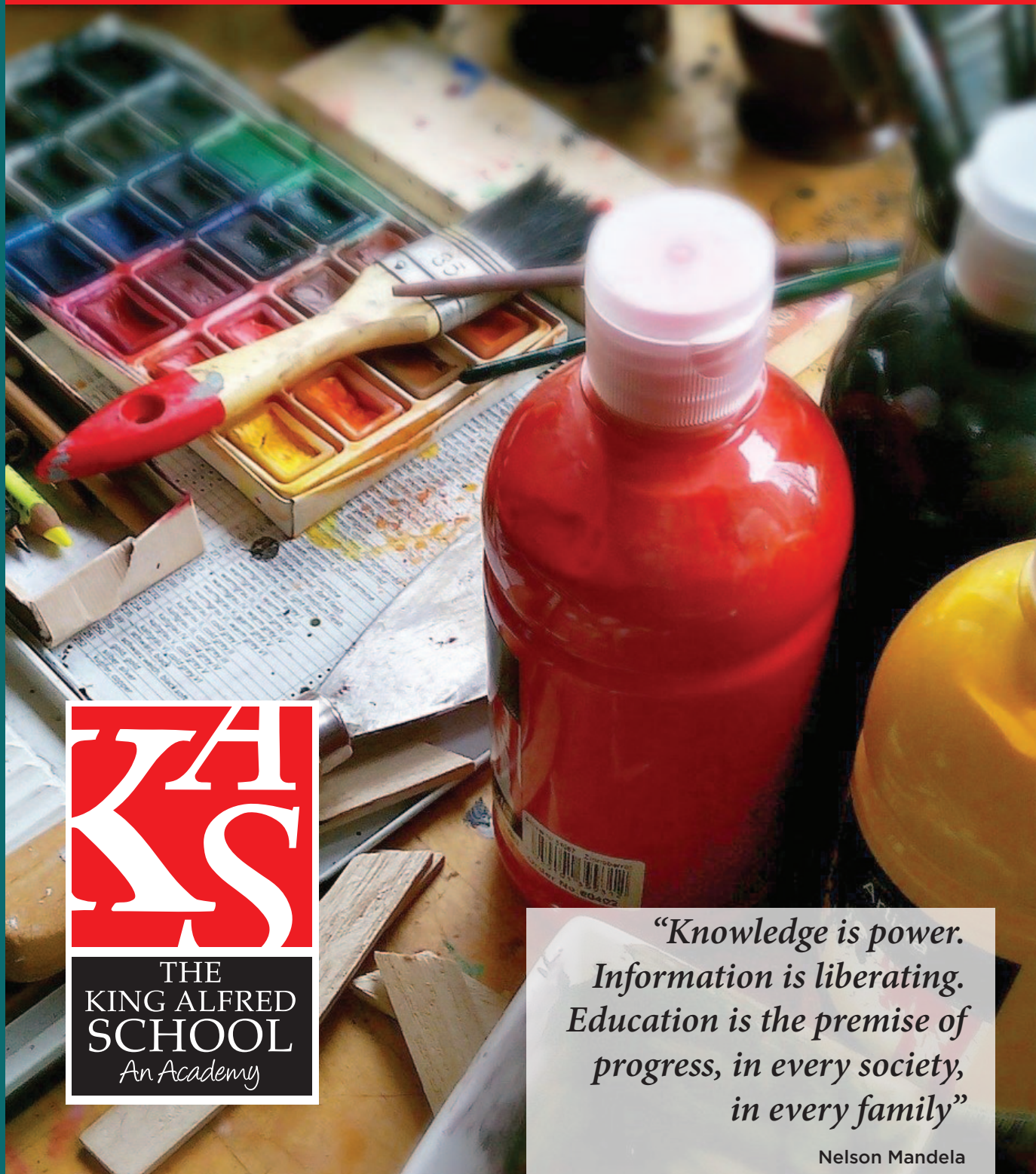


Year 7 Homework Booklet

Learning Cycle 4



*“Knowledge is power.
Information is liberating.
Education is the premise of
progress, in every society,
in every family”*

Nelson Mandela

Name

Tutor

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Your Homework Booklet

This is your homework booklet, in your homework booklet you will find a knowledge organiser for each subject that you are going to study in learning cycle 4, these are a summary of the most important pieces of information that you need to know. You will be expected to learn all this information and complete activities in your workbook.

Contents

Your Homework Booklet	2
Knowledge Quiz.....	3
Online Maths Work	4
How to Use your Knowledge Organiser for Homework.....	5
Look, Cover, Write, Check, Correct.....	6
Look, Cover, Mind Map, Check, Correct	7
Look, Cover, Transform, Check, Correct.....	8
Bedrock	9
Maths	10-12
English	13-14
Science	15-24
History	25-26
Geography	27-28
Religious Studies.....	29-30
Modern Foreign Languages.....	31-34
Music.....	35-36
Drama	37-38
Design and Technology.....	39-46
Food and Nutrition	47-48
Physical Education	49
Computer Science	50-51
Art.....	52-55
Timetable	56
Notes	57-60

Your Homework Booklet

At TKASA, we place a great emphasis on the importance of reading in order to accelerate the development of your vocabulary and fluency in communication. Not only that, a good book will teach you more about the world around you and help you empathise with others. We recommend a minimum of 20 minutes of reading per day. Have a look at the reading list below for some inspiration

The Hunger Games

Suzanne Collins

Northern Lights

Philip Pullman

The Fault in Our Stars

John Green

The Lord of the Rings

J. R. R. Tolkien

Twilight

Stephenie Meyer

To Kill a Mocking Bird

Harper Lee

When Hitler Stole Pink Rabbit

Judith Kerr

Maggot Moon

Sally Gardner

Shug

Jenny Han

Jane Eyre

Charlotte Brontë

A Street Cat Named Bob

James Bowen

Stargirl

Jerry Spinelli

Roll of Thunder Hear My Cry

Mildred D. Taylor

Swallows and Amazons

Arthur Ransome

The Wheel of Surya

Jamila Gavin

The Earthsea Quartet

Ursula K. Le Guin

Never Say Die

Anthony Horowitz

Treasure Island

Robert Louis Stevenson

Fly-By-Night

Frances Hardinge

Mortal Engines

Philip Reeve

Geek Girl

Holly Smale

Flour Babies

Anne Fine

My Family and Other Animals

Gerald Durrell

Holes

Louis Sachar

Cirque Du Freak

Darren Shan

Cow Girl

G R Gemin

The Girl Who Drank the Moon

Kelly Barnhill

Learning Cycle 4



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Knowledge Quiz

Your teacher will quiz you on your knowledge organiser 3 times each learning cycle to check how well you are doing your homework.

The 'Mark' box must be used to record your score from each quiz.

	Maths	English	Science	Geography
QUIZ 1	/	/	/	/
QUIZ 2	/	/	/	/
QUIZ 3	/	/	/	/

	History	MFL	Drama	Music	PE
QUIZ 1	/	/	/	/	/
QUIZ 2	/	/	/	/	/
QUIZ 3	/	/	/	/	/

	Art	DT	Comp	RS
QUIZ 1	/	/	/	/
QUIZ 2	/	/	/	/
QUIZ 3	/	/	/	/

Learning Cycle 4



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Online Maths Work

Learning Cycle 4

Learning Cycle 2	Topic practised	Signed by parent	Signed by Maths Teacher
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			
Week 7			
Week 8			
Week 9			



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How to use your knowledge organiser for homework

The Knowledge Organisers are designed to help you learn a wide range of knowledge which in turn will mean you are more prepared for your lessons as well as the new style GCSEs that you will sit in the future.

For homework you should use your knowledge organiser to complete one of our accepted strategies in your workbook you should either

- **Write**
- **Mind Map**
- **Transform**

Do not just copy into your workbook!

Here are some tips on how you can use your workbook

Your tutor will check your workbook each week



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Look, cover Write, check, Correct

First

Look through and read the information on a section of your knowledge organiser



Then

Cover the section so you can no longer see the information

Cycle 1 in History will focus on: An introduction to studying history, a depth study enquiry called *why did William win the Battle of Hastings?* and a short enquiry into why the Church was so important in medieval times.

