Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word Processing with Google Docs

Key Learning

- To know what a word processing tool is for.
- To add and edit images to a word document.
- To know how to use word wrap with images and text.
- To change the look of text within a document.
- To add features to a document to enhance its look and usability.
- To use the sharing capabilities in Google Docs.
- To use tables within to present information.
- To introduce children to templates.

Key Resources

purple mash

2Connect

Google Docs

Key Questions

What is a word processing tool used for?

A word processing tool is used to create, edit and print off a document. This can contain text, images, tables or charts. Documents are a type of file that portray information.

What features can you use to make a document more readable?

You can change the font format to give the document a theme and make it more readable. By changing the paragraph formatting, you can ensure the words are spaced evenly. You can add images and use text wrapping to ensure they are positioned well on the page.

How do you successfully add an image to a document?

If you have an image saved onto your computer, you click on insert – pictures – insert image from this device. You can resize and move the image and ensure it fits well on the page by changing the text wrap setting.

Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word Processing with Google Docs

Key Vocabulary

Copyright
When an image, logo or idea has a legal right to not be copied or used without the owner's permission.

Cursor
The flashing vertical line that shows your place in a document.

Document
A type of file which shows written information and/or images and sometimes charts and tables.

Font
A set of type which shows words and numbers in a particular style and size.

In-built styles
A bank of ready-made styles which you can use to make sure your style (font, headers, spacing, size etc) is consistent throughout the document.

Merge cells
A tool you can use when making a table to join cells which are next to each other in columns or rows.

Paragraph formatting
When you change the format of the text in a paragraph, including how the text is aligned and spaced.

Readability
How easy and pleasant it is to read and understand a document.

Template
A ready-made outline of a document you might want to adapt, such as a letter or certificate.

Text formatting
When you change the format of text on a page, including the font and the size and whether it is bold, underlined or in italics.

Text wrapping
A feature which helps you place and position an image neatly on a page or within a paragraph of text.

Textbox
A way to include text in a position that you want out of the usual flow of the document.

Word Processing tool
A programme which allows you to write, edit and print different documents.

Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word processing with Google Docs

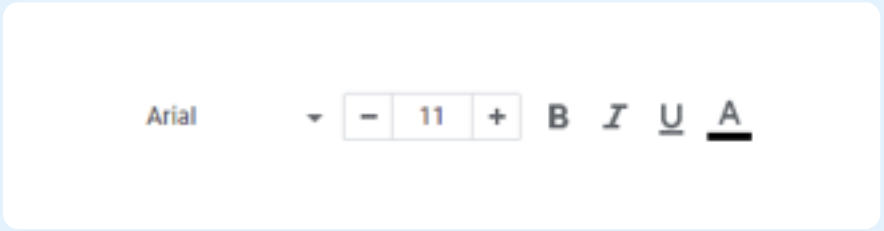
Key Images

Open a new document

Access sharing options

Return to docs home

Undo key

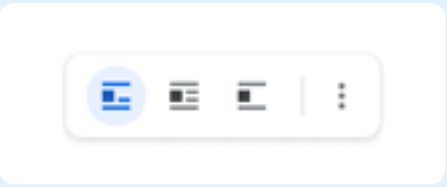


Text formatting

Text Alignment

Insert image

Crop image



Text wrapping

Clear formatting

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Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word Processing with Microsoft Word

Key Learning

- To know what a word processing tool is for.
- To add and edit images to a word document.
- To know how to use word wrap with images and text.
- To change the look of text within a document.
- To add features to a document to enhance its look and usability.
- To use tables within MS Word to present information.
- To introduce children to templates.
- To consider page layout including heading and columns.

Key Resources

purple mash

2Connect

Microsoft Word

Key Questions

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Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word Processing with Microsoft Word

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Text formatting
When you change the format of text on a page, including the font and the size and whether it is bold, underlined or in italics.

Text wrapping
A feature which helps you place and position an image neatly on a page or within a paragraph of text.

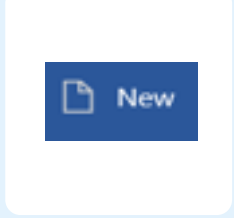
Word Art
A way to treat text as a graphic so that you can add special effects to text.

Word Processing tool
A programme which allows you to write, edit and print different documents.

