



# Orleans Primary School

## Year 5 Autumn 2 Overview



### Science

#### Materials: Mixtures and Separation

In this unit of work, we will be further deepening our understanding of materials through the processes of mixtures and separation. Initially, the children will experiment with making mixtures and then using various methods to separate them. They will learn about the process of dissolving is dependent on certain variables. Finally, they will investigate different solutions and how to separate them using filtering and evaporating.

### Computing

#### Online Safety

We will learn what a search engine and explain how to use them to find websites and information. Learning will focus that things online aren't always true, and they will recognise what to check for. We will discuss why keywords are important when searching for information and the importance of copyrighting.

### RE

#### Why doesn't Christianity always look the same?

The objective is to investigate why Christian worship looks different across the world when key beliefs are the same. They will look at the way that Christianity spread and the different feature of the Catholic church. They will discover some reasons why people began practising in different ways.

#### HOME LEARNING:

SET ON TUESDAYS

IN ON MONDAYS

### PE

Remember to wear your PE kit to school. We will be improving our football skills as well as our dance skills. PE is on **Wednesday and Friday.**

### Music

Children will be learning about pitch, chords, percussion, and body percussion through the music of Christmas. They will also be learning to identify the duration of notes. In addition, they will be singing in unisons and rounds.

### DT

#### Electrical Systems: Doodlers

In this topic, they will build on their Electricity knowledge from Year 4 to investigate how a circuit can be used to create a motorised product. The children will research, design and make a 'Doodler', using a circuit. Finally, they will evaluate their final product based on their design.

### READING

Children should read for a minimum of **15 mins** at home every night. We do encourage them to read to an adult so they can practice reading aloud.

### French

We will be building our knowledge of numbers and prices in French. We will be learning to name different foods in French and notice patterns in sounds. We will also join in with a story, using gestures and key vocabulary.

### PSHE

#### Health and Wellbeing

In this topic, they will learn about the importance of relaxation and sleep on the health of our minds and bodies. We will focus on the concept of failure and discuss ways to deal with it, as well as setting goals. Next, we will look at the importance of a balanced and varied diet on our bodies. Finally, we will look at the importance of sun safety.

### KIRFs

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

#### **This term's KIRF is:**

- I know the multiplication and division facts for all times tables up to  $12 \times 12$ .

### History

#### How was life in Tudor England?

One of the main focuses of this topic is to identify primary sources, highlighting evidence in a source and make historical deductions from evidence. We will use these skills to make informed deductions about Henry VIII, Anne Boleyn, and the Royal Progress. We will also use inventories to discover about the lives of people of Tudor England.

## English

This term we will be looking at a Modern Novel: Floodland by Marcus Sedgwick.

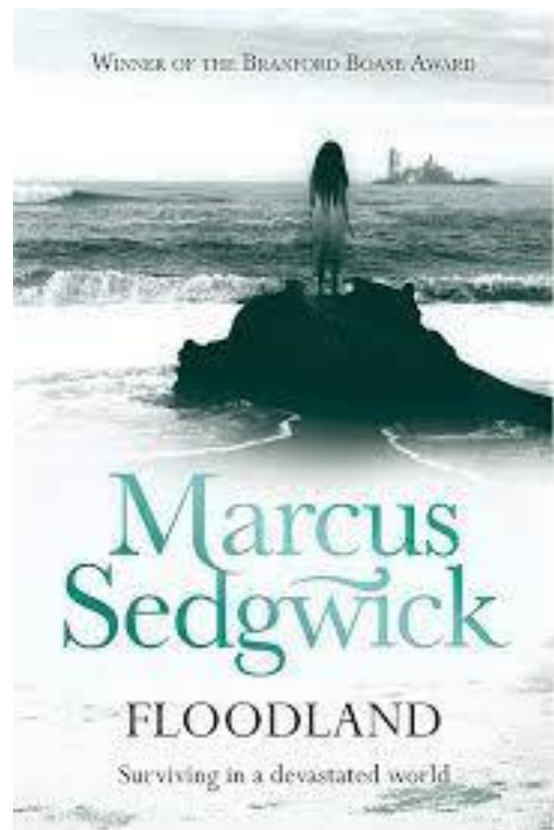
Set in an all too believable near future when many parts of England are submerged in water and people drift into gangs, divided due to the scarcity of resources, especially food. Zoe has been left behind on an island, which used to be the city of Norwich and discovers a boat, which she wants to use to try to find her parents. She has to cope with human cruelties and frailties but the story ends on a note of hope. This is an exciting story, which raises some key questions: How would people cope? How would they respond? What would happen to individuals, families, societies?