Key Words and Definitions	
Chronology	The order in which events happened
Primary Source	Something from the time being studied for example if you were studying The Battle of Hastings a shield from the Saxon shield Wall would be primary source
Interpretation	A view of the past created from primary sources e.g. a museum exhibition about the Battle of Hastings is an interpretation.
Cause	A reason why something happened
Consequence	A result of an event or change
Significance	A measure of how much impact an event, person or change has had.
Saxon	Most of the English people before 1066
Norman	People from Normandy, France e.g. William the Conqueror
Tactics	A planned action to help you achieve success
Cavalry	Soldiers on horseback
Infantry	Soldiers on foot
The Church	Christian organisation led by the Pope. England was a catholic country until the 16th century

Topic 1 What is History?

History is finding out about the past by using the evidence that has been left behind. It is also about asking questions and sorting out answers. In history we also look at how why interpretations are created

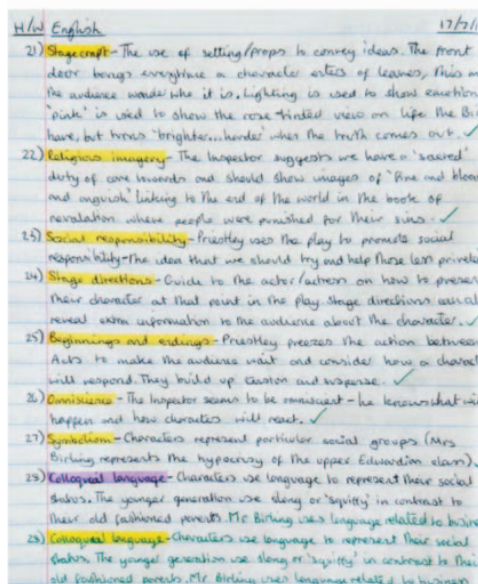
Here are the different **time periods** we use to divide up British History:

55BC - 410AD	Roman Britain
410 - 1066	Saxon and Viking Britain
1066 - 1485	Medieval Britain
1485 - 1603	Tudor Britain
1603 - 1714	Stuart Britain
1714 - 1837	Georgian Britain
1837 - 1901	Victorian Britain
1901 - 1910	Edwardian Britain

The five ways a historian can measure significance

- Did the person or event **matter to the people at the time**?
- Did the person or event **affect a large number or a small but important group** of people?
- Did the person or event **cause change** and if so, how **great** was the change?
- Was the change **long lasting or short term**?
- Is the person or event **still seen as important** today?

Interpretations are versions of history. Authors, film makers, and museum designers are all producers of interpretations. There are different interpretations of the same event or person.



Next

Try and write out the key definitions or facts that you need to know

Now

Uncover the section of your knowledge organiser and check how correct you were

Finally

Correct anything that you wrote down that was incorrect



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Look, cover Mind Map, check, Correct

First

Look through and read the information on a section of your knowledge organiser



Then

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History

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The five ways a historian can measure significance

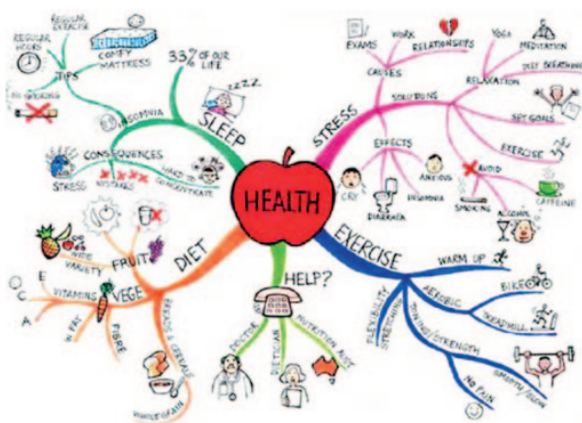
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- 5 Is the person or event **still seen as important today?**

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Next

Create a mind map that maps out everything from your knowledge organiser using keywords, colour and images



Now

Uncover the section of your knowledge organiser and check how correct you were

Finally

Correct anything that you wrote down that was incorrect



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Learning Cycle 4

Look, cover Transform, check, Correct

First

Look through and read the information on a section of your knowledge organiser



Then

Cover the section so you can no longer see the information

Learning Cycle 4


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Kings	Play	Chess	On	Fine	Glass	Sets
K	P	C	F	K	G	S
I	H	L	A	I	E	P
N	Y	A	M	N	N	E
G	L	S	I	G	U	C
D	L	S	L	D	S	I
O	U		Y	O		E
M	M			M		S

Next

Transform the information on the knowledge organiser into either a mnemonic or series of images

Now

Uncover the section of your knowledge organiser and check how correct you were

Finally

Correct anything that you wrote down that was incorrect

WHY SKETCHNOTES

- SIMPLIFIES THE COMPLEX
- visual METAPHORS allow brain to fill gaps
- ENABLES CONNECTION and synthesis OF IDEAS
- raises ATTENTION and ENGAGEMENT
- organizes and SUMMARIZES insights
- A TOOL FOR IMMERSIVE LEARNING
- eases CLARITY and comprehension
- HELPS IN SENSE MAKING
- QUICK GRASP and BETTER RETENTION
- EASY sharing & COMMUNICATION

JOHN MELONA 'BRAIN RULES'

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HOW BEDROCK WORKS

Bedrock Vocabulary is an online programme that teaches you the academic words you need to succeed at school and beyond, while encouraging reading, boosting literacy, and improving learning outcomes across the curriculum.

Bedrock is self-marking and adapts to your individual needs, making it easy for you to use independently.

Once per fortnight, you will have a Bedrock lesson in school.

Once per fortnight, complete at least one lesson at home as part of your English homework. Record the topic you completed and any test scores in your homework book.

[My Bedrock timetable](#)

My English library Bedrock lesson is on:

I will complete my Bedrock homework on:

1. To log in, go to <https://app.bedrocklearning.org/> on any device.
2. Make sure the Student tab is selected.
3. Enter your username and password.
4. Click Learn!

Username:

Password:

Access Code:

Dear Parents,

You can also register for an account to monitor your child's progress.

Make your parent account

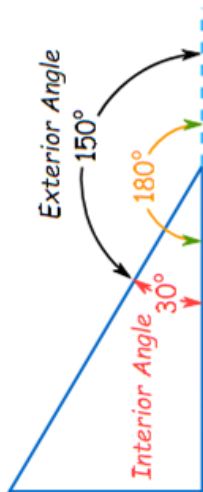
1. Go to <https://app.bedrocklearning.org/>
2. Click the Parent/teacher tab.
3. Click Parent sign up.
4. Enter your child's last name, access code, and your details. The access code is provided by your child's school, and allows you to link your account with your child's. Bedrock can't issue access codes - only your child's school.
5. You'll be sent an email containing your username. Click the link in the email.
6. Click the orange Show password button. Make sure you remember your username and password, as you'll need them each time you log in.

Log in

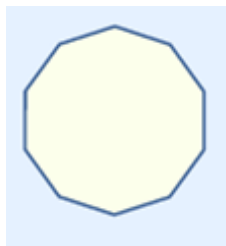
1. Go to <https://app.bedrocklearning.org/>
2. Click the Parent/teacher tab.
3. Enter your username and password and click Login.

Cycle 4 in **Maths** will begin with looking at the properties of quadrilaterals and how to calculate interior and exterior angles within polygons. The focus will then be on probability and set notation, where you will be able to use the probability scale and understand the sum of probabilities. Finally, you will look at factors and multiples and you will be able to calculate the highest common factor and lowest common multiple of a pair of numbers.

Topic 1
Angles in a polygon



Sum of **exterior** angles (in any polygon) = 360°
Sum of **interior** angles in a polygon = $(n - 2) \times 180^\circ$



In an 10 sided regular shape, a decagon, the exterior angles add up to 360° , which means that each exterior angle = 36° as $360 \div 10 = 36^\circ$.

To find the sum interior angles we can use the formula $(10 - 2) \times 180 = 1440^\circ$.