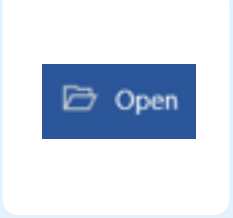
Purple Mash Computing Scheme of Work: Knowledge Organisers

Unit: 5.8
Word Processing with Microsoft Word

Key Images



Open a new document



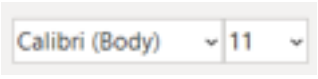
Open an existing document

Save your work

Undo key

Insert a table

Text wrapping

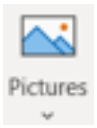


Font Category

Design tab where you can change the style of the document

Insert tab where you can add an object such as a picture or table

Home tab where many editing tools are found



Insert a picture

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Subject: English

Unit: Recount

Learning outcomes

1. To recognise features of recounts.
2. To use tense appropriately.
3. To use short sentences to build tension.
4. To write in first person.
5. To write in the style of Maz Evans.

Features of a recount

Introduction paragraph briefly covers who, what, where and when about the event.

First or third person, depending on whether the writer was present.

Past tense is used (except if links to present/future are made in the conclusion).

Named, **specific people**, places and things are described.

Time conjunctions, usually in chronological order.

Quotations from witnesses/people who were there.

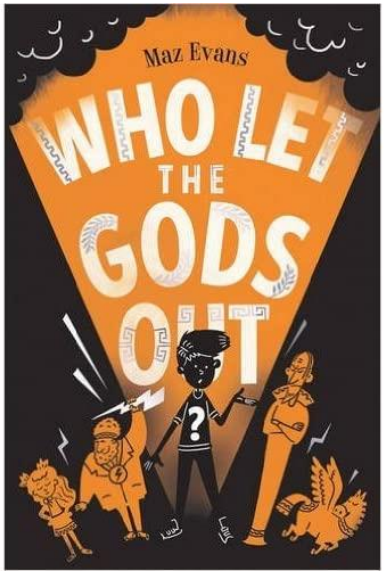
Concluding paragraph links back to the introduction.

Explanation of why the events were **significant** and to whom.

Extra details about how and why the event happened in main paragraphs.

Personal recount uses stronger language, including description of emotions.

Impersonal recount is more factual and direct.



How to write a recount

Write your recount in the first person because it happened to you! Eg "I felt excited."
Use the past tense because it has already happened. Eg "It was the biggest fish I had ever seen!"
Recounts are written in the order in which they happened. This is called chronological order. Use adverbs such as: firstly, next, then and finally.
Using descriptive words will make it seem like your reader is there with you. Eg "The fish was shiny and slippery." Focus on the most exciting parts.

Books to read alongside this unit of work:

Beasts of Olympus series – Lucy Coats

Goddess Girls – Joan Holub

Percy Jackson – Rick Riordan

Argos – Ralph Hardy

Book of Greek Myths – Ingri d'Aulaire

Gifts from gods – Lise Lunge-Larson

Subject: English

Unit: Non-Chronological Report

Learning outcomes

1. To recognise features of a non-chronological report
2. To write at length about the continent of Asia.
3. To include a range of parenthesis in writing.
4. To use a range of cohesive devices.
5. To use a range of devices to organise and present information.

Features of a non-chronological report

Topic title covers the whole subject.

Brief **introduction paragraph** gives who/what/where overview.

The information is organised into **paragraphs**.

Each category has a **sub-heading**.

Some information may be in **fact boxes or bullet-point** lists.

Extra details support the main points.

Non-chronological reports use **factual language.**

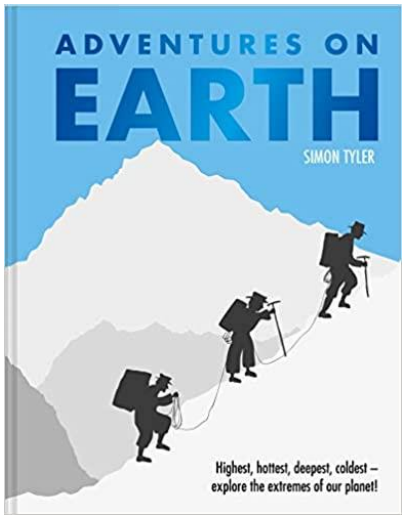
Present tense verbs (unless it is a historical report, then it would be past tense).

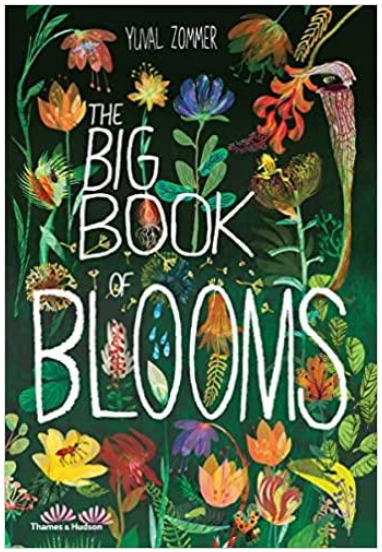
Technical language may be explained in a glossary.

