St John's C.E. Primary Academy

Life in all its Fullness
John 10:10

Knowledge Organiser

Maths

Unit 1

Place value within 1,000,000

In this unit we will ...

- Find the value of each digit in numbers to 1,000,000
- Partition numbers in different ways
- Compare and order numbers up to 1,000,000
- Represent numbers in different ways, including with Roman numerals

We will need some maths words. Which of these have you met before?

ones (1s) | tens (10s) | hundreds (100s)

thousands (1,000s) | ten thousands (10,000s)

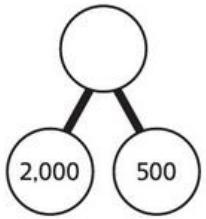
hundred thousands (100,000s) | more than (>)

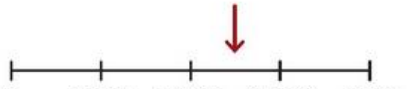
less than (<) | place value | partition | estimate

In Year 4, we used a place value grid and counters to represent numbers. What number does this show?

Th	H	T	O

We will also use part-whole models and number lines. What number do these both represent?





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Knowledge Organiser

Maths

Unit 2
Place value within 1,000,000 (2)

In this unit we will ...

- Further understand the value of any digit in a number up to 1,000,000
- Identify the position of a number on different number lines
- Compare and order numbers to 1,000,000
- Round numbers to the nearest 10, 100, 1,000, 10,000 and 100,000

We will need some maths words. How many of these can you remember?

ones (1s) | tens (10s) | hundreds (100s)

thousands (1,000s) | ten thousands (10,000s)

hundred thousands (100,000s) | million (1,000,000)

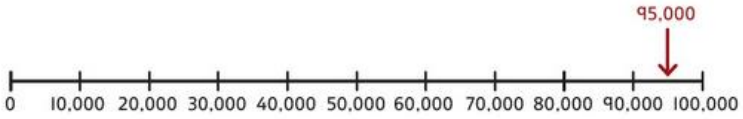
round | order | ascending | descending

less than (<) | greater than (>)

We need to be able to extend the place value grid to include millions.

M	HTh	TTh	Th	H	T	O

We need to be able to use a number line and recognise where each number lies on a number line.



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Maths

Unit 3
Addition and subtraction

In this unit we will ...

- Add and subtract numbers with up to five digits
- Use the column method for addition and subtraction
- Round numbers to estimate answers to problems
- Add and subtract mentally
- Solve problems involving addition and subtraction

We will need some maths words. How many of these can you remember?

add | subtract | ones (1s) | tens (10s)

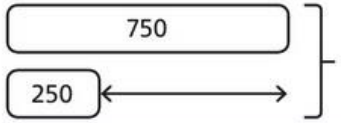
hundreds (100s) | thousands (1,000s)

ten thousands (10,000s) | mentally

inverse | round | estimate

distance chart

What information does this comparison bar model give you? What can you use it to work out?



Laying a calculation out neatly in columns can help us to understand the value of each digit.

	Th	H	T	O
	2	9	1	8
+	3	0	5	9
	5	9	7	7
			1	

Th	H	T	O

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Knowledge Organiser

Maths

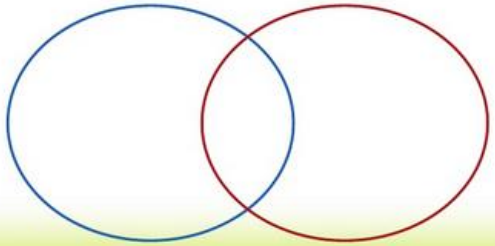
Unit 4 Multiplication and division 1

In this unit we will ...

- Recognise and find multiples and factors
- Recognise and identify prime numbers
- Calculate square and cube numbers
- Multiply and divide by 10, 100 and 1,000
- Multiply and divide by multiples of 10, 100 and 1,000

These are sorting circles. We will use them to help us find factors and multiples.

Factors of 20 Factors of 50



We will need some maths words. Look for the words you do not already know. What might they mean?

prime number | composite number | square number | cube number | square (x^2) | cube (x^3) | lowest common multiple | multiply | divide | multiple | factor

We will use multiplication squares too! They will help us spot patterns in the numbers we learn about!

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

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Knowledge Organiser

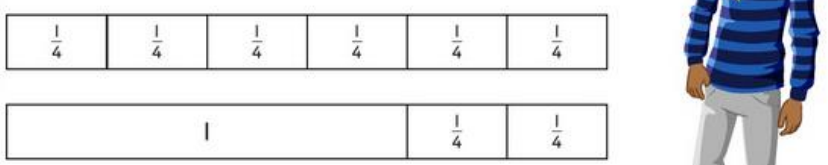
Maths

Unit 5 Fractions 1

In this unit we will ...

- Find and use equivalent fractions
- Convert between improper fractions and mixed numbers
- Compare and order fractions

Do you remember what this model is called? We will use it to represent mixed numbers and improper fractions. Can you tell which is which?



We will need some maths words. Do you know what they all mean? Can you identify and explain the ones you already recognise?

equivalent | numerator | denominator

whole | fraction | improper fraction

mixed number | convert | order

greater than (>) | less than (<) | is equal to (=)

We will need to represent different fractions. What fractions are shown here?

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Knowledge Organiser

Maths

Unit 6 Fractions 2

In this unit we will ...

- Add and subtract fractions with the same denominator
- Add and subtract fractions, including mixed numbers, where one denominator is a multiple of the other
- Solve word problems involving fractions

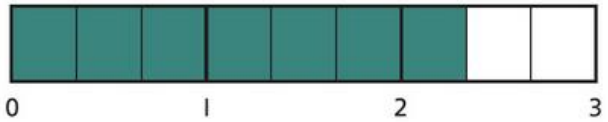
How can you add these two fractions?

