CANADIAN INTERNATIONAL SCHOOL

UNIVERSITY of CAMBRIDGE International Examinations

Cambridge Primary

ELEMENTARY SCHOOL CURRICULUM

For **English, Maths and Science,** the learning objectives are taken from the Cambridge International Primary Curriculum. For more information, please visit www.cie.org.uk.

For **Technology,** Cambridge Starters, and Next Steps resources provide the learning objectives. Digital Citizenship units with Common Sense Media learning objectives and activities are incorporated. www.commonsensemedia.org

For **Social Studie**s, Oxford International Geography Learning objectives are supplemented with an India Unit and an Australian RIC component. All Geography objectives are included in this curriculum framework.

Art, Music, and Physical Education are taught with a school generated curriculum based on Ontario learning objectives, modified to suit our international school setting.
http://www.edu.gov.on.ca/eng/curriculum/elementary/index.html

English as a Second Language follows Cambridge English Learners objective and this intensive English course is not grade level specific as learners new to English join all grades of CIS elementary
http://www.cambridgeenglish.org/exams/key/

All Additional Languages are created with the same learning objectives using the Common European Framework of Reference for Languages (CEFR)
http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf

ELEMENTARY SCHOOL CURRICULUM

FOR GRADES 1 to 5

CAMBRIDGE
International Examinations

Cambridge International School

Cambridge
Primary

Cambridge Primary

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Cambridge Primary

CURRICULUM - CORE SUBJECTS | GRADE 1 (STAGE 1)

Grade 1 (Stage 1)

Phonics, Spelling And Vocabulary

Grammar and punctuation

- Hear, read and write initial letter sounds.

Reading

- Know the name and most common sound associated with every letter in the English alphabet.
- Pause at full stops when reading.
- Identify sentences in a text.
- Identify separate sounds (phonemes) within words, which may be represented by more than one letter, e.g. 'th', 'ch', 'sh'.
- Know that a capital letter is used for I, for proper nouns and for the start of a sentence.
- Use knowledge of sounds to read and write single syllable words with short vowels.

Writing

- Blend to read, and segment to spell, words with final and initial adjacent consonants, e.g. b-l, n-d.
- Mark some sentence endings with a full stop.
- Write sentence-like structures which may be joined by 'and'.
- Begin to learn common spellings of long vowel phonemes, e.g. 'ee', 'ai', 'oo'.
- Use knowledge of sounds to write simple regular words, and to attempt other words.
- Spell familiar common words accurately, drawing on sight vocabulary.
- Use rhyme and relate this to spelling patterns.
- Recognise common word endings, e.g. -s, -ed and -ing.

Reading

- Talk about significant aspects of a story's language, e.g. repetitive refrain, rhyme, patterned language.
- Enjoy a range of books, discussing preferences.
- Make links to own experiences.
- Learn and recite simple poems.
- The following genres and text types are recommended at Stage 1:
  1. Fiction and poetry: real life stories, traditional tales from different cultures, fantasy stories, poetry and plays.
  2. Non-fiction: non-chronological report, simple recount, instructions.

Fiction and poetry

- Join in and extend rhymes and refrains, playing with language patterns.
- Join in with reading familiar, simple stories and poems.
- Demonstrate an understanding that one spoken word corresponds with one written word.

Non-fiction

- Read labels, lists and captions to find information.
- Know that in English, print is read from left to right and top to bottom.
- Know the parts of a book, e.g. title page, contents.
- Read a range of common words on sight.
- Show awareness that texts for different purposes look different, e.g. use of photographs, diagrams, etc.
- Use phonic knowledge to read decodable words and to attempt to sound out some elements of unfamiliar words.
- Read and talk about own writing.
- Read aloud from simple books independently.
- Anticipate what happens next in a story.
- Talk about events in a story and make simple inferences about characters and events to show understanding.
- Recognise story elements, e.g. beginning, middle and end.
- Retell stories, with some appropriate use of story language.

Language Arts

Writing

Speaking and listening

Fiction

- Write simple storybooks with sentences to caption pictures.
- Speak clearly and choose words carefully to express feelings and ideas when speaking of matters of immediate interest.
- Converse audibly with friends, teachers and other adults.
- Write a sequence of sentences retelling a familiar story or recounting an experience.
- Show some awareness of the listener through non-verbal communication.
- Begin to use some formulaic language, e.g. Once upon a time.
- Compose and write a simple sentence with a capital letter and a full stop.
- Answer questions and explain further when asked.
- Speak confidently to a group to share an experience.
- Take turns in speaking.
- Listen to others and respond appropriately.
- Listen carefully to questions and instructions.
- Engage in imaginative play, enacting simple characters or situations.
- Use relevant vocabulary.

Non-fiction

- Write for a purpose using some basic features of text type.
- Write simple information texts with labels, captions, lists, questions and instructions for a purpose.
- Record answers to questions, e.g. as lists, charts.

Presentation

- Develop a comfortable and efficient pencil grip.
- Form letters correctly.
- Note that people speak in different ways for different purposes and meanings.

Grade 1 (Stage 1)

NUMBER

- Count, read and write numbers to at least 100 and back again.
- Count up to 100 objects, e.g. beads on a bead bar.
- Count on in ones and tens from single- and two-digit numbers and back again.
- Count in twos, fives and tens, and use grouping in twos, fives or tens to count larger groups of objects.
- Begin to count on in small constant steps such as threes and fours.
- Know what each digit represents in two-digit numbers; partition into tens and ones.
- Find 1 or 10 more/less than any two-digit number.
- Round two-digit numbers to the nearest multiple of 10.
- Say a number between any given neighbouring pairs of multiples of 10, e.g.40 and 50.
- Place a two-digit number on a number line marked off in multiples of ten.
- Recognise and use ordinal numbers up to at least the 10th number and beyond.
- Order numbers to 100; compare two numbers using the > and < signs.
- Give a sensible estimate of up to 100 objects, e.g. choosing from 10, 20, 50 or 100.
- Understand even and odd numbers and recognise these up to at least 20.
- Sort numbers, e.g. odd/even, multiples of 2, 5 and 10
- Recognise that we write one half 1/2 , one quarter 1/4 and three quarters 3/4.
- Recognise that 2/2 or 4/4 make a whole and 1/2 and 2/4 are equivalent.
- Recognise which shapes are divided in halves or quarters and which are not.
- Find halves and quarters of shapes and small numbers of objects.

CALCULATION

Mental strategies

- Find and learn by heart all numbers pairs to 10 and pairs with a total of 20.
- Partition all numbers to 20 into pairs and record the related addition and subtraction facts.
- Find all pairs of multiples of 10 with a total of 100 and record the related Addition and subtraction facts.
- Learn and recognise multiples of 2, 5 and 10 and derive the related division facts.
- Find and learn doubles for all numbers up to 10 and also 15, 20, 25 and 50.

Addition and subtraction

- Relate counting on/back in tens to finding 10 more /less than any two-digit number and then to adding and subtracting other multiples of10,e.g.75–30.
- Use the = sign to represent equality, e.g. 16 + 4 = 17 + 3.
- Add four or five small numbers together.
- Recognise the use of a symbol such as or Δ to represent an unknown, e.g. Δ + 4 = 10.
- Solve number sentences such as 27 + Δ = 30.
- Add and subtract a single digit to and from a two-digit number.
- Add pairs of two-digit numbers.
- Find a small difference between pairs of two-digit numbers.
- Understand that addition can be done in any order, but subtraction cannot.
- Understand subtraction as both difference and take away.

Multiplication and division

- Understand multiplication as repeated addition and use the × sign.
- Understand multiplication as describing an array.
- Understand division as grouping and use the ÷ sign.
- Use counting in twos, fives or tens to solve practical problems involving repeated addition.

- Find doubles of multiples of 5 up to double 50 and corresponding halves.
- Double two-digit numbers.
- Work out Multiplication and division facts for the 3x and 4x tables.
- Understand that division can leave some left over.

GEOMETRY

Shapes and geometric reasoning

- Sort, name, describe, visualise and draw 2D shapes (e.g. squares, rectangles, circles, regular and irregular pentagons and hexagons) referring to their properties; recognise common 2D shapes in different positions and orientations.
- Sort, name, describe and make 3D shapes (e.g. cubes, cuboids, cones, cylinders, spheres and pyramids) referring to their properties; recognise 2D drawings of 3D shapes.
- Identify reflective symmetry in patterns and 2D shapes; draw lines of symmetry.
- Find examples of 2D and 3D shape and symmetry in the environment.

Position and movement

- Follow and give instructions involving position, direction and movement.
- Recognise whole, half and quarter turns, both clockwise and anti-clockwise.
- Recognise that a right angle is a quarter turn.

MEASURE

Money

- Recognise all coins and notes.
- Use money notation.
- Find totals and the coins and notes required to pay a given amount; work out change.

Length, mass and capacity

- Estimate, measure and compare lengths, weights and capacities, choosing and using suitable uniform non-standard and standard units and appropriate measuring instruments.
- Compare lengths, weights and capacities using the standard units: centimetre, metre, 100 g, kilogram, and litre.

Time

- Know the units of time (seconds, minutes, hours, days, weeks, months and years).
- Know the relationships between consecutive units of time.
- Read the time to the half hour on digital and analogue clocks.
- Measure activities using seconds and minutes.
- Know and order the days of the week and the months of the year.

HANDLING DATA

- Organising, categorising and representing data
- Answer a question by collecting and recording data in lists and tables, and representing it as block graphs and pictograms to show results.
- Use Carroll and Venn diagrams to sort numbers or objects using one criterion; begin to sort numbers and objects using two criteria; explain choices using appropriate language, including 'not'.

Problem solving

- Using techniques and skills in solving mathematical problems
- Choose appropriate mental strategies to carry out calculations and explain how they worked out the answer.
- Explain methods and reasoning orally.
- Explore number problems and puzzles.
- Make sense of simple word problems (single and easy two-step),decide what operations (addition or subtraction, simple multiplication or division) are needed to solve them and, with help, represent them, with objects or drawings or on a number line.
- Make up a number story to go with a calculation, including in the context of money.
- Check the answer to an addition by adding the numbers in a different order or by using a different strategy, e.g. 35 + 19 by adding 20 to 35 and subtracting 1, and by adding 30 + 10 and 5 + 9.
- Check a subtraction by adding the answer to the smaller number in the original subtraction.
- Describe and continue patterns which count on in twos, threes, fours or fives to 30 or more.
- Identify simple relationships between numbers and shapes, e.g. this number is double ...; these shapes all have ... sides.
- Make a sensible estimate for the answer to a calculation.
- Consider whether an answer is reasonable.

Science

Grade 1 (Stage 1)

SCIENTIFIC ENQUIRY

Ideas and evidence

- Try to answer questions by collecting evidence through observation.

Plan investigative work

- Ask questions and contribute to discussions about how to seek answers.

Obtain and present evidence

- Explore and observe in order to collect evidence (measurements and observations) to answer questions.
- Suggest ideas and follow instructions.
- Record stages in work. Consider evidence and approach
- Make comparisons.

BIOLOGY

Plants

- Know that plants are living things.
- Know that there are living things and things that have never been alive.
- Explore ways that different animals and plants inhabit local environments.
- Make predictions.
- Decide what to do to try to answer a science question.
- Name the major parts of a plant, looking at real plants and models.
- Know that plants need light and water to grow.
- Explore how seeds grow into flowering plants.

Humans and animals

- Recognise the similarities and differences between each other.
- Recognise and name the main external parts of the body.
- Know about the need for a healthy diet, including the right types of food and water.
- Compare what happened with predictions.
- Explore how senses enable humans and animals to be aware of the world around them.
- Model and communicate ideas in order to share, explain and develop them.
- Know that humans and animals produce offspring which grow into adults.

CHEMISTRY

Material properties

- Use senses to explore and talk about different materials.
- Identify the characteristics of different materials.
- Recognise and name common materials.
- Sort objects into groups based on the properties of the materials.

PHYSICS

Forces

- Explore, talk about and describe the movement of familiar things.
- Recognise that both pushes and pulls are forces.
- Recognise that when things speed up, slow down or change direction there is a cause.

Sound

- Identify many sources of sound.
- Know that we hear when sound enters our ear.
- Recognise that as sound travels away from a source it becomes fainter.

Grade 1 (Stage 1)

GEOGRAPHY

My School-map skills

- Encourage students to compare and contrast their own classroom with a picture of a 'typical' classroom.
- Encourage observations of the classroom furniture and fittings
- Draw, and if possible, label a picture of the student's classroom
- Notice that there are many people and other living things in the average classroom
- Help students learn to distinguish their left and their right hands and to emphasise the importance of left and right in giving or receiving directions.
- Reinforce and extend the learning of left and right
- Introduce the idea that a plan is a drawing of the shape you see when you look down on something
- Choose three classroom objects and draw a picture and a plan of each
- Encourage students to think about and discuss the size and age of their school and the materials used in its construction.
- Examine a simple plan of a school.
- Explain how an aerial photograph can be changed into a plan or map.
- Encourage thought about, and investigation of, the school grounds.

The Local Area

- Introduce the names of some geographical features and to encourage observation of the local landscape.
- Name some of the geographical features in the local area and to encourage observation of the local landscape.
- Compare the buildings found in a typical village and a typical city.
- Introduce students to different types of home.
- Introduce the idea of an address to help other people locate their home.
- Identify some of the different types of homes in which people live,
- Think about homes and to identify the various rooms.
- Discuss, in very simple terms, what a home is for.
- Encourage students to think about the activities they do, and do not do, in their home.
- Assign some of the items to be found in a typical home to the appropriate rooms.
- Explain that homes in different parts of the world are designed to cope with the local weather and climate.
- Explain how houses are adapted to their surroundings.
- Explain that even in a small village, there are buildings that are used for purposes other than providing homes and that there are many more such buildings in towns and cities.
- Look at how buildings are used for different purposes and that sometimes a building may have more than one use.
- Observe and record some of the buildings and other man-made structures in the local area.
- Introduce the notion of a job as the work someone does to earn money, and to classify some familiar jobs.
- Highlight to students that all places change.
- To explain that some places change quickly, others changes are much slower and less noticeable and that opinions vary as to whether changes are good or bad.
- Look at how places have changed over the past 100 years.
- Look for the changes to the buildings, streets, street furniture, and methods of transport.
- Choose a place that is changing, or has changed, and to draw it as it was and is now.
- Encourage observation of the student's home and the immediate neighborhood.