Third person makes it impersonal.

Non-chronological reports have a **formal tone.**

General language, not particular examples.





What is a non-chronological report?

A non-chronological report is a text which isn't written in time order. They are normally non-fiction texts which give information on a subject or event, without referring to the order in which things happen.
There are several different kinds of nonchronological report. These include:

- Information leaflet
- Instructions
- Newspaper report or magazine article
- Formal letter
- Non-fiction book

Generally, non-chronological reports should cover a single topic or theme. Any report which mixes different topics can easily become confused and incoherent.

Books to read alongside this unit of work:

Big book of blooms – Yuval Zommer

Great rivers of the world – Volker Mehnert

Mountains (World of Wonder) – Charlotte Guillain

Explorers: Amazing tales of the World's greatest adventurers – Nellie Huang

Subject: Geography

Topic: Asia, volcanoes and mountains.

Unit overview

This unit is designed to expand pupils locational and place knowledge as well as their understanding of human and physical geography by studying mountains, earthquakes, and volcanoes through the continent of Asia. Pupils will start by looking at the physical geography of Asia as a whole exploring the different types of land and climate across Asia. Pupils will then look at the human geography of Asia as whole identifying the countries that are within Asia and the diverse range of people and cultures within them. Pupils will then explore some of the most significant borders of Asia recognising that some are manmade, and some are natural. As the unit progresses, pupils will learn about tectonic plates, identifying the four layers that make up the Earth, how continental drift created the continents and the different plate boundaries and their movements. Understanding the movement of the plate boundaries creates the foundation for understanding how mountains and volcanoes form and how earthquakes occur.

Key Vocabulary

Inner core	**The centre and hottest part of the Earth**
Outer core	The layer surrounding the inner core
Mantle	The widest section of the Earth made of magma and rock.
crust	outer layer of the earth
summit	the top of the mountain.
Magma chamber	a collection of magma inside the Earth, below the volcano.
Main vent	the main opening for the magma to escape.
Secondary vent	smaller openings, usually at the sides of the volcano, where magma escapes
Crater	created after an eruption blows the top off the volcano.
lava	Magma turns to lava when it hits the Earth's surface
Hypocentre	The point where an earthquake starts below the Earth's surface
Epicentre	Where the earthquake is the strongest
Seismic waves	Energy that is released from an earthquake
aftershock	a smaller earthquake that happens in the same area after the main earthquake.

Learning outcomes

1. **I will be able to name key physical and human features of Asia.**
2. **I will understand what tectonic plates are.**
3. **I will be able to discuss how a volcanic eruption takes place.**
4. **I will know what happens during an earthquake**
5. **I will be able to understand the impact a natural disaster has.**

Key Facts/dates – Sticky Knowledge

The Himalayas are the tallest mountains in the world. This mighty range stretches 1,500 miles from east to west, across Bhutan, Nepal, India, Tibet, China, Pakistan, and Afghanistan.

Anak Krakatoa means "Child of Krakatoa". It grew from the remains of Krakatoa, whose eruption in 1883 was one of the deadliest volcanic eruptions of modern history. It is estimated that more than 36,000 people died.

Asia is the largest of the seven continents on Planet Earth in area and population. Asia borders Africa and Europe to the west and the Pacific Ocean to the east.

The Yangtze River is also called the Chang Jiang. It is the longest river in Asia, and the third longest in the world. The river is one of the busiest in terms of traffic. Ships use it to transport coal and manufactured goods. Passenger ships also use the river, and Yangtze River cruises are become quite a big tourist attraction.

The Earth's lithosphere is made up of large pieces called tectonic plates. They are invisible boundaries. Most tectonic activity takes place where these plates meet. They collide, tear apart, or slide against each other. Earthquakes and volcanic eruptions happen at the boundaries between plates, and the crust may 'crumple' to form mountain ranges.

Books linked to topic you may wish to read:

Mountains of the world – Dieter Braun

The firework maker's daughter – Phillip Pullman

Everest – Sangma Francis

Subject: History

Topic: The Industrial Revolution

Unit overview

This unit is designed to explore the Industrial Revolution between 1750 – 1900. Lesson one begins by explained what the Industrial Revolution was, outlining the six factors that caused it and how they shaped the modern world we live in today. The rest of the unit goes into the six factors in more detail. Lesson two explores what the British Empire was and how important the colonies were in supplying Britain with raw materials. In this lesson, pupils will come to understand that there were many inventors who developed great machinery which revolutionised industry but that these inventors made their money by either being directly involved in slavery/slave trading or indirectly gaining from the exploitation in pricing and transportation of cotton. Lesson three outlines the journey of the textile industry from wool produced by hand to cotton produced in factories powered by water. This lesson also explores how children were used in the factories as cheap labour and the terrible conditions they experienced. Lesson four describes the most important change in power – steam. This lesson explains the journey of the steam engine: who invented the first one, what it was used for and how the original was developed to be faster and more efficient by using less fuel and ultimately leading to machines like the first locomotive being built.