$\frac{1}{4} + \frac{3}{8}$

We will need some maths words. Do you know what they all mean?

add | subtract | proper fraction | improper fraction | convert | equivalent fraction | mixed number | denominator | numerator | whole | common denominator

We need to be able to convert between mixed numbers and improper fractions. Use your skills to convert $2\frac{1}{3}$ into an improper fraction.



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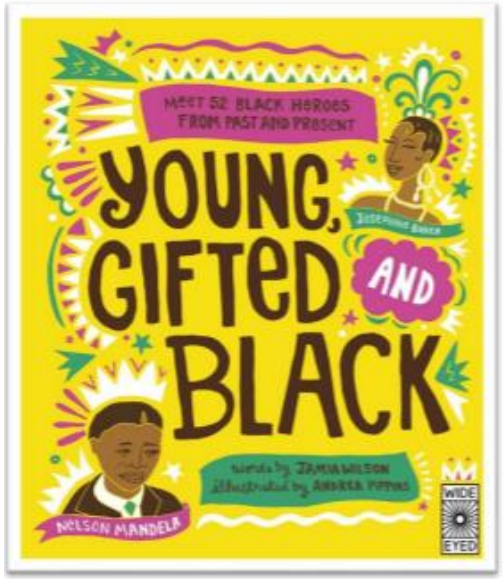
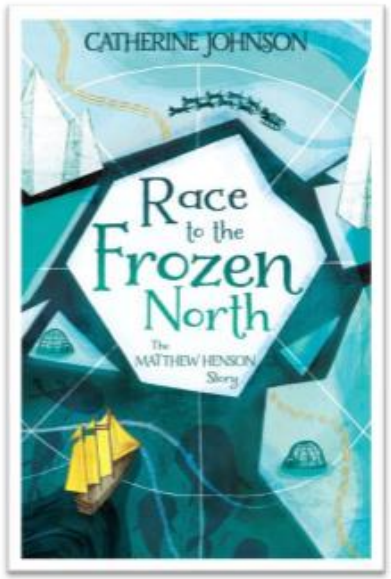
Knowledge Organiser

English

Young, Gifted and Black
by Jamia Wilson
&
Race to the Frozen North: The Matthew Henson Story
by Catherine Johnson





Year 5 *Pathways to Write*: Autumn 1

Outcome: **Recount – Diary**

Writing outcome:
To write a series of diary entries about significant events in Matthew Henson's life.

Greater depth writing outcome:
To write a series of diaries about significant events in Matthew Henson's life including his viewpoint on other characters e.g. *Janey, Captain Childs* or *Commander Peary.*

Pathways to Write keys		
Gateway keys (non-negotiables/basic skills)	Ñ ***Mastery keys*** (year group national curriculum expectations)	***Feature keys*** (vocabulary, manipulating sentences and tense, structure)
• Use punctuation at Y4 standard correctly (full stops, capital letters, exclamation marks, question marks, commas in a list, commas after fronted adverbials, apostrophes for contraction and possession) • Use fronted adverbials • Use a variety of verb forms consistently and correctly • Organise paragraphs around a theme	• **Identify the audience for and purpose of writing** • **Organise paragraphs around a theme with a focus on more complex narrative structures** • **Use commas after fronted adverbials** • **Use commas to clarify meaning or avoid ambiguity in writing**	• Engage reader through use of description, feelings and opinions • Use adverbs and fronted adverbials (with doubt in my mind, anxiously, afterwards) • Use rhetorical questions to engage reader • Use consistent first person • Write in consistent tense including progressive and perfect forms • Include the 5Ws – who, what, where, when, why and how

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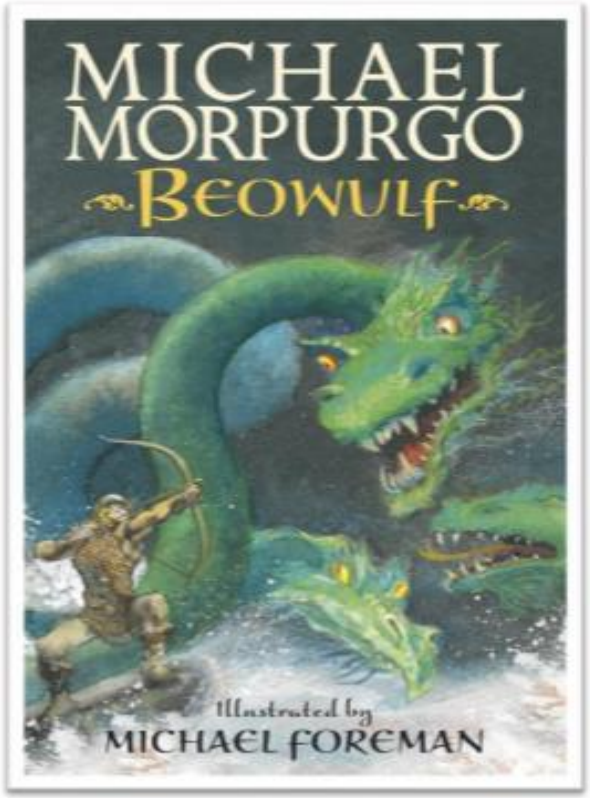
Knowledge Organiser

English

Beowulf

by Michael Morpurgo



Year 5 *Pathways to Write*: Autumn 2

Outcome: Fiction – Legend

Writing outcome:
To write a further adventure for Beowulf.