Social Studies

Going Places

- Introduce journeys and the different types of transport.
- Investigate the traffic outside of the school.
- Realize that traffic consists of a variety of types of vehicle and that traffic flows vary at different times of the day.
- Compare the different methods of moving goods and people.
- Help students recognize that we go on a journey when we travel from one place to another and that there are various methods of travelling to school.
- Encourage thought about the landmarks and other features that students pass on the way to and from school.
- Carry out a survey of the various ways in which students in the class travel to school.
- Introduce an example of a journey by air from Qatar to Paris, France.
- Explain that you need to have an official document called a passport to visit another country.
- Introduce an example of a holiday journey.
- Explain that when we choose a holiday destination, we need to make sure that it has the right kind of weather for our chosen leisure activities.
- Choose the right kind of weather for different outdoor activities.
- Choose things that you would and wouldn't see on a hot day on holiday.
- Explain that a landscape is the share of the earth's surface we can see and that different parts of the world have different landscapes.
- Name four different landscapes.
- Identify the animals that are, and are not, found in a hot desert.

Grade 1 (Stage 1)

Students should learn to extend the range of ICT (Information & Communication Technology) tools they use for communication, investigation and control; they should use ICT to select information, sources and media that are suitable for their purpose and assess the value of ICT in their work.

Students should learn to:

- Use equipment and develop knowledge of ICT.
- Use a variety of ICT equipment and software, which may include various kinds of computers and keyboards, as well as TV, DVD and video devices, as well as 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.

Communicate using ICT

- Begin to assemble text and pictures 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.

- _____Explore and use a variety of methods to enter and store information onto a computer and so on.
- Classify information using ICT.
- Store, retrieve and process information that has been stored in a pre-prepared database or spreadsheet.

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.

Model using ICT

- Understand that computers can be used to represent real or fantasy 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.

Digital Citizenship and Literacy

- Use technology safely and respectfully: iPad Safety, how to handle the iPad carefully.
- Use technology safely and respectfully. Identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.
- Students learn that they can go to exciting places online, but they need to follow certain rules to remain safe.
- Use technology safely and respectfully. Learn how to search online using the alphabet.

Information Technology

- iPad basics: How to handle the iPad safely and responsibly.
- Basic terms: Homescreen, Lockscreen, how to close running apps, etc.
- Students begin their iPad activities by taking pictures using the Camera App.
- Use technology purposely to create, organize, store, manipulate and retrieve digital content.
- Tech integration through creating and modifying documents with formatted texts.
- Learn and practice spelling skills.

Computer Science

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
- Learn visual programming, playing a game featuring Foos. In this students use commands to program the Foos to unlock more adventures.
- Develop logical thinking, observational, programming and Math skills using the Apps Marble Math Jr./Fresh Pick/Beebot.

Cambridge Primary

CURRICULUM - CORE SUBJECTS | GRADE 2 (STAGE 2)

Language Arts

Grade 2 (Stage 2)

Phonics, Spelling and Vocabulary

- Learn the different common spellings of long vowel phonemes.
- Learn the different ways in which vowels can be pronounced, e.g. how, low; apple, apron.
- Apply knowledge of phonemes and spelling patterns in writing independently.
- Secure the spelling of high frequency words and common irregular words.
- Identify syllables and split familiar compound words into parts.
- Spell words with common prefixes and suffixes, e.g. un-, dis-, -ful, -ly.
- Build and use collections of interesting and significant words.
- Discuss the meaning of unfamiliar words encountered in reading.
- Choose interesting words and phrases, e.g. in describing people and places.

Grammar and Punctuation

- Begin to read with fluency and expression, taking some notice of punctuation, including speech marks.
- Read and respond to question words, e.g. what, where, when, who, why.
- Write in clear sentences using capital letters, full stops and question marks.
- Use past and present tenses accurately but not always consistently.
- Use mainly simple and compound sentences, with and/but to connect ideas.
- "Because" may begin to be used in a complex sentence.
- Begin to vary sentence openings, e.g. with simple adverbs.
- Use a variety of simple organisational devices in non-fiction, e.g. headings, captions.
- Begin to re-read own writing for sense and accuracy.

Reading

- Extend the range of common words recognised on sight.
- Use phonics as the main method of tackling unfamiliar words.
- Read aloud with increased accuracy, fluency and expression.
- Identify and describe story settings and characters, recognising that they may be from different times and places.
- Predict story endings.
- Make simple inferences from the words on the page, e.g. about feelings.
- Talk about what happens at the beginning, in the middle or at the end of a story.
- Comment on some vocabulary choices, e.g. adjectives.
- Begin to develop likes and dislikes in reading.
- Read poems and comment on words and sounds, rhyme and rhythm.
- Read and follow simple instructions, e.g. in a recipe.
- Locate words by initial letter in simple dictionaries, glossaries and indexes.
- Find answers to questions by reading a section of text.
- Find factual information from different formats, e.g. charts, labelled diagrams.
- Identify general features of known text types.
- Show some awareness that texts have different purposes.
- Explore a variety of non-fiction texts on screen.

Writing

Fiction

- Develop stories with a setting, characters and a sequence of events.
- Structure a story with a beginning, middle and end.
- Link ideas in sections, grouped by content.

- Find alternatives to and/then in developing a narrative and connecting ideas.
- Write with a variety of sentence types.
- Use the structures of familiar poems and stories in developing own writing.
- Begin to use dialogue in stories.
- Use the language of time, e.g. suddenly, after that.
- Choose some interesting words and phrases, e.g. in describing people and places.

Non-fiction

- Write simple evaluations of books read.
- Write instructions and recount events and experiences.
- Use features of chosen text type.
- Use simple non-fiction texts as models for writing.
- Make simple notes from a section of non-fiction texts, e.g. listing key words

Presentation

- Form letters correctly and consistently.
- Practise handwriting patterns and the joining of letters.

Speaking and Listening

- Recount experiences and explore possibilities.
- Explain plans and ideas, extending them in the light of discussion.
- Articulate clearly so that others can hear.
- Vary talk and expression to gain and hold the listener's attention.
- Show awareness of the listener by including relevant details.
- Attempt to express ideas precisely, using a growing vocabulary.
- Listen carefully and respond appropriately, asking questions of others.
- Demonstrate 'attentive listening' and engage with another speaker.
- Extend experiences and ideas through role-play.
- Begin to be aware of ways in which speakers vary talk, for example the use of more formal vocabulary and tone of voice.
- Show awareness that speakers use a variety of ways of speaking in different situations and try out different ways of speaking.

Grade 2 (Stage 3)

NUMBER

- Recite numbers 100 to 200 and beyond.
- Read and write numbers to at least 1000.
- Count on and back in ones, tens and hundreds from two- and three digit numbers.
- Count on and back in steps of 2, 3, 4 and 5 to atleast 50.
- Understand what each digit represents in three-digit numbers and partition into hundreds, tens and units.
- Find 1, 10, 100 more/less than two- and three-digit numbers.
- Multiply two-digit numbers by 10 and understand the effect.
- Round two-digit numbers to the nearest 10 and round three-digit numbers to the nearest 100.
- Place a three-digit number on a number line marked off in multiples of 100.
- Place a three-digit number on a number line marked off in multiples of 10.
- Compare three-digit numbers, use < and > signs, and find a number in between.
- Order two- and three-digit numbers.
- Give a sensible estimate of a number as a range (e.g. 30 to 50) by grouping in tens.
- Find half of odd and even numbers to 40, using notation such as 13 1⁄2
- Understand and use fraction notation recognising that fractions are several parts of one whole, e.g. 3⁄4 is three quarters and 2/3 is two thirds.
- Recognise equivalence between 1/2, 2/4, 4/8 and 5/10 using diagrams.
- Recognise simple mixed fractions, e.g. 11⁄2 and 2 1⁄4
- Order simple or mixed fractions on a number line, e.g. using the knowledge that 1⁄2 comes halfway between 1/4 and 3/4 and that 11⁄2 comes halfway between 1 and 2
- Begin to relate finding fractions to division.
- Find halves, thirds, quarters and tenths of shapes and numbers (whole number answers).

CALCULATION

Mental Strategies

- Know addition and subtraction facts for all numbers to 20.
- Know the following Addition and subtraction facts:
  - multiples of 100 with a total of 1000
  - multiples of 5 with a total of 100
- Know multiplication/division facts for 2×, 3×, 5×, and 10× tables.
- Begin to know 4× table.
- Recognise two- and three-digit multiples of 2, 5 and 10.
- Work out quickly the doubles of numbers 1 to 20 and derive the related halves.
- Work out quickly the doubles of multiples of 5 (< 100) and derive the related halves.
- Work out quickly the doubles of multiples of 50 to 500.

Addition and subtraction

- Add and subtract 10 and multiples of 10 to and from two- and three-digit numbers.
- Add 100 and multiples of 100 to three-digit numbers.
- Use the = sign to represent equality, e.g. 75 + 25 = 95 + 5.
- Add several small numbers.
- Find complements to 100, solving number equations such as 78 + __ = 100.
- Add and subtract pairs of two-digit numbers.
- Add three-digit and two-digit numbers using notes to support.
- Re-order an addition to help with the calculation, e.g. 41 + 54, by adding 40 to 54, then 1.
- Add/subtract single-digit numbers to/from three-digit numbers.
- Find 20, 30, ... 90, 100, 200, 300 more/less than three-digit numbers.

Maths

Multiplication and division

- Understand the relationship between halving and doubling.
- Understand the effect of multiplying two-digit numbers by 10.
- Multiply single-digit numbers and divide two-digit numbers by 2, 3, 4, 5, 6, 9 and 10.
- Multiply teens numbers by 3 and 5.
- Begin to divide two-digit numbers just beyond 10× tables, e.g. 60 ÷ 5, 33 ÷ 3.
- Understand that division can leave a remainder (initially as 'some left over').
- Understand and apply the idea that multiplication is commutive.
- Understand the relationship between multiplication and division and write connected facts.

Shapes and geometric reasoning

- Identify, describe and draw regular and irregular 2D shapes including pentagons, hexagons, octagons and semi-circles.
- Classify 2D shapes according to the number of sides, vertices and right angles.
- Identify, describe and make 3D shapes including pyramids and prisms; investigate which nets will make a cube.
- Classify 3D shapes according to the number and shape of faces, number of vertices and edges.
- Draw and complete 2D shapes with reflective symmetry and draw reflections of shapes (mirror line along one side).
- Relate 2D shapes and 3D solids to drawings of them.
- Identify 2D and 3D shapes, lines of symmetry and right angles in the environment.
- Identify right angles in 2D shapes.

Position and movement

- Use the language of position, direction and movement, including clockwise and anti-clockwise.
- Find and describe the position of a square on a grid of squares where the rows and columns are labelled.
- Use a set square to draw right angles.
- Compare angles with a right angle and recognise that a straight line is equivalent to two right angles.

MEASURE

Money

- Consolidate using money notation.
- Use addition and subtraction facts with a total of 100 to find change.

Length, mass and capacity

- Choose and use appropriate units and equipment to estimate, measure and record measurements.
- Know the relationship between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.
- Read to the nearest division or half division, use scales that are numbered or partially numbered.
- Use a ruler to draw and measure lines to the nearest centimetre.
- Solve word problems involving measures.

Time

- Suggest and use suitable units to measure time and know the relationships between them (second, minute, hour, day, week, month, year).
- Read the time on analog and digital clocks, to the nearest 5 minutes on an analogue clock and to the nearest minute on a digital clock.
- Begin to calculate simple time intervals in hours and minutes.
- Read a calendar and calculate time intervals in weeks or days.

HANDLING DATA

- Organising, categorising and representing data
- Answer a real-life question by collecting, organising and interpreting data, e.g. investigating the population of mini-beasts in different environments.
- Use tally charts, frequency tables, pictograms (symbol representing one or two units) and bar charts (intervals labelled in ones or twos).
- Use Venn or Carroll diagrams to sort data and objects using two criteria.

Maths

PROBLEM SOLVING

- Using techniques and skills in solving mathematical problems
- Choose appropriate mental strategies to carry out calculations.
- Begin to understand everyday systems of measurement in length, weight, capacity and time and use these to make measurements as appropriate.
- Make sense of and solve word problems, single (all four operations) and two-step (Addition and subtraction), and begin to represent them, e.g. with drawings or on a number line.
- Check the results of adding two numbers using subtraction, and several numbers by adding in a different order.
- Check subtraction by adding the answer to the smaller number in the original calculation.
- Check multiplication by reversing the order, e.g. checking that 6 × 4 = 24 by doing 4 × 6.
- Check a division using multiplication, e.g. check 12 ÷ 4 = 3 by doing 4 × 3.
- Recognise the relationships between different 2D shapes.
- Identify the differences and similarities between different 3D shapes.
- Estimate and approximate when calculating, and check working.
- Make a sensible estimate for the answer to a calculation, e.g. using rounding.
- Consider whether an answer is reasonable.
- Make up a number story to go with a calculation, including in the context of money.
- Explain a choice of calculation strategy and show how the answer was worked out.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue patterns which count on or back in steps of 2, 3, 4, 5, 10, or 100.
- Identify simple relationships between numbers, e.g. a number is three more than the number before it.
- Identify simple relationships between shapes, e.g. these shapes all have the same number of lines of symmetry.
- Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. when adding 10 to a number, the first digit remains the same.
- Explain methods and reasoning orally, including initial thoughts about possible answers to a problem.

Grade 2 (Stage 2)

SCIENTIFIC ENQUIRY:

Ideas and evidence

- Collect evidence by making observations when trying to answer a science question.
- Use first hand experience, e.g. observe melting ice.
- Use simple information sources.

Plan investigative work

- Ask questions and suggest ways to answer them.
- Predict what will happen before deciding what to do.
- Recognise that a test or comparison may be unfair.
- Obtain and present evidence
- Make suggestions for collecting evidence.
- Talk about risks and how to avoid danger.
- Make and record observations.
- Take simple measurements.
- Use a variety of ways to tell others what happened.
- Consider evidence and approach
- Make comparisons.
- Identify simple patterns and associations.
- Talk about predictions (orally and in text), the outcome and why this happened.
- Review and explain what happened.

BIOLOGY

Living things in their environment

- Identify similarities and differences between local environments and know about some of the ways in which these affect the animals and plants that are found there.
- Understand ways to care for the environment.
- Observe and talk about their observation of the weather, recording reports of weather data.

