

# Welcome to year 6

This is the final year in primary and we endeavour to give the children more responsibility in the school and encourage them to be as independent as possible.

They have positions of responsibility on the school council and environmental monitoring group. They are voted in and we are re-electing every term to give as many children as possible a chance.

We welcome your support in encouraging the children to organise themselves as far as possible and helping them to get information back on time.

The curriculum follows the national curriculum and the children's ideas are incorporated through co-construction.

We have a curriculum tree which highlights the values skills and activities the children will be covering.

They will be doing the sports leaders award course during the year.

## **What will they be doing?**

We have included information about the thinking skills we are developing and an overview of the English and Maths basic skills that the children will be working on.

They will be covering the objectives in a cross-curricular way using speaking /listening and role play activities as well as written tasks.

Most people involved in thinking skills agree that the approaches and techniques need to be integrated or 'infused' into lessons rather than taught only as separate skills or only in separate lessons.

## **Thinking skills**

### **Critical thinking**

Mental process of analysing or evaluating information, statements that someone has offered as true.

Collecting arguments

Process of reflecting on the meaning of statements

Examining evidence

Forming judgements about the facts

### **Enquiry**

Asking relevant questions

Posing and defining problems

Planning what to do and how to research

Predict outcomes and anticipate consequences

Testing conclusions and improving ideas

### **Information processing skills**

Collecting

Sorting

Classifying

Sequencing

Comparing

Contrasting

### **Reasoning/investigative skills**

Giving reasons for opinions and actions

Drawing inferences

Making deductions

Using precise language to say what they think

Making judgements and decisions based on evidence

### **Creative thinking**

Generating and extending ideas

Suggesting hypotheses

Applying imagination

Looking for alternative/innovative outcomes

### **Evaluative skills**

Judging the value of what is:

Read, Seen, Heard, Done

Developing criteria for judging the value of their own or others work or ideas

Developing confidence in their judgements

## **Literacy Learning overview**

### **Speaking and listening**

#### **Speaking**

Use the techniques of dialogic talk to explore ideas, topics or issues

#### **Listening and responding**

Make notes when listening for a sustained period and discuss how note-taking varies depending on context and purpose

#### **Drama**

Devise a performance considering how to adapt the performance for a specific audience

### **Group discussion and interaction**

Understand and use a variety of ways to criticise constructively and respond to criticism

### **Reading and writing**

#### **Word structure and spelling**

Use a range of appropriate strategies to edit, proofread and correct spelling in their own work, on paper and on screen

#### **Understanding and interpreting texts**

Understand underlying themes, causes and points of view

Understand how writers use different structures to create coherence and impact

#### **Engaging with and responding to texts**

Compare how writers from different times and places present experiences and use language

#### **Creating and shaping texts**

Use different narrative techniques to engage and entertain the reader

Select words and language drawing on their knowledge of literacy features and formal and informal writing

#### **Text structure and organisation**

Use varied structures to shape and organise texts coherently

Use paragraphs to achieve pace and emphasis

#### **Sentence structure and punctuation**

Express subtle distinctions of meaning, including hypothesis, speculation and supposition, by constructing sentences in varied ways .

Use punctuation to clarify meaning in complex sentences.

### **Presentation**

Use different styles of handwriting for different purposes with a range of media, developing a consistent and personal legible style

### **What we want them to be able to do**

- Identify and discuss the principal features of different genres of children's fiction.
- Explain reading preferences in terms of the different genres.
- Analyse the language and organisational features of fiction genres.
- Plan, draft, write and improve an engaging short story in a particular genre using appropriate language and organisational features.
- Evaluate the reliability and usefulness of biographical information from different sources.
- Understand the terms 'biography' and 'autobiography' and can use them appropriately.
- Extract and interpret information effectively from biographical and autobiographical sources.
- Research, prepare and present orally a reasoned account of a particular life.
- Recognise the structure and language, organisational and presentational features of different forms of biography and autobiography.
- Write an effective biography or autobiography selecting language, form, format and content to suit a particular audience and purpose.
- Understand how poets can use personification to communicate with their readers.
- Write a poem that begins to use personification effectively.
- Understand how poets can use powerful images to communicate with their readers.
- Write a poem that begins to use powerful imagery effectively.
- Understand how poets can use surreal, surprising and amusing images to communicate with their readers.
- Value their own poems and those of others and enjoy sharing them.
- Write a poem that begins to use surreal, surprising and amusing imagery effectively.

Children have experience of a wide range of news reporting, on paper and in other media, and can understand what is being communicated, why and how.

- Evaluate its effectiveness in terms of informing and engaging its audience. Children are aware of the power and potential of different communication modalities and media.
- Listen attentively to an aural news report and make notes for specific purposes. Children understand some key features of the way radio news programmes are structured and presented to inform and engage particular audiences.
- Use discussion and drama techniques to explore a particular event, incident or situation, and its protagonists.
- Recognise the structure and language features of journalistic reports, both as written text and as scripts for oral presentation.
- Children can write an effective news article in journalistic style, selecting language, form, format and content to suit a particular audience and purpose. They can use this as the basis for a script and present it orally in the style of a radio news item in a way, which is informative and engaging.