Key Vocabulary

agriculture	the practice of farming including development of soil, growing of crops and looking after animals
colonies	a country or area under the full or partial political control of another country. People from the country in control also settle there
industrial	a built up area of factories and industry
revolution	a process of change
rural	an area of the countryside
merchants	a person or company involved in general trade, especially one dealing with foreign countries or supplying goods to a particular trade

Learning outcomes

1. **I will be able to name significant people and places from the Industrial Revolution.**
2. **I will be able to discuss how transport has changed over time.**
3. **I will understand the importance of the British Empire for trade.**
4. **I will know what life was like during the Industrial Revolution.**
5. **I will know the importance of steam, iron and coal and the impact they had.**

Significant People and Places

Richard Arkwright	James Watt	Humphry Davy	James Brindley
Richard Arkwright opened the first cotton spinning mill using his invention of the water frame. Although mill owners may not have had direct links with the slave trade, they will have indirectly gained from their exploitation in pricing and transportation of cotton.	James Watt improved the steam engines. They would power new mills and transport. Despite his great engineering ability, we now know that Watt's early career included the trafficking of enslaved Africans.	Humphry Davy created a safety lamp to keep coal miners safe from explosions caused by gas in the mines.	James Brindley was one of the early canal engineers who worked on some of the first canals. He played an essential role in shaping the way canals were built during the Industrial Revolution.

Significant People and Places

Manchester	Ironbridge	Bridgewater canal	Rhondda Valley
Manchester was nicknamed 'Cottonopolis' because of its cotton industry. The number of cotton mills rose dramatically in a very short space of time: from 2 in 1790 to 66 in 1821.	The world's first iron bridge was erected over the River Severn at Coalbrookdale in 1779. Abraham Darby used a blast furnace and coke as a fuel to produce wrought iron. His son went on to build the Ironbridge.	The Bridgewater canal was the first canal to link cities and towns together. Important industrial cities like Manchester and Liverpool were able to transport goods, like coal and iron, easily and cheaply using the canal.	South Wales was the world's biggest producer of iron. Later, a third of the world's coal was mined in areas like the Rhondda Valley and much of the local population was employed in these industries.

Key Facts/dates – Sticky Knowledge

Between 1750 and 1900, the population of Britain grew by four times, from 10 million people to 40 million people.

Agriculture became more efficient in order to feed the growing population using advances such as improved crop rotation, selective breeding of animals and new machinery.

Factories began to be built in cities to produce goods at a far faster rate than before. A factory could produce huge amounts textiles quickly: useful for clothing the increasing population and as trade goods.

Books linked to topic you may wish to read:

Cogheart – Peter Bunzl

Street Child – Berlie Doherty

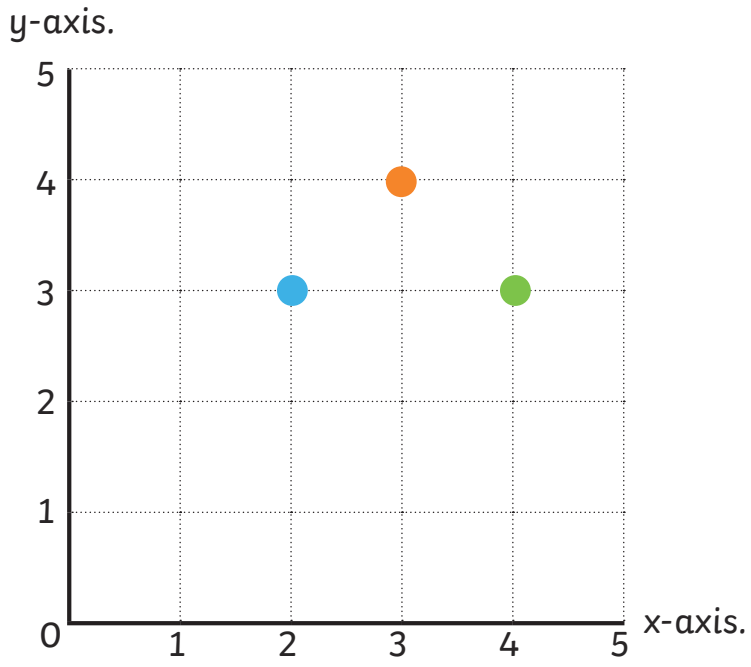
Son of the circus (A Victorian story) – E L Norry

Position and Direction

Knowledge Organiser

Key Vocabulary

- coordinate
- quadrant
- x-axis
- y-axis
- reflection
- mirror line
- translation
- horizontal
- vertical



Coordinates are a useful way to locate a position on a map or grid.