CHEMISTRY

Material properties

- Recognise some types of rocks and the uses of different rocks.
- Know that some materials occur naturally and others are man-made. Material changes
- Know how the shapes of some materials can be changed by squashing, bending, twisting and/or stretching.
- Explore and describe the way some everyday materials change when they are heated or cooled.
- Recognise that some materials can dissolve in water.

Grade 2 (Stage 2)

GEOGRAPHY

The Wider World

- Explain that the Earth is shaped like a sphere and that on Earth there is more sea than land.
- Explain the importance to us of the Earth's supply of air and water.
- Be able to name the main parts of the Earth.
- Interpret a description of an activity representing the Sun and the Earth.
- Introduce the seven huge areas of land on the Earth, which we call continents.
- Identify and label the seven continents on a map of the world.
- Identify and label six continents by their outlines and to name the missing continent.
- Introduce the concept of a country and to identify some of the main features of a country.
- Identify some of the geographical features of Kenya, with the aid of a map.
- Show understanding of what is meant by a country and to invent an imaginary country.
- Introduce the names and geographical locations of the five oceans and to explain the difference between an ocean and a sea.
- Identify the five oceans on a map of the world.
- Identify the names of the oceans, continents and seas from a list.
- Introduce the concept of the environment as everything that is around us, living and non-living objects.
- Identify some of the man-made objects found in the local environment.
- Introduce the idea that many of the things we throw away every day can be reused or recycled.
- Assign waste materials to the correct recycling bin.
- Examine some everyday objects and to determine what materials were used to make them.
- Decide how the objects could be reused or recycled.

An island home

- Introduce the concept of an island as an area of land with water all around it.
- Be able to recognise an island and a map of an island.
- Compare an island chosen by students with their local area.
- Introduce Bahrain as an example of an island country.
- Examine some of the geographical features of Bahrain.
- Compare Bahrain with an island chosen by the students.
- Investigate the different forms of transport on an island.
- Identify the different forms of transport shown on a map of an island.
- Compare the different ways of travelling from Bahrain to other locations.

At the seaside

- Introduce some of the geographical features to be seen at the seaside.
- Understand that there are many landscape features and they each have their own special names.
- Understand that natural objects and harmful items of man-made rubbish may be washed up on a beach.
- Explain how seaside settlements originated and grew.
- Understand that seaside communities are places for work as well as leisure.
- Write a postcard about a visit to the seaside.
- Compare the seaside resorts of three countries.
- Identify some of the objects to be found in or near the sea and to draw them and write about them.

Social Studies

How we learn about the world

- Help students understand that we use our senses to compare different places.
- Compare two places using the senses of sight, hearing, smell, and touch.
- Carry out a survey of a busy place near the home or school, making use of four of the five senses.
- Examine some of the ways in which we can help our senses when we try to find out more about our environment.
- Think about some of the things that help us to learn more about the world.
- Test powers of observation when comparing two maps.
- Compare the merits of globes, maps, and atlases as a means of learning about the earth.
- Test understanding of globes, maps, and atlases.
- Compare the properties and uses of large scale maps.

Passport to the world

- Introduce the concept of 'climate" and to compare the hottest and coldest places in the world.
- Identify and colour the hot and cold places on a map of the world.
- Determine and compare the clothes to be worn on a visit to a hot place and a cold place.
- Explain that our food comes from many parts of the world.
- Interpret a block graph showing the origins of foods in a supermarket.
- Introduce some simple facts about the geography of China.
- Locate and colour China on a map of Asia.
- Collect factual information about China.
- Introduce information about life in a large Chinese city.
- Imagine what the senses would detect in a Chinese city and and Chinese village.
- Collect important data about China.

Grade 2 (Stage 2)

Students should learn to extend the range of ICT (Information & Communication Technology) tools they use for communication, investigation and control; they should use ICT to select information, sources and media that are suitable for their purpose and assess the value of ICT in their work.

Use equipment and develop knowledge of ICT

- Use ICT to explore and solve problems in the context of work across a variety of subjects.
- Use ict to further their understanding of information that they have retrieved and processed.
- Discuss their experience of using ICT and assess its value in their work.
- Investigate parallels with the use of ICT in the wider world, consider the effects of such uses and compare them with other methods.

Communicate using ICT

- Use ICT equipment and software to communicate ideas and information in a variety of forms, incorporating text, graphs, pictures and sound, as appropriate, showing sensitivity to the needs of their audience in choice of layout, typeface or graphics as well as considering the most appropriate use of such tools to present their ideas or argument.
- Use equipment and software to organise, reorganise and analyse ideas and information and so on.

Handle Information using ICT

- Interrogate information that has been stored, developing the need to take care in framing questions when collecting, accessing or interrogating information.
- Interpret, begin to analyse and check the plausibility of information held on ICT systems, and select the elements required for particular purposes.
- Select suitable information and media, and classify and prepare information for processing with ICT, checking for accuracy.

Control and Monitor using ICT

- Use simple commands to control a device
- Understand the difference between inputs and outputs and develop.
- Use commands to control them.
- Use a sequence of commands to control a device including inputs and outputs.
- Use sensors to gather and record data for a purpose and be able to give simple interpretations of the data gathered.

Digital Citizenship and Literacy

- Create awareness of responsible and confident use of iPad and information technology among all the pupils.
- Stay safe online by choosing websites that are good for them to visit, and avoid sites that are not appropriate for them.
- Understand that the information they put online leaves a digital footprint or "trail." This trail can be big or small, helpful or hurtful, depending on how they manage it.
- Understand that children sometimes can act like bullies when they are online. They explore what cyberbullying means and what they can do when they encounter it.

Information Technology

- Complete purposeful searching on Safari and saving images to camera roll.
- Use technology purposefully to create, organize, store, manipulate and retrieve digital content.
- Use appropriate search techniques to collect information from net.
- Tech integration through creating, modifying and printing a booklet with formatted texts and images (main project).
- Practice typing skills.

Computer Science

- Make animations using drag-and-drop programming app for students to write their own programs.
- Use scratch Jr. Hopscotch to develop thinking, reasoning, problem solving, and creative skills.

Cambridge Primary

CURRICULUM - CORE SUBJECTS | GRADE 3(STAGE 3)

Grade 3 (Stage 3)

Phonics, Spelling and Vocabulary

- Use effective strategies to tackle blending unfamiliar words to read, including sounding out, separating into syllables, using analogy, identifying known suffixes and prefixes, using context.
- Use and spell compound words.
- Know irregular forms of common verbs.
- Use effective strategies to tackle segmenting unfamiliar words to spell, including segmenting into individual sounds, separating into syllables, using analogy, identifying known suffixes and prefixes, applying known spelling rules, visual memory, mnemonics.
- Learn rules for adding -ing, -ed, -s to verbs.
- Extend earlier work on prefixes and suffixes.
- Explore words that have the same spelling but different meanings (homonyms), e.g. form, wave.
- Use a dictionary or electronic means to find the spelling and meaning of words.
- Organise words or information alphabetically using first two letters.
- Identify misspelt words in own writing and keep individual spelling logs.
- Consider how choice of words can heighten meaning.
- Infer the meaning of unknown words from the context.
- Explore vocabulary for introducing and concluding dialogue, e.g. said, asked.
- Generate synonyms for high frequency words, e.g. big, little, good.

Grammar and Punctuation

- Use knowledge of punctuation and grammar to read age-appropriate
- Read texts with fluency, understanding and expression.
- Recognise the use of the apostrophe to mark omission in shortened words, e.g. can't, don't.
- Collect examples of nouns, verbs and adjectives, and use the terms appropriately.
- Identify pronouns and understand their function in a sentence.
- Understand that verbs are necessary for meaning in a sentence.
- Understand pluralisation and use the terms 'singular' and 'plural'.
- Maintain accurate use of capital letters and full stops in showing sentences.
- Learn the basic conventions of speech punctuation and begin to use speech marks.
- Use question marks, exclamation marks, and commas in lists.
- Continue to improve consistency in the use of tenses.
- Ensure grammatical agreement of pronouns and verbs in using standard English.
- Use a wider variety of sentence types including simple, compound and some complex sentences. Begin to vary sentence openings, e.g. with simple adverbs.

Reading

Fiction and Poetry

- Sustain the reading of 48 and 64 page books, noting how a text is organised into sections or chapters.
- Read aloud with expression to engage the listener.
- Answer questions with some reference to single points in a text.
- Begin to infer meanings beyond the literal, e.g. about motives and character.
- Identify different types of stories and typical story themes.
- Identify the main points or gist of a text.
- Consider words that make an impact, e.g. adjectives and powerful verbs.
- Understand and use the terms 'fact', 'fiction' and 'non-fiction'.

- Read a range of story, poetry and information books and begin to make links between them.
- Read and comment on different books by the same author.
- Read play-scripts and dialogue, with awareness of different voices.
- Practise learning and reciting poems.

Non-fiction

- Scan a passage to find specific information and answer questions.
- Locate information in non-fiction texts using contents page and index.
- Read and follow instructions to carry out an activity.
- Consider ways that information is set out on page and on screen, e.g. lists, charts, bullet points.
- Locate books by classification.
- Identify the main purpose of a text.
- Use ICT sources to locate simple information.

Writing

Fiction

- Write first-person accounts and descriptions based on observation.
- Develop descriptions of settings in stories.
- Write portraits of characters.
- Write simple play-scripts based on reading.
- Plan main points as a structure for story writing.
- Begin to organise writing in sections or paragraphs in extended stories.
- Develop range of adverbials to signal the relationship between events.
- Use reading as a model for writing dialogue.
- Write and perform poems, attending to the sound of words.
- Choose and compare words to strengthen the impact of writing, including noun phrases.

Non-fiction

- Write book reviews summarising what a book is about.
- Establish purpose for writing, using features and style based on model texts.
- Write letters, notes and messages.
- Make a record of information drawn from a text, e.g. by completing a chart.

Presentation

- Ensure consistency in the size and proportion of letters and the spacing of words.
- Practise joining letters in handwriting.
- Build up handwriting speed, fluency and legibility.
- Use ICT to write, edit and present work.

Speaking and Listening

- Speak clearly and confidently in a range of contexts, including longer speaking turns.
- Adapt tone of voice, use of vocabulary and non-verbal features for different audiences.
- Take turns in discussion, building on what others have said.
- Listen and respond appropriately to others' views and opinions.
- Listen and remember a sequence of instructions.
- Practise to improve performance when reading aloud.
- Begin to adapt movement to create a character in drama.
- Develop sensitivity to ways that others express meaning in their talk and non-verbal communication.

Reading

Fiction and Poetry

- Extend the range of reading.
- Explore the different processes of reading silently and reading aloud.
- Investigate how settings and characters are built up from details and identify key words and phrases.
- Explore implicit as well as explicit meanings within a text.
- Recognise meaning in figurative language.
- Understand the main stages in a story from introduction to resolution.
- Explore narrative order and the focus on significant events.
- Retell or paraphrase events from the text in response to questions.
- Understand how expressive and descriptive language creates mood.
- Express a personal response to a text and link characters and settings to personal experience.

- Read further stories or poems by a favourite writer, and compare them.
- Read and perform play-scripts, exploring how scenes are built up.
- Explore the impact of imagery and figurative language in poetry, including alliteration and simile, e.g. as ... as a ....
- Compare and contrast poems and investigate poetic features.

Non-fiction

- Understand how points are ordered to make a coherent argument.
- Understand how paragraphs and chapters are used to organise ideas.
- Identify different types of non-fiction text and their known key features.
- Read newspaper reports and consider how they engage the reader.
- Investigate how persuasive writing is used to convince a reader.
- Note key words and phrases to identify the main points in a passage.
- Distinguish between fact and opinion in print and ICT sources.

Writing

Fiction

- Explore different ways of planning stories, and write longer stories from plans.
- Elaborate on basic information with some detail.
- Write character profiles, using detail to capture the reader's imagination.
- Explore alternative openings and endings for stories.
- Begin to adopt a viewpoint as a writer, expressing opinions about characters or places.
- Begin to use paragraphs more consistently to organise and sequence ideas.
- Choose and compare words to strengthen the impact of writing, including some powerful verbs.

Non-fiction

- Explore the layout and presentation of writing, in the context of helping it to fit its purpose.
- Show awareness of the reader by adopting an appropriate style or viewpoint.
- Write newspaper-style reports, instructions and non-chronological reports.
- Present an explanation or a point of view in ordered points, e.g. in a letter.
- Collect and present information from non-fiction texts.
- Make short notes from a text and use these to aid writing.
- Summarise a sentence or a paragraph in a limited number of words.

Presentation

- Use joined-up handwriting in all writing.

Speaking and Listening

- Organise ideas in a longer speaking turn to help the listener.
- Vary use of vocabulary and level of detail according to purpose.
- Understand the gist of an account or the significant points and respond to main ideas with relevant suggestions and comments.
- Deal politely with opposing points of view.
- Listen carefully in discussion, contributing relevant comments and questions.
- Adapt the pace and loudness of speaking appropriately when performing or reading aloud.
- Adapt speech and gesture to create a character in drama.
- Comment on different ways that meaning can be expressed in own and others' talk.

Grade 3 (Stage 4)

NUMBER

Numbers and the number system

- Read and write numbers up to 10 000.
- Count on and back in ones, tens, hundreds and thousands from four-digit numbers.
- Understand what each digit represents in a three- or four-digit number and partition into thousands, hundreds, tens and units.
- Use decimal notation and place value for tenths and hundredths in context, e.g. order amounts of money; convert a sum of money such as $13.25 to cents, or a length such as 125 cm to metres; round a sum of money to the nearest pound.
- Understand decimal notation for tenths and hundredths in context, e.g. length.
- Find multiples of 10, 100, 1000 more/less than numbers of up to four digits, e.g. 3407 + 20 = 3427.
- Multiply and divide three-digit numbers by 10 (whole number answers) and understand the effect; begin to multiply numbers by 100 and perform related divisions.
- Recognise multiples of 5, 10 and 100 up to 1000.
- Round three- and four-digit numbers to the nearest 10 or 100.
- Position accurately numbers up to 1000 on an empty number line or line marked off in multiples of 10 or 100.
- Estimate where three- and four-digit numbers lie on empty 0–1000 or 0–10 000 lines.
- Compare pairs of three-digit or four-digit numbers, using the > and < signs, and find a number in between each pair.
- Use negative numbers in context, e.g. temperature.
- Recognise and extend number sequences formed by counting in steps of constant size, extending beyond zero when counting back.
- Recognise odd and even numbers.
- Make general statements about the sums and differences of odd and even numbers.
- Order and compare two or more fractions with the same denominator (halves, quarters, thirds, fifths, eighths or tenths).
- Recognise the equivalence between: 1/4, 4/8 5/10; 1/4 and 2/8; 1/5 and 2/10
- Use equivalence to help order fractions, e.g. 7/10 and 3/4
- Understand the equivalence between one-place decimals and fractions in tenths.
- Understand that 1/2 is equivalent to 0.5 and also to 5/10
- Recognise the equivalence between the decimal fraction and vulgar fraction forms of halves, quarters, tenths and hundredths.
- Recognise mixed numbers, e.g. 5 3/4 , and order these on a number line.
- Relate finding fractions to division.
- Find halves, quarters, thirds, fifths, eighths and tenths of shapes and numbers.

