

# Year 5 Maths Knowledge Organiser - Summer 2



Key Vocabulary
negative
positive
metric
pints
estimate
mass
litre
convert
volume
cubic measures
volume
capacity

### Negative Numbers

If you count backwards from zero, you reach negative numbers.

**Positive** numbers are any numbers **more than** zero e.g. 1, 2, 3, 4, 5.

**Negative** numbers are any numbers **less than** zero e.g. -1, -2, -3, -4, -5.

Negative numbers    Positive numbers

The number line shows that -5 is smaller than -1.

Negative numbers are often shown vertically such as on thermometers.

When we add a positive number to a negative number, we count upwards towards zero.  
-2 + 5 = 3

When we subtract a positive number from a negative, we count down away from zero.  
-1 - 3 = -4

### Converting Mass

1000g = 1kg

$\frac{1}{10}$ kg = 0.1kg = 100g

$\frac{1}{4}$ kg = 0.25kg = 250g

$\frac{1}{2}$ kg = 0.5kg = 500g

$\frac{3}{4}$ kg = 0.75kg = 750g

kg  $\xrightarrow{\times 1000}$  g  $\xrightarrow{\div 1000}$  kg

### Converting Capacity

1000ml = 1 litre

$\frac{1}{10}$ l = 0.1l = 100ml

$\frac{1}{4}$ l = 0.25l = 250ml

$\frac{1}{2}$ l = 0.5l = 500ml

$\frac{3}{4}$ l = 0.75l = 750ml

$\frac{1}{100}$ l = 0.01l = 10ml

l  $\xrightarrow{\times 1000}$  ml  $\xrightarrow{\div 1000}$  l

### Converting Length

1000 metres = 1 kilometre

100cm = 1m

10mm = 1cm

$\frac{1}{10}$ km = 0.1km = 100m

$\frac{1}{4}$ km = 0.25km = 250m

$\frac{1}{2}$ km = 0.5km = 500m

$\frac{3}{4}$ km = 0.75km = 750m

Approximate conversion between <b>imperial</b> and <b>metric</b> units					
inch	cm	pound	kg	pint	ml
1	2.5	1	0.5	1	0.6

### Volume and Capacity

Volume is the amount of physical space that something takes up. Capacity is the maximum amount that a container can hold.

The capacity of the jug is 2.5 litres.

The volume of the water in the jug is 1.75 litres.

### Measure Volume

Volume is measured in cubic units because it is a measure of three dimensions (length, width and depth). We can use 1cm<sup>3</sup> blocks to build shapes and count them to find their volume.

The volume is 9cm<sup>3</sup>.

The volume is 13cm<sup>3</sup>.

### Compare Volume

By exploring volume with cubes, we can see that different shapes can have the same volume. For example, these shapes have the volume 12cm<sup>3</sup>.

is equal to

We can also compare shapes with different volumes.

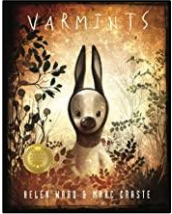
14cm<sup>3</sup> is greater than 13cm<sup>3</sup>

Minute
1 minute
60 seconds
Hour
1 hour
60 minutes
Day
1 day
24 hours
Week
1 week
7 days
Fortnight
1 fortnight
2 weeks
Year
1 year
365 days
Leap Year
1 leap year
366 days
Decade
1 decade
10 years
Century
1 century
100 years
Millennium
1 millennium
1,000 years



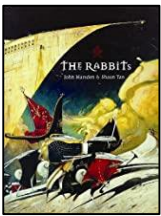


## Core Texts



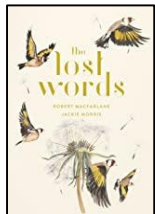
### Varmints

Helen Ward & Marc Craste



### The Rabbits

John Marsden & Shaun Tan



### The Lost Words

Robert Macfarlane & Jackie Morris

## Playing with Words

**Varmints** is written in lyrical prose. Whilst the writing is **concise**, vocabulary and grammar are selected very carefully to create vivid imagery and to have maximum impact on the reader:

- Poetic devices, such as simile, metaphor, personification, onomatopoeia and alliteration, enhance meaning and emotion.
- Nouns are expanded to create rich detail and to convey complicated information concisely.
- Powerful verbs add descriptive detail and enhance meaning.