The numbers across the horizontal line of the grid are on the **x-axis**.

The numbers on the vertical line of the grid are on the **y-axis**.

We always read or write the number on the x-axis before the y-axis.

The x and y position are written in brackets with a comma.

The coordinate of the orange spot is **(3, 4)**.

To help you remember which point to read or write first, simply remember to move 'along the corridor and up the stairs'.

In other words, move on the **x-axis** and then move on the **y-axis**.

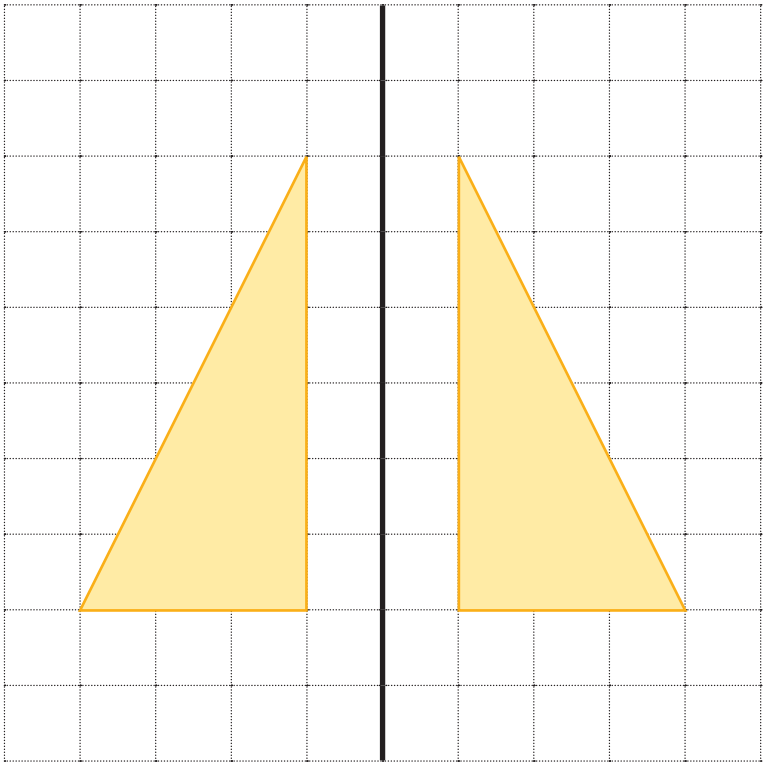
Position and Direction

Knowledge Organiser

Reflection

A shape is reflected when is flipped over a mirror line.

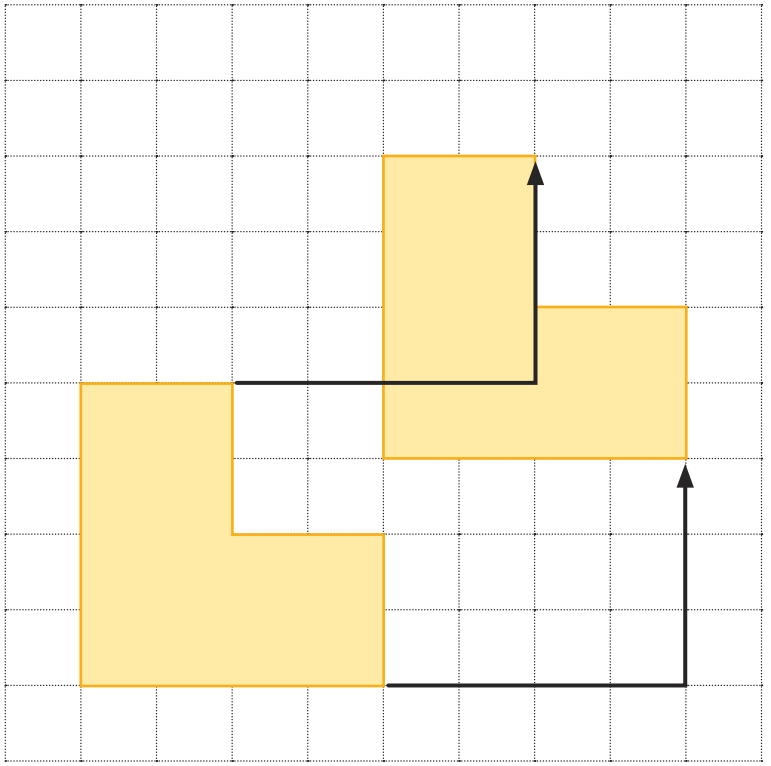
The reflected image is congruent to the original. This means that the measurements of the sides and angles have not changed. Each point of the reflected shape is the same distance from the mirror line as the original shape.



