



# Orleans Primary School

## Year 5 Spring 1 Overview



### Science

#### Forces and Space: Earth and Space

In this unit of work, we will be further deepening our understanding of forces through Earth and Space. Initially, the children will compare the contributions of Ptolemy, Alhazen, and Copernicus to models of the Solar system. They will learn to describe the movement of the Moon relative to the Earth. Finally, they will analyse patterns in temperature data for the Earth and use them to predict temperature values for the Earth in the future.

### Computing

#### Data Handling: Mars Rover 1

We will identify some of the types of data that the Mars Rover could collect. We will explain how the Mars Rover transmits the data back to Earth and the challenges involved in this. We will read any number in binary, up to eight bits and identify input, processing, and output on the Mars Rovers.

### RE

#### What happens when we die? (part 1)

The objective is to investigate how some religions understand death and their belief in the afterlife. In addition, we will explain what funerals mean for different people. We will also explore the role of forgiveness for people in different worldviews.

#### HOME LEARNING:

SET ON TUESDAYS

IN ON MONDAYS

### PE

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

### ART

#### Drawing: I need space

In this topic, we will explore the purpose and effect of imagery. The children will explore decision making in creative processes and to develop drawn ideas through printmaking. Finally, they will apply an understanding of drawing processes to improve ideas.

### 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.

### Music

The focus of music this term is **SPACE ENCOUNTERS**, to tie in with your science learning. The children will be learning about timbre, texture, metre, and composition.

### French

We will be learning to name the different planets in French. We will begin to apply knowledge of noun and adjective agreement to create metaphors in French. We will also compare the planets using French.

### PSHE

#### Safety and the Changing Body

In this topic, they will recap on the importance of staying safe online. We will be naming parts of the body and understanding the changes their own gender will go through during puberty. We will learn some basic first aid. Finally, we will understand that other people can influence our decisions, but we have the right to make our own choices.

### 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 can recall metric conversions.

### Geography

#### Why do oceans matter?

The focus of this topic is to explain the importance of our oceans. We will be able to explain the impact humans have on coral reefs and oceans and to understand ways to keep our oceans healthy. Finally, we will collect, present, and analyse data on the types of litter polluting a marine environment.

## English

This term we will be looking at: *The Viewer* by Gary Crew and Shaun Tan,

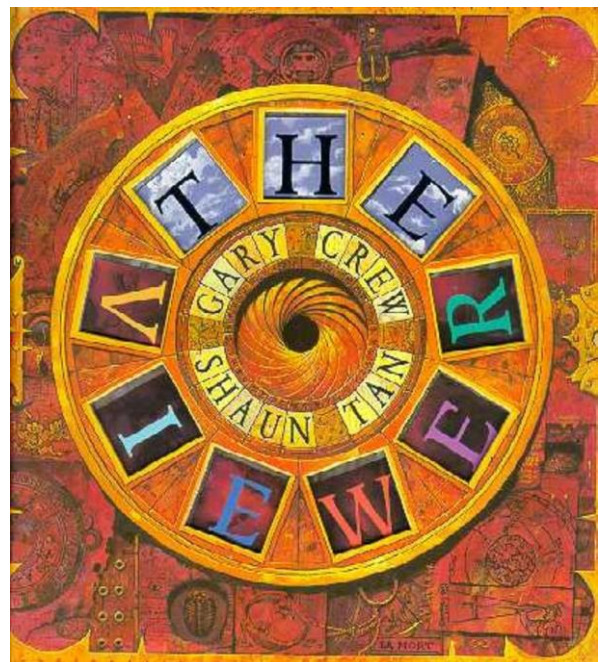
*The Viewer* tells the peculiar story of a boy (Tristan) whose obsession with curious artefacts leads him to discover a strange box at a dump site. It proves to be an ancient chest full of optical devices, one of which captures his interest; an intricately mechanical object which carries disks of images; scenes of destruction, violence, and the collapse of civilisations throughout time. Tristan is afraid, but also cannot help but look into the machine time and time again as the images shift and change...

### Overall aims of this teaching sequence.

- To explore, interpret and respond to illustrations in a book.
- To enjoy a story and discuss its meanings.
- To build an imaginative picture of a fantasy world, based on real life experiences.
- To explore these through role play and through writing in role.
- To write own stories based on the story read from another character's point of view.