## **Maths Learning overview**

### **Counting and Partitioning**

Children **count** in whole-number, fraction and decimal steps. They count forwards in jumps of 19 from 7 and backwards in 7s starting at 19 and continuing below zero.

They count in thirds from 0 using mixed numbers and in steps of 0.3 from 0, and backwards in 100s from 21 and 213. They are able to identify the rule for a given **sequence**. For example, for the sequence of numbers 1, 3, 7, 15, 31,  $\dots$ , they are able to predict the next number by saying that you double the number and add 1 to get the next number in the sequence.

Alternatively, they spot that the differences between one term and the next form the sequence 2, 4, 8, 16,  $\dots$  They can say whether a particular number will or won't occur in a sequence and **explain their reasoning**.

Children use a **number line** to order a set of positive and negative numbers. They find the **difference** between pairs of negative numbers, or one positive and one negative number, in context.

They say that a rise from  $-3^{\circ}\text{C}$  to  $+1^{\circ}\text{C}$  shows that the temperature has risen by 4 degrees. They read a table showing temperatures in five different cities on the same day and put the temperatures in order from coldest to warmest. They find the new temperature in each city when the temperature rises by 2 degrees or drops by 5 degrees.

Children **estimate** the position of numbers on a number line. They suggest which number lies about two fifths of the way along a line from 0 to 1000 line, or a line from 0 to 1. They justify their decisions. They **round** large numbers to the nearest multiple of 10, 100 or 1000, and decimals to the nearest whole number or to one decimal place. They **decide** whether it would be appropriate to round the number of children in a school, marbles in a jar, grains of sand in a bucket or hairs on a dog to the nearest 10, 100, 1000 or 10 000. They partition and order decimals with up to three places.

Children use **mental strategies** to calculate in their heads, using **jottings** and/or **diagrams** where appropriate. For example, to calculate  $24 \times 15$ , they multiply  $24 \times 10$  and then halve this to get  $24 \times 5$ , adding these two results together. They record their method as  $(24 \times 10) + (24 \times 5)$ . Alternatively, they work out  $24 \times 5 = 120$  (half of  $24 \times 10$ ), then multiply 120 by 3 to get 360. To solve  $5.6 \div \square = 1.9$ , they use their ability to add or subtract any pair of two-digit numbers and their knowledge of inverse operations to work out  $56 \div 19$ . This tells them that the unknown number is 3.7. They can also show the calculation on a number line. They start at 5.6, jump back 3.6 to 2.0, and then 0.1 to 1.9, adding these two jumps to find the solution (3.7).

They **compare these different methods** and discuss which they prefer. They recognise that mental calculations need to be reasonably quick and, of course, accurate, and that jottings can range from jotting down an interim result to drawing an informal diagram.

Children consolidate the use of **efficient written methods** for multiplication and division of decimal numbers by one-digit whole numbers, such as  $23.8 \times 8$  and  $87.6 \div 6$ , building on and refining the methods for multiplication and division developed in Year 5. They find an approximation for each calculation first and use this to check that the answer is sensible.

Children use a **calculator** to explore the effect of brackets in calculations. They compare  $(17 + 3) \times 15$  and  $17 + (3 \times 15)$  and explain why the answers are different. They place brackets to make a calculation correct; for example, they write  $250 \div 45 \div 3 = 235$  as  $250 \div (45 \div 3) = 235$ .

Children **solve problems** such as: *A number multiplied by itself gives 2809. Find the number.* They decide for themselves whether to use a calculator.

## **Calculations**

Children respond quickly to multiplication and division calculations involving decimals. They work out calculations such as  $5.6 \div \square = 0.7$  or  $3 \times 0.6$ , drawing on their knowledge of **number facts** and understanding of **place value**. They are able to **approximate**, use **inverses** and apply **tests of divisibility** to check their results.

Children know the square numbers up to  $12 \times 12$  and derive the corresponding squares of multiples of 10, for example  $80 \times 80 = 6400$ . Children investigate the **factors** of different numbers and establish that numbers with an odd number of factors are square numbers (for example, the factors of 9 are 1, 3 and 9).

They recognise that numbers with only two factors are **prime numbers** and can apply their knowledge of multiples and tests of divisibility to identify the prime numbers less than 100. They explain that 73 children can only be organised as 1 group of 73 or 73 groups of 1, whereas 44 children could be organised as 1 group of 44, 2 groups of 22, 4 groups of 11, 11 groups of 4, 22 groups of 2 or 44 groups of 1. They explore the pattern of primes on a 100-square, explaining why there will never be a prime number in the tenth column and the fourth column.