**The Rabbits** is told as a **recount** from a collective, first-person viewpoint ('we').

**Tension** builds across the text as the rabbits grow in numbers and gain control of the land.

The only **detailed descriptive imagery** is of memories of the elements of nature that were lost when the rabbits came.

**The Lost Words**, is a collection of poetry celebrating the natural world. In **acrostic poems**, the first letter of each line spells out a word that is the subject of the poem. **Kennings** (two-word phrases (often hyphenated) used in place of a noun) feature heavily, also creating vivid imagery for the reader/listener. Words are carefully selected and ordered to create rhythm through pattern and pace. **Repetition** of the same word or consonant pattern in quick succession contributes to rhythm.

## Features of a Persuasive Text

**Persuasion** can come in many different forms and text types (e.g. letters, leaflets, posters, speeches, adverts, brochures)

**Persuasive texts** are designed to convince someone of a particular way of thinking. A range of specific techniques and devices are used in persuasive speech and writing:

**Rhetorical questions** are used to get the reader thinking about the part **they** can play in the issue in question.

**Repetition** ('day after day after day'), **alliteration**, and the **'power of 3'** ('reduce, reuse, recycle') can all be used to emphasise key points.

The reader is often **directly addressed** to make them consider their own actions/ the personal impact they can have.

**Flattery** can be used to get the reader onside (e.g. someone as intelligent as yourself can surely see....)

**Exaggeration** or **hyperbole** can be used to shock or impress the reader (e.g. the best/worst in the world)

**Imperative verbs** demand that the reader takes action (e.g. Do it now! / Stop this!).





Key Vocabulary	
<b>asteroid</b>	pieces of rock (smaller than a planet, larger than a meteoroid) that orbit the Sun
<b>axis</b>	an imaginary pole that goes straight through the centre of the Earth (or another object) that it rotates around
<b>celestial body</b>	a word to describe anything that exists in space, including stars, planets, moons and asteroids
<b>comet</b>	icy chunks of rock that travel through the solar system, often with a tail
<b>galaxy</b>	a group of millions of stars and their respective solar systems
<b>meridian</b>	the vertical lines that split the Earth into 24 time zones
<b>moon</b>	a natural body (usually rock) that orbits a planet
<b>satellite</b>	any object – natural or manmade – that orbits a planet (e.g. moons or manmade International Space Station)
<b>universe</b>	everything that exists in space, including galaxies and the solar systems within them

### The Universe

The **universe** is made of many **galaxies**.

The **galaxy** we live in is called the Milky Way. It contains our **solar system**.

### The Solar System

Our **solar system** contains a **star** (the Sun) and eight **planets** (including Earth).

**Rocky planets:**

- **closer** to the Sun
- generally **smaller** than gas planets
- **solid surface**
- **no rings**

**Gas planets:**

- further away from to the Sun
- generally **bigger** than rocky planets
- **no solid surface**
- have **rings** (Saturn has rings we can see; Jupiter, Uranus and Neptune have rings we cannot see)

### Orbits

The Sun is at the centre of our solar system. This is known as the **heliocentric model**. The Earth orbits the Sun. It takes 365 ¼ days to do this. The Moon orbits the Earth. It takes 28 days to do this.