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

- Writing in role
- Letter writing
- Poetry
- Narrative writing
- Information text writing
- Note writing
- Newspaper report
- Personal research
- Autobiography
- Argument

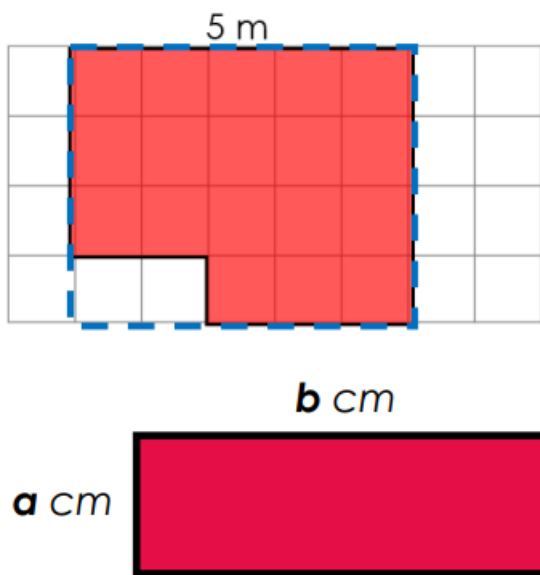
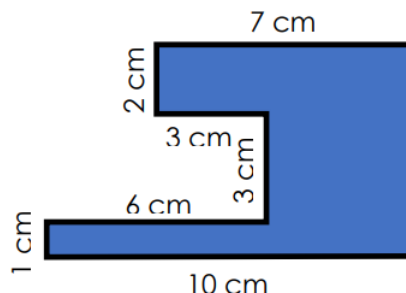


# Maths

## Perimeter and Area

- L1 = Calculate and measure perimeter

Pupils review what perimeter is and find the perimeter of 2-D shapes, before moving on to composite rectilinear shapes. As there are different ways to calculate the perimeter of the same shape, pupils should explore and make connections between these. This provides an opportunity to consolidate mental calculation strategies.

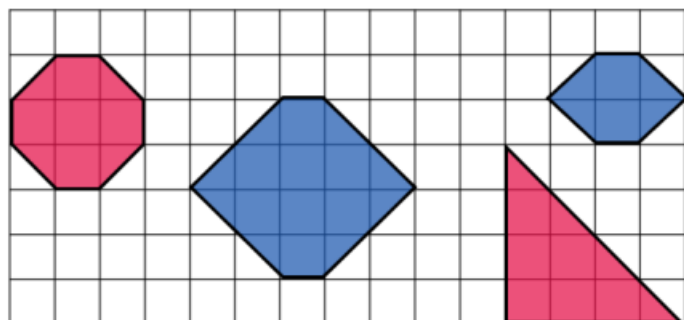


- L2 = Calculate the area of rectangles
- L3 = Calculate the area of rectilinear shape

Pupils build on the work from Year 4 where area was introduced as a measure of surface and connected to multiplication and arrays. Encourage pupils to generalise this relationship and express that area = length  $\times$  breadth. Building on this, pupils compare and contrast different strategies for calculating the area of composite rectilinear shapes. This includes partitioning the shape in different ways and finding the area of a larger rectangle and subtracting the missing section.

- L4 = Compare the area and perimeter of rectilinear shapes

Investigating the relationship between the value of the perimeter and area is interesting as pupils may feel that these should be related, but generally there is no direct relationship, which may be something of a surprise. Pupils are encouraged to test out conjectures, look for patterns, and find ways to work systematically. In this lesson, pupils are challenged to express the perimeter and area of a rectangle using algebraic notation.



- L5 = Calculate the area of non-rectilinear shapes

Pupil will have opportunities to imagine and visualise rectangles within non-rectilinear shapes (e.g. a triangle). Pupils record the area of these rectangles and then count the remaining whole squares and then part squares within the shapes. Afterwards, pupils work with more challenging shapes with


curved sides, which involve more complex decisions when deciding on an estimate for area.

## Fractions and Decimals

- L1 = Recognise different interpretations of fractions
- L2 = Represent fractions

Fractions are complex and can be interpreted in different ways; use the first lesson as an opportunity to explore various interpretations and assess pupils' understanding. In lesson 2, Cuisenaire rods provide further opportunity to explore, reason and deepen pupils' understanding of fractions.

A fraction can be part of a whole.

- What fraction of this shape is shaded? 

