ICT
 - understand that computers can be used to represent real or imaginary situations and that there is a difference between the representation and the reality
 - explore real or imaginary situations in computer simulations by making decisions within a computer simulation which affect it
 - give commands to an input device within a computer simulation
 - investigate options within a simulation or game, posing questions or making decisions.

1. STARTING WITH TEXT (Microsoft Word)

- Enter simple words, using keyboard or other input device.
- Select and edit text.
- Copy/cut a sentence and paste between two other sentences.
- Select basic icons (e.g. print, save or spellcheck) using the mouse or other pointing device.

- Name, save and retrieve documents.
- Use appropriate methods (spellchecker) to check text is error free.

Prior knowledge	New words	
• Recognise simple words and characters • Understand the mouse controls the pointer • Write simple sentences • Use full stops and capital letters • Use a space to separate words in written text	• program • software • mouse • cursor/pointer • drag and drop • screen/monitor • keys/keyboard • select • space bar • font • caps lock • ribbons/menus	• edit • delete • print/printer • icon • text • shift • return/enter • backspace • copy/cut/paste • highlight/select • word bank • word processing

2. STARTING IMAGES (Paint)

- Use simple shapes and lines to create pictures or patterns
- Edit pictures, using visual effects
- Use the tools to add some shapes and edit them
- Use brushes to colour the shapes and pictures
- Add details to an existing picture, using straight lines or geometric shapes
- Copy or delete character or object
- Repair the holes after deleting some objects.
- Use 'save as' to store edited pictures

Prior knowledge	New words	
• Mouse control • Select and load software	• graphics • icon • pencil tool • brush tool • spray tool • fill • cut, copy, paste	• line • texture • save/save as • select • undo • print

3. STARTING GRAPHS (Microsoft Excel)

- Store and classify information
- Present information in charts or graphs
- Use charts or graphs to answer simple questions (i.e which one is the most/least common)
- Draw simple conclusions from charts or graphs

Prior knowledge	New words	
• Learners can sort objects into groups • Learners can use the keyboard and mouse to enter information into the computer • Learners can understand simple data organized in a table or tally chart	• information • pictogram • icons • collect • sort	• classify • bar chart • graph • pie chart • data

4. STARTING CONTROL (MSW Logo)

- Give a screen turtle a set of instructions to achieve a specified objective
- Record the instructions to the turtle
- Use angles other than 90 or 180 degrees
- Create a set of instructions involving at least five moves to achieve a specific target
- Create some geometric shapes by writing some instructions

Prior knowledge	New words	
• Demonstrate awareness of simple switches • Understand the terms on and off • Understand forward, back, left, right and turn • Count • Estimate distances • Understand quarter, half and full turns	• sequence • order • instruction • screen/floor turtle	• control devices • commands • programmable • start/stop

5. STARTING SEARCHES

- Use search engine
- Use buttons, menus and indexes to search for and navigate to information

- Use keywords to search for information
- Provide evidence of research undertaken
- Select appropriate keywords
- Select appropriate results

Prior knowledge	New words	
• Select icons • Recognise an A–Z index and a contents list in a book • Know how to use book versions of an encyclopedia (or dictionary) • If learners use the internet for this module, a simple explanation of browser software and how to use it would be appropriate	• search/search engine • CD-ROM • menu • index	• keywords • hot link/hot spots • hyperlinks • homepage

6. STARTING E-MAIL

- Create and send email messages
- Reply to email messages
- Collect and read email messages
- Use email folders
 - Inbox
 - Outbox
 - Sent box (Sent items box)
- Forward email messages and copy to another recipient
- Print the email

Prior knowledge	New words	
• Familiarity with the conventions used to control computer applications, e.g. pointers and icons	• email • email address • connect • inbox/outbox/sent items • carbon copy (cc) • subject line	• online/offline • send • receive • reply • forward

Art & Design (Course Description)

During Grade 4, students enhance on the topics that were studied and learning during Grade 3. During Grade 4, the topics of study are: elements of art; Leonardo Da Vinci; art appreciation; cultural artistic works (aboriginal); and a research project based on a student's original work.

Art, craft and design embody some of the highest forms of human creativity. A high-quality art and design education should engage, inspire and challenge pupils, equipping them with the knowledge and skills to experiment, invent and create their own works of art, craft and design.

Building on what was taught during the Key Stage 1 years, and in Grade 3, Grade 4 students should pursue and be taught how to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design. Pupils should also be taught to: create sketch books to record their observations and use them to review and revisit ideas; to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]; and about great artists, architects and designers in history.