### Rotations

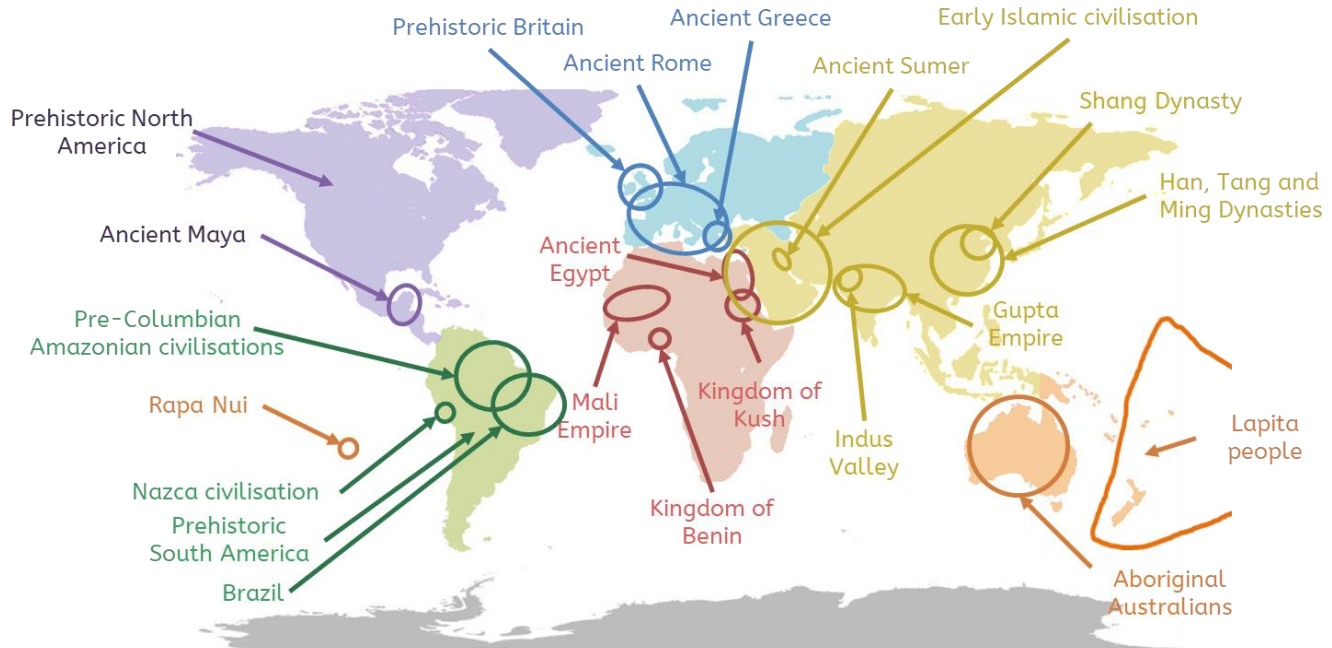
Light from the Sun travels in straight lines, so only one half of the Earth can be in daylight at one time. The Earth rotates on its axis (spins) once every 24 hours. This means we have 12-hour days and 12-hour nights.



# Year 5 History Knowledge Organiser - Summer 2



Key Vocabulary	
<b>exploit</b>	to take advantage of, or to use something in an unfair way
<b>hunter-gatherer</b>	a person whose main way of getting food is to hunt animals and gather fruits and herbs
<b>impose</b>	to force something on someone else
<b>irrigation</b>	a system where water is transported from a river to a field with crops
<b>hieroglyph</b>	a picture that represents a word or sound
<b>plough</b>	a tool that is used before planting seeds, which helps crops to eventually grow
<b>spiritual</b>	relating to religious belief; something that is not physical
<b>trepanning</b>	a process in which a hole is drilled into someone's skull to treat them for a disease



## Ancient Egypt

The ancient Egyptian empire existed around the Nile for thousands of years. They are the most famous African civilisation from this time.



## Maya civilisation

The historical Maya civilisation lived 1800 BC – AD 900 in central America (and Maya people continue to live there today). They lived in city-states and shared many similarities with civilisations on other continents.



## Lapita people

The Lapita people were the first to live in the islands west of Australasia in the Pacific Ocean (Polynesia, Micronesia and Melanesia, including islands like Fiji, Tonga and Samoa), having set sail from Taiwan ~2000 BC.



## Han, Tang and Ming dynasties

The Han, Tang and Ming dynasties were some of the main dynasties of China in the period 700 BC – AD 1500. In the first half of this period, the Great Wall of China was built (link to other walls built in the engineering theme). In the second half of this period, several discoveries were made such as printing, paper, and the magnetic compass.