Greater depth writing outcome:
To write a further adventure for Beowulf, inventing their own monster and incorporating the motives and viewpoint of the monster.

Pathways to Write keys		
Gateway keys (non-negotiables/basic skills)	***Mastery keys*** (year group national curriculum expectations)	***Feature keys*** (vocabulary, manipulating sentences and tense, structure)
• Use punctuation at Y4 standard correctly (full stops, capital letters, exclamation marks, question marks, commas in a list, commas after fronted adverbials, apostrophes for contraction and possession) • Use a variety of verb forms consistently and correctly • Organise paragraphs around a theme • Use a range of sentences with more than one clause (when, if, because, although)	• **Use expanded noun phrases to convey complicated information concisely** • **Describe settings, characters and atmosphere** • **Integrate dialogue to convey character and advance the action** • **Use of inverted commas and other punctuation to punctuate direct speech**	• Develop and keep characters consistent through description • Develop settings through description and link this with the characters or plot • A struggle between good and evil • Engage reader through selecting effective grammar and vocabulary e.g. *manipulating sentence length, figurative language* • Traditional story opening and ending • Use paragraphs to vary pace and emphasis • Use dialogue to move action forward

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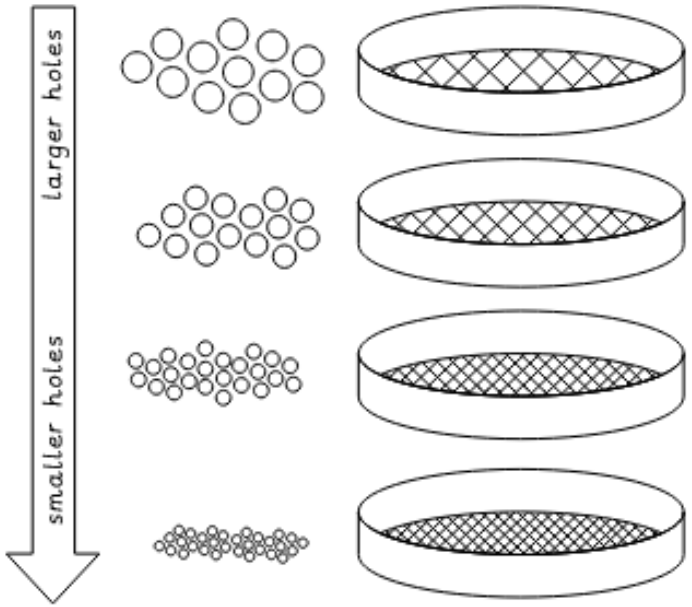
Knowledge Organiser

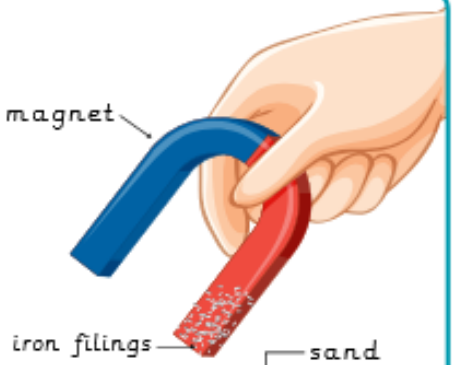
Science

Mixtures and separation

Mixtures: a **mixture** forms when two or more substances are mixed and remain present. The different parts of a mixture can be separated. Some examples are air, sand, gunpowder, fizzy drinks, soil and seawater.

Sieving: used to separate mixtures of solids which are different sizes, such as soil. A series of **sieves** with increasingly small holes separate out the particles from largest to smallest.

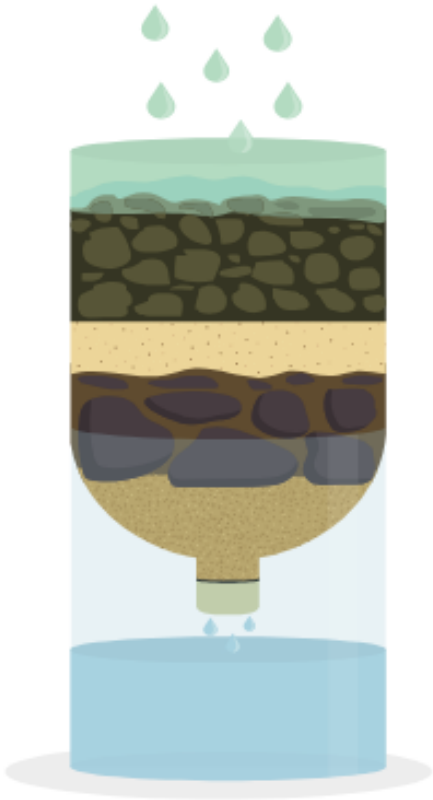




Magnets: used to separate mixtures of solids where the particles are similar sizes (so sieving is not practical) and one of the substances is **magnetic**, such as iron.

sand under a microscope

Filtering: used to separate mixtures containing a liquid and undissolved solids, such as sand and water. The mixture passes through a **filter** or **filter paper.** The gaps in the filter are small enough to let the liquid through but not the solid.