Art & Design (Course Objectives)

i) Elements of Art

- Personal experiments with white, black and grey colours
- Symmetrical and non-symmetrical design
- One-point perspective
- Animal drawings and sculpture

ii) Leonardo Da Vinci

- Biography
- History
- Examples of artist's work
- Practicing sketching

iii) Art appreciation

- Expression of art
- Student interpretation
- Observing the drawing of others

iv) Cultural Artistic Works

- Aboriginal art
- Dot painting
- Pointillism

v) Artistic Presentation

- Research of an artist

- Personal project
- Student explanation of choices

Design Technology (Course Description)

During Grade 3, the topics of study will be: artistic presentation; personal research of an artist; and examples of art work with student explanation and analysis of choices.

Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

Design Technology (Course Objectives)

i) Specific Content and Topics

- Artistic presentation
- Personal research of an artist
- Examples of art work with student explanation and analysis of choices.

ii) Design

- Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

iii) Make

- Select from and use a wider range of tools and equipment to perform practical tasks accurately
- Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

iv) Evaluate

- Investigate and analyse a range of existing products
- Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work

- Understand how key events and individuals in design and technology have helped shape the world

v) Technological Knowledge

- Apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- Understand and use mechanical systems in their products
- Understand and use electrical systems in their products
- Apply their understanding of computing to programme, monitor and control their products.

Music (Course Description)

Entering the final half of KS2 study, Grade 4 music will continue to build upon topics studied and learned in Grades 2 and 3.

With an increased focus on listening and performing, pupils will identify and explore the relationship between sounds, as well as how music reflects different intentions. Using the recorder and other instruments, whilst performing by ear and from studying the use of notations, pupils will maintain their own part in a group performance whilst learning how to be aware of how the different parts fit together and what is necessary to achieve an overall effect.

Students will improvise melodic and rhythmic phrases as part of a group performance and compose by developing ideas within musical structures. They will describe, compare and evaluate different kinds of music using an appropriate musical vocabulary. Additionally, pupils will suggest improvements for their own and others' work, commenting on how intentions have been achieved.

Music (Course Objectives)

i) Elements of Music

a) Elements

Through participation become familiar with basic elements of music (rhythm, melody, harmony, form, timbre, etc.)

- Recognise a steady beat, move to beat, play a steady beat and a simple rhythm pattern.
- Discriminate between fast and slow, gradually slowing down and getting faster.
- Discriminate between differences in pitch: high and low.
- Discriminate between loud and soft, gradually increasing and decreasing volume.
- Echo short rhythms and melodic patterns.
- Sing unaccompanied, accompanied, and in unison.
- Recognise verse and refrain.
- Play simple rhythms and melodies.
- Recognise harmony, sing rounds, songs in two or more voices.
- Work with timbre and phrasing.

b) Notation

Pupils will be able to review and remark on the following notations:

- Whole, dotted half note, half, quarter note, eighth notes.
- Whole, half, quarter rest.
- Staff, treble clef (G clef), bass clef (understand that different instruments use different clef (why)).

- Names of the notes.
- Sharps and flats.
- Understand the dividing the staff into measures, bar lines.
- Time signatures 4/4 time, 2/4 time, 3/4 time.
- Dynamics: piano, forte, crescendo, decrescendo.

ii) Listening, Exploring and Performing

Children will be exposed to a wide range of music, including children's music, instrumental music, and music from various cultures.

a) The Recorder, how to Play a Song

- Learn the rules of ensemble playing, control the sound, play simple tunes following the notation.
- Range D1 – D2 (left hand).
- Recorder drills, practice in group, perform solo with accompaniment.
- Control of the breath.

b) Rhythm Work with Percussion Instruments

- Play different instruments (Orff's instruments, xylophone, drumbens, handbells...).
- Games, patterns, performing with different types of the notation.
- Improvisation.

c) Listening and Describing Music

- Listen different styles of music, description (instruments, mood, dynamics, interpretation, comparison, become familiar with famous tunes)

d) Use of the Music and Rhythm

- In the past.
- Signals.
- Music around us (film, ceremonies, city, phones, radio ...).

Modern Language (Course Description)

In Grade 4, students will study the following example topics: 'hello'; geography of the country of study; interviews; departures; journal writing; between seas and mountains; picnics; in the jungle; at the bottom of the sea; souvenirs; and visiting galleries.