Translation

In maths, translation means moving an object on a grid. The object is moved without changing the size, turning or reflecting it.

When translating an object on a grid, it can move up or down, left or right.

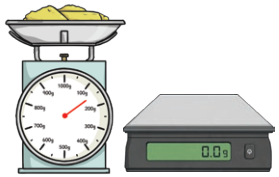


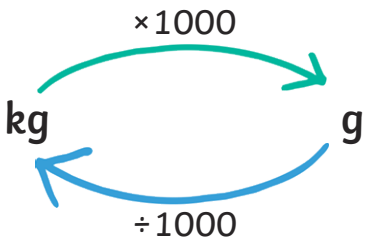
Converting Units — Knowledge Organiser

Key Vocabulary

- mass
- gram
- kilogram
- capacity
- volume
- millilitre
- centilitre
- litre
- millimetre
- centimetre
- kilometre

Converting Mass





1000g = 1kg

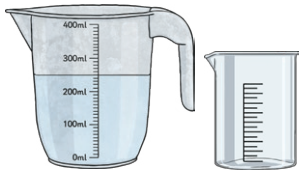
$\frac{1}{10}$kg = 0.1kg = 100g

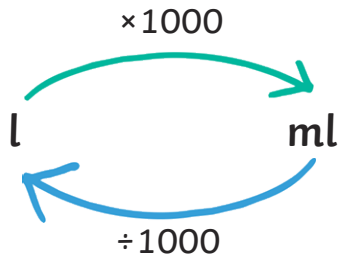
$\frac{1}{4}$kg = 0.25kg = 250g

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

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

Converting Capacity





1000ml = 1 litre

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

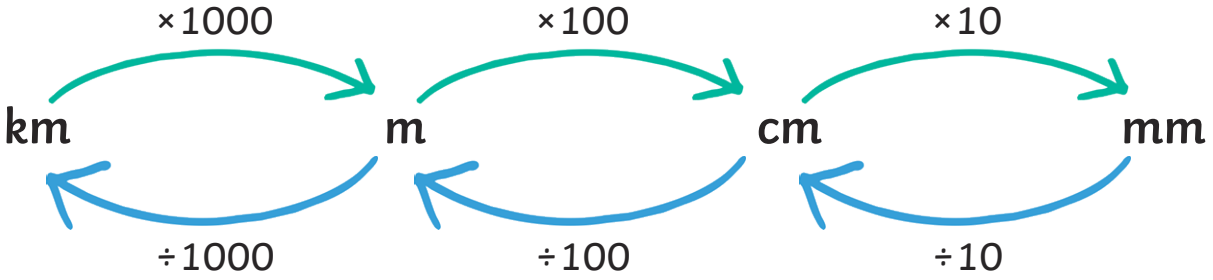
$\frac{1}{4}$l = 0.25l = 250ml

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

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

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

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

Converting Units

Knowledge Organiser

Units of Time

Minute

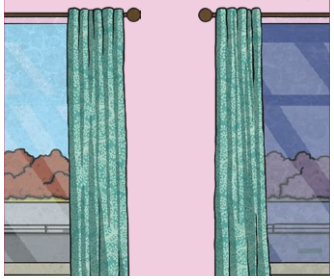
1 minute = 60 seconds

Hour

1 hour = 60 minutes

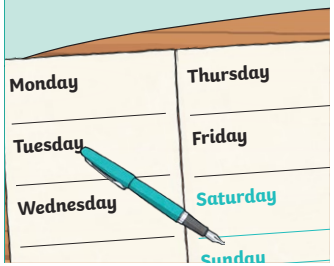
Day

1 day = 24 hours



Week

1 week = 7 days



Fortnight

1 fortnight = 2 weeks

Month

January = 31 days
February = 28 days (29 on a leap year)
March = 31 days
April = 30 days
May = 31 days
June = 30 days
July = 31 days
August = 31 days
September = 30 days
October = 31 days
November = 30 days
December = 31 days