CALCULATION

Mental strategies

- Derive quickly pairs of two-digit numbers with a total of 100, e.g. 72 + ? = 100.
- Derive quickly pairs of multiples of 50 with a total of 1000, e.g.850 + ? =1000.
- Identify simple fractions with a total of 1, e.g. 1/4 + ? = 1.
- Know multiplication for 2×, 3×, 4×, 5×, 6×, 9× and 10× tables and derive division facts.
- Recognise and begin to know multiples of 2, 3, 4, 5 and 10, up to the tenth multiple.
- Add three or four small numbers, finding pairs that equal 10 or 20.
- Add three two-digit multiples of 10, e.g. 40 + 70 + 50.
- Add and subtract near multiples of 10 or 100 to or from three-digit numbers, e.g. 367 – 198 or 278 + 49.
- Add any pair of two-digit numbers, choosing an appropriate strategy.
- Subtract any pair of two-digit numbers, choosing an appropriate strategy.
- Find a difference between near multiples of 100, e.g. 304 – 296.

- Subtract a small number over 100, e.g. 304 – 8.
- Multiply any pair of single-digit numbers together.
- Use knowledge of commutativity to find the easier way to multiply.
- Understand the effect of multiplying and dividing three-digit numbers by 10.
- Derive quickly doubles of all whole numbers to 50, doubles of multiples of 10 to 500, doubles of multiples of 100 to 5000, and corresponding halves.

Addition and subtraction

- Add pairs of three-digit numbers.
- Subtract a two-digit number from a three-digit number.
- Subtract pairs of three-digit numbers.

Multiplication and division

- Double any two-digit number.
- Multiply multiples of 10 to 90 by a single-digit number.
- Multiply a two-digit number by a single-digit number.
- Divide two-digit numbers by single digit-numbers (answers no greater than 20).
- Decide whether to round up or down after division to give an answer to a problem.
- Understand that multiplication and division are the inverse function of each other.
- Begin to understand simple ideas of ratio and proportion, e.g. a picture of a dog is one fifth the size of the real dog. It is 25 cm long in the picture, so it is 5 × 25 cm long in real life.

GEOMETRY

Shapes and geometric reasoning

- Identify, describe, visualise, draw and make a wider range of 2D and 3D shapes including a range of quadrilaterals, the heptagon and tetrahedron;
  - Use pinboards to create a range of polygons.
  - Use spotty paper to record results.
- Classify polygons (including a range of quadrilaterals) using criteria such as the number of right angles, whether or not they are regular and their symmetrical properties.
- Identify and sketch lines of symmetry in 2D shapes and patterns.
- Visualise 3D objects from 2D nets and drawings and make nets of common solids.
- Find examples of shapes and symmetry in the environment and in art.

Position and movement

- Describe and identify the position of a square on a grid of squares where rows and columns are numbered and/or lettered.
- Know that angles are measured in degrees and that one whole turn is 360° or four right angles; compare and order angles less than 180°.
- Devise the directions to give to follow a given path.

MEASURE

Length, mass and capacity

- Choose and use standard metric units and their abbreviations (km, m, cm, mm, kg, g, l and ml) when estimating, measuring and recording length, weight and capacity.
- Know and use the relationships between familiar units of length, mass and capacity; know the meaning of 'kilo', 'centi' and 'milli'.
- Where appropriate, use decimal notation to record measurements, e.g. 1.3 m, 0.6 kg, 1.2 l.
- Interpret intervals/divisions on partially numbered scales and record readings accurately.

Time

- Read and tell the time to nearest minute on 12-hour digital and analogue clocks.
- Use am, pm and 12-hour digital clock notation.
- Read simple timetables and use a calendar.
- Choose units of time to measure time intervals.

Area and perimeter

- Draw rectangles, and measure and calculate their perimeters.
- Understand that area is measured in square units, e.g. cm^2.
- Find the area of rectilinear shapes drawn on a square grid by counting squares.

HANDLING DATA

Organising, categorising and representing data

- Answer a question by identifying what data to collect, organising, presenting and interpreting data in tables, diagrams, tally charts, frequency tables, pictograms (symbol representing 2, 5, 10 or 20 units) and bar charts (intervals labelled in twos, fives, tens or twenties).
- Compare the impact of representations where scales have different intervals.
- Use Venn diagrams or Carroll diagrams to sort data and objects using two or three criteria.

Problem solving

- Using techniques and skills in solving mathematical problems
- Choose appropriate mental or written strategies to carry out calculations involving addition or subtraction.
- Understand everyday systems of measurement in length, weight, capacity and time and use these to solve simple problems as appropriate.
- Check the results of adding numbers by adding them in a different order or by subtracting one number from the total.
- Check subtraction by adding the answer to the smaller number in the original calculation.
- Check multiplication using a different technique, e.g. check 6 × 8 = 48 by doing 6 × 4 and doubling.
- Check the result of a division using multiplication, e.g. multiply 4 by 12 to check 48 ÷ 4.
- Recognise the relationships between 2D shapes and identify the differences and similarities btween 3D shapes.
- Estimate and approximate when calculating, and check working.

Using understanding and strategies in solving problems

- Make up a number story for a calculation, including in the context of measures.
- Explain reasons for a choice of strategy when multiplying or dividing.
- Choose strategies to find answers to addition or subtraction problems; explain and show working.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue number sequences, e.g. 7, 4, 1, –2 ... identifying the relationship between each number.
- Identify simple relationships between shapes, e.g. these polygons are all regular because ...
- Investigate a simple general statement by finding examples which do or do not satisfy it.
- Explain methods and reasoning orally and in writing; make hypotheses and test them out.

Grade 3 (Stage 3)

SCIENTIFIC ENQUIRY

Ideas and evidence

- Collect evidence in a variety of contexts to answer questions or test ideas.
- Plan investigative work
- Suggest ideas, make predictions and communicate these.
- With help, think about collecting evidence and planning fair tests.

Obtain and present evidence

- Observe and compare objects, living things and events.
- Measure using simple equipment and record observations in a variety of ways.
- Present results in drawings, bar charts and tables.
- Consider evidence and approach
- Draw conclusions from results and begin to use scientific knowledge to suggest explanations.
- Make generalisations and begin to identify simple patterns in results.

BIOLOGY

Plants

- Know that plants have roots, leaves, stems and flowers.
- Explain observations that plants need water and light to grow.
- Know that water is taken in through the roots and transported through the stem.
- Know that plants need healthy roots, leaves and stems to grow well.
- Know that plant growth is affected by temperature.

Humans and Animals

- Know life processes common to humans and animals include nutrition (water and food), movement, growth and reproduction.
- Describe differences between living and non-living things using knowledge of life processes.
- Explore and research exercise and the adequate, varied diet needed to keep healthy.
- Know that some foods can be damaging to health, e.g. very sweet and fatty foods.
- Explore human senses and the ways we use them to learn about our world.
- Sort living things into groups, using simple features and describe rationale for groupings.

CHEMISTRY

Material properties

- Know that every material has specific properties, e.g. hard, soft, shiny.
- Sort materials according to their properties.
- Explore how some materials are magnetic but many are not.
- Discuss why materials are chosen for specific purposes on the basis of their properties.

PHYSICS

Forces and Motion

- Know that pushes and pulls are examples of forces and that they can be measured with force meters.
- Explore how forces can make objects start or stop moving.
- Explore how forces can change the shape of objects.
- Explore how forces, including friction, can make objects move faster or slower or change direction.

Social Studies

GEOGRAPHY

Life in a village

- Examine scales used in maps and the symbols used to indicate the various features.
- Identify countries on a world map.
- Introduce a compass as an instrument used for finding directions.
- Use a compass to find directions.
- Introduce the concept of a village as an example of a small settlement.
- Explain that a city, town, and village differ not only in size but also in the buildings and employment opportunities they have.
- Investigate the building and other features likely to be present in a village, town, and city.
- Create a plan of a village.
- Introduce some simple geographical ideas about a small village in Jordan.
- Research simple facts about the geography of Dana.
- Investigate some key geographical features of Jordan.
- Introduce students to the origins of their food and what crop plants need to survive.
- Link the foods and other products in a shop or supermarket with the animals or plants from which they were produced.
- Compare a French cattle farm with an Asian rice paddy field.

Weather around the world.

- Compare some of the different countries that people visit on holiday and the reasons they choose to go to those particular places.
- Carry out brief research into five countries that people visit on holiday.
- Carry out more detailed research into a favourite holiday destination.
- Discuss why different parts of the world have different climates.
- Understand temperature as a measure of how hot or cold something is and to understand that a thermometer gives a reliable measure of temperature.
- Understand that the climate varies according to where on earth you live.
- Introduce Switzerland as an example of a small mountainous country that is landlocked.
- Arrange five maps in order of scale.
- Collect important geographical data about Switzerland.
- Introduce Egypt as a country in Africa which has Cairo as its capital city.
- Complete and label a map of Egypt.
- Collect important geographical data about Egypt.

The View from My window.

- Revise the meaning of the word “environment” and to understand the importance of plants to life.
- Carry out a survey of the location and construction of a local home.
- Carry out a survey of the work of people who are employed in, or visit, a local street.
- Examine some of the ways in which we use land for buildings, food production and leisure.
- Evaluate the amount of land used for various buildings.
- Interpret a map showing the uses of land in a village.
- Introduce students to some of the effects of the growing human population on the environment and on plant and animal species.
- Investigate the school environment and the effect of litter on its appearance.
- Research the reasons why four animal species are endangered.
- Explain that the Earth’s axis is tilted and it is this tilt that produces the higher temperatures of summer and the lower temperatures of winter.
- Compare the seasons of France and Australia.
- Choose one season and investigate how it affects people, transport, plants, animals and the land or soil.

Social Studies

Keeping in touch with the world.

- Introduce the postal service as one way of communicating with other people.
- Practise addressing an envelope to be sent through the postal service and to learn that our address is unique to our home.
- Examine the local post box.
- Look at the advantages of e-mails, text messages, and instant messaging as method of communication.
- Categorise the various ways of sending and receiving messages.
- Practise sending an email to a friend in another country.
- Explain what a journey is and to review some of the daily journeys made by people.
- Carry out a class survey of the methods by which students come to school and to compare the advantages and disadvantages of the various methods.
- Carry out, and analyse, a traffic survey near the school.

What's in the news.

- Explain how changes in the weather including extreme forms of weather, affect us. To explain that floods are where water spills onto the land.
- Encourage students to record and map examples of extreme weather that they encounter in television news and weather reports.
- Encourage students to use their imagination and decide what items they would need to help them survive during a flood emergency.
- Explain how weather data are collected and how weather forecasts are made.
- Make and use a simple rain gauge.
- Record local weather changes twice a day during a school week.
- Explain planners, from the local council or the government,control changes proposed for, and made to, the local buildings and streets.
- Examine some of the different viewpoints that may apply to a new planning proposal.
- Explain that traffic hazards, traffic delays and accidents can all be news items.
- Carry out a survey of local people to determine their views on local traffic problems.
- Consider the effects of various weather conditions on different kinds of transport.

Grade 3 (Stage 3)

Students should learn to extend the range of ICT (Information & Communication Technology) tools they use for communication, investigation and control; they should use ICT to select information, sources and media that are suitable for their purpose and assess the value of ICT in their work.

Use equipment and develop knowledge of ICT

- Use ICT to explore and solve problems in the context of work across a variety of subjects.
- Use ICT to further their understanding of information that they have retrieved and processed
- Discuss their experience of using ICT and assess its value in their work.
- Investigate parallels with the use of ICT in the wider world, consider the effects of such uses and compare them with other methods.

Communicate using ICT

- Use ICT equipment and software to communicate ideas and information in a variety of forms, incorporating text, graphs, pictures and sound, as appropriate, showing sensitivity to the needs of their audience in choice of layout, typeface or graphics as well as considering the most appropriate use of such tools to present their ideas or argument.
- Use equipment and software to organise, reorganise and analyse ideas and information.

Handle Information using ICT

- Interrogate information that has been stored, developing the need to take care in framing questions when collecting, accessing or interrogating information.
- Interpret, begin to analyse and check the plausibility of information held on ICT systems, and select the elements required for particular purposes.
- Select suitable information and media, and classify and prepare information for processing with ICT, checking for accuracy.

Control and Monitor using ICT

- Use simple commands to control a device.
- Understand the difference between inputs and outputs and develop commands to control them.
- Use a sequence of commands to control a device including inputs and outputs.
- Use sensors to gather and record data for a purpose and be able to give simple interpretations of the data gathered.

Digital Citizenship and Literacy

- Create awareness of responsible and confident use of iPad and information technology, among all the pupils.
- Explore what it means to take on responsibilities in both their offline and online communities as a way to learn how to be good digital citizens.
- Visit sites that request information about their identity.
- Learn to adopt a critical inquiry process that empowers them to protect themselves and their families from identity theft.
- Think critically about the user information that some websites request or require.
- Consider that they may encounter online messages from other kids that can make them feel angry, hurt, sad, or fearful.
- Explore ways to handle cyberbullying and how to respond in the face of upsetting language online.
- Teach critical skills related to digital safety, respect, and community through games. Teachers receive robust reporting of individuals and groups' gameplay. Each of the five games include videos, three levels of gameplay, collaborative offline activities, teacher wraparound materials, and aligned Digital Citizenship lessons.

