



# ORLEANS PRIMARY SCHOOL



Year 4

Spring 1 Curriculum Overview

2020

## SCIENCE States of Matter



### Solids, Liquids and Gases.

During this unit, children will describe the differences between solids, liquids and gases. They will research the temperature at which materials change state, for example, when iron melts or when oxygen condenses into a liquid. They will describe melting and dissolving and give everyday examples of each; name some materials that will and some that will not dissolve in water and explain why undissolved solids can be separated from a solution by filtering and show how to do this. They will also recognise that although it is not possible to see a dissolved solid it remains in the solution.

## ART Famous Buildings

Children will explore the role of an architect and look at Britain's most famous architects. They will investigate a variety of the world's most famous buildings, thinking about what makes a building aesthetically pleasing and exploring how architectural styles change over time. They will have the chance for plenty of hands-on and creative activities with the opportunity to recreate famous buildings in a variety of ways. Finally, they will draw on everything they have found out about architecture and a variety of building designs to design their own building for a particular purpose



## GEOGRAPHY – Earthquakes

Our key question for this unit is: Why do some earthquakes cause more damage than others? This enquiry introduces children to some key aspects of physical geography, in particular one of the major outcomes of tectonic activity in the world – earthquakes. Some work is also focused on volcanic activity. As they progress through the unit, children, come to understand why it is that earthquakes only tend to occur in particular areas of the world as a consequence of the pattern and movement of the tectonic plates of the Earth's crust. Children initially investigate the causes and impact of one specific recent earthquake in one particular location in the world, where earthquakes occur frequently, before looking more widely at global patterns.

## PSHE Work and Money

This unit aims to encourage children to think about where money comes from and how it can be used. Children will discuss how we spend money, why people might need to borrow money and the consequences of this. Children will begin to explore how we can prioritise what we spend money and what choices we have, including considering the impact of ethical spending. Through this unit of learning, children will also consider what influences their spending and how we can keep track of what we spend.

**P.E.** Our two sports for this term are **Yoga** and **Rounders**. P.E. day will continue to be **Tuesday & Wednesday**.

## FRENCH Bon appétit, bonne santé!



**(healthy eating)** Children learn names of food and drink related to packed lunches and break time snacks. They learn how to talk about what they have eaten and drunk the previous day. Children practise following and creating their own recipes. Children will also revise numbers using the euro and add to their repertoire of songs and rhymes to help them remember new

## Computing

### Email and E-Safety

Children will use their own email account to send and receive messages. They will learn to attach documents and 'cc' others in.



## RE

Our topic is based around the question: Why did Jesus use parables and perform miracles?



## MUSIC



Children will explore arrangements through a range of musical styles. They will take part in group performances using tuned/untuned percussion. They will explore the concepts: Unison/duet/accompaniment/phrase/pitch/ostinato.

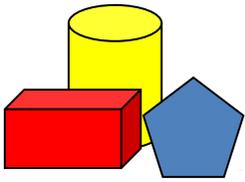
## Key Instant Recall Facts

To help develop children's fluency in mathematics, we ask them to learn Key Instant Recall Facts (KIRFs) each half term. Spring term's KIRFs are:

**I know the x and ÷ facts for the 9x & 11x and I recognise decimal equivalents of fractions.**

refer to the KIRF letter and activities on Google Classroom for more information and activities to support this learning.

Please



# ORLEANS PRIMARY SCHOOL



## MATHS

### Discrete and Continuous Data

By the end of this unit pupils will be able to:

- Present data in pictograms and bar charts
- Consider the use and suitability of a range of different scales when constructing graphs
- Interpret data presented in a pictogram and bar chart
- Read and interpret data presented in a time graph

### Securing Multiplication Facts

By the end of year 4, children are expected to know their multiplication facts up to  $12 \times 12$ . This unit helps build an increasing depth of understanding and fluency in mental multiplication calculations. It will extend their understanding of times tables, particularly looking at patterns and rules, and the seven and nine times tables.

### Fractions

During this unit children begin by revisiting previous learning, considering what a fraction is and how it can be represented. They then progress to find equivalent fractions, are introduced to mixed numbers and improper fractions, add and subtract fractions, calculate fractions of quantities and finally solve problems involving fractions. Throughout the unit children will be using a variety of representations, to increase their flexibility and depth of understanding with fractions.

### Key Learning:

- To recognise fractions as different representations
- To identify and find fractions of a quantity
- To recognise equivalent fractions
- To calculate non-unit fractions of a quantity
- To find equivalent fractions using multiplication and division
- To solve problems involving fractions and division
- To compare and order fractions
- To recognise and write mixed numbers
- To recognise and write improper fractions
- To convert mixed numbers to improper fractions
- To add fractions which are equal to less than one
- To subtract fractions less than one whole
- To add fractions to equal an answer greater than one
- To subtract fractions including fractions greater than one

## MATHS

Key learning: To recognise fractions as different representations

### Model the Talk Task

Match together the different representations of the same fractions.

Explain why they match.

numerator equal parts    denominator divide    vinculum representation    whole explain    part

Key learning: To recognise equivalent fractions

### Independent Task

Use fraction bars and diagrams to show families of equivalent fractions for:

Example:  $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

fraction wall equal parts    numerator factor    denominator equivalent    vinculum    whole

Key learning: To calculate non-unit fractions of quantities

### Model the Talk Task with another adult or a pupil

Partner A:  $24 \div 3 = 8$  so one third of twenty four is eight

Partner B:  $8 \times 2 = 16$  so two thirds of twenty four is sixteen.

numerator equivalent    denominator multiple    vinculum factor    whole equal parts

### Develop Learning

"The numerator and denominator can be multiplied by the same number to find an equivalent fraction."  
 "If I double the number of parts in my whole, then my denominator doubles and the number of parts highlighted doubles."