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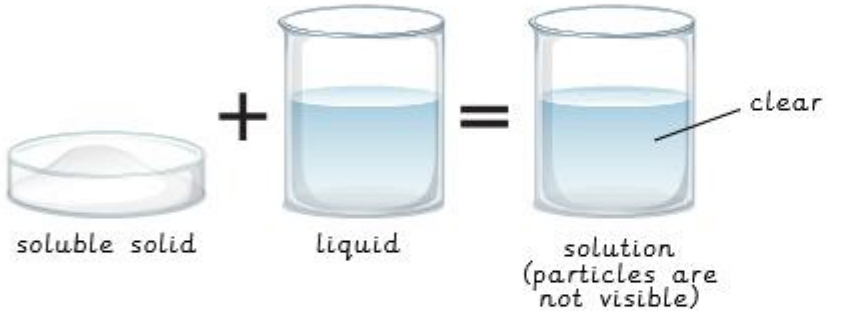
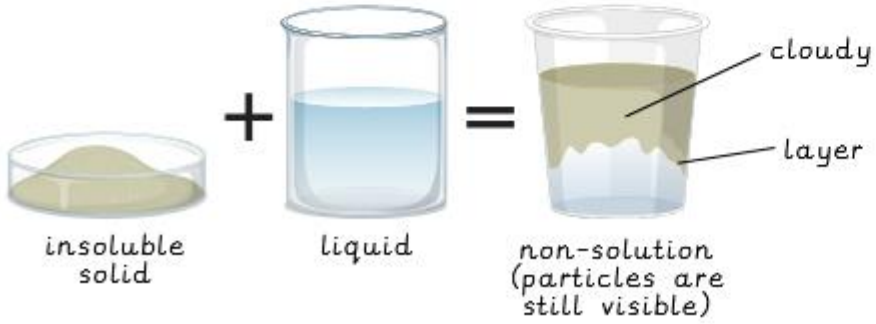
Knowledge Organiser

Science

Mixtures and separation

Solutions: some substances can **dissolve** in a liquid to make a **solution**. Dissolving is when a substance spreads evenly throughout a liquid. Some examples of substances that are **soluble** (will dissolve) in water are: salt, sugar and tea. Some examples of substances that are **insoluble** (will not dissolve) in water are: sand and flour.





Factors affecting dissolving:

- Stirring decreases the time taken to dissolve.
- Smaller pieces of the soluble solid (e.g. loose sugar granules) will dissolve faster than larger pieces (e.g. a sugar cube).
- If the liquid is warmer, the solid will dissolve faster.
- Some solids are more soluble than others. For example, sugar is more soluble in water than salt and will dissolve faster.
- If a solid will not dissolve in water, it may dissolve in another liquid, such as alcohol.

Evaporation: separates solutions. The solution is heated until the liquid evaporates. The dissolved substance will **crystallise** as the liquid **evaporates**. Salt flats form because of evaporation.

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Knowledge Organiser

Religious Education

RELIGIOUS EDUCATION
Y5 A1 KNOWLEDGE MAT

DIOCESE OF LICHFIELD · THE ST. BART'S ACADEMY TRUST

WHAT KIND OF KING IS JESUS?

OUTCOMES

- Explain connections between biblical texts and the concept of the Kingdom of God.
- Consider different possible meanings for biblical texts, showing awareness of different interpretations.
- Make clear connections between belief in the Kingdom of God and how Christians put their beliefs into practice, including worship, and service to the community.
- Relate Christian teachings or beliefs about God's kingdom to their own lives.
- Consider whether the world can learn from Christian ideas or not.

PARABLE	THE KINGDOM OF GOD
A short story that Jesus used to teach deep truths.	Any domain over which God reigns as King.
SOCIAL INJUSTICE	**COMMANDMENTS**
Lack of fairness in society.	God's laws to follow.

The basic meaning of the Kingdom of God is, 'God's reign or rule.'	One of the most important themes throughout the Bible is the Kingdom of God and it goes through all of Jesus' teaching. Many of his parables talk about the Kingdom.
The Kingdom is compared with a feast where everyone is invited to join in.	Jesus teaches that the Kingdom of God is something present now but only in part and will come to fullness in the future when he returns.

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Knowledge Organiser

Religious Education

RELIGIOUS EDUCATION
Y5 A2 KNOWLEDGE MAT

DIOCESE OF LICHFIELD · THE ST. BART'S ACADEMY TRUST

WHY DO CHRISTIANS BELIEVE THAT JESUS WAS THE MESSIAH?

OUTCOMES

- Explain the place of Incarnation and Messiah within the 'big story' of the Bible.
- Understand what type of Messiah were people expecting.
- Explain why Christians believe that Jesus was the Messiah.
- Understand how Christians celebrate their beliefs about Jesus' Incarnation at Christmas.
- Discuss why a saviour may be needed in the world today.
- Discuss whether it is important in the world today for Jesus to be the Messiah.
- Understand how Christians live because of their beliefs.

MESSIAH	PROPHECY
The promised saviour/rescuer.	A message from God to humans. Many prophecies in the Bible talk about a Messiah, a saviour who is to come.
PROPHET	**INCARNATION**
A person who receives a special message from God and is told to pass it on the others.	God in flesh. Christians believe Jesus is God and was born as a human baby.

Christians believe that Jesus was part of God's rescue plan and was the Messiah.	Christians believe that Jesus' birth, life, death and resurrection are part of a longer plan by God to restore the relationship between humans and God.
Christians believe that Jesus fulfilled God's prophecies about the Messiah.	The Old Testament contains accounts of a 'rescuer' or 'anointed one' (Messiah) who would be sent by God to save humans.