Technology

Information Technology

- Students begin their iPad activities with purposeful searching on Safari and saving images to camera roll.
- Use technology purposefully to create, organize, store, manipulate and retrieve digital content.
- Use appropriate search techniques to collect information from net.
- Insert images, add+format text & slide transitions.
- Convert the keynote to iMovie.
- Use technology purposefully to create, organize, store, manipulate and retrieve digital content.
- Possible subject integration.
- Learn basic terms: data, row, column & cell and so on.
- Collect information about a specific topic through a classroom survey.
- Insert, rename & delete sheets.
- Create graphs.

Computer Science

- Make animations using drag-and-drop programming app for students to write their own programs.
- Use Hopscotch to develop thinking, reasoning, problem solving, and creative skills.

Cambridge
Primary

CURRICULUM - CORE SUBJECTS | GRADE 4 (STAGE 4)

Grade 4 (Stage 4)

Phonics, Spelling and Vocabulary

- Extend knowledge and use of spelling patterns, e.g. vowel phonemes, double consonants, silent letters, common prefixes and suffixes.
- Confirm all parts of the verb to be and know when to use each one.
- Apply phonic/spelling, graphic, grammatical and contextual knowledge in reading unfamiliar words.
- Identify syllabic patterns in multisyllabic words.
- Spell words with common letter strings but different pronunciations, e.g. tough, through, trough, plough.
- Investigate spelling patterns; generate and test rules that govern them.
- Revise rules for spelling words with common inflections, e.g. -ing, -ed, -s.
- Extend earlier work on prefixes and suffixes.
- Match spelling to meaning when words sound the same (homophones), e.g. to/two/too, right/write.
- Use all the letters in sequence for alphabetical ordering.
- Check and correct spellings and identify words that need to be learned.
- Use more powerful verbs, e.g. rushed instead of went.
- Explore degrees of intensity in adjectives, e.g. cold, tepid, warm, hot.
- Look for alternatives for overused words and expressions.
- Collect and classify words with common roots, e.g. invent, prevent.
- Build words from other words with similar meanings, e.g. medical, medicine.

Grammar and Punctuation

- Use knowledge of punctuation and grammar to read with fluency, understanding and expression.
- Identify all the punctuation marks and respond to them when reading.
- Learn the use of the apostrophe to show possession, e.g. girl's, girls'.
- Practise using commas to mark out meaning within sentences.
- Identify adverbs and their impact on meaning.
- Investigate past, present and future tenses of verbs.
- Investigate the grammar of different sentences: statements, questions and orders.
- Understand the use of connectives to structure an argument, e.g. if, although.
- Use a range of end-of-sentence punctuation with accuracy.
- Use speech marks and begin to use other associated punctuation.
- Experiment with varying tenses within texts, e.g. in dialogue.
- Use a wider variety of connectives in an increasing range of sentences.
- Re-read own writing to check punctuation and grammatical sense.

Reading

Fiction and Poetry

- Extend the range of reading.
- Explore the different processes of reading silently and reading aloud.
- Investigate how settings and characters are built up from details and identify key words and phrases.
- Explore implicit as well as explicit meanings within a text.
- Recognise meaning in figurative language.
- Understand the main stages in a story from introduction to resolution.
- Explore narrative order and the focus on significant events.
- Retell or paraphrase events from the text in response to questions.
- Understand how expressive and descriptive language creates mood.
- Express a personal response to a text and link characters and settings to personal experience.
- Read further stories or poems by a favourite writer, and compare them.

- Read and perform play-scripts, exploring how scenes are built up.
- Explore the impact of imagery and figurative language in poetry, including alliteration and simile, e.g. as ... as a ....
- Compare and contrast poems and investigate poetic features.

Non-fiction

- Understand how points are ordered to make a coherent argument.
- Understand how paragraphs and chapters are used to organise ideas.
- Identify different types of non-fiction text and their known key features.
- Read newspaper reports and consider how they engage the reader.
- Investigate how persuasive writing is used to convince a reader.
- Note key words and phrases to identify the main points in a passage.
- Distinguish between fact and opinion in print and ICT sources.

Writing

Fiction

- Explore different ways of planning stories, and write longer stories from plans.
- Elaborate on basic information with some detail.
- Write character profiles, using detail to capture the reader's imagination.
- Explore alternative openings and endings for stories.
- Begin to adopt a viewpoint as a writer, expressing opinions about characters or places.
- Begin to use paragraphs more consistently to organise and sequence ideas.
- Choose and compare words to strengthen the impact of writing, including some powerful verbs.

Non-fiction

- Explore the layout and presentation of writing, in the context of helping it to fit its purpose.
- Show awareness of the reader by adopting an appropriate style or viewpoint.
- Write newspaper-style reports, instructions and non-chronological reports.
- Present an explanation or a point of view in ordered points, e.g. in a letter.
- Collect and present information from non-fiction texts.
- Make short notes from a text and use these to aid writing.
- Summarise a sentence or a paragraph in a limited number of words.

Presentation

- Use joined-up handwriting in all writing.

Speaking and Listening

- Organise ideas in a longer speaking turn to help the listener.
- Vary use of vocabulary and level of detail according to purpose.
- Understand the gist of an account or the significant points and respond to main ideas with relevant suggestions and comments.
- Deal politely with opposing points of view.
- Listen carefully in discussion, contributing relevant comments and questions.
- Adapt the pace and loudness of speaking appropriately when performing or reading aloud.
- Adapt speech and gesture to create a character in drama.
- Comment on different ways that meaning can be expressed in own and others' talk.

Grade 4 (Stage 5)

NUMBER

Numbers and the number system

- Count on and back in steps of constant size, extending beyond zero.
- Know what each digit represents in five- and six-digit numbers.
- Partition any number up to one million into thousands, hundreds, tens and units.
- Use decimal notation for tenths and hundredths and understand what each digit represents.
- Multiply and divide any number from 1 to 10 000 by 10 or 100 and understand the effect.
- Round four-digit numbers to the nearest 10, 100 or 1000.
- Round a number with one or two decimal places to the nearest whole number.
- Order and compare numbers up to a million using the > and < signs.
- Order and compare negative and positive numbers on a number line and temperature scale.
- Calculate a rise or fall in temperature.
- Order numbers with one or two decimal places and compare using the > and < signs.
- Recognise and extend number sequences.
- Recognise odd and even numbers and multiples of 5, 10, 25, 50 and 100 up to 1000.
- Make general statements about sums, differences and multiples of odd and even numbers.
- Recognise equivalence between: 1/2, 2/4 and 4/8; 1/3, 2/6; 1/5 and 2/10.
- Recognise equivalence between the decimal and fraction forms of halves, tenths and hundredths and use this to help order fractions, e.g. 0.6 is more than 50% and less than 7/10.
- Change an improper fraction to a mixed number, e.g. 7/4 to 1 3/4 ; order mixed numbers and place between whole numbers on a number line.
- Relate finding fractions to division and use to find simple fractions of quantities.
- Understand percentage as the number of parts in every 100 and find simple percentages of quantities.
- Express halves, tenths and hundredths as percentages.
- Use fractions to describe and estimate a simple proportion, e.g. 1/5 of the beads are yellow.
- Use ratio to solve problems, e.g. to adapt a recipe for 6 people to one for 3 or 12 people.

CALCULATION

Mental strategies

- Know by heart pairs of one-place decimals with a total of 1, e.g. 0.8 + 0.2.
- Derive quickly pairs of decimals with a total of 10, and with a total of 1.
- Know Multiplication and division facts for the 2× to 10× tables.
- Know and apply tests of divisibility by 2, 5, 10 and 100.
- Recognise multiples of 6, 7, 8 and 9 up to the 10th multiple.
- Know squares of all numbers to 10 × 10.
- Find factors of two-digit numbers.
- Count on or back in thousands, hundreds, tens and ones to add or subtract.
- Add or subtract near multiples of 10 or 100, e.g. 4387 – 299.
- Use appropriate strategies to add or subtract pairs of two- and three-digit numbers and number with one decimal place, using jottings where necessary.
- Calculate differences between near multiples of 1000, e.g. 5026 – 4998, or near multiples of 1, e.g. 3.2 – 2.6.
- Multiply multiples of 10 to 90, and multiples of 100 to 900, by a single-digit number.
- Multiply by 19 or 21 by multiplying by 20 and adjusting.
- Multiply by 25 by multiplying by 100 and dividing by 4.
- Use factors to multiply, e.g. multiply by 3, then double to multiply by 6.

- Double any number up to 100 and halve even numbers to 200 and use this to double and halve numbers with one or two decimal places, e.g. double 3.4 and half of 8.6.
- Double multiples of 10 to 1000 and multiples of 100 to 10 000, e.g. double 360 or double 3600, and derive the corresponding halves.

Addition and subtraction

- Find the total of more than three two- or three-digit numbers using a written method.
- Add or subtract any pair of three- and/or four-digit numbers, with the same number of decimal places, including amounts of money.

Multiplication and division

- Multiply or divide three-digit numbers by single-digit numbers.
- Multiply two-digit numbers by two-digit numbers.
- Multiply two-digit numbers with one decimal place by single-digit numbers, e.g. 3.6 × 7.
- Divide three-digit numbers by single-digit numbers, including those with a remainder (answers no greater than 30).
- Start expressing remainders as a fraction of the divisor when dividing two-digit numbers by single-digit numbers.
- Decide whether to group (using multiplication facts and multiples of the divisor) or to share (halving and quartering) to solve divisions.
- Decide whether to round an answer up or down after division, depending on the context.
- Begin to use brackets to order operations and understand the relationship between the four operations and how the laws of arithmetic apply to multiplication.

GEOMETRY

Shapes and geometric reasoning

- Identify and describe properties of triangles and classify as isosceles, equilateral or scalene.
- Recognise reflective and rotational symmetry in regular polygons.
- Create patterns with two lines of symmetry, e.g. on a pegboard or squared paper.
- Visualise 3D shapes from 2D drawings and nets, e.g. different nets of an open or closed cube.
- Recognise perpendicular and parallel lines in 2D shapes, drawings and the environment.
- Understand and use angle measure in degrees; measure angles to the nearest 5°; identify, describe and estimate the size of angles and classify them as acute, right or obtuse.
- Calculate angles in a straight line.

Position and movement

- Read and plot co-ordinates in the first quadrant.
- Predict where a polygon will be after reflection where the mirror line is parallel to one of the sides, including where the line is oblique.
- Understand translation as movement along a straight line, identify where polygons will be after a translation and give instructions for translating shapes.

MEASURE

Length, mass and capacity

- Read, choose, use and record standard units to estimate and measure length, mass and capacity to a suitable degree of accuracy.
- Convert larger to smaller metric units (decimals to one place), e.g. change 2.6 kg to 2600 g.
- Order measurements in mixed units.
- Round measurements to the nearest whole unit.
- Interpret a reading that lies between two unnumbered divisions on a scale.
- Compare readings on different scales.
- Draw and measure lines to the nearest centimetre and millimetre.

Time

- Recognise and use the units for time (seconds, minutes, hours, days, months and years).
- Tell and compare the time using digital and analogue clocks using the 24-hour clock.
- Read timetables using the 24-hour clock.

- Calculate time intervals in seconds, minutes and hours using digital or analogue formats.
- Use a calendar to calculate time intervals in days and weeks (using knowledge of days in calendar months).
- Calculate time intervals in months or years.

Area and perimeter

- Measure and calculate the perimeter of regular and irregular polygons.
- Understand area measured in square centimetres (cm2).
- Use the formula for the area of a rectangle to calculate the rectangle's area.

HANDLING DATA

- Organising, categorising and representing data
- Answer a set of related questions by collecting, selecting and organising relevant data; draw conclusions from their own and others' data and identify further questions to ask.
- Draw and interpret frequency tables, pictograms and bar line charts, with the vertical axis labelled .
- Consider the effect of changing the scale on the vertical axis.
- Construct simple line graphs, e.g. to show changes in temperature over time.
- Understand where intermediate points have and do not have meaning, e.g. comparing a line graph of temperature against time with a graph of class attendance for each day of the week.
- Find and interpret the mode of a set of data.

Probability

- Describe the occurrence of familiar events using the language of chance or likelihood.

Problem solving

- Using techniques and skills in solving mathematical problems
- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Solve single and multi-step word problems (all four operations); represent them, e.g. with diagrams or a number line.
- Check with a different order when adding several numbers or by using the inverse when adding or subtracting a pair of numbers.
- Use multiplication to check the result of a division, e.g. multiply 3.7 × 8 to check 29.6 ÷ 8.
- Recognise the relationships between different 2D and 3D shapes, e.g. a face of a cube is a square.
- Estimate and approximate when calculating, e.g. using rounding, and check working.
- Consider whether an answer is reasonable in the context of a problem.

Using understanding and strategies in solving problems

- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Choose an appropriate strategy for a calculation and explain how they worked out the answer.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Deduce new information from existing information to solve problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue number sequences, e.g. –30, –27, _, _,–18...; identify the relationships between numbers.
- Identify simple relationships between shapes, e.g. these triangles are all isosceles because ...
- Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. the sum of three consecutive whole numbers is always a multiple of three.
- Explain methods and justify reasoning orally and in writing; make hypotheses and test them out.
- Solve a larger problem by breaking it down into sub-problems or represent it using diagrams.

Grade 4 (Stage 4)

SCIENTIFIC ENQUIRY

Ideas and evidence

- Collect evidence in a variety of contexts.
- Test an idea or prediction based on scientific knowledge and understanding.
- Plan investigative work
- Suggest questions that can be tested and make predictions; communicate these.
- Design a fair test and plan how to collect sufficient evidence.
- Choose apparatus and decide what to measure.
- Obtain and present evidence.
- Make relevant observations and comparisons in a variety of contexts.
- Measure temperature, time, force and length.
- Begin to think about the need for repeated measurements of, for example, length.
- Present results in drawings, bar charts and tables.
- Consider evidence and approach
- Identify simple trends and patterns in results and suggest explanations for some of these.
- Explain what the evidence shows and whether it supports predictions. Communicate this clearly to others.
- Link evidence to scientific knowledge and understanding in some contexts.
- Make generalisations and begin to identify simple patterns in results.