### Overall aims of this teaching sequence:

- To engage children with a story with which they will empathise
- To explore themes and issues, and develop and sustain ideas through discussion
- To develop creative responses to the text through drama, storytelling and artwork
- To write in role in order to explore and develop empathy for characters
- To write with confidence for real purposes and audiences

Throughout this book, we will develop a range of skills with the children and will produce several pieces of written work, including:

- Letter writing
- Writing in role
- Poetry
- Persuasive speeches
- Free writing opportunities
- Cross curricular writing opportunities

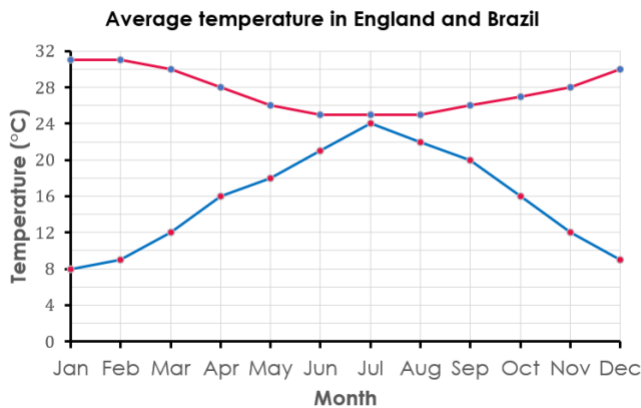
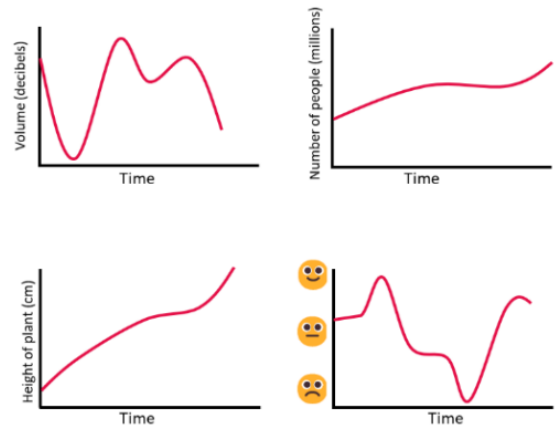


# Maths

## Line Graphs and Timetables

- L1 = Tell the story of a line graph
- L2–3 = Interpret, read and solve problems with line graphs
- L4 = Interpret and read line graphs and tables

Pupils begin by exploring a range of line graphs without values on the axes in order to focus on telling the story of the data, thinking about the shape of the line. Scales are introduced in Lesson 2 with a focus on accurately reading the graph. This is built upon to explore how the representation changes when you change the scale. Throughout these lessons, pupils apply and consolidate skills including working with larger integers, strategies for addition and subtraction, and estimation skills.



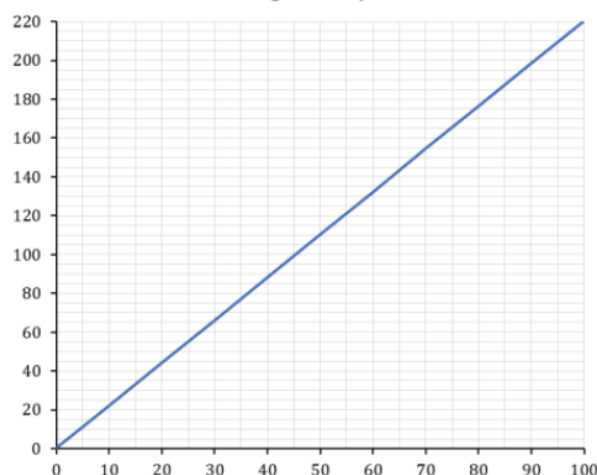
- L5 = Present information as a line graph

Pupils make connections to discussions held in the previous lesson (around how the chosen scale used on the axes could change the way the data looks) to make informed design choices for their own line graph. Pupils accurately plot the data onto the line graph and are then given a second set of data. Highlight that by placing multiple data sets onto one graph they are able to compare and contrast more efficiently.

- L6 = Read and interpret conversion graph

Pupils explore conversion graphs, which represent a relationship between measures, e.g. miles and kilometres. They apply existing skills of interpreting and reading graphs to read a variety of conversion graphs. They then apply this understanding to construct their own conversion graph.

**Conversion graph:  
kilograms to pounds**



- L7-9 = Read and interpret timetables

Timetables come in a variety of formats and involve a range of different conventions. Pupils should be exposed to timetables in different orientations and layouts. Connections should be made to situations where pupils use timetables outside of the classroom and it may be worth asking pupils to bring in examples/photos of timetables that they have used. Pupils will spend time reading and interpreting timetables and solve problems relating to the timetables that involve calculating intervals of time.

