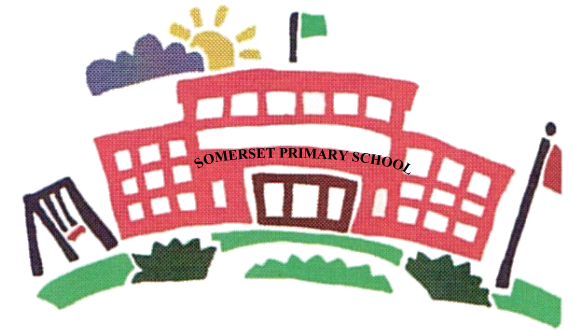


# Francis Patton Primary School



**Primary Five  
Cambridge  
Curriculum**

# English Language Arts

## Phonics, spelling & 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, recognizing 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 writing techniques and persuades.



### • **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.

# Mathematics

## 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:  $\frac{1}{2}$ ,  $\frac{1}{4}$ , and  $\frac{1}{8}$ ;  $\frac{1}{3}$  and  $\frac{1}{6}$ ;  $\frac{1}{5}$  and  $\frac{1}{10}$ .
- 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  $\frac{7}{10}$ .
- Change an improper fraction to a mixed number, e.g.  $\frac{7}{4}$  to  $1\frac{3}{4}$ ; 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.  $\frac{1}{5}$  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 2x to 10x tables.
- Know and apply tests of divisibility by 2, 5, 10 and 100.
- Recognise multiples of 6, 7, 8 and 9 up to the 10<sup>th</sup> multiple.
- Know squares of all numbers to  $10 \times 10$ .
- 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 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

- 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 amount 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.  $3.6 \times 7$ .
- Divide three-digit numbers by single-digit numbers, including those with a remainder (answer 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  $5^\circ$ ; 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 of 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 ( $\text{cm}^2$ ).
- 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 for example in twos, fives, tens, twenties or hundreds. 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  $3.7 \times 8$  to check  $29.6 \div 8$ .
- 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.



# Science

## 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 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.