BIOLOGY

Humans and Animals

- Know that humans (and some animals) have bony skeletons inside their bodies.
- Know how skeletons grow as humans grow, support and protect the body.
- Know that animals with skeletons have muscles attached to the bones.
- Know how a muscle has to contract (shorten) to make a bone move and muscles act in pairs.
- Explain the living things in their environment.
- Investigate how different animals are found in different habitats and are suited to the environment in which they are found.
- Use simple identification keys.
- Recognise ways that human activity affects the environment e.g. river pollution, recycling waste.

CHEMISTRY

States of Matter

- Know that matter can be solid, liquid or gas.
- Investigate how materials change when they are heated and cooled.
- Know that melting is when a solid turns into a liquid and is the reverse of freezing.
- Observe how water turns into steam when it is heated but on cooling the steam turns back into water.

PHYSICS

Sound

- Explore how sounds are made when objects, materials or air vibrate and learn to measure the volume of sound in decibels with a sound level meter.
- Investigate how sound travels through different materials to the ear.
- Investigate how some materials are effective in preventing sound from travelling through them.
- Investigate the way pitch describes how high or low a sound is and that high and low sounds can be loud or soft. Secondary sources can be used.
- Explore how pitch can be changed in musical instruments in a range of ways.

Electricity and Magnetism

- Construct complete circuits using switch, cell (battery), wire and lamps.
- Explore how an electrical device will not work if there is a break in the circuit.
- Know that electrical current flows and that models can describe this flow, e.g. particles travelling around a circuit.
- Explore the forces between magnets and know that magnets can attract or repel each other.
- Know that magnets attract some metals but not others.

Grade 4 (Stage 4)

GEOGRAPHY

Improving the environment.

- Explain the differences between renewable and nonrenewable resources.
- Distinguish between the human and physical features in the local area.
- Distinguish between renewable and nonrenewable resources.
- Distinguish between rubbish and litter and to examine their impact on the environment.
- Carry out a survey on the amount and types of litter in two areas of the school grounds or the local neighbourhood.
- Investigate the distribution and contents of rubbish bins in the school grounds.
- Introduce ways of saving materials and energy by reducing waste and by recycling and reusing objects.
- Identify the materials from which some everyday objects were made.
- Think about how we can produce less rubbish and waste if we reduce the amount of materials we use, or recycle or reuse objects and materials.
- Emphasise the importance of oil in our everyday lives and the problems associated with its extraction, transport, and use.
- Think about the advantages and disadvantages of relying on crude oil as a source of fuels and other materials.
- Test student's understanding of how fossil fuels are formed, obtained and used.
- Examine the problems caused by burning fossil fuels, and look at ways of reducing these problems.
- Look at the causes and effects of global warming.
- A survey of some of the ways in which the individual could save energy.
- Look at the causes and harmful effects of noise.
- Carry out a survey of the sounds and noise in the local environment.
- Carry out an experiment on the effectiveness of various materials as sound insulators.
- Look at the ways in which the external environment of the school could be improved.
- Think about things that spoil a favourite local area and suggest ways of improving the area.

Village Settlers.

- Explain where and why the earliest villages were built and how they changed over time.
- Categorise the different types of buildings in a settlement.
- Consider the features necessary in a site for a new village.
- Examine the geography of an oasis village in Oman.
- Determine the location and geography of Bilad Sayt village.
- Research the basic geography facts about Oman.
- Explain how Abu Dhabi grew from a small village to become the capital city of United Arab Emirates.
- Investigate how different kinds of villages grow and change.
- Encourage students to observe the changes in two pictures of a village, one showing the village 60 years ago and the other showing it today.

Life in India

- Introduce the landscape, climate and economy of India.
- Study the geography of India.
- Compare india with student's home country and another country of their choice.
- Present a brief glimpse into life in the Indian countryside.
- Compare the student's day with that of a girl living in rural India.
- Compare the quantity and variety of foods eaten by a village child in India with the student's diets.

- Look at the food and daily life of a girl living in a village on the Northern Plains of India.
- Compare the average monthly rainfall for Kolkata, India and Paris, France.
- Compare the average monthly temperatures for Kolkata, India and Paris, France.
- Look at a description of the life of a bay in a fishing village in a southern India.
- Compare life in a typical Indian village with life in a typical Indian city.
- Look at India on a map and to investigate ways of getting there.
- Examine life in the city of Kolkata , India.
- Compare various aspects of life in an Indian city with life in an Indian village.
- Research the basic geographical facts about India.

How do we spend our leisure time?

- Introduce the concept of 'leisure' as time is free from school, work, chores and the need to eat and sleep. Individual and group leisure activities are reviewed briefly.
- Carry out an individual survey by means of a diary, of the time spent on work, leisure and recreation.
- Determine where different leisure activities are carried out.
- Consider the use of land for leisure and other purposes and the effects of leisure activities on the environment.
- Investigate the usual or preferred location for different leisure activities.
- Look at the need for special areas of land or special buildings for various leisure activities.

What's in the news?

- Introduce the internal structure of the Earth and the significance of the Earth's tectonic plates.
- Collect details of earthquakes and volcanic eruptions from the news media and to map these.
- Construct a model of the Earth's plates and predict what will happen when the continents change the position.
- Explain that earthquakes are natural phenomena that can cause damage, disruption and even loss of life.
- Complete a close exercise that tests understanding of earthquakes.
- Select life-preserving items for use after major earthquake.
- Explain that volcanoes are natural phenomena that can cause damage, disruption and even loss of life.
- Name the parts in a section of a volcanic cone.
- Locate some famous European volcanoes.

Grade 4 (Stage 4)

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- Investigate parallels with the use of ICT in the wider world, consider the effects of such uses and compare them with other methods.

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- Use equipment and software to organise, reorganise and analyse ideas and information.

Handle Information using ICT

- Retrieve information that has been stored, developing the need to take care in framing questions when collecting, accessing or interrogating information.
- Interpret, begin to analyse and check the plausibility of information held on ICT systems, and select the elements required for particular purposes.
- Select suitable information and media, and classify and prepare information for processing with ICT, checking for accuracy.

Control and Monitor using ICT

- Use simple commands to control a device.
- Understand the difference between inputs and outputs and develop commands to control them.
- Use a sequence of commands to control a device including inputs and outputs.
- Use sensors to gather and record data for a purpose and be able to give simple interpretations of the data gathered.

Digital Citizenship and Literacy

- Create the awareness of responsible and confident use of ipad and information technology, among all the pupils.
- Create secure passwords in order to protect their private information and accounts online.
- Explore scenarios to create secure online accounts.
- Identify what spam is, the forms it takes, and then identify strategies for dealing with it.
- Use critical skills related to digital safety, respect, and community through games.
- Learn that children sometimes can act like bullies when they are online.
- Explore what cyberbullying means and what they can do when they encounter it.

Information Technology

- Create files and attach to email.
- Use appropriate search techniques to collect information from net.
- Insert images, add+format text and slide transitions.
- Create a presentation on a specific topic of one of the homeroom subjects.
- Tech integration through creating effective presentations including hyperlinks.
- Use technology purposely to create, organize, store, manipulate and retrieve digital content.
- Learn to create, store & share work online using Google drive.
- Program a robot to follow instructions and meet the target.

Computer Science

- Design the game, construct program (algorithms) and debug to fix problems.
- Solve problems by decomposing them.
- Use sequence, selection, and repetition in programs; work with variables. Use logical reasoning to explain how some simple algorithms work.
- Design, write and debug programs that accomplish specific goals (for example, creating a maze/ treasure hunt/ pacman game)
- Build with Hopscotch programme.

Cambridge Primary

CURRICULUM - CORE SUBJECTS | GRADE 5 (STAGE 5)

Grade 5 (Stage 5/6)

Phonics, Spelling and Vocabulary

- Investigate the spelling of word-final unstressed vowels, e.g. the unstressed 'er' at the end of butter and unstressed 'ee' at the end of city.
- Recognise a range of less common letter strings in words which may be pronounced differently
- Spell and make correct use of possessive pronouns, e.g. their, theirs, my, mine.
- Identify 'silent' vowels in polysyllabic words, e.g. library, interest.
- Use effective strategies for learning new spellings and misspelt words.
- Learn spelling rules for words ending in -e and -y, e.g. take/taking, try/tries.
- Know rules for doubling consonants and investigate patterns in the use of single and double consonants, e.g. -full/-ful.
- Investigate spelling patterns for pluralisation, e.g. -s, -es, -y/-ies, -f/-ves.
- Extend earlier work on prefixes and suffixes, recognising that different spelling rules apply for suffixes which begin with vowels and those that begin with consonants.
- Investigate ways of creating opposites, e.g. un-, im- and comparatives, e.g. -er, -est.
- Revise grammatical homophones, e.g. they're, their, there.
- Use dictionaries efficiently and carry out ICT spell checks.
- Identify unfamiliar words, explore definitions and use new words in context.
- Extend understanding of the use of adverbs to qualify verbs, e.g. in dialogue.
- Use a thesaurus to extend vocabulary and choice of words.
- Collect synonyms and opposites and investigate shades of meaning.
- Use known spellings to work out the spelling of related words.
- Identify word roots and derivations to support spelling and vocabulary, e.g. sign, signal, signature.
- Investigate the origin and appropriate use of idiomatic phrases.

Grammar and Punctuation

Reading

- Learn how dialogue is set out and punctuated
- Identify prepositions and use the term.
- Understand conventions of standard English, e.g. agreement of verbs.
- Understand the difference between direct and reported speech.
- Investigate clauses within sentences and how they are connected.

Writing

- Begin to use the comma to separate clauses within sentences and clarify meaning in complex sentences.
- Use apostrophes for both possession and shortened forms.
- Begin to set out dialogue appropriately, using a range of punctuation.
- Use an increasing range of subordinating connectives.
- Explore ways of combining simple sentences and re-ordering clauses to make compound and complex sentences.
- Use pronouns, making clear to what or to whom they refer.
- Practise proofreading and editing own writing for clarity and correctness.

Reading

Fiction and Poetry

- Read widely and explore the features of different fiction genres.
- Provide accurate textual reference from more than one point in a story to support answers to questions.
- Compare the structure of different stories.
- Comment on a writer's use of language and explain reasons for writer's choices.

- Begin to interpret imagery and techniques, e.g. metaphor, personification, simile, adding to understanding beyond the literal.
- Discuss metaphorical expressions and figures of speech.
- Identify the point of view from which a story is told.
- Consider how a writer expresses their own point of view, e.g. how characters are presented.
- Read and identify characteristics of myths, legends and fables.
- Compare and evaluate the print and film versions of a novel or play.
- Compare dialogue and dramatic conventions in film narrative.
- Read and perform narrative poems.
- Read poems by significant poets and compare style, forms and themes.

Non-fiction

- Look for information in non-fiction texts to build on what is already known.
- Locate information confidently and efficiently from different sources.
- Skim read to gain an overall sense of a text and scan for specific information.
- Develop note-taking to extract key points and to group and link ideas.
- Note the use of persuasive devices, words and phrases in print and other media.
- Explore the features of texts which are about events and experiences, e.g. diaries.
- Understand the use of impersonal style in explanatory texts.
- Read and evaluate non-fiction texts for purpose, style, clarity and organisation.
- Compare writings that inform and persuade.

Writing

Fiction

- Map out writing to plan structure, e.g. paragraphs, sections, chapters.
- Write new scenes or characters into a story, or write from another viewpoint.
- Write own versions of legends, myths and fables, using structures from reading.
- Choose words and phrases carefully to convey feeling and atmosphere.
- Maintain a consistent viewpoint when writing.
- Begin to attempt to establish links between paragraphs using adverbials.
- Write a play-script, including production notes to guide performance.
- Use imagery and figurative language to evoke imaginative response.

Non-fiction

- Record ideas, reflections and predictions about books, e.g. in a reading log.
- Draft and write letters for real purposes.
- Use a more specialised vocabulary to match the topic.
- Write non-chronological reports and explanations.
- Write a commentary on an issue, setting out and justifying a personal view.
- Make notes for different purposes, using simple abbreviations and writing 'in your own words'
- Understand the use of notes in writing 'in your own words'.
- Evaluate own and others' writing.

Presentation

- Review, revise and edit writing in order to improve it, using ICT as appropriate.

Speaking and Listening

- Shape and organise ideas clearly when speaking to aid listener.
- Prepare and present an argument to persuade others to adopt a point of view.
- Talk confidently in extended turns and listen purposefully in a range of contexts.
- Begin to adapt non-verbal gestures and vocabulary to suit content and audience.
- Describe events and convey opinions with increasing clarity and detail.
- Recall and discuss important features of a talk, possibly contributing new ideas.
- Ask questions to develop ideas and extend understanding.
- Report back to a group, using notes to present findings about a topic studied.
- Evaluate what is heard and give reasons for agreement or disagreement.
- Take different roles and responsibilities within a group.
- Convey ideas about characters in drama through deliberate choice of speech, gesture and movement.
- Begin to discuss how and why language choices vary in different situations.

Grade 5 (Stage 5)

NUMBER

Numbers and the number system

- Count on and back in fractions and decimals, e.g. 1/3s, 0.1s, and repeated steps of whole numbers (and through zero).
- Know what each digit represents in whole numbers up to a million.
- Know what each digit represents in one- and two-place decimal numbers.
- Multiply and divide any whole number from 1 to 10 000 by 10, 100 or 1000 and explain the effect
- Multiply and divide decimals by 10 or 100 (answers up to two decimal places for division).
- Find factors of two-digit numbers.
- Find some common multiples, e.g. for 4 and 5.
- 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.
- Make and justify estimates and approximations of large numbers.
- Order and compare positive numbers up to one million, and negative integers to an appropriate level.
- Use the >, < and = signs correctly.
- Estimate where four-digit numbers lie on an empty 0 –10 000 line.
- Order numbers with up to two decimal places (including different numbers of places).
- Recognise and extend number sequences.
- Recognise and use decimals with up to three places in the context of measurement.
- Recognise odd and even numbers and multiples of 5, 10, 25, 50 and 100 up to 1000.
- Make general statements about sums, differences and multiples of odd and even numbers.
- Recognise prime numbers up to 20 and find all prime numbers less than 100.
- Recognise the historical origins of our number system and begin to understand how it developed
- Compare fractions with the same denominator and related denominators, e.g. 3/4 with 7/8.
- Recognise equivalence between fractions, e.g. between 1/100s, 1/10s and 1/2s.
- Recognise and use the equivalence between decimal and fraction forms.
- Order mixed numbers and place between whole numbers on a number line.
- Change an improper fraction to a mixed number, e.g. 17/8 to 2 1/8.
- Reduce fractions to their simplest form, where this is 1/4, 1/2, 3/4 or a number of fifths or tenths
- Begin to convert a vulgar fraction to a decimal fraction using division.
- Understand percentage as parts in every 100 and express 1/2, 1/4, 1/3, 1/10 or 1/100 as percentages.
- Find simple percentages of shapes and whole numbers.
- Solve simple problems involving ratio and direct proportion.