Year

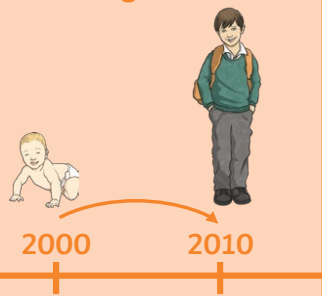
1 year =
12 months =
52 weeks =
365 days

Leap Year

1 leap year =
366 days

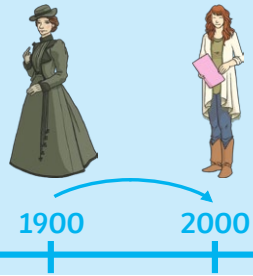
Decade

1 decade =
10 years



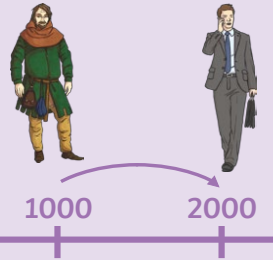
Century

1 century =
100 years



Millennium

1 millennium =
1000 years



Volume

Knowledge Organiser

Key Vocabulary

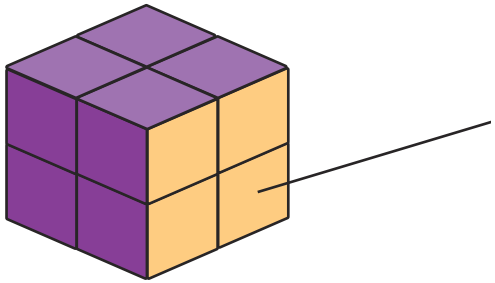
- cubed
- area
- cross-section
- prism
- cube
- cuboid
- face
- length
- height
- width
- depth

Volume of Cubes and Cuboids

Volume is measured in cubed units. For example, **cm³**, **m³** and **km³**.

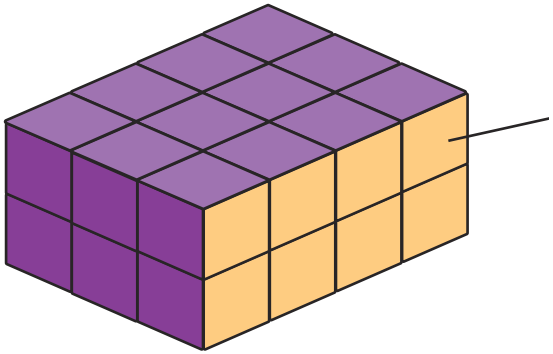
To calculate the volume of cubes and cuboids:

1. Calculate the area of the cross-section (one face).
2. Multiply the area of the cross-section (one face) by its depth.



Area of cross section (face) = 2cm × 2cm = $4cm^2$

$4cm^2$ × 2cm = Volume of $8cm^3$



Area of cross section (face) = 4cm × 2cm = $8cm^2$

$8cm^2$ × 3cm = Volume of $24cm^3$

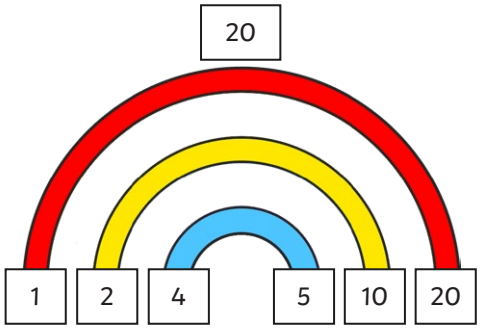
Multiplication and Division — Knowledge Organiser

Key Vocabulary

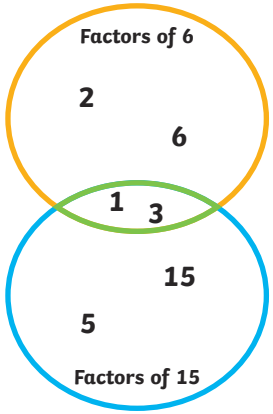
- multiply
- groups of
- lots of
- times
- divide
- share
- remainder
- factor
- multiple
- product

Factors

A factor is a number that divides into another number exactly, without leaving a remainder.



A common factor is a factor of 2 or more numbers.