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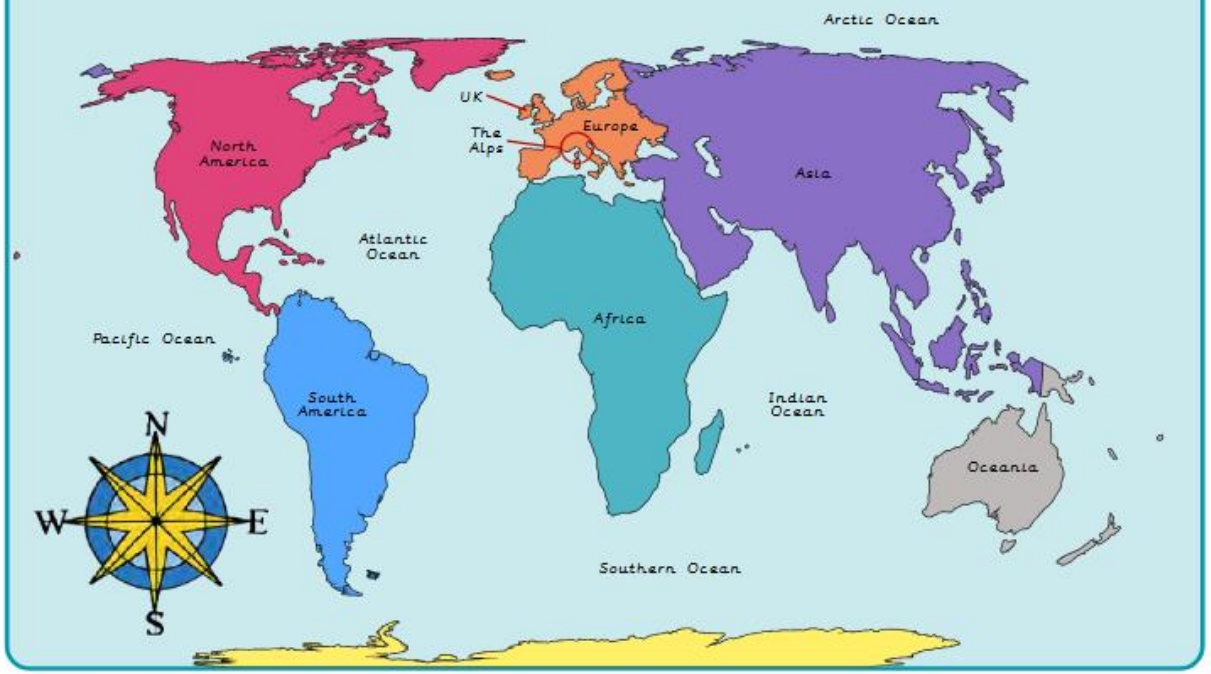
Knowledge Organiser

Geography

What is life like in the Alps?

World map



Mont Blanc is the highest mountain in the Alps.

Climate

Most of the Alps have a mountain climate. It is much colder than the surrounding climate due to the height of the mountains. Lower regions of the Alps have a temperate climate.

Popular activities in the Alps include skiing, hiking and sightseeing

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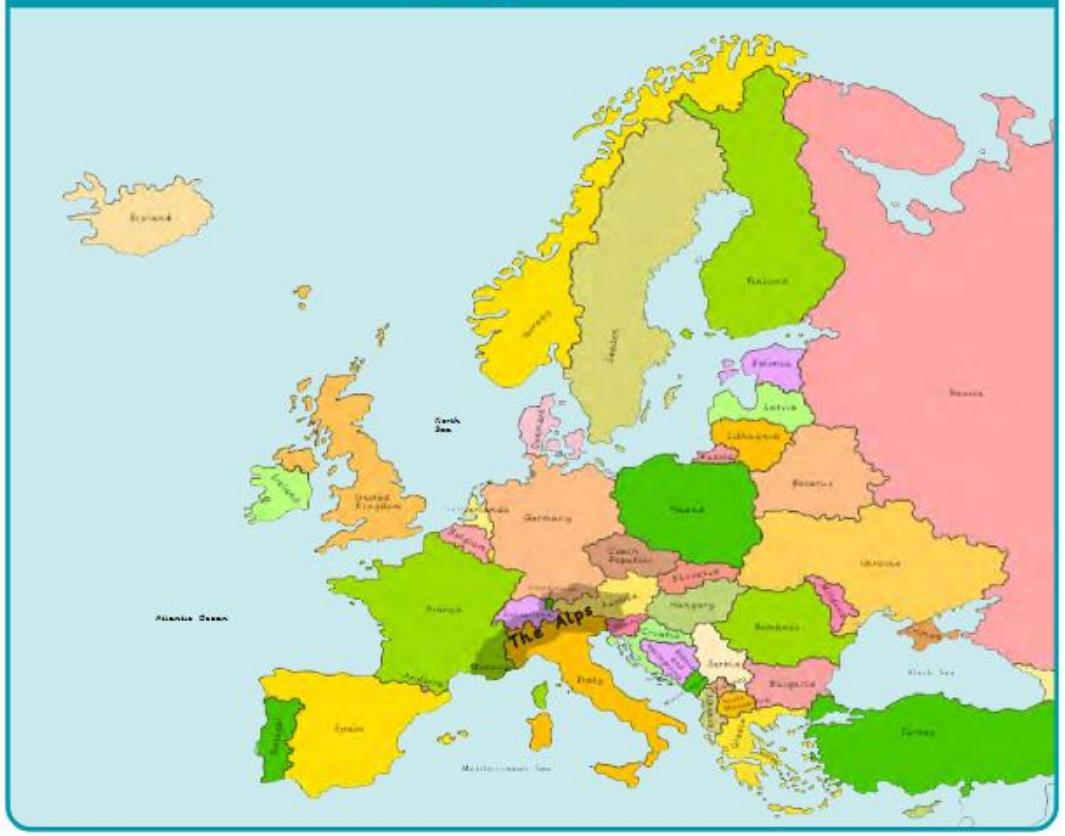
Knowledge Organiser