Key learning: To calculate unit fractions of quantities

Half of the counters are green  
 $\frac{1}{2}$  of 12 is equal to 6 because  $12 \div 2 = 6$

There are 12 counters in total and 6 of them are green  
 Six twelfths of the counters are green

What fraction are green?

$\frac{1}{2} = \frac{6}{12}$

numerator equal parts    denominator divide    vinculum    whole

Key learning: To calculate unit fractions of quantities

### Model the Independent Task with another adult or a pupil

What fraction are blue?

Pupil A: The denominator is six because there are six equal groups in total.  
 Pupil B: The numerator is one because group is blue.  
 Pupil A:  $\frac{1}{6}$  of the objects are blue.  
 Pupil B: The denominator is 12 because there are 12 objects in total.  
 Pupil A: The numerator is two because two objects are blue.  
 Pupil B:  $\frac{2}{12}$  of the objects are blue.

$\frac{1}{6}$  of 12 is equal to 2     $\frac{1}{6}$  is equivalent to  $\frac{2}{12}$

numerator equal parts    denominator divide    vinculum    whole

Key learning: To calculate non-unit fractions of quantities

$\frac{3}{4}$  of 28 is equal to 21  
 $\frac{3}{4}$  of 8 is equal to 6  
 $\frac{3}{4}$  of 16 is equal to 12

Can these sets of counters be used to represent  $\frac{7}{8}$ ?

numerator equivalent    denominator multiple    vinculum factor    whole equal parts

# ENGLISH

## Charlotte's Web by E.B White

This classic novel for children, first published in 1952, retains its appeal for modern children. It is the story of Fern, a little girl who saves a pig on the family farm from being killed, and the pig's friendship with a spider who lives alongside him in a barn with the other farm animals. Their lives are woven into the cycle of the seasons and farm life. We hear, as Fern does, their conversations, and see how life and death are a natural part of things.

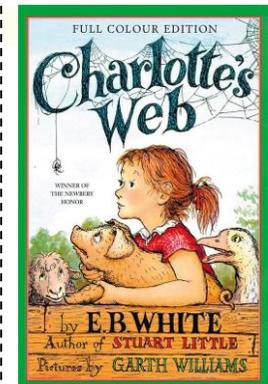
### Overall aims of this teaching sequence.

- Discussing writing similar to that which they are planning to write in order to understand and learn from its structure, vocabulary and grammar;
- Progressively building a varied and rich vocabulary and an increasing range of sentence structures;
- Assessing the effectiveness of their own and others' writing and suggesting improvements.

The book supports learning about character development, though changes in feelings and emotions, and emotional response in narrative fiction, exploring the themes of friendship, the passing of time, and the circles of life through the complex web of relationships portrayed in the text. The narrative structure offers young readers and writers a good model for their own story planning and descriptive writing.

### Writing Outcomes

- Poetry
- Diary entry
- Story maps
- Note taking
- Fact files
- Writing in role
- Character descriptions
- Narrative descriptions



**Key Learning:** To solve problems involving fractions and division

**New Learning** **A fraction can be the result of division**

? If three pizzas are divided equally between four people, how much does each person get?

Each person gets  $\frac{3}{4}$  of a pizza

$3 \text{ pizza} \div 4 \text{ people}$

$3 \div 4 = \frac{3}{4}$

**M** divide vinculum division denominator equal numerator fraction equivalent

**Key Learning:** To solve problems involving fractions and division

**Develop Learning** ? Would you rather share four pizzas between five or six people?

$\frac{4}{5}$   $>$   $<$  or  $=$   $\frac{4}{6}$

move me

**M** divide vinculum division denominator equal numerator fraction equivalent

**Key learning:** To order fractions

**Talk Task**

True or false?

$\frac{2}{3} < \frac{1}{2}$      $\frac{2}{4} < \frac{5}{8}$      $\frac{7}{9} > \frac{2}{3}$

$\frac{4}{5} > \frac{7}{10}$      $\frac{1}{3} < \frac{3}{6}$      $\frac{5}{6} > \frac{11}{12}$

**M** fraction bars order numerator greater than denominator less than vinculum equivalent

**Key learning:** To recognise and write improper fractions

How many fifths are there?

**M** fractions mixed numbers numerator denominator improper fractions vinculum whole

$1 \frac{3}{4}$

$\frac{4}{4} + \frac{3}{4}$

$= \frac{7}{4}$

**M** fractions mixed numbers numerator denominator improper fractions vinculum whole

**Key learning:** To convert mixed numbers to improper fractions

**Independent Task**

Convert the following mixed numbers into improper fractions:

$2 \frac{1}{4}$      $1 \frac{1}{6}$      $1 \frac{1}{3}$      $2 \frac{5}{7}$      $3 \frac{1}{2}$

$2 \frac{2}{7}$      $2 \frac{5}{8}$      $3 \frac{3}{4}$      $3 \frac{2}{3}$      $2 \frac{2}{5}$

**M** fractions mixed numbers numerator denominator improper fractions vinculum whole

**Key learning:** To add fractions

A pizza has eight equal slices. Lisa eats one slice, and then eats a further two slices. What fraction of the pizza did she eat?

? How could we represent this using a bar model?

$\frac{1}{8} + \frac{2}{8}$

**M** numerator parts denominator bar model vinculum addition whole plus equal

**Key learning:** To subtract fractions

Amrita has  $\frac{7}{8}$  of a kilometre to walk to school. If she has walked  $\frac{2}{8}$  of a kilometre, what fraction does she have left to walk?

? How could we represent this using a bar model?

1 kilometre

$\frac{2}{8}$  ?

**M** numerator parts denominator bar model vinculum subtraction whole minus equal