CALCULATION

Mental strategies

- Recall addition and subtraction facts for numbers to 20 and pairs of one-place decimals with a total of 1, e.g. 0.4 + 0.6.
- Derive quickly pairs of one-place decimals totalling 10, e.g. 7.8 and 2.2, and two-place decimals totalling 1, e.g. 0.78 + 0.22.
- Know and apply tests of divisibility by 2, 4, 5, 10, 25 and 100.
- Use place value and number facts to add or subtract two-digit whole numbers and to add or subtract three-digit multiples of 10 and pairs of decimals, e.g. 560 + 270; 2.6 + 2.7; 0.78 + 0.23.
- Add/subtract near multiples of one when adding numbers with one decimal place, e.g. 5.6 + 2.9; 13.5 – 2.1.
- Add/subtract a near multiple of 10, 100 or 1000, or a near whole unit of money, and adjust, e.g. 3127 + 4998; 5678 – 1996.
- Use place value and multiplication facts to multiply/divide mentally, e.g. 0.8 × 7; 4.8 ÷ 6.

- Multiply pairs of multiples of 10, e.g. 30 × 40, or multiples of 10 and 100, e.g. 600 × 40.
- Double quickly any two-digit number, e.g. 78, 7.8, 0.78 and derive the corresponding halves.
- Divide two-digit numbers by single-digit numbers, including leaving a remainder.

Addition and subtraction

- Add two- and three-digit numbers with the same or different numbers of digits/decimal places.
- Add or subtract numbers with the same and different numbers of decimal places, including amounts of money.
- Find the difference between a positive and negative integer, and between two negative integers in a context such as temperature or on a number line.

Multiplication and division

- Multiply pairs of multiples of 10, e.g. 30 × 40, or multiples of 10 and 100, e.g. 600 × 40.
- Multiply near multiples of 10 by multiplying by the multiple of 10 and adjusting.
- Multiply by halving one number and doubling the other, e.g. calculate 35 × 16 with 70 × 8.
- Use number facts to generate new multiplication facts, e.g. the 17× table from 10× + 7× tables.
- 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.
- 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.
- Give an answer to division as a mixed number, and a decimal (with divisors of 2, 4, 5, 10 or 100
- Relate finding fractions to division and use them as operators to find fractions including several tenths and hundredths of quantities.
- Know and apply the arithmetic laws as they apply to multiplication (without necessarily using the terms commutative, associative or distributive).

GEOMETRY

Shapes and geometric reasoning

- Classify different polygons and understand whether a 2D shape is a polygon or not.
- Visualise and describe the properties of 3D shapes, e.g. faces, edges and vertices.
- Identify and describe properties of quadrilaterals (including the parallelogram, rhombus and trapezium), and classify using parallel sides, equal sides, equal angles.
- Recognise and make 2D representations of 3D shapes including nets.
- Estimate, recognise and draw acute and obtuse angles and use a protractor to measure to the nearest degree.
- Check that the sum of the angles in a triangle is 180°, for example, by measuring or paper folding.
- Calculate angles in a triangle or around a point.

Position and movement

- Read and plot co-ordinates in all four quadrants.
- Predict where a polygon will be after one reflection, where the sides of the shape are not parallel or perpendicular to the mirror line, after one translation or after a rotation through 90° about one of its vertices.

MEASURE

Length, mass and capacity

- Select and use standard units of measure. Read and write to two or three decimal places.
- 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.
- Interpret readings on different scales, using a range of measuring instruments.
- Draw and measure lines to the nearest centimetre and millimetre.
- Know imperial units still in common use, e.g. the mile, and approximate metric equivalents.

Maths

Time

- Recognise and understand the units for measuring time (seconds, minutes, hours, days, weeks, months, years, decades and centuries); convert one unit of time into another.
- Tell the time using digital and analogue clocks using the 24-hour clock.
- Compare times on digital and analogue clocks, e.g. realise quarter to four is later than 3:40.
- Read and use timetables using the 24-hour cloc
- Calculate time intervals using digital and analogue times.
- Use a calendar to calculate time intervals in days, weeks or months.
- Calculate time intervals in days, months or years
- Appreciate how the time is different in different time zones around the world.

Area and perimeter

- Measure and calculate the perimeter and area of rectilinear shapes.
- Estimate the area of an irregular shape by counting squares.
- Calculate perimeter and area of simple compound shapes that can be split into rectangles.

HANDLING DATA

- Organising, categorising and representing data.
- 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.
- Find the mode and range of a set of data from relevant situations, e.g. scientific experiments.
- Begin to find the median and mean of a set of data.
- Explore how statistics are used in everyday life.

Probability

- Use the language associated with probability to discuss events, to assess likelihood and risk, including those with equally likely outcomes.

Problem solving

- Using techniques and skills in solving mathematical problems
- Choose appropriate and efficient mental or written strategies to carry out a calculation involving addition, subtraction, multiplication or division.
- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Check addition with a different order when adding a long list of numbers; check when subtracting by using the inverse.
- Recognise 2D and 3D shapes and their relationships, e.g. a cuboid has a rectangular cross-section.
- Estimate and approximate when calculating, e.g. use rounding, and check working.
- Using understanding and strategies in solving problems.
- Explain why they chose a particular method to perform a calculation and show working.
- Deduce new information from existing information and realise the effect that one piece of information has on another.
- Use logical reasoning to explore and solve number problems and mathematical puzzles.
- Use ordered lists or tables to help solve problems systematically.
- 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°.
- Make sense of and solve word problems, single and multi-step(all four operations), and represent them, e.g. with diagrams or on a number line; use brackets to show the series of calculations necessary.
- Solve simple word problems involving ratio and direct proportion.
- Solve simple word problems involving percentages, e.g. find discounted prices.
- Make, test and refine hypotheses, explain and justify methods, reasoning, strategies, results or conclusions orally.

Grade 5 (Stage 5/6)

SCIENTIFIC ENQUIRY

Ideas and evidence

- Know that scientists have combined evidence with creative thinking to suggest new ideas and explanations for phenomena.
- Use observation and measurement to test predictions and make links.

Plan investigative work

- Make predictions of what will happen based on scientific knowledge and understanding, and suggest and communicate how to test these.
- Use knowledge and understanding to plan how to carry out a fair test.
- Collect sufficient evidence to test an idea.
- Identify factors that need to be taken into account in different contexts.

Obtain and present evidence

- Make relevant observations.
- Measure volume, temperature, time, length and force.
- Discuss the need for repeated observations and measurements.
- Present results in bar charts and line graphs.

Consider evidence and approach

- Decide whether results support predictions.
- Begin to evaluate repeated results.
- Recognise and make predictions from patterns in data and suggest explanations using scientific knowledge and understanding.
- Interpret data and think about whether it is sufficient to draw conclusions.

BIOLOGY

Plants

- Know that plants need energy from light for growth.
- Know that plants reproduce.
- Observe how seeds can be dispersed in a variety of ways.
- Investigate how seeds need water and warmth for germination, but not light.
- Know that insects pollinate some flowers.
- Observe that plants produce flowers which have male and female organs; seeds are formed when pollen from the male organ fertilises the ovum (female).
- Recognise that flowering plants have a life cycle including pollination, fertilisation, seed production, seed dispersal and germination.

CHEMISTRY

States of matter

- Know that evaporation occurs when a liquid turns into a gas.
- Know that condensation occurs when a gas turns into a liquid and that it is the reverse of evaporation.
- Know that air contains water vapour and when this meets a cold surface it may condense.
- Know that the boiling point of water is 100°C and the melting point of ice is 0°C.
- Know that when a liquid evaporates from a solution the solid is left behind.

PHYSICS

Light

- Observe that shadows are formed when light travelling from a source is blocked.
- Investigate how the size of a shadow is affected by the position of the object.
- Observe that shadows change in length and position throughout the day.
- Know that light intensity can be measured.
- Explore how opaque materials do not let light through and transparent materials let a lot of light through.
- Know that we see light sources because light from the source enters our eyes.
- Know that beams/rays of light can be reflected by surfaces including mirrors, and when reflected light enters our eyes we see the object.
- Explore why a beam of light changes direction when it is reflected from a surface.

The Earth and beyond

- Explore, through modeling, that the sun does not move; its apparent movement is caused by the Earth spinning on its axis.
- Know that the Earth spins on its axis once in every 24 hours.
- Know that the Earth takes a year to orbit the sun, spinning as it goes.
- Research the lives and discoveries of scientists who explored the solar system and stars.

Grade 5 (Stage 5/6)

GEOGRAPHY

Water

- Explain the importance of water to humans and all other living things.
- Examine many uses of water for human health and hygiene, for sport and leisure, and for work and industry.
- Highlight the problems in obtaining water, experienced by some people in the drier parts of the world.
- Further examine the uses of water.
- Examine the world distribution of water in its various forms.
- Identify some of the forms in which water is distributed across the world.
- Identify parts of oceans and seas.
- Provide simple details of how our water supply is collected and processed to make it fit for human consumption.
- Understand the stages of how our water supply is obtained and treated for human consumption.
- Construct a simple water filter to illustrate how dirty water is filtered at water treatment works and sewage works.
- Introduce students to the two kinds of desert and to examine some desert plants and animals and their adaptations to that hostile environment.
- Map the world's deserts.
- Complete a close exercise on the formation and landscape of deserts.
- Examine the problems of life for people in the desert and how these are overcome.
- Show the importance of the date palm to the inhabitants of hot deserts.
- Examine some of the methods used to irrigate crops in hot desert areas.
- Investigate the distribution of the world's tropical forests.
- Map the world distribution of tropical rainforests.
- Investigate the many foods and drinks that came from rainforest plants.
- Examine the causes and effects of long periods of drought.
- Map the distribution of recent droughts in Africa.
- Examine the distribution of the driest and wettest cities in the world.
- Examine the importance of safe water in the prevention of waterborne diseases.
- Understand safe use of water.
- Examine some of the ways in which water can become contaminated with disease organisms.
- Encourage students to understand why although the water we use originally fell from the sky as rain, we have to pay for it.
- Calculate how much water is used in a day in the average home.
- Calculate the amount of water used by a family of four, with the help of a diary kept by a young girl.

Transport

- Examine the importance of transport and the advantages and disadvantages of the different methods of transport.
- Carry out a survey of the methods used by students to travel to school. To consider the advantages and disadvantages of each method of travel.
- Consider local transport provision from the viewpoint of an elderly person who does not have access to a car.
- Consider the importance of road network in moving goods and people and in encouraging economic development.
- Compare the ways that different forms of transport move goods and people. To write about the advantages and disadvantages of each one.
- Elicit the views of two people who use local public transport system.
- Examine the problems caused by road traffic,including traffic jams, accidents and air pollution.
- Analyse the results of a survey of traffic problems near a primary school.
- Carry out a survey of the problems caused by parking vehicles near the school.

- Observe, recognise and describe the main ways in which parking is controlled.
- A responsible adult must be present while students carry out the survey.
- Examine some of the methods used to reduce congestion and the pollution caused by the use of motor vehicles in towns and cities.
- Examine some of the different points of view likely to be encountered in any proposal to regulate motor traffic in a main street of a town or city.
- Encourage students to compare the advantages and disadvantages of the different methods used to control traffic in towns and cities.
- Examine the advantages and disadvantages of a new road on traffic and also on local residents and businesses
- Study the impact of a new bypass on a village situated on a main road between two large cities.
- Examine the advantages and disadvantages of motorways.

Coasts

- Introduce the variety of coastal scenery, the importance of coasts and threats to coasts by pollution of various kinds.
- Encourage students to identify some important features of the coastal landscape.
- Interpret a map of part of the coastline, using grid references.
- Examine the way in which the water in the oceans is constantly moved by the waves, tides and currents.
- Understand ocean waves, tides and currents.
- Consider the potential dangers of waves, tides and currents.
- Examine the landforms created when waves erode the coast.
- Predict what will happen to a cliff as it is eroded by the waves.
- Recognise and explain the formation of some coastal landforms.
- Examine the formation of the different types of beach and the movement of beach sand.
- Research some of the sandy beaches most popular with holidaymakers around the world. Research the geography of the island of Barbados.
- Understand that we can use grid references as a means of locating various landmarks on a map of an island resort.

Coastal Settlements.

- Examine why and where settlements develop on the coast and how they affect the environment.
- Choose holidays for four people with different requirements.
- Carry out a survey and analysis of people's holiday preferences.
- Examine the growth and development of Benidorm, Spain, as a holiday destination.
- Research the the landscape, climate, buildings, employment, tourism and attractions of Benidorm.
- Calculate the cost of an imaginary holiday to Benidorm.
- Introduce the holiday resort and part of Aqaba.
- Add labels to a map of Jordan and answer questions about its location.
- Determine the best methods of transporting different goods over long distances.
- Study the range of activities carried out at the port of Jebel Ali in the United Arab Emirates.
- Locate and identify ten major ports.
- Identify ten of the world's largest parts and to research their cargoes.
- Introduce Singapore as an island state and world class port.
- Follow the route of a cruise ship traveling in South- East Asia.
- Research basic geographical facts about Singapore.
- Introduce Rotterdam as the biggest port in Europe.
- Answer a series of questions about Rotterdam and the Netherlands.
- Study the foods and other items in the home to determine their countries of origin.
- Show the importance of trade between countries.

Social Studies

Wind

- Explain the formation of winds and how people make use of the power of the wind.
- Demonstrate the formation of winds.
- Identify useful and harmful effects of the wind.
- Examine ways of estimating and measuring wind speed and directions.
- Study the local wind direction using two home-made devices.
- Test understanding of the Beaufort scale and carry out a practical study of the local prevailing wind.
- Examine the formation, structure and damaging effects of hurricanes.
- Encourage students to record and map instances of hurricanes, tornadoes, and other damaging winds reported in news media.
- Test student's understanding of hurricanes.
- Examine the formation, structure, occurrence and damaging effects of tornadoes.
- Test student's understanding of works connected with tornadoes.
- Compare formation, structure and damaging effects of hurricanes and tornadoes.