## **Data Handling**

Children **pose questions, plan and develop** lines of enquiry, interpreting data and reviewing the methods used. They investigate questions such as:

*Which are the wettest places in different locations around the world?*

*On average, how many litres of liquid does the class drink per week?*

Children **read scales accurately** and record results. For example, they read and record the amount of liquid that they drink from a calibrated measuring jug. They pour amounts from one jug to another in order to take readings from different scales. They justify their estimates of amounts that fall between divisions, and read scales labelled in intervals other than 1 and 10. They convert between units when, for example, they are adding the capacities of cans or bottles of fruit juice.

Children set up an experiment to collect local rainfall and compare this with other cities, ensuring that they convert all measures to millimetres for comparison. They **collect data from primary and secondary sources**. For example, they collect data on the amount of rainfall in one week (primary data) and the average rainfall in cities from the Internet or atlases (secondary data). They organise and represent their information in a variety of ways.

Children choose appropriate data collection methods such as simple counts in the classroom, observation of events or experiments, surveys or from the Internet. They use **frequency tables** to record their data and represent it in a variety of ways, including by using ICT. They construct and interpret line graphs, and consider whether intermediate points have meaning. For example, they plot temperatures at midday over a week.

Children use **bar charts** in a variety of contexts, making decisions and drawing conclusions from their results. For example, they decide whether it will be necessary to bring a heavy outside coat to next week's school visit based on the temperatures over the last week. They apply their strategies for reading scales to interpreting axes, and selecting the appropriate scale to use when constructing their own bar charts. They use ICT to compare the effect of using different scales

Children begin to **group discrete data**. For example, they draw a bar chart of marks scored in a mental mathematics test, grouping the data in intervals of 5 marks (1. 5, 6, 10, 11, 15, ̄ ).

Children interpret simple **pie charts**, and are able to respond to questions.

## **Shape and measure**

Children **solve practical problems** by **estimating and measuring using standard metric units**. They consider benchmarks to help them to estimate lengths, such as the height of a door (about 2 metres) or the length of a pencil (about 20 cm). They **measure and compare** lengths using rulers, metre sticks and tape measures, including a surveyor's tape for measuring longer distances outdoors. They learn how a car mileometer measures longer distances. They study local maps and use a simple scale to compare map distance with actual distance.

Children continue to **read measurements from a range of scales**. They weigh the same object on kitchen scales and bathroom scales and decide which is more suitable for the task. They measure a length using a metre stick marked only in centimetres and with a measuring tape marked in centimetres and millimetres, and decide which gives the more accurate reading. They learn to use a ruler to measure the length of an object when it is impossible to place the end of the object at the zero mark of the ruler.

Children **convert between units** as necessary, drawing on their knowledge of multiplying and dividing whole numbers and decimals by 10, 100 and 1000. For example, they give 3.2 litres in millilitres, 3544 g in kilograms, 2.1 metres in mm, 385 minutes in hours and minutes or 3.2 hours in hours and minutes

## **Securing number facts identifying relationships.**

Children recall multiplication and division facts and use these to **derive related facts** involving decimals, such as  $8 \times 0.9$  or  $3 \div 0.6$ . They count on and back, for example in steps of 0.3, relating

the steps to the 3 times-table. They use their knowledge of number facts, relationships between numbers and relationships between operations to solve problems and puzzles

Children use **efficient written methods** to add, subtract, multiply and divide integers and decimal numbers. They calculate the answer to  $HTU \div U$  or  $U.t \div U$  to one or two decimal places, and solve problems such as:

*Find the total length of three pieces of wood with lengths 167 cm, 2.8 m and 1008 mm.*

*Find 78% of 14.8 m.*

*A tree trunk is 6.5 metres long. Frank cuts the tree trunk into four equal lengths. How long is each length?*

Children choose methods to solve these problems efficiently, and consider the accuracy of the answer in the context of the problem.

Children **tabulate information**, working systematically, to help them to solve problems and explain their conclusions. For example, they explore a problem such as:

*In a village where all the roads are straight, every time two streets intersect a street lamp is required. Investigate the number of street lamps required for 2 streets, 3 streets, 4 streets, ... What is the minimum and maximum number of lamps needed for 5 streets?  $n$  streets?*

They **explain their methods and reasoning, using symbols** where appropriate.

Children **express a quotient as a fraction**, for example  $19 \div 8 = 2\frac{3}{8}$  or  $3 \div 4 = \frac{3}{4}$ , simplifying the fraction where appropriate. They solve problems, giving their answers as a fraction, for example:

*Share 9 pizzas equally between 4 people.*

*Divide a 28 m length of wood into 6 equal pieces.*

Children express a larger whole number as a fraction of a smaller one using practical contexts or diagrams. For example, they compare a bag containing 10 grapes and a bag containing 25 grapes, grouping the 25 grapes into groups of 10 (with a group of 5) to establish that the larger bag contains  $2\frac{1}{2}$  times as many grapes as the smaller bag. They **simplify fractions by cancelling** and use equivalent fractions to **compare one fraction with another**