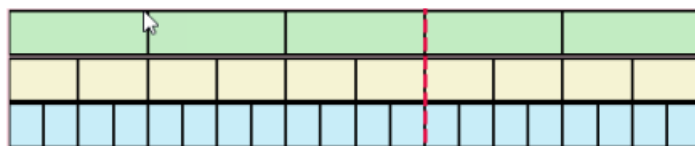
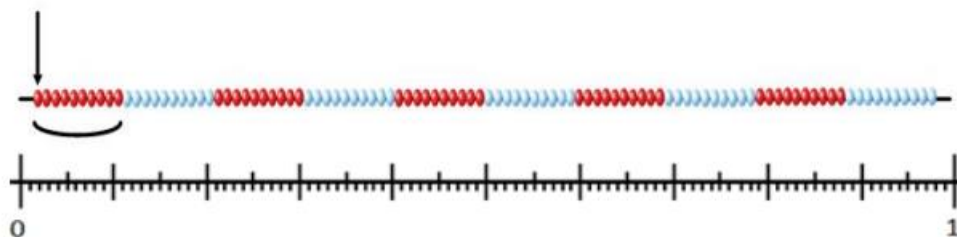
A fraction can be part of a set.

What fraction of the stars is shaded?



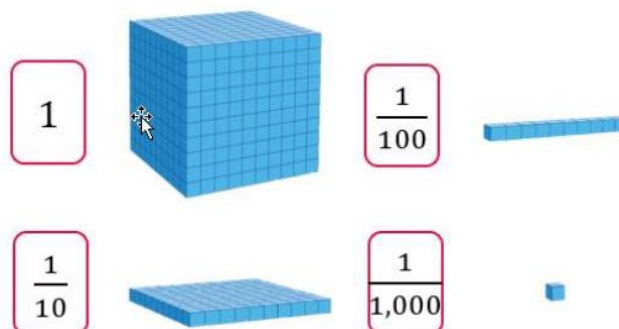
- L3 = Identify, name and write equivalent fractions
- L4 = Equivalent tenths and hundredths
- L5 = Compare and order fractions

Pupils explore equivalent fractions including equivalents for tenths and hundredths. Experiences with equivalent fractions should go beyond multiplying the numerator and denominator by the same value. The focus should be on identifying different relationships between and within fractions, noticing patterns and allowing pupils to make connections to multiplication and division.

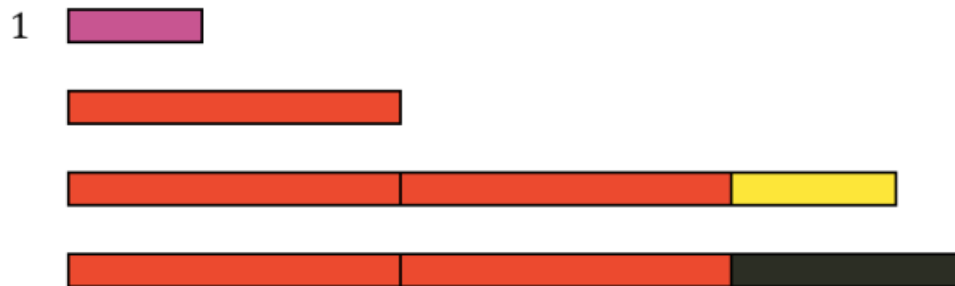


- L6 = Read and write fractions as decimals
- L7 = Relate thousandths to tenths and hundredths
- L8 = Compare and order fractions and decimals

Year 5 is the first-time pupils will explore thousandths. Dienes blocks are assigned new values (see above) and are used to represent and connect fractions and decimals. Pupils explore the relationship between thousandths, tenths and hundredths. Draw attention to connections between decimal place value and whole number place value. Pupils should then have opportunity to compare both decimals and fractions by placing them on a number line, explaining their choices and generating statements of inequality.



The length of the pink rod is one.  
 What are the lengths of these rows of rods?



- L9 = Recognise mixed numbers and improper fractions

So far, the focus has been on fractions that are less than one. This lesson reviews learning from Year 4, providing opportunities to explore

mixed numbers and improper fractions using Cuisenaire. Connections should be made to decimal numbers greater than 1. Inequality statements are explored and pupils should be encouraged to use Cuisenaire to support an explanation of how they know they are correct.

- L10 = Consolidation lesson
- L11 = Read, write and order numbers with up to three decimal places
- L12 = Round decimals

Pupils explore the value of each digit within decimal numbers, using place value counters. Connections should be made to whole number place value. Number lines are the chosen representation because it supports pupils in understanding relationships between numbers. Again, connections should be made to previous learning of rounding whole numbers.

Tens	Ones	•	tenths	hundredths	thousandths
1	5	•	0	2	3
1	5		2	3	



- L13 = Solve problems involving fractions and division
- L14&15 = Consolidation lessons

Pupils explore division problems in context, connecting short division with place value counters to fractions. Pupils recognise that remainders can be written as a decimal and are encouraged to record answers in more than one way to show their understanding.