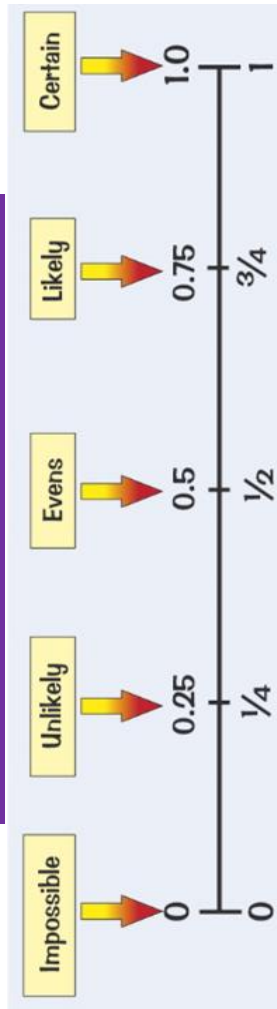
POLYGONS – Key words and definitions	
polygon	a plane shape having three or more straight sides
quadrilateral	a polygon with 4 sides
parallel	lines that are always an equal distance apart
perpendicular	at right angles to the horizon or another object
right angle	90° angle
interior	an angle within a polygon
exterior	the angle formed outside a polygon when one side is extended
regular	regular polygons have all sides equal and all angles equal
irregular	sides, faces or angles of differing sizes.

Properties of a quadrilateral	
Quadrilateral	Properties
Rectangle	4 right angles and opposite sides equal
Square	4 right angles and 4 equal sides
Parallelogram	Two pairs of parallel sides and opposite sides equal
Rhombus	Parallelogram with 4 equal sides
Trapezium	Two sides are parallel
Kite	Two pairs of adjacent sides of the same length

Topic 2

To be able to use the words associated with probability and understand probability is on a scale of 0 to 1

The Probability Scale

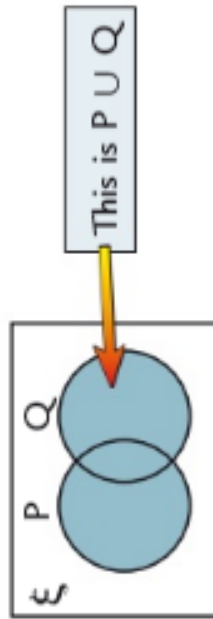


Probabilities are always between 0 and 1, therefore can be represented as fractions, decimals or percentages

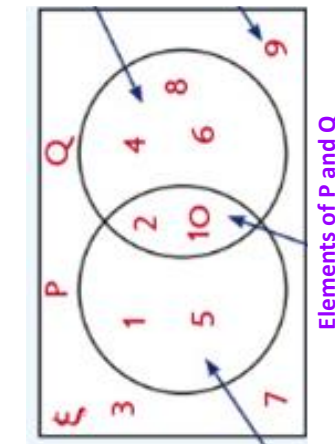
Venn Diagrams and Set Notation



Venn Diagrams are a way of displaying data in intersecting circles.

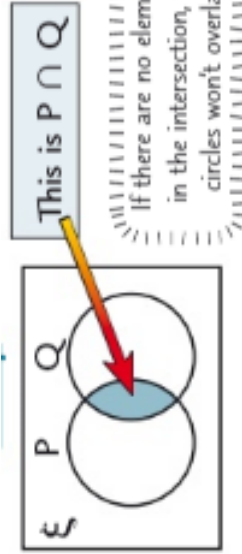


Union



Elements in Q but not in P

Elements of the set that aren't in P or Q



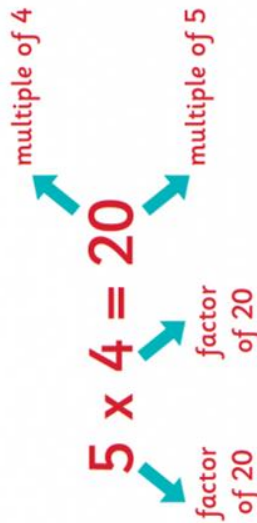
Intersection

Maths

Belong Believe Be Proud

Topic 3

To be able to identify prime numbers, factors and multiples



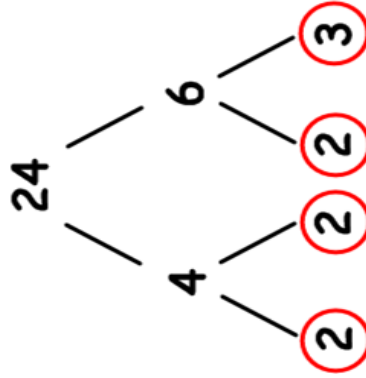
Prime numbers are numbers with 2 factors 1 and itself.

2 3 5 7 11 13 17 19 23 29 31 37 ...

2 is a special prime number as it is the only one that is even.

Any number can be written as a list of prime numbers multiplied together – this is called **product of prime factors**

- 1) Start with the number at the top, and split it into factors as shown.
- 2) Every time you get a prime, ring it.
- 3) Keep going until you can't go further (i.e. you're just left with primes), then write the primes out in order.



$$24 = 2 \times 2 \times 3 \times 3 = 2^2 \times 3^2$$

To find the Highest Common Factor (HCF) of a pair of numbers, we can list the factors and find the highest number that is common to both.

Find the HCF of 12 and 16

Factors of 12 are: 1, 2, 3, 4, 6, 12

Factors of 16 are: 1, 2, 4, 8, 16

Common Factors to 12 and 16 are: 1, 2, 4

Highest Common Factor of 12 and 16 is 4

To find the Lowest Common Multiple (LCM) of a pair of numbers you need to list the multiples of each pair and then identify the lowest multiple common to both.

Find the LCM of 6 and 10

Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60...

Multiples of 10: 10, 20, 30, 40, 50, 60...

Common multiples to 6 and 10 are 30, 60

Lowest Common Multiple of 6 and 10 is 30

The Boy In The Striped Pyjamas

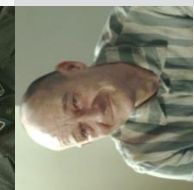
by John Boyne

Cycle 4 is our novel study scheme of learning. As a class you will meet Bruno and Shmuel read their story. This SOL will focus on improving our understanding of writer's method and how to use context to support our analysis.

KEY TERMINOLOGY

Narrative Voice	The non-dialogue storytelling that communicates description, action, and thought processes. 1 st person narrative voice is a character as the narrator, 2 nd person the reader as the narrator and 3 rd person is where an all-seeing narrator exists from outside of the story.
Perspective	The viewpoint / opinions through which a text is explored.
Character	The name of a fictional person or being in a text.
Protagonist	The main character of a text.
Imagery	Using sensory language (sight, smell, sound, taste and feel) to describe something to the reader.
Symbolism	When an image, object, or idea is used to represent something other than its literal meaning
Setting	The time, place, and environment in which a narrative occurs
Dialect	A change of word (completely, pronunciation or spelling) due to location or region. Pyjamas = UK / Pajamas = The USA
Chapter	The sub-section of a text, sometimes titled to intrigue the reader.
Context	The additional information that influences either the reader or writer that must be considered when analysing a text.

CHARACTERS



Bruno: A naive eight-year-old boy who moves to Auschwitz with his family and befriends a Jewish boy named Shmuel.

Shmuel: A Jewish boy who is a prisoner in Auschwitz. He becomes Bruno's friend, he wears striped pyjamas.

Father (Ralf): Bruno's father, a Nazi commandant, who is involved in the running of Auschwitz.

Mother (Elsa): Bruno's mother, who is initially unhappy about the move to Auschwitz but tries to make the best of it.

Gretel: Bruno's older sister, who adapts to the new surroundings more readily than Bruno and initially supports the Nazi ideology.

Lieutenant Kotler: A cruel and strict young Nazi officer in charge of overseeing the prisoners at Auschwitz.

Pavel: A Jewish prisoner in Auschwitz who is made to work in Bruno's house. He used to be a doctor.

CONTEXT: Why do we study a novel set in such horrible period of history?

Literature often affords us a window into others' lives. It lets the reader to explore an event or issue through a different perspective, in turn it allows the writer to educate the reader about something they feel is important and sometimes convey a hidden meaning or message about their beliefs or opinions.

Why the Holocaust?