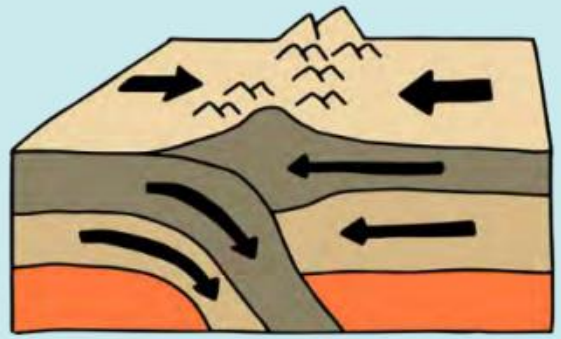
Geography

What is life like in the Alps?

Map of Europe



leisure	The use of free time for enjoyment.
tourist	A person who travels to a place for pleasure.
tourism	Travel for pleasure in which people visit places of interest.



Alpine mountains are fold mountains. They were formed when two tectonic plates pushed together and the ground was forced upwards.

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Knowledge Organiser

History

History - Were the Vikings raiders, traders or something else?

achievement	A significant accomplishment or contribution that had a lasting impact.
balanced viewpoint	Considering all views in a fair way.
exchange*	Giving something to someone and receiving something in return.
impact	The effect or change something has on a person, place or situation.
impression	An idea, feeling or opinion about something.
Jorvik	The city now called York.
oral tradition	The passing of stories and poems by word of mouth from one generation to another.
saga	A long story of heroic achievement found in Norse literature.
stereotype	A fixed idea about a group of people that is often not true.
trade route*	A long-distance route along which items are transported.
Vikings	A group of Scandinavian people who lived between the 8th and 11th centuries.

*key vocabulary

Traders

Using longboats, the Vikings established trading routes throughout Europe and as far as America, Iraq and Jerusalem. They sold items like timber, wheat, wool, fur and fish; and exchanged them for silver, spices, wine, jewellery, silk and glass.

Raiders

The Viking raids of Britain started in AD 793 when Lindisfarne's monastery was attacked. In general, the Vikings raided in the summer when it was easier to cross the sea. They stole valuable items from monasteries and villages, and they enslaved people before returning home. For the Vikings, raiding demonstrated bravery - a characteristic they valued highly.

Settlers

In Britain, the Vikings started to stay over the winter months. Eventually, they settled down on land they had seized in eastern and northern England. Sometimes, the Anglo-Saxons gave them land to stop the Vikings from attacking them. In AD 878, Alfred the Great made a peace deal with the Vikings which split England into Anglo-Saxon and Viking-controlled areas. The Viking area, known as Danelaw, was settled and peaceful.

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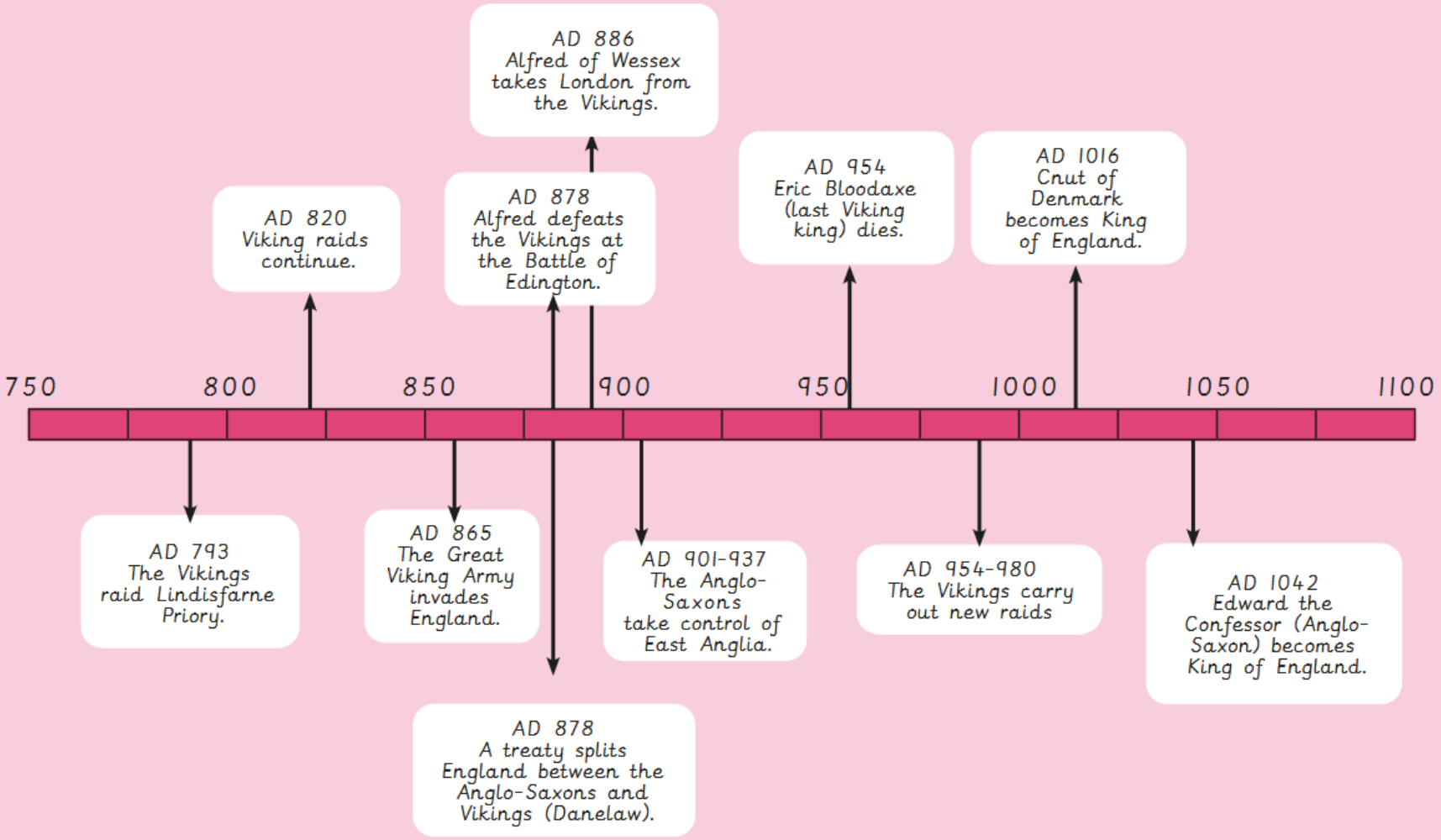
History