At Meridian International School, our students have the option of studying a choice of modern languages. For Czech citizens, Grade 4 students will follow a curriculum that closely follows the Czech national curriculum, whereas non-native Czech speakers will follow a curriculum that is based on methodologies that closely follow a standard European framework.

Additionally, our students have the option of studying French, following a curriculum that adheres strictly to the standards of the National Curriculum of England.

Teaching should build on the foundations of language learning laid at Key Stage 1, whether pupils continue with the same language or take up a new one. Teaching may be of any modern or ancient foreign language and should focus on enabling pupils to make substantial progress in one language. The teaching should provide an appropriate balance of spoken and written language and should lay the foundations for further foreign language teaching at Key Stage 3. It should enable pupils to understand and communicate ideas, facts and feelings in speech and writing, focused on familiar and routine matters, using their knowledge of phonology, grammatical structures and vocabulary. The focus of study in modern languages will be on practical communication. If an ancient language is chosen, the focus will be to provide a linguistic foundation for reading comprehension and an appreciation of classical civilisation. Pupils studying ancient languages may take part in simple oral exchanges, while discussion of what they read will be conducted in English. A linguistic foundation in ancient languages may support the study of modern languages at Key Stage 3.

Modern Language (Course Objectives)

i) Specific Content and Topics

- 'hello'
- Geography of the country of study
- Interviews
- Departures
- Journal writing
- Between seas and mountains
- Picnics
- In the jungle
- At the bottom of the sea
- Souvenirs

ii) Listening & Comprehension

- Listen attentively to spoken language and show understanding by joining in and responding
- Explore the patterns and sounds of language through songs and rhymes and link the spelling, sound and meaning of words

iii) Speaking

- Engage in conversations; ask and answer questions; express opinions and respond to those of others; seek clarification and help
- Speak in sentences, using familiar vocabulary, phrases and basic language structures

- Develop accurate pronunciation and intonation so that others understand when they are reading aloud or using familiar words and phrases
- Present ideas and information orally to a range of audiences

iv) Reading & Comprehension

- Read carefully and show understanding of words, phrases and simple writing
- Appreciate stories, songs, poems and rhymes in the language
- Broaden their vocabulary and develop their ability to understand new words that are introduced into familiar written material, including through using a dictionary

v) Writing

- Write phrases from memory, and adapt these to create new sentences, to express ideas clearly
- Describe people, places, things and actions orally* and in writing
- Understand basic grammar appropriate to the language being studied, including (where relevant): feminine, masculine and neuter forms and the conjugation of high-frequency verbs; key features and patterns of the language; how to apply these, for instance, to build sentences; and how these differ from or are similar to English.

Physical Education (Course Description)

A high-quality physical education curriculum inspires all pupils to succeed and excel in competitive sport and other physically-demanding activities. It should provide opportunities for pupils to become physically confident in a way which supports their health and fitness. Opportunities to compete in sport and other activities build character and help to embed values such as fairness and respect.

During Grade 4 students should continue to apply and develop a broader range of skills, learning how to use them in different ways and to link them to make actions and sequences of movement. They should enjoy communicating, collaborating and competing with each other. They should develop an understanding of how to improve in different physical activities and sports and learn how to evaluate and recognise their own success.

Physical Education (Course Objectives)

i) Sport & Games

- use running, jumping, throwing and catching in isolation and in combination
- play competitive games, modified where appropriate, and apply basic principles suitable for attacking and defending
- develop flexibility, strength, technique, control and balance
- perform dances using a range of movement patterns
- take part in outdoor and adventurous activity challenges both individually and within a team
- compare their performances with previous ones and demonstrate improvement to achieve their personal best.

ii) Swimming and water safety

In particular, pupils should be taught to:

- swim competently, confidently and proficiently over a distance of at least 25 metres
- use a range of strokes effectively
- perform safe self-rescue in different water-based situations.

References

English:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335186/PRIMARY_national_curriculum_-_English_220714.pdf

Mathematics:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335158/PRIMARY_national_curriculum_-_Mathematics_220714.pdf

Science:

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Geography:

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History:

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Information Technology:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239033/PRIMARY_national_curriculum_-_Computing.pdf

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Music

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Modern Languages

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/239042/PRIMARY_national_curriculum_-_Languages.pdf

Physical Education

<https://www.gov.uk/government/publications/national-curriculum-in-england-physical-education-programmes-of-study>