- 1. Historical Insight:** It provides a deep understanding of significant historical events, examining the rise of dictatorship and the consequences of not standing up for others. Learning about things that have happened hopefully means we can stop "history repeating itself".
- 2. Genocide Prevention:** Knowledge of the Holocaust contributes to global efforts to prevent future atrocities by identifying early warning signs. It empowers us to question actions of others and hold accountable politicians and people in power.
- 3. Human Rights Advocacy:** The Holocaust serves as a reminder to uphold human rights, emphasising the need to protect the dignity of all individuals and celebrate our differences.
- 4. Ethical Inquiry:** Studying the Holocaust prompts ethical discussions about individual and collective responsibility. It cultivates critical thinking, empathy, and moral reflection.

KEY VOCABULARY

Prejudice	To decide or form an opinion about something or someone before knowing all the facts or understanding the whole story.
Nazis	A political group, led by Adolf Hitler, who ruled from 1933 to 1945.
Der Fuhrer	The German term which Hitler was known as, translates as The Leader.
Concentration Camp	A purpose-built destination to imprison innocent people who the Nazis did not like. The conditions were appalling and sometimes deadly.
Auschwitz-Birkenau	An infamous concentration and death camp.
Genocide	The deliberate killing of many people from a particular nation or ethnic group with the aim to destroying that nation or group.
The Holocaust	The genocide of over 6 million innocent people by the Nazis.
Anti-Semitism	Prejudice against Jewish people.
Judaism	The religion of those who are Jewish.

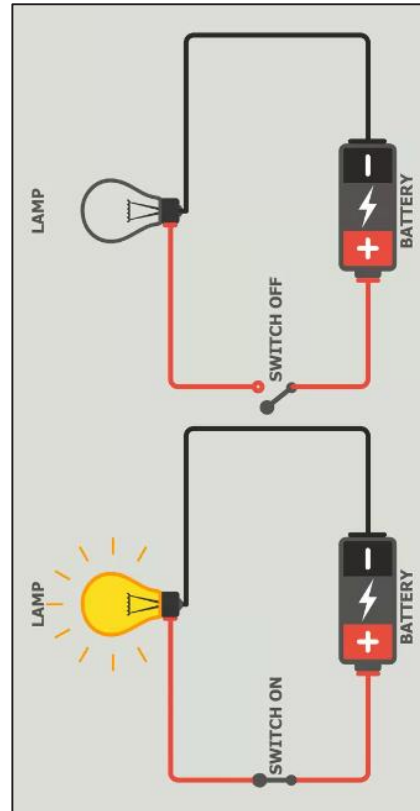
This cycle we will be studying a text that is set and focuses on a very horrible period of history. It is important that you approach these topics maturely and seek to stop misconceptions by using trusted sources for answers.

If you have any questions, please speak with your teacher.

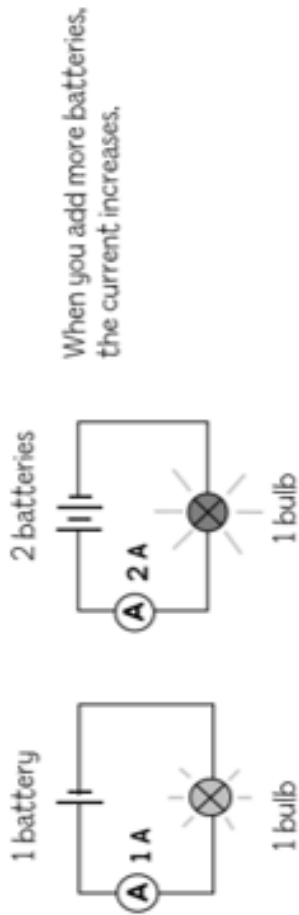


Electric cells - Key words and definitions

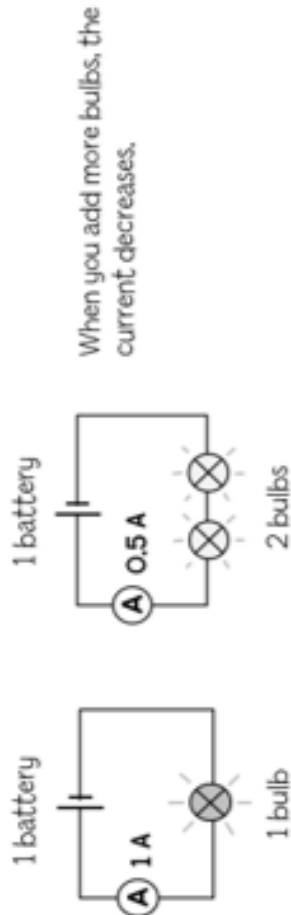
Current	A flow of electricity, measured in amps.
Electric Force	An attractive and repulsive force between particles, caused due to their electric charges.
Electron	A negatively charged subatomic particle.
Electric Force	The attraction or repulsion that occurs between electrically charged particles because of their motion.
Parallel Circuit	Comprises branches so that the current divides and only part of it flows through any branch.
Potential Difference	The difference of electrical potential between two points, measured in volts.
Series Circuit	Comprises a path along which the whole current flows through each component.
Van De Graaf generator	An electrostatic generator which uses a moving belt to accumulate electric charge.
Resistance	A measure of the opposition to current flow in an electrical circuit, measured in ohms.



Effect of adding more batteries to a circuit:



Effect of adding more bulbs to a circuit:



How the current depends on the ratio of voltage to resistance:

$$\text{Current} = \frac{\text{voltage (number of batteries)}}{\text{resistance (number of components e.g. bulbs)}}$$

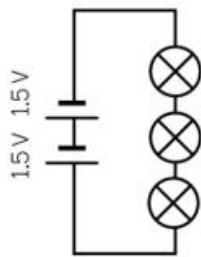


The higher the ratio of voltage : resistance, the bigger the current.

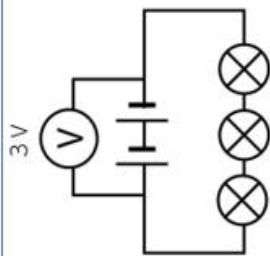
Science - Electric Cells

Science - Electric Cells

1. How to work out battery voltage

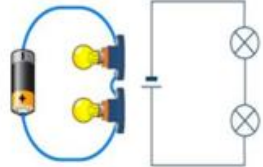


There are two batteries. Each supplies a voltage of 1.5 V.

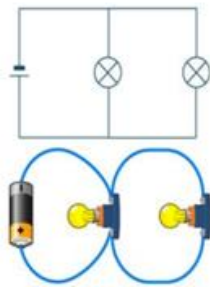


You calculate the total voltage in by adding up the individual voltages of each battery.

$$1.5V + 1.5V = 3V$$



Series Circuit



Parallel Circuit

	Series	Parallel
Appearance	One loop	More than one loop or branch
Current	Same in all components	Total current is the sum of each components current.
Potential difference (p.d.)	Total p.d. from battery is shared between all the components.	P.d. Across all components is the same.
Resistance	Total resistance is the sum of each components resistance.	Total resistance is $1 \div$ sum of the resistance.

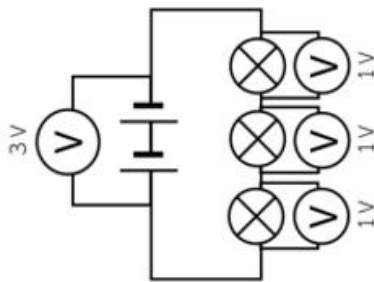
2. How to work out voltages in a series circuit

In a series circuit the battery voltage is shared between the components.

Here the bulbs are identical, so they share the voltage equally.

$$3V \div 3 = 1V$$

There is 1V across each bulb.



3. How to work out voltages in a parallel circuit

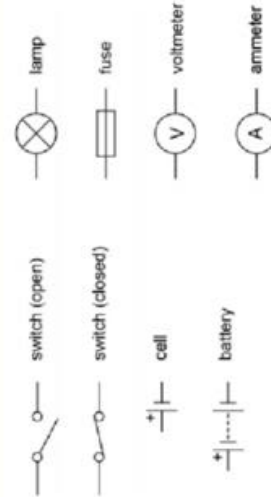
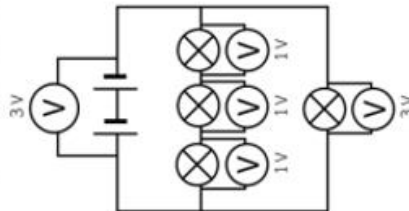
A parallel circuit has several loops. The voltage across the whole of each loop is the battery voltage.

