Victor Scott Primary School

Primary Four Cambridge Curriculum

English Language Arts

Phonics, spelling & 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

Reading

- 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*.

Writing

- 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 favorite 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 combine 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.

<mark>Mathematics</mark>

Numbers and the number system
- Read and write numbers up 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 125cm 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: $\frac{1}{2}$, $\frac{4}{8}$ and $\frac{5}{10}$; $\frac{1}{4}$ and $\frac{2}{8}$; $\frac{1}{5}$ and $\frac{2}{10}$.
- Use equivalence to help order fractions, e.g. $\frac{7}{10}$ and $\frac{3}{4}$.
- Understand the equivalence between one-place decimals and fractions in tenths.
- Understand that $\frac{1}{2}$ is equivalent to 0.5 and also to $\frac{5}{10}$.

- Recognise the equivalence between the decimal fraction and vulgar fraction forms of halves, quarters, tenths and hundredths.
- Recognise mixed numbers, e.g. $5\frac{3}{4}$, 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. $\frac{1}{4}$ + ☐ = 1.
- Know multiplication for 2x, 3x, 4x, 5x, 6x, 9x and 10x 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 crossing 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 is one fifth the size of the real dog. It is 25 cm long in the picture, so it is 5 x 25 cm long in real life.

- ## **Geometry**

Shapes and geometric reasoning
- Identify, describe, visualize, 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.

- Visualize 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° of four right angles; compare and order angles less that 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. cm².
- Find the area of rectilinear shapes drawn on a square grid by counting squares.

• <u>Handling data</u>

Organising, categorizing 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.

• <u>Problem solving</u>

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 x 8 = 48 by doing 6 x 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 between 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.

Science

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 comparisions ina 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.

• 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 role of drugs as medicines.

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.

• 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 those models can describe this flow, e.g. particles travelling around a circuit.
- Explore the forces between magnets and know the magnets can attract or repel each other.
- Know that magnets attract some metals but not others.