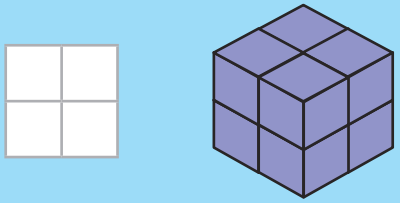
The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:
1 and 20
2 and 10
4 and 5

Prime Numbers

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Squared[2] and Cubed[3] Numbers

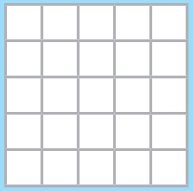


$2^2 = 4$

$2 \times 2 = 4$

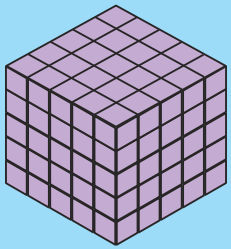
$2^3 = 8$

$2 \times 2 \times 2 = 8$



$5^2 = 25$

$5 \times 5 = 25$



$5^3 = 125$

$5 \times 5 \times 5 = 125$

Related Calculations

$8 \times 9 = 72$

$80 \times 9 = 720$

$9 \times 8 = 72$

$90 \times 8 = 720$

$72 \div 9 = 8$

$720 \div 9 = 80$

$72 \div 8 = 9$

$720 \div 8 = 90$

Multiplication and Division

Knowledge Organiser

Short Multiplication

$2543 \times 7 = 17\,801$

	2	5	4	3
×				7
1	**7**	**8**	**0**	**1**
1	3	3	(2)	

Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.

Long Multiplication

$2543 \times 67 = 170\,381$

		2	5	4	3
	×			6	7
	1 (1)	7 (3)	8 (3)	0 (2)	1
1 (1)	5 (3)	2 (2)	5 (1)	8	(0)
1	**7**	**0**	**3**	**8**	**1**
	1	1			

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Division

$136 \div 4 = 34$

		3	**4**
4	1	3	6
−	1	2	0 → **30** × 4
		1	6
	−	1	6 → **4** × 4
			0

Short Division

		3	**8**
4	1	$^{1}5$	(3) 2

15 ÷ 4 = 3 remainder 3

Remember to regroup any remainders and move them into the next column.

		4	**5**	**5**	**r**	**3**
5	2	2	$^{2}7$	$^{2}8$		

28 ÷ 5 = 5 remainder 3

If your calculation has a remainder, remember to record it in the answer using the letter **r**.

Subject: Science

Topic: Properties and changes of materials

Unit overview

This is the third science unit in Year 5 and it falls mostly into the chemistry sequence of learning but partially also into the physics sequence of learning. Pupils have been learning to compare and group materials since Key Stage 1 and this unit looks closely at the usefulness of certain properties of materials and changes in materials.

The unit begins by reintroducing the idea of materials and their properties, before looking deeper into the properties of conductivity and magnetism. Pupils will then consider reversible changes, beginning with dissolving. Building on Year 4 learning, pupils will consider how materials are affected by changes in states of matter and how these changes are reversible, and can be used practically to extract solute from a solution.

Pupils will then consider the difference between reversible and irreversible changes, and how irreversible changes create new materials. They will have an opportunity to investigate corrosion and neutralisation, and will learn about acids and bases and how the pH scale can be used to distinguish between these.

The unit concludes with two sessions linked to scientists whose work has contributed to the field of materials science, with opportunities to research and provide opinions on whose contribution was most important, and to use their knowledge to design a new or improved material for a particular purpose.

Key Vocabulary

property	a characteristic of a material that makes it suitable for a particular purpose
classify	to sort into groups
solution	a mixture of a solvent and solute
dissolving	the process of mixing a solute in a solvent to form a solution
saturated	when a solution contains the maximum possible amount of solute
mixture	a substance comprised of more than one material, where those materials are not chemically joined
separation	a process of obtaining the constituent parts of a mixture
distillation	the process of purifying a liquid through evaporation and condensation
combustion	the scientific term for burning, an irreversible change producing carbon dioxide and water

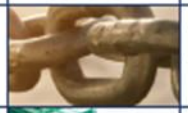
Learning outcomes

1. **I will be able to classify materials.**
2. **I will understand what happens when something dissolves.**
3. **I will be able to separate materials.**
4. **I will know how to make new materials.**
5. **I will be able to recognise factors which impact something dissolving.**

Key Facts/dates – Sticky Knowledge

There are some changes where we can recover the original material. We call these **reversible changes**. With some changes, we cannot recover the original material. There has been a **chemical reaction**, creating new materials.
Where we combine **more than one material**, but those materials are **not chemically joined**, we call it **a mixture**. Mixtures can be separated using a variety of processes.

Materials can be classified based on their properties. Examples include:

Hardness – how resistant it is to a permanent change in shape resulting from a force.		**Buoyancy** – whether or not it floats.	
Strength – how likely it is to fracture under force.		**Conductivity** – how easily it allows heat or electricity to pass through it.	
Transparency – whether or not it allows light to pass through it.		**Elasticity** – how able it is to stretch and return to its original shape.	

Books linked to topic you may wish to read:

The element in the room – Mike Barfield

Once upon an atom – James Carter

Itch -Simon Mayo