Here there are two loops. The bottom loop has 1 bulb, the top loop has 3 bulbs.

The voltage across each loop is 3 V.

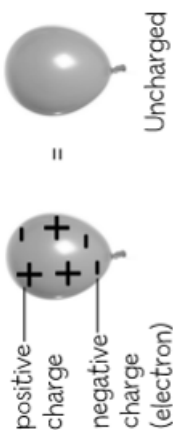
In the bottom loop, the bulb gets the full 3 V.

In the top loop, the bulbs share the 3V between them.

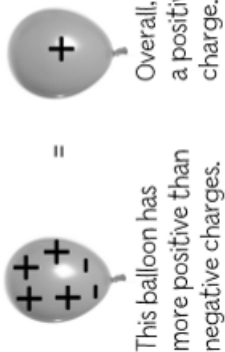


Science - Electric Cells

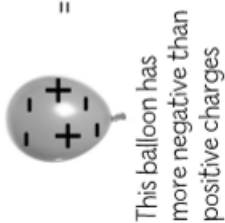
1. Why objects are uncharged or charged



Positive and negative charges cancel each other out. This balloon has equal numbers of positive and negative charges. So, overall it has no charge.



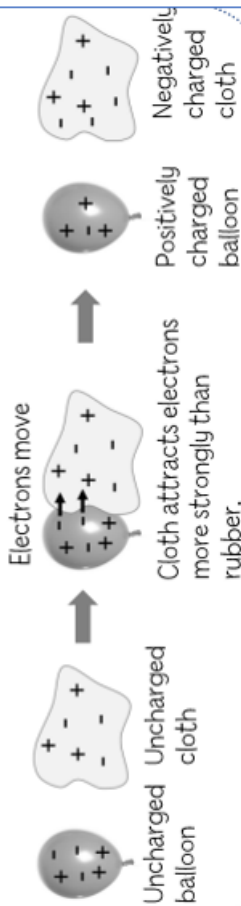
This balloon has more positive than negative charges.



This balloon has more negative than positive charges.

2. How to charge objects

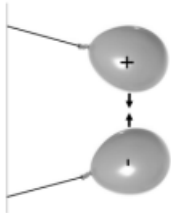
Some materials attract electrons more strongly than others. When you rub two materials together, electrons can move onto the material that attracts them more. The charges stay on the surface of the material.



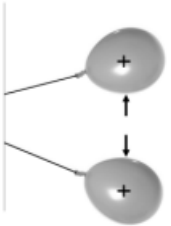
Electric force is a non-contact force.

Like magnetic and gravitational force, it works at a distance.

3. How charges attract and repel



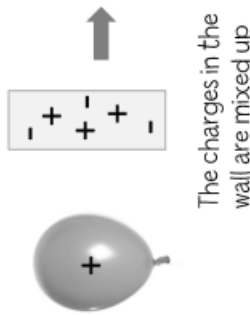
Opposite charges attract



Identical (like) charges repel

4. How objects are attracted by induction

The negative electrons in the wall can move. They are attracted by the positively charged balloon.



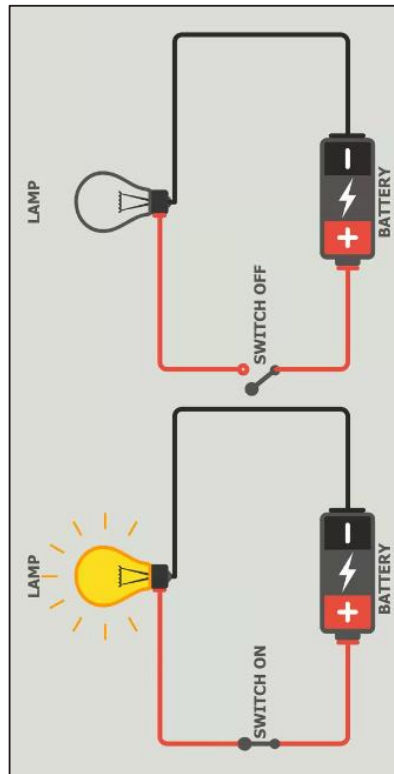
The charges in the wall are mixed up

The charges are separated - electrons are nearest the balloon

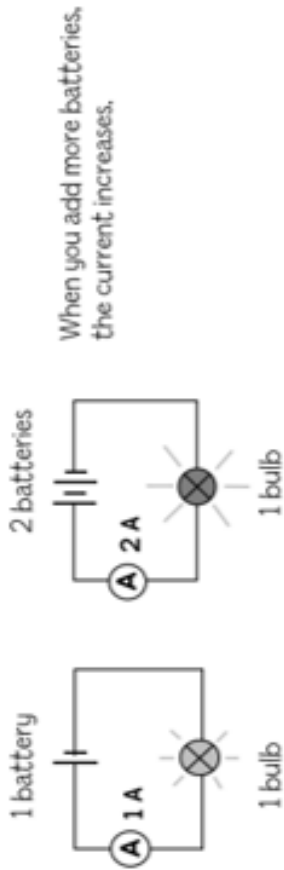
The closer you put the two charged rods, the stronger the electric force.



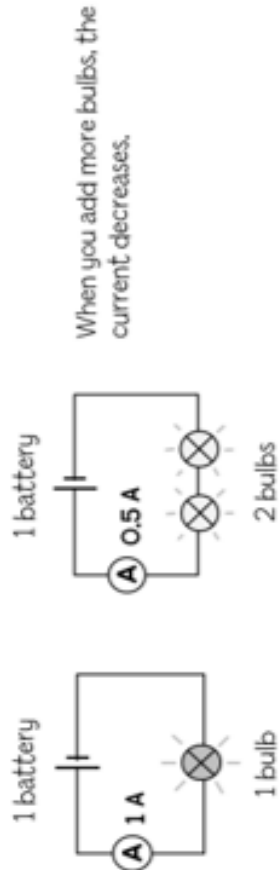
Electric cells - Key words and definitions	
Current	A flow of electricity, measured in amps.
Electron	A negatively charged subatomic particle.
Parallel Circuit	Comprises branches so that the current divides and only part of it flows through any branch.
Series Circuit	Comprises a path along which the whole current flows through each component.



Effect of adding more batteries to a circuit:



Effect of adding more bulbs to a circuit:



How the current depends on the ratio of voltage to resistance:

$$\text{Current} = \frac{\text{voltage (number of batteries)}}{\text{resistance (number of components e.g. bulbs)}}$$

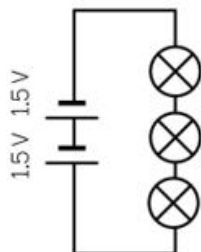
$$\frac{2 \text{ batteries}}{1 \text{ bulb}} \quad \text{bigger current} \quad \frac{1 \text{ battery}}{2 \text{ bulbs}} \quad \text{smaller current}$$

The higher the ratio of voltage : resistance, the bigger the current.

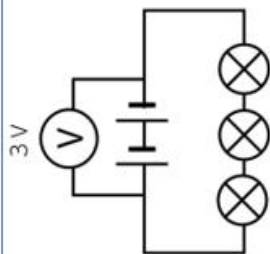
Science - Electric Cells

Science - Electric Cells

1. How to work out battery voltage

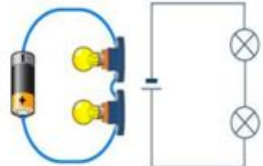


There are two batteries. Each supplies a voltage of 1.5 V.

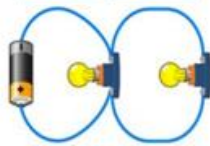


You calculate the total voltage in by adding up the individual voltages of each battery.

$$1.5V + 1.5V = 3V$$



Series Circuit



Parallel Circuit

	Series	Parallel
Appearance	One loop	More than one loop or branch
Current	Same in all components	Total current is the sum of each components current.
Potential difference (p.d.)	Total p.d. from battery is shared between all the components.	P.d. Across all components is the same.
Resistance	Total resistance is the sum of each components resistance.	Total resistance is $1 \div$ sum of the resistance.

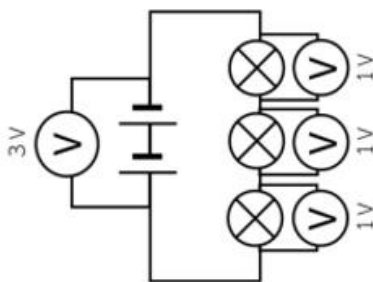
2. How to work out voltages in a series circuit

In a series circuit the battery voltage is shared between the components.

Here the bulbs are identical, so they share the voltage equally.

$$3V \div 3 = 1V$$

There is 1V across each bulb.



3. How to work out voltages in a parallel circuit

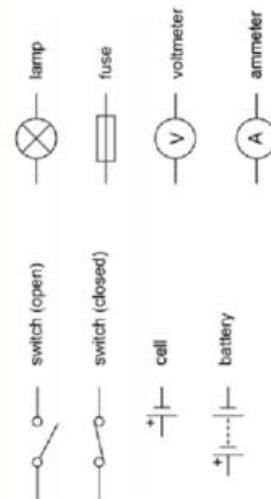
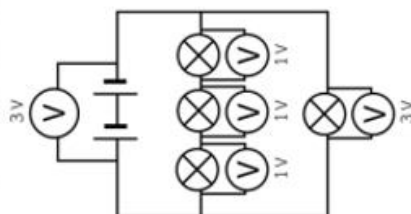
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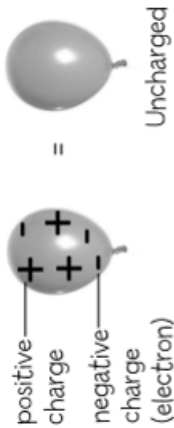
The voltage across each loop is 3 V.

In the bottom loop, the bulb gets the full 3 V.

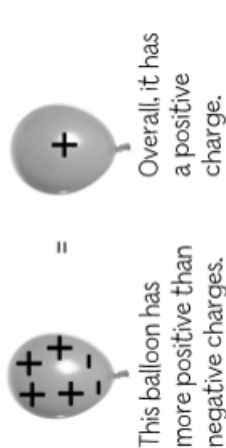
In the top loop, the bulbs share the 3V between them.



1. Why objects are uncharged or charged



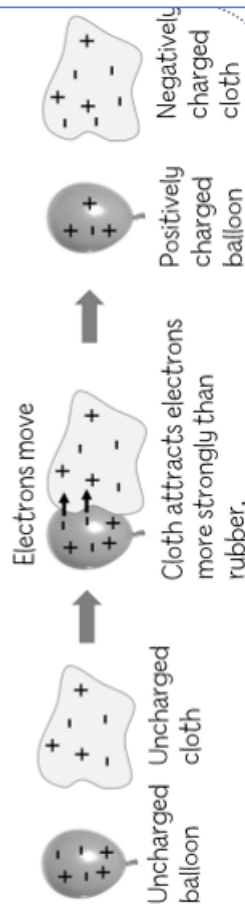
Positive and negative charges cancel each other out. This balloon has equal numbers of positive and negative charges. So, overall it has no charge.



This balloon has more negative than positive charges. Overall, it has a negative charge.

2. How to charge objects

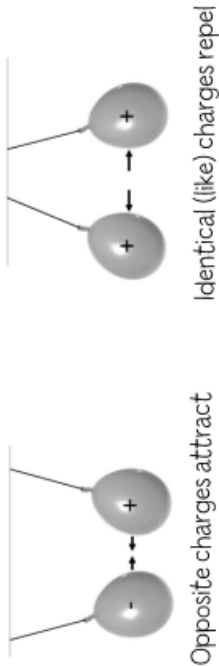
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Electric force is a non-contact force.

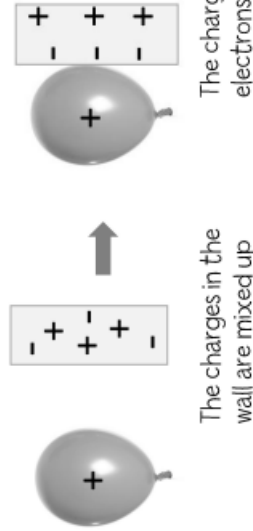
Like magnetic and gravitational force, it works at a distance.

3. How charges attract and repel



4. How objects are attracted by induction

The negative electrons in the wall can move. They are attracted by the positively charged balloon.



The closer you put the two charged rods, the stronger the electric force.



Sound- Key words and definitions

Vibration	The rapid back-and-forth movement of physical particles, as a reaction to different forces.
Pitch	How high or low a sound is.
Loud	A noise with high volume and intensity.
Vacuum	An area where there is no matter or particles.
Absorption	The transfer of energy of a wave to matter as the wave passes through it.
Reflected	A ray of light or sound bouncing off a surface.
Scattered	A change in the direction of a ray of sound or light because of collision with a medium.

Reflection

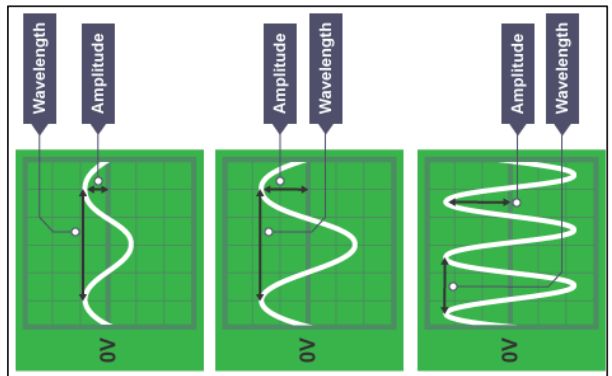
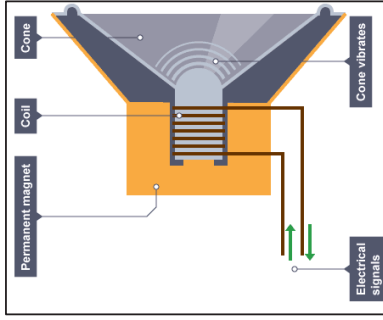
Sound waves can reflect off surfaces. We hear sound reflections as echoes. Hard, smooth surfaces are particularly good at reflecting sound. This is why empty rooms produce lots of echoes. Soft, rough surfaces are good at absorbing sound. This is why rooms with carpets and curtains do not usually produce lots of echoes.

Properties of sound waves

When an object or substance vibrates, it produces sound. These sound waves can only travel through a solid, liquid or gas. They cannot travel through empty space.

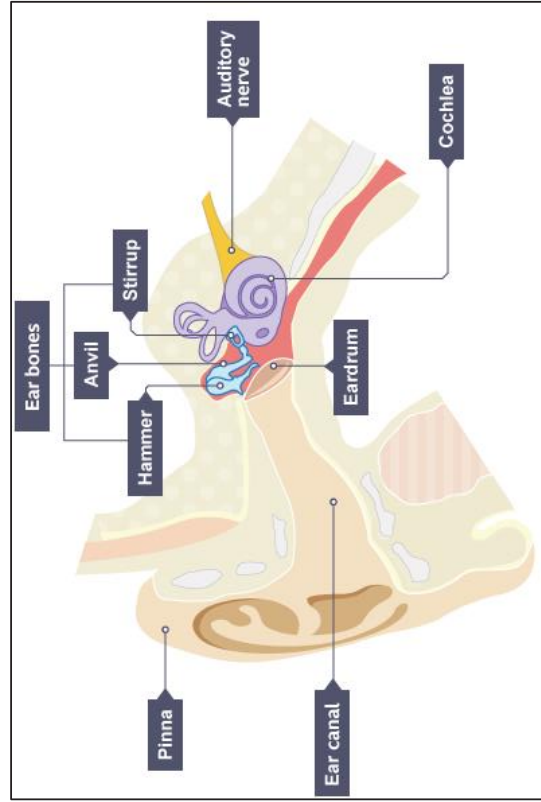
Loudspeakers

Sound waves are produced by all vibrating objects. Loudspeakers work by converting electrical energy into kinetic energy. This moves the cone which creates the sound waves.



Oscilloscope traces

The graphs shown by an oscilloscope are called oscilloscope traces. The diagrams show some typical oscilloscope traces for sound:



Light- Key words and definitions

Shadow	A dark area caused by an opaque object blocking light rays.
Illuminate	To make something visible or bright by shining light on it.
Dim	A lower brightness of light.
Angle of incidence	The angle between the normal and the incident ray.
Angle of reflection	The angle between the normal and the reflected ray.
Normal	A line drawn at right angles to the reflecting surface.

Type of wave	Light waves	Sound waves
Can they travel through matter (solids, liquids and gases)?	Transverse Yes (if transparent or translucent)	Longitudinal Yes
Can they travel through a vacuum?	Yes	No
How are they detected?	Eyes, cameras	Ears, microphones
Can they be reflected?	Yes	Yes
Can they be refracted?	Yes	Yes

How light travels

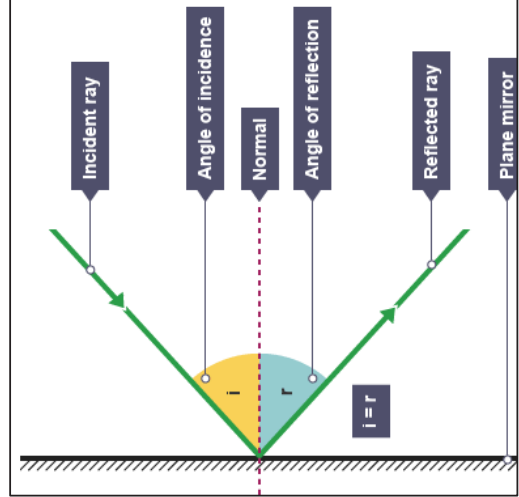
Light travels as waves. These are transverse waves, like the ripples in a tank of water. The direction of vibration in the waves is at 90° to the direction that the light travels. Light travels in straight lines, so if you have to represent a ray of light in a drawing, always use a ruler.

The speed of light

Light travels extremely quickly. Its maximum speed is approximately 300,000,000 m/s, when it travels through a vacuum.

The very large difference between the speed of light in air (almost 300,000,000 m/s) and the speed of sound in air (343 m/s) explains why you:

- see lightning before you hear it
- see a firework explode before you hear it
- see a distant door slam before you hear it



Reflection

The law of reflection

When light reaches a mirror, it reflects off the surface of the mirror:

- the incident ray is the light going towards the mirror
- the reflected ray is the light coming away from the mirror

A ray diagram shows how light travels, including what happens when it reaches a surface. In a ray diagram, you draw each ray as:

- a straight line
- with an arrowhead pointing in the direction that the light travels

Remember to use a ruler and a sharp pencil.

Sound- Key words and definitions

Vibration	The rapid back-and-forth movement of physical particles, as a reaction to different forces.
Pitch	How high or low a sound is.
Loud	A noise with high volume and intensity.
Vacuum	An area where there is no matter or particles.
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Reflection

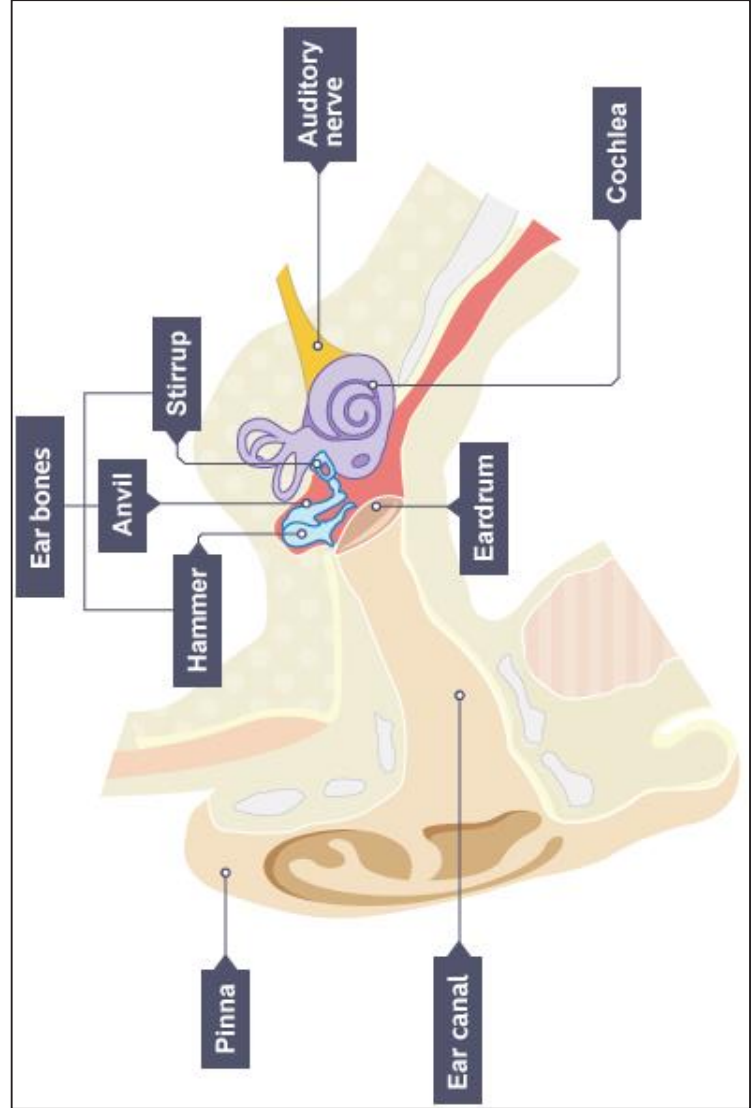
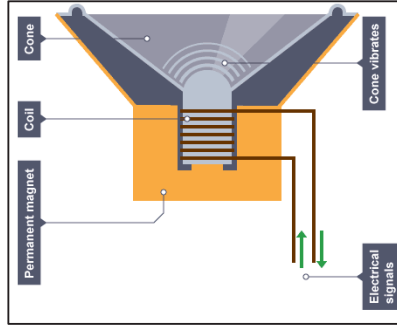
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Science - Sound and Light

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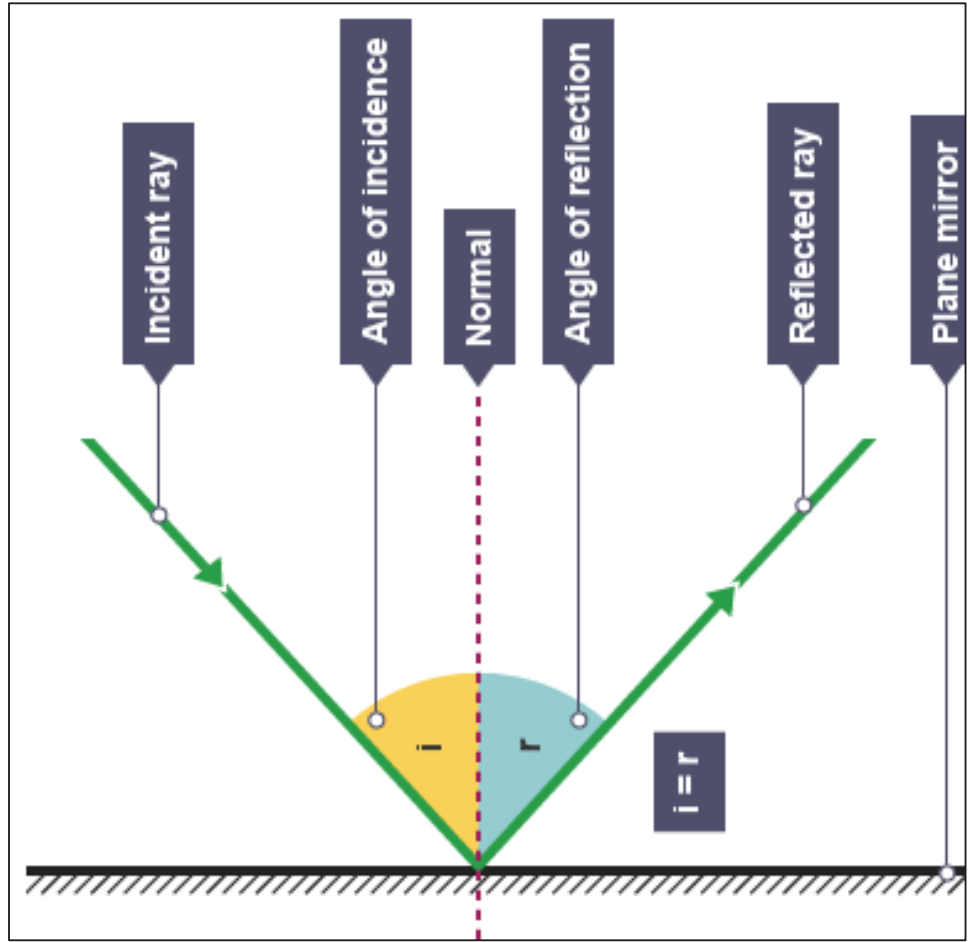
- a straight line
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Remember to use a ruler and a sharp pencil.

The law of reflection

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- the incident ray is the light going towards the mirror
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YEAR 7 Cycle 4 Knowledge Organiser

Cycle 4 in History will focus on some very important changes in the history of Britain. This will include a study of the causes of the English Civil War and the rule of Oliver Cromwell.

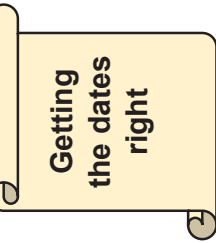
Key words and definitions

cavalier	A nickname for supporters of the king in the English Civil War
civil war	A war between people who belong to the same country
execute	To put someone to death
Puritan	A very strict Protestant who wants to obey the bible and live a pure, holy life
republic	A way of running a country without a king or queen
Roundhead	A nickname for supporters of Parliament in the English Civil War
treason	The crime of plotting against a monarch or their own country
tyrant	Someone with great power who rules in a cruel way
Ship Money	An unfair tax used by King Charles I
New Model Army	The army created by Oliver Cromwell who fought against the king in the civil war.
Bill of Rights	Agreement which King William and Queen Mary agreed to in 1688
Divine Right of kings	Belief that a monarch's power came directly from God.
Act of Union 1707	England and Scotland became a United Kingdom

TIER 2 Vocabulary

Judge/judgement = to decide on something, but the decision must be based on supporting evidence

Getting the dates right



Our study of the history of Britain in Cycle 4 focusses on the period 1603 to 1745. There are lots of dates and events which are important to know and understand so make sure that you get your dates and events right!

1603	Death of Queen Elizabeth I; accession of James I
1605	The Gunpowder Plot
1625	Death of King James I; accession of Charles I
1629	King Charles closes parliament for 11 years
1637	New Scottish prayer book leads to riots
1640	King Charles was forced to call parliament
1642	The English Civil War began
1642	Execution of King Charles
1653	Oliver Cromwell is made Lord Protector
1660	Restoration of the monarchy under Charles II
1688	The Glorious Revolution
1714	Death of Queen Anne; accession of George I
1745	Rebellion of Bonnie Prince Charlie

History

Belong Believe Be Proud

The causes of the English Civil War



- King Charles I believed in the divine right of kings and disliked having to share power with parliament. He closed down parliament for 11 years and only recalled them when he needed money.
- England was a Protestant country, but King Charles had ordered gold to be put back in churches. This, and other changes made people think he was turning England back to the Catholic faith, which they did not want. Charles' wife was also a Catholic.
- King Charles introduced some unfair taxes like ship money and unfair laws. He also lost wars.
- King Charles tried to close down parliament when it challenged his power in 1642. He marched into the House of Commons with an army. This was too much for the Puritan MPs so they refused to leave. This event made the civil war begin.
- Parliament believed that they should have a share in ruling.

The Execution of King Charles

On 30th January 1649, in one of the most shocking events in our history, King Charles I was executed. This event showed the people that monarchs had to keep to the rule of law just like anybody else. After this event, no monarch has ever had the same amount of power as Charles had.



Interpretations of Oliver Cromwell



How historians and commentators view Cromwell has changed over time. You need to be able to explain how and why.

Interpretation 1 – CROMWELL THE MONSTER (1660)

- This interpretation comes from the time of King Charles II.
- It says that Cromwell was a monster who killed King Charles I so that he could be king himself.
- It was made at this time because King Charles II had been restored to the throne and he wanted revenge on those who had killed his father. Stories were made up about Cromwell and he was blamed for all the troubles of the past.

Interpretation 2 – CROMWELL THE GREAT MAN (1800s)

- This interpretation comes from Victorian times.
- It says that Cromwell was a great man who made England a better, fairer and more religious country.
- This interpretation praises Cromwell because the Victorians said that Cromwell helped bring democracy to Britain and had started the British Empire which the Victorians were very proud of.

Interpretation 3 – CROMWELL THE CRUEL DICTATOR (1930s)

- This interpretation comes from the 1930s.
- It says that Cromwell was a cruel dictator who ran the country using the army and carried out terrible acts of violence like in Ireland.
- This interpretation is negative about Cromwell because in the 1930s people in Britain were worried about dictators in Europe like Adolf Hitler; historians compared what Cromwell did to what Hitler was doing.

Interpretation 4 – CROMWELL WAS COMPLICATED (TODAY)

- This interpretation is the modern one.
- It says that Cromwell was a complicated man who wanted the best for his country but made mistakes.
- Historians now try to judge Cromwell by the standards of HIS time not the standard of OUR time.

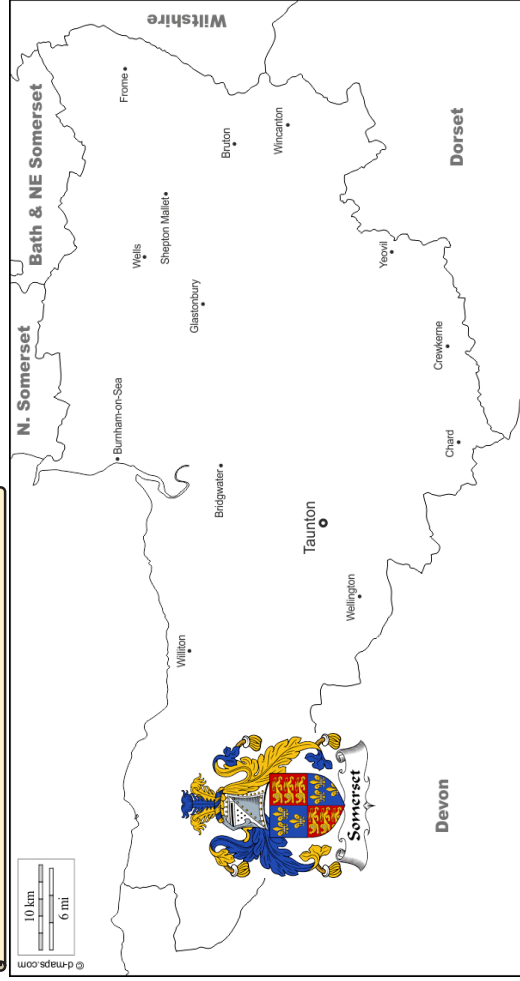
Cycle 4 Knowledge Organiser

Cycle 4 in Year 7 Geography will focus on the Somerset Rocks topic. You will study the physical geography of our wonderful county, looking at geology, weather and climate and the processes that shape our landscape.

Key words and definitions

Air mass	A body of air in the atmosphere
Atmosphere	The air surrounding the Earth
Climate	The average weather in a place
Coast	Where land meets the sea
Deposition	Material is dropped
Erosion	Material is broken down and carried away
Geology	Study of rocks
Location	Where a place is
Longshore drift	Waves move material along the coast
Physical process	A natural action
Rain shadow	A drier area behind a hill
Relief rainfall	Rainfall caused by air rising over a hill
Resistant rocks	Rocks that are hard to erode
River	Water flowing