History - Were the Vikings raiders, traders or something else?

Timeline



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Knowledge Organiser

Art

Year 5 - Drawing

collagraphy	A printmaking process that uses textures to create interesting surfaces within a print.
decision	After taking different things into account you come to a conclusion.
futuristic	An object or image that looks like it is from the future.
imagery	A collection of visual images.
propaganda	Information, that may be misleading, to promote an often political cause.
purpose	The reason for something being created.
retrofuturism	A vision of what the future might look like created in the pre-1960s.
technique	Applying a particular method of making something.

Retrofuturism

Art produced between 1950-1960 that depicted what people imagined the future would look like.

Credit: Look and Learn / Bridgeman Images

Impact of the Space Race on art and design

What was the space race?

During the 1950s and 1960s, the United States of America and the Soviet Union were competing for supremacy in many areas, including competing to explore space.

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Design and Technology

Mechanical Systems - Pop-up book

Aesthetic	How an object or product looks.
CAD	Computer-aided-design. To use the computer to design a product, diagram or drawing.
Caption	A short piece of writing under a picture that describes or explains the picture.
Design	To make, draw or write plans for something.
Design brief	A description of what you are going to design and make and how it will work.
Design criteria	To help designers focus their ideas and test the success of them.
Exploded-diagram	A diagram which shows all of the parts of a product, including the internal and external parts.
Function	How an object or product operates or works.
Input	Input is the motion used to start a mechanism.
Linkage	A set of bars linked together to form a mechanism.
Mechanism	A system of parts working together.
Motion	The movement an object makes when controlled by an input or output (e.g. left, right, up, down).
Output	Output is the motion that happens as a result of starting the input.
Pivots	A shaft or pin on which something turns.
Prototype	A simple model that lets you test out your idea, showing how it will look and work.
Sliders	A part of a mechanism which allows an object to move from side-to-side (e.g. left-to-right).
Structure	Something which stands, usually on its own.
Template	A stencil made of metal, plastic, or paper, used for making many copies of a shape or to help cut material accurately (e.g. biscuit cutter).

Key fact

Kapow Primary

Input is the **motion** used to start a **mechanism**. **Output** is the **motion** that happens as a result of the **input**.

Think of a see-saw, when you sit on your side of the see-saw (**input**) your friend goes up on the other side. (**output**)

Did you know?

Did you know that the first children's pop-up books were invented in the 1700s? That's over 300 years ago! Lothar Meggendorfer was a well-known pop-up author in the 1800s.

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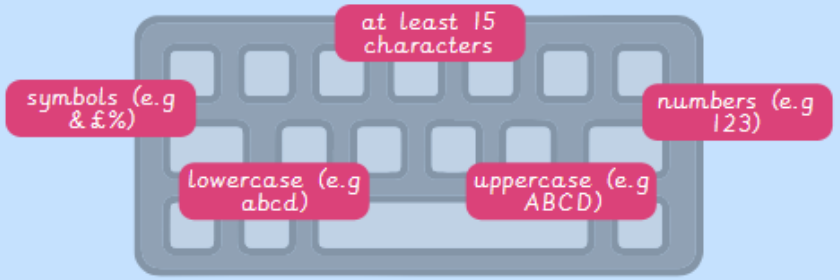
Knowledge Organiser

Computing

Year 5 - Online safety

app	The shortened word for application is a type of computer program typically found on smart phones and tablets.
bullying	The deliberate act of harming, intimidating or threatening someone else to cause them physcial or emotional distress.
health	The mental and physical condition of a person or living thing.
judgement	To come to a sensible conclusion about a matter or a person.
memes	An image or video visual with some usually humerous writing added to it.
online communication	The way people communicate (share and recieve information) with each other over a computer networks, such as the internet .
permission	The action of allowing something to happen.
well-being	The state of mind, health and happiness.

A strong password contains the following:



Key facts

Kapow Primary

Apps require our permission for things such as accessing location or photo library.
It is important to know where there settings are.

Any form of online communication can be misintepreted.
Text may be misread and emojis or memes could be misunderstood .

Technology can have both positive and negative effects on our health and wellbeing.