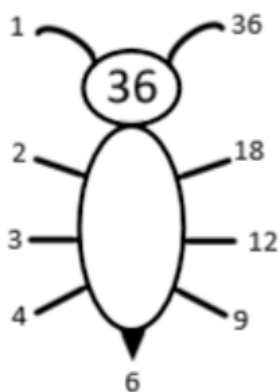
Stop	Bus A	Bus B	Bus C
High Road	08:40	09:05	09:25
Near Lane	08:47	09:12	09:32
Main Street	08:56	09:21	09:41
Blue Road	09:09	09:34	09:54
Sway Retail Park	09:22	09:47	10:07

Trains from London to Penzance						
	London Paddington	Exeter St Davids	Newton Abbot	Plymouth	Truro	Penzance
Train A	10:06	12:06	12:29	13:11	13:47	15:11
Train B	10:40	12:41	13:01	13:49	15:07	15:49
Train C	11:25	13:23	13:44	14:35	15:56	16:45

### Multiplication and Division

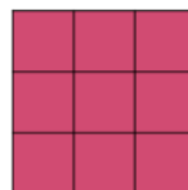
- L1 = Identify multiples and factors
- L2 = Find all factor pairs of a number
- L3 = Identify prime numbers up to 100
- L4 = Solve problems using factors, multiples and square numbers

This sequence of lessons explores the properties of numbers. Teaching should focus on comparing and contrasting the features of factors, multiples, square and prime numbers. This should lead to pattern seeking and pupils developing deeper understanding of these key properties of number.



$$2 \times 2 = 4$$

$$3 \times 3 = 9$$



$$2^2$$

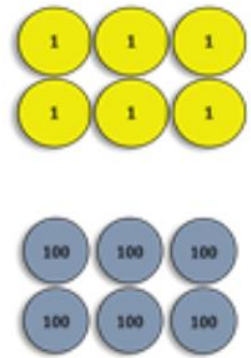
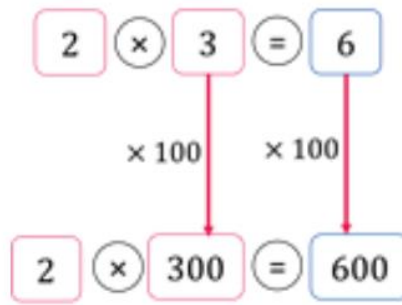
$$3^2$$

- L5 = Multiply and divide by 10, 100 and 1000 (1)
- L6 = Multiply and divide by 10, 100 and 1000 (2)
- L7 = Multiply and divide mentally using doubling and halving

Within these lessons, pupils should be exposed to a range of strategies to support increasingly efficient mental multiplication and division. We encourage pupils to compare and contrast their ideas to identify similarities and differences and encourage them to consider the most appropriate strategy for them.

$30 \times 2 = 60$	$300 \times 2 = 600$
$2 \times 30 = 60$	$2 \times 300 = 600$
$2 \times 3 = 6$	$20 \times 3 = 60$
$3 \times 2 = 6$	$3 \times 20 = 60$
$3 \times 200 = 600$	$3 \times 200 = 600$

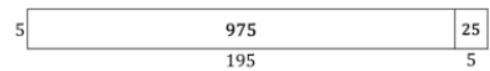
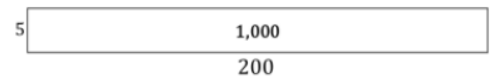
$6 \div 2 = 3$	$60 \div 2 = 30$	$600 \div 2 = 300$
$6 \div 3 = 2$	$60 \div 3 = 20$	$600 \div 3 = 200$
$60 \div 2 = 30$	$60 \div 20 = 3$	$600 \div 200 = 3$
$60 \div 3 = 20$	$600 \div 300 = 2$	$600 \div 300 = 2$
$60 \div 30 = 2$	$600 \div 300 = 2$	



- L8 = Solve problems using a range of strategies

We might use more than one lesson to allow pupils to explore applying strategies from previous lessons in an unfamiliar context. The focus is on justifying the efficiency of the strategy.

$$195 \times 5$$



$\times$	40	2
20	800	40
3	120	6

	H	T	O	
		4	2	
$\times$		2	3	
	1	2	6	
+	8	4	0	
	9	6	6	

$$(42 \times 3)$$

$$(42 \times 20)$$

- L9 = Short multiplication
- L10 = Long multiplication (1): the distributive law
- L11 = Long multiplication (2): two 2-digit numbers
- L12 = Long multiplication (3): 3- or 4-digit numbers by a 2-digit number

As well as encountering and practicing formal written methods, pupils should explore how to represent problems and continue to develop flexibility when selecting strategies.

- L12 = Use knowledge of multiples to divide
- L13 = Use a written method to divide
- L14 = Solve problems involving division with remainders

As with lessons on multiplication, pupils should represent and solve problems choosing from a range of strategies, resorting to the written method only when it is the most efficient strategy for them. Pupils may draw or visualise bar models to make sense of the problem and should be encouraged to estimate mentally.

Thousands	Hundreds	Tens	Ones
1000 1000	100	30 30 30	1 1
1000 1000	100	30 30 30	1 1
1000 1000	100	30 30 30	1 1
1000 1000	100	30 30 30	1 1

	2	1	3	2
4	8	5	<sup>1</sup> 2	8