Grade 5 (Stage 5/6)

Students should learn to extend the range of ICT (Information & Communication Technology) tools they use for communication, investigation and control; they should use ICT to select information, sources and media that are suitable for their purpose and assess the value of ICT in their work.

Use equipment and develop knowledge of ICT S

- Use ICT to explore and solve problems in the context of work across a variety of subjects.
- Use ICT to further their understanding of information that they have retrieved and processed
- Discuss their experience of using ICT and assess its value in their work.
- Investigate parallels with the use of ICT in the wider world, consider the effects of such uses and compare them with other methods.

Communicate using ICT

- use ICT equipment and software to communicate ideas and information in a variety of forms, incorporating text, graphs, pictures and sound, as appropriate, showing sensitivity to the needs of their audience in choice of layout, typeface or graphics as well as considering the most appropriate use of such tools to present their ideas or argument.
- use equipment and software to organise, reorganise and analyse ideas and information Handle Information using ICT.
- interrogate information that has been stored, developing the need to take care in framing questions when collecting, accessing or interrogating information.
- interpret, begin to analyse and check the plausibility of information held on ICT systems, and select the elements required for particular purposes
- select suitable information and media, and classify and prepare information for processing with ICT, checking for accuracy.

Control and Monitor using ICT

- Use simple commands to control a device.
- Understand the difference between inputs and outputs and develop commands to control them.
- Use a sequence of commands to control a device including inputs and outputs.
- Use sensors to gather and record data for a purpose and be able to give simple interpretations of the data gathered.

Digital Citizenship and Literacy

- Create awareness of responsible and confident use of ipad and information technology, among all the pupils.
- Learn that, while people can develop rewarding friendships online, they should be cautious with online-only friends and never reveal private information without asking a parent or trusted adult for permission.
- Discuss the difference between online and in-person friendships.
- Explore an online chat scenario, and complete and sign a checklist for safe online chatting.
- Explore what it means to be responsible and respectful to their offline and online communities as a step toward learning how to be good digital citizens.
- Create digital superheroes who exhibit exemplary attributes and are able to solve digital dilemmas responsibly.
- Learn that children's websites must protect their private information.
- Learn to identify these secure sites by looking for their privacy policies and privacy seals of approval.
- Discuss a scenario in which their private information is shared without their permission.
- Learn about private information and privacy laws regulating kids' websites.
- Explore the privacy policies on kids' websites.
- explore critical technology skills related to digital safety, respect, and community through games.

Technology

Information Technology

- Create their own popplets on 'iPad rules" and print them out.
- Use technology purposefully to create, organize, store, manipulate and retrieve digital content.
- Create comics in integration with their language arts theme, using the app comic life and e-mail the completed work to their homeroom teacher / upload it to google drive.
- Program a robot to follow instructions and complete specific tasks.
- Use technology purposely to create, organize, store, manipulate and retrieve digital content.
- Review basic spreadsheet concepts, data-entry and graphs.
- Learn to use spreadsheets to perform arithmetic calculations
- Discuss positive and negative aspects of interacting with others online.
- Introduce the concept of a stereotype
- Explore the messages they receive regarding differences between boys and girls.
- Compare and contrast gender stereotypes portrayed in two LEGO® online activity zones.

Computer Science

- Engage curiosity by exploring the ideas of design technology.
- Boost confidence by encouraging experimentation and problem solving.
- Improve interest in engineering, technology, and programming by making it real and relevant
- Design & build their own robots and program LEGO models.

Cambridge
Primary

CURRICULUM - SPECIALISTS SUBJECTS

Visual Art (Based on Ontario Curriculum)

Mastering techniques that show an understanding of the elements and principles of art. Students will be introduced to different mediums and the methods to use them which will enhance the outcome of the art works. There are two strands: Elements of Design and Principles of Design. These strands provide structure to the vertical alignment of the Visual Arts study.

ELEMENTS OF DESIGN

Students will develop understanding of all elements of design.

- **Line:** lines that direct the viewer's attention; lines that create the illusion of force or movement (e.g., wavy and wiggly lines used in op art); contour drawings of objects that are not easily recognizable (e.g., crumpled paper)
- **Shape and form:** exaggerated proportions, motifs, fonts; geometric (e.g., conical, pyramidal) shapes and forms
- **Space:** centre of interest (focal point) and one-point perspective; basic facial proportions; horizontal and vertical symmetry
- **Colour:** the colour wheel; tertiary colours; colour for expressive purposes; colour for creating naturalistic Images
- **Texture:** textures created with a variety of tools, materials, and techniques (e.g., gouged marks in a softoleum print)
- **Value:** shading that suggests volume; gradation

PRINCIPLES OF DESIGN

- Students will develop understanding of all principles of design (that is, contrast, repetition and rhythm, variety, emphasis, proportion, balance, unity and harmony, and movement).
- **Balance:** arrangement of the elements of design to create the impression of equality in weight or importance (e.g. a formal or symmetrical arrangement produced through distribution of shapes; an informal or asymmetrical arrangement produced through use of colour); colour concepts to be used in creating balance (e.g. light or neutral colours appear lighter in "weight" than dark or brilliant colours; warm colours seem to expand, cool colours seem to contract; transparent areas seem to "weigh" less than opaque areas)
- **Unity and Harmony:** radial balance (e.g., a mandala); similarity (e.g., consistency and completeness through repetition of colours, shapes, values, textures, or lines); continuity (e.g., treatment of different elements in a similar manner); alignment (e.g., arrangement of shapes to follow an implied axis); proximity (e.g., grouping of related items together)
- **Proportion:** the relationship of the size and shape of the parts of a figure to the whole figure; the scale of one object compared to its surroundings, with indications of how close and how large the object is (e.g., figures with childlike proportions that are approximately "five heads high" and adult figures that are approximately "seven or eight heads high"; caricature; use of improbable scale for imaginary settings and creatures)
- **Emphasis:** use of color intensity, contrast in value, placement and size of shapes, and/or weight of line to create a particular focal point
- **Variety:** slight variations on a major theme; strong contrasts (e.g., use of different lines, shapes, values, and colors to create interest [bright or light color values, dark color values)
- **Repetition and rhythm:** repetition of colour and shape in patterns; random, alternating, and regular patterns in everyday objects (e.g., textiles, ceramics) and in art (e.g., works by M. C. Escher)
- **Contrast:** light/dark; large/small; pure/mixed color

Physical Education with swimming (Based on Ontario Curriculum)

Healthy living and Physical Education combine the living skills (e.g., personal, interpersonal, communication, conflict resolution, goal-setting, organizational, time-management, problem-solving, and decision-making skills) that all students require. Each unit takes approximately 3 weeks. Each grade has more advanced goals for each unit.

Fundamental movement skills

Fundamental movement skills include locomotion/ traveling, manipulation, and stability.
Active participation includes physical activity, physical fitness, living skills, and safety.

The student

- **Standard 1:** Demonstrates competency in motor skills and movement patterns needed to perform a variety of physical activities.
- **Standard 2:** Participates regularly in physical activity.
- **Standard 3:** Exhibits responsible personal behavior and social behavior that respects self and others in physical activity settings.
- **Standard 4:** Values physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

Units

- Games of Low Organization
- Dodge ball, tag games, standing kho, zombie, capture the flag, kick ball, and touch rugby, Sharks and minnows, Relays.
- Muscular strength – Push-up , Sit-up, etc.
- Speed – 35 meter sprint.
- Agility – Shuttle Run test
- Explosive strength – Standing broad jump.
- Flexibility – Sit and reach test.
- Basketball- Dribbling, Passing, receiving, shooting.
- Handball – Dribbling, passing, shooting
- Track & Field- long jump, softball throw, 50 meter sprint, relay.
- Soccer- Dribbling, ground pass, throw-in, shooting.
- Futsal - Dribbling, ground pass, kick in, Shooting.
- Cricket – Batting grip and stance, laws, bowling run up and action.
- Softball – slugger grip and stance, rules, pitching action.

Swimming (School Generated Curriculum)

Year-round all students in Grades 1-5 swim for 1 class per cycle. Beginning swimmers become confident swimmers. Students move through differentiated skills and drills that include the elements of water skills, breathing practice, floating, kicking, hand movement, freestyle, backstroke, breaststroke and butterfly.

Music (Based on Ontario Curriculum)

Students learn to sing to a prescribed pitch, employing appropriate expressions, dynamics, while maintaining a steady rhythm. They sing music from a variety of cultures and historical periods. Students will also identify the different parts of a song … prelude, verse, chorus, interlude, ending.

The greatest reason for introducing children to percussion instruments is to provide access to a creative mode for acknowledging and expressing thoughts and feelings. While listening, or playing music, children are lifted out of their ordinary frames of reference for a time. Being able to feel the beats and keep time is essential if you're going to play a song correctly. Music, like any subject, has its own terminology. At first the many terms that musicians use to describe music can seem daunting. But there is nothing mysterious about these terms; they merely use words to describe something we can all hear with a little bit of practice. Students also identify the four families of orchestral instruments.

Music is made up of elements (e.g., pitch, texture, timbre, dynamics, tempo, duration, structure, etc.) They are the building blocks of music. When you compose a piece of music you use the elements of music to build it. The elements are the essence of music. If you know the basic building blocks of music, playing, creating, and improvising music will be much easier and more satisfying. Children have the ability to respond naturally to music. Music Creativity allows the individual child to participate in a non stressful environment where each child responds naturally to music.

Music Creativity allows students to use individual skills to relate, remember and respond to specific learning experiences. These experiences become lifetime lessons because Music Creativity allows students to create from within. The themes of Vocal Music and Music History, Percussion Instruments and Music Theory, and The Elements of Music spiral to appear in more depth each year.

Vocal Music & Music History

- Sing to a prescribed pitch
- Maintain a steady rhythm while singing
- Use appropriate expressions
- Employ effective dynamics
- Maintain a proper posture while singing
- Explore music from different cultures

Percussion Instruments & Music Theory

- Create and perform music, using a variety of sound sources
- Use correctly the vocabulary and musical terminology associated with the specific expectations for this grade
- Identify the instruments within the percussion family of orchestral instruments
- Create or arrange music to accompany a reading or dramatization, using appropriate rhythm instruments, body percussion, or "found" instruments
- Explain using appropriate musical terminology, their preferences for specific songs or pieces of music

The Elements of Music

Demonstrate an understanding of the basic elements of music specified for this grade through listening to, performing, and creating music

The Elements of Music (Cont.)

- Communicate their response to music in ways appropriate for this grade.
- Demonstrate understanding of the difference between the terms beat and rhythm.
- Identify the beat, rhythm, melodic contour, dynamics, and tempo in familiar pieces of music
- Create melodic contour maps that indicate the direction of pitches in familiar songs.
- Indicate with appropriate arm movements the dynamics heard in familiar music.
- Create and perform musical compositions in which they apply their knowledge of the elements of music and patterns of sounds, and use the voice, instruments, or "found" materials.
- Recognize that sounds and silences of different durations may be represented by symbols.
- Substitute different words in familiar songs or create new verses, using their knowledge of rhythm to ensure that the new text fits with the melody
- Communicate their thoughts and feelings about the music they hear, using language and a variety of art forms and media.
- Identify and explain the effects of different musical choices.

Additional Languages

Students in PK, JK, SK will be introduced to Hindi Language and Culture once per six-day cycle. In Grade 1, Hindi class occurs twice per cycle. This is the fifth year that we are offering this subject at these grades. Students enjoy this exploration of their host country.

In Grades 2 and 3 of the Elementary School, students study their host country language, Hindi or English as an Additional Language (EAL) and attend classes twice per six-day cycle.

In Grades 4 and 5, students choose an additional language, either Hindi, French, Spanish, or EAL and attend three classes per cycle. From Grade 4 onwards, the Common European Framework of Reference for Languages (CEFR) guides all learning objectives. It is an international standard for describing language ability. It is used around the world to describe learners' language skills.

Hindi - Hindi Language and Culture classes have both higher and lower level Hindi options available for students in Grades 1-3. This allowfor greater differentiation of teaching and learning.

EAL - Students that attend English as a Second Language (ESL) during the regular English classes are required to attend English as an Additional Language (EAL) from Grades 2-10. The selection process for ESL is done in consultation with Admissions, the classroom teachers and parents. EAL supports students new to learning in an English speaking environment and strengthens the English immersion programme through an emphasis on supporting Social Studies, Math and Science. Students remain in EAL even after being mainstreamed from ESL, as the EAL environment supports the learning that occurs in the mainstream classroom. Eventually students leave the EAL classroom, this usually occurs at the beginning of the student's second school year at CIS, but is decided in consultation with classroom teachers, EAL teachers, and the student's parents.

French and Spanish - Students attending these classes begin at a beginner level in Grade 4 and the syllabus is based on CEFR standards. Learning objectives in both subjects are the same. These classes are offered 3 times per cycle in Grade 4 and 5.

Additionally, Mother Tongue German, French, Japanese and Spanish are taught independently and optionally during Additional Language slots in many grades. These classes are scheduled in the spring of each year, after parents are polled about their interest in Mother Tongue Language study. This offering carries an additional fee (payable and discussed directly with the MT Teacher) and space and timetable arrangements are organized by the school. These classes are held at school, but taught and assessed independently.

Consistency in language choices is important at CIS. Students continue into Middle School with French, Hindi, EAL or Spanish as additional languages in Grade 6, 7 & 8. French is an official language of Canada and is supported at two levels in Grades 6-10. French as an Additional Language is taught at a lower and a higher version at these grades. As students often join our school without earlier study in our additional languages, the lower French course is a great beginning choice for them. Students join CIS at all different grade levels and with many different language backgrounds. Additional Language classes at CIS do differentiate to support varying levels of ability and experiences. Hindi in Middle School and beyond will be aimed at Hindi B learner, those with Hindi experience, Hindi in their home, or outside connections to Hindi. Studying Hindi in Grade 6, 7 and 8 is not an option for a first time Hindi learner. CIS encourages all students to continue with one additional language throughout their schooling.

Shaping The Future... Together! Today!

CANADIAN
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OUR MISSION

CIS is a culturally-rich mosaic serving each student by providing a world-class international education, nurturing potential, developing life-long skills, and preparing students for an ever-changing global community.

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