Tell a trusted adult if you are getting bullied online.
You can also get help from these places:

Childline https://www.childline.org.uk/	NSPCC https://www.nspcc.org.uk/

St John's C.E. Primary Academy

Life in all its Fullness
John 10:10

Knowledge Organiser

Computing

Computing - Search engines

copyright	The law which states that anything created belongs to the person who created it.
fake news	False and inaccurate information that is shared in a convincing way, usually on social media and in websites.
inaccurate	When information is false and untrue.
index	A database where a computer saves key information about websites to make future searches faster.
keywords (internet)	A set of words used to define and produce an accurate search engine result.
search engine	A website that helps people find information on the world wide web.
TASK	Title, Author, Summary, Kids.
web crawler	A program that searches the world wide web using keywords in a systematic way to find the most relevant results for the user.
website	A collection of web pages and content that belong to a single domain, accessible through an internet browser.
www	Stands for world wide web and is found at the beginning of website addresses.

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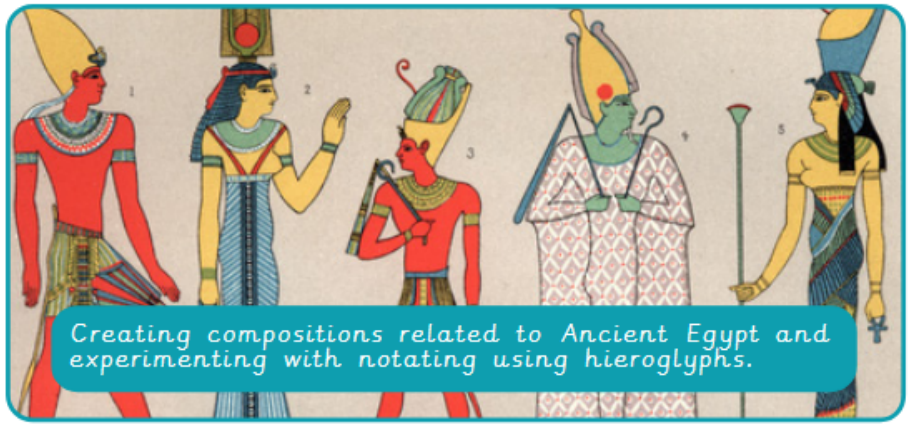
Life in all its Fullness
John 10:10

Knowledge Organiser

Music

Year 5: Egyptians

Musical feature: Composition notation



Creating compositions related to Ancient Egypt and experimenting with notating using hieroglyphs.

Vocabulary

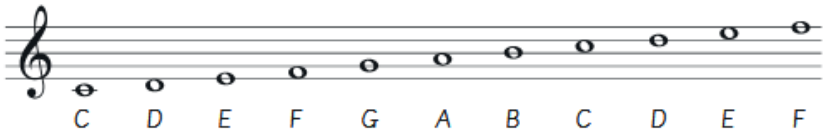
Melody	The combination of pitch and rhythm which forms a tune.
Improvising	Making up music as it is played or performed.
Notation	Written symbols used to represent music.
Motif	A short musical phrase that is often repeated.
Call and response	A musical technique that is similar to a conversation. One phrase of music acts as the 'call' and is 'answered' by a different phrase.
Unison	Playing or singing notes at the same pitch at the same time.
Verse	A repeated section of a song that usually features new lyrics on each repetition.
Structure	The overall organisation of a piece of music. Traditional pop music usually follows a verse, chorus, verse structure.
Major	A tonality where the music sounds happy or bright.
Minor	A tonality where the music sounds sad or tense.
Tempo	The speed or pace of the music.
Ensemble	A group of people who perform instrumental or vocal music.

Notation

Staff notation

Quaver	𝅘𝅥𝅮	Half	½	
Crotchet	𝅘𝅥	One	1	
Minim	𝅗𝅥	Two	2	
Dotted minim	𝅗𝅥.	Three	3	
Semibreve	𝅝	Four	4	

Letter notation



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Knowledge Organiser

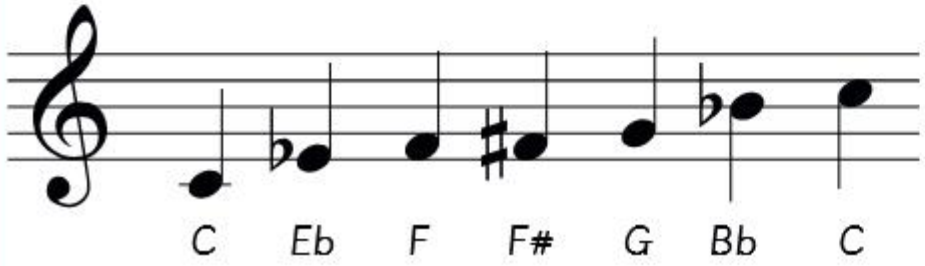
Music

Music - Blues

Blues music is often sad and emotional, which is why we say we have 'the blues' when we feel sad. Its main features are the 12-bar blues and the blues scale, and it includes a lot of improvisation.

The Blues scale

The Blues scale to accompany our 12-bar Blues is made up of these notes:



Vocabulary

12-bar blues	A series of chords played in a specific order.

1 C C C C	2 C C C C	3 C C C C	4 C C C C
5 F F F F	6 F F F F	7 C C C C	8 C C C C
9 G G G G	10 F F F F	11 C C C C	12 C C C C

chord	Two or more notes that are played at the same time and work in harmony.
scale	Any set of musical notes which are in order of their pitch.
ascending scale	A scale in which the pitch of the notes goes up.
descending scale	A scale in which the pitch of the notes goes down.
blues scale	A set of notes used to play a melody over a 12-bar blues.
improvisation	Making up music as it is played or performed.
bent notes	A musical note that varies in pitch usually going up slightly at the end.
bar	A section of music with a specific number of beats (in blues there are usually 4 beats in a bar).
quaver	A note which last for half a beat.