



ORLEANS PRIMARY SCHOOL



Year 4

Spring 1 Curriculum Overview

2023

SCIENCE Living Things and their Habitats

This unit of work supports the children to be able to recognise that living things can be grouped in a variety of ways i.e. vertebrates & invertebrates and warm or cold blooded. They will explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. We will spend some time recognising that environments can change due to human interaction and that this can sometimes pose dangers to living things. We will also look at the positive effects of human interaction on a variety of environments.



Art Painting and Mixed Media: light and dark
Children develop skills in colour mixing, focussing on using tints and shades to create a 3D effect. They compare paintings by artists according to elements such as texture or colour and practise creating tints and shades when colour mixing. They will add materials such as sand, salt, oats to create texture. Dabbing, pointillism and stippling techniques will be used. Children will explore still life and compare compositions and apply painting techniques to a personal still life piece. Their final compositions must consider shades of light and dark and use previously learnt techniques to make the object appear three-dimensional.



GEOGRAPHY WORLD FOOD

Where does our food come from?

Looking at the distribution of the world's biomes and mapping food imports from around the world, children learn about trading fairly with a specific focus on Côte d'Ivoire and the cocoa beans production there. They explore where the food for their school dinners comes from and the pros and cons of local versus global. They will discuss and design data collection methods for qualitative data and conducting interviews.



PSHE Health and Well-being

In this unit we will begin by identifying & sharing facts about dental health. Children will be able to identify their strengths, describe what makes them happy, recognise that they cannot always control certain things and describe a place that keeps them calm. They will be able to understand the range of emotions we can experience, what mental health is and that sometimes people might need help.



P.E. Our two sports for this term are **Netball** and **Gymnastics**. P.E. day will continue to be **Tuesday & Friday**.

FRENCH Numbers, calendars and birthdays.

Children will learn numbers in French from 0-31, the days of the week and begin to match the months of the year to their English equivalent. They will be able to translate the date from English to French, say when their birthday is and ask someone when their birthday is. They explore the differences and similarities between how we celebrate in England & France.



Computing

Coding

Children learn how to use and create scripts in Scratch. They use decomposition to identify key features and understand how to decipher actions. They will understand what a variable is and how it works within a program and then create their own.

RE

Just how important are our beliefs? Finding out how people show commitment to their beliefs, children ask questions about why people choose to demonstrate the importance of their beliefs in certain ways. They use photographs, personal responses and information texts to explore ceremonies of commitment, diet, charity and clothing.

MUSIC

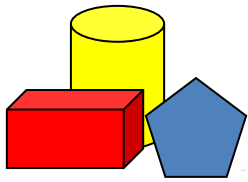
Children will explore arrangements through a range of musical styles. They will take part in group performances using tuned/untuned percussion. They will explore the concepts: Unison/duet/accompaniment/phrases/pitch/ostinato.



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 know the x and ÷ facts for the 7x table. Please refer to the KIRF letter and activities on Google Classroom for more information and activities to support this learning.



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

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, 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.

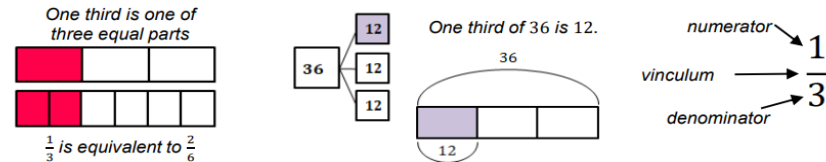
Key Learning:

- 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

Representing fractions

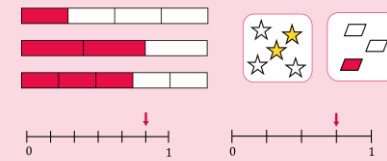
A range of concrete and pictorial representations have been used for fractions including fractions of a whole, as part of a set of objects and as part of a quantity such as a length or volume. Pupils can apply these representations to comparing, finding simple equivalence and adding and subtracting with the same denominator, as well as fractions of sets or quantities.



Here are some teaching slides from our Maths lessons. They show you some of the representations and methods we will use during this unit.

Fraction match

The denominator is _ because _____.
The numerator is _ because _____.



Describing fractions of quantities

Equivalent fractions

Exploring equivalent fractions

Exploring equivalent fractions

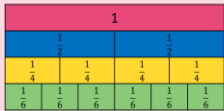
Recognising and writing equivalent fractions

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

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

For example:

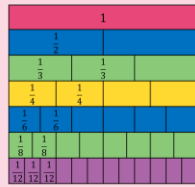
$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$$



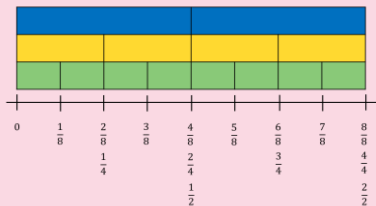
Spotting patterns with equivalent fractions

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \dots = \frac{45}{90}$$

$$\frac{1}{3} = \frac{2}{6} = \frac{4}{12} = \dots$$



Equivalent fractions on a number line



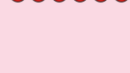
Connecting fractions of amounts to division

What is $\frac{1}{3}$ of 18?



What is $\frac{1}{6}$ of 18?

What is $\frac{2}{3}$ of 18?



What is $\frac{5}{6}$ of 18?

Finding a fraction of an amount

$$\frac{1}{4} \text{ of } 24 = 6, \frac{1}{6} \text{ of } 24 = 4, \frac{1}{8} \text{ of } 24 = 3, \frac{1}{12} \text{ of } 24 = 2$$



24 ÷ 3 = 8 so one third of twenty four is equal to eight.

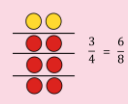
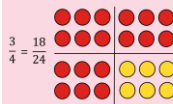
8 × 2 = 16 so two thirds of twenty four is equal to sixteen.

numerator denominator vinculum whole equal parts equivalent

Representing three quarters using equivalence

We can represent $\frac{3}{4}$ with:

24 counters or eight counters



What other amounts of counters can we use to represent $\frac{3}{4}$?
What equivalent fractions can you describe?
Can the sets of counters be used to represent $\frac{7}{8}$?

Finding non-unit fractions of quantities

We can use 12 counters to represent five sixths.

The denominator is six because there are six equal groups in total.

The denominator is 12 because there are 12 objects in total.

The numerator is five because five groups are yellow.

The numerator is ten because ten objects are yellow.

$\frac{5}{6}$ of the objects are yellow.

$\frac{10}{12}$ of the objects are yellow.

Looking at the denominator

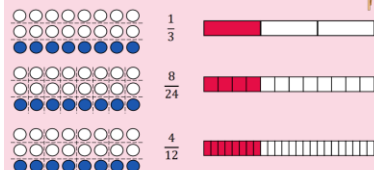


Explain why these representations are not very useful.



Looking at the denominator

Useful representations.



Looking at the denominator

$$\frac{1}{3} = \frac{4}{12} = \frac{8}{24}$$

1 is one third of 3 $3 \div 3 = 1$ $1 \times 3 = 3$

4 is one third of 12 $12 \div 3 = 4$ $4 \times 3 = 12$

8 is one third of 24 $24 \div 3 = 8$ $8 \times 3 = 24$

What do you notice about the relationship between each numerator and denominator?

What pattern do you notice between the denominators?

The relationship between the numerator and denominator

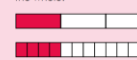
The numerator and denominator can be multiplied by the same number to find an equivalent fraction.

$$\frac{1}{3} = \frac{1 \times 4}{3 \times 4} = \frac{4}{12}$$



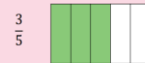
Four times as many parts highlighted.

Four times as many parts in the whole.



Comparing fractions with the same numerator

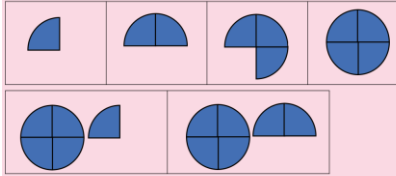
Which fraction is greater? How do you know?



What can we say about fractions with the same numerator?

Proper and improper fractions

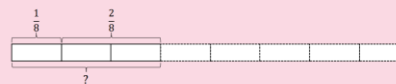
How many quarters are there?



Constructing bar models for word problems involving fractions

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

How does this situation connect to this bar model?



How could we represent this as an equation?

Representing the word problems

$$a) \frac{7}{8} - \frac{3}{8} \quad b) \frac{5}{6} - \frac{3}{6} \quad c) \frac{8}{9} - \frac{2}{9} \quad d) 1 - \frac{2}{7}$$



There are four fifths in total and I am subtracting three fifths. I know four subtract three is equal to one (known fact) so four fifths subtract three fifths is equal to one fifth. The numerator is one. The denominator is five.

numerator denominator vinculum minus whole equal parts bar model subtraction

Comparing fractions with the same denominator

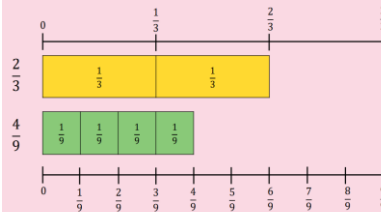
$$\frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{3}{8}$$

$$\frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{1}{8} = \frac{7}{8}$$



Is this always, sometimes or never true?

Comparing other fractions



Connecting the whole to the fraction part in mixed numbers

$$1\frac{3}{4}$$

$$2\frac{2}{5}$$

Applying known facts when subtracting fractions



Seven tens subtract two tens is equal to five tens.



Seven hundreds subtract two hundreds is equal to five hundreds.

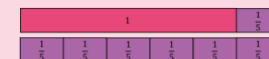
$$\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$$

Seven eighths subtract two eighths is equal to five eighths.

Connecting fraction bars to bar model to support subtraction

How could we show the subtraction using fraction bars? How about using bar models?

$$1\frac{1}{5} - \frac{3}{5}$$



Using a number line to find the difference

To work out a subtraction, as well as subtracting from the whole, we can also count up from the part.

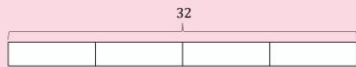
$$1\frac{2}{7} - \frac{6}{7}$$



Representing fractions of numbers using bar models

A class has 32 pupils. One quarter of them walk to school.

How many pupils walk to school?



Using unit fractions to find non-unit fractions of quantities

A plane has 385 people aboard. Two fifths of those people are children.

How many children are on the plane?

How many adults are on the plane?

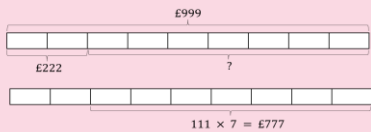


Finding non-unit fractions of amounts

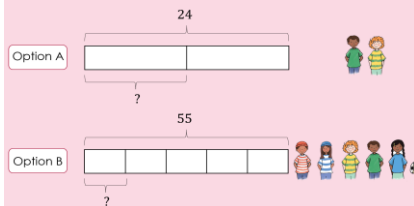
A television costs £999 full price. In the sale, this is reduced by two ninths of the original price. What is the new price of the television?

The first step is to find one ninth of £999.

$$£999 \div 9 = £111$$



Using bar models to support reasoning



Representing fractions of numbers using bar models

There are 24 hours in a day. Poppy spends one third of her day at work.

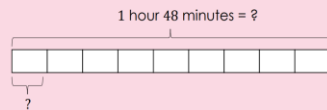
For how many hours is she at work?



Drawing bar models and converting measurements

A film lasts for 1 hour and 48 minutes.

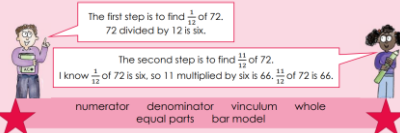
Ross arrives late and misses one ninth of the film. How many minutes of the film did he miss?



Using multiplication to find non-unit fractions

Find the following fractions:

$$\frac{11}{12} \text{ of } 72 \quad \frac{5}{8} \text{ of } 320 \quad \frac{3}{7} \text{ of } 140 \quad \frac{2}{3} \text{ of } 339 \quad \frac{8}{11} \text{ of } 77$$



Using bar models to support reasoning

Tamal and Harry want to buy some football cards. They can either buy a packet of 24 cards between them or buy a bumper pack of 55 cards, along with Sam, Lisa and Andy. Either option would share the cards equally between each person. They want to choose the option that gives them the most cards.



Using bar models to support reasoning

Rita wants to buy a laptop. She finds two that she likes. These are the price stickers:



Rita wants to buy the cheaper laptop. Which one should she buy? Why?

ENGLISH

We are continuing with Ice Palace this term.

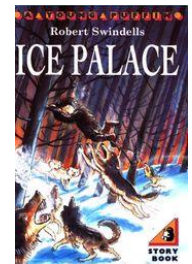
Fiction: Short Novel (quest story)

Focus Text: *Ice Palace* by Robert Swindells

Ivan, the main character goes in search of his brother taken by the mysterious 'Starjik'. It is a moving and well-written story with strong themes such as family love and bravery and much to explore in terms of character and dilemma.

Overall aims of this teaching sequence

- To enjoy a story and discuss its meanings
- To explore narrative plot, settings, characters and draw inferences to aid understanding
- To broaden understanding of writers' use of language and build a varied vocabulary
- To write non-fiction texts based on fictional stimulus
- To write a non-chronological report
- To write a narrative ending



Writing Outcomes

- Poetry (list poems, imagery)
- Instructions (rules for playing a game)
- Recount (note, written in role)
- Non-chronological report (information leaflet)
- Thought bubbles, notes (writing in role)
- Captions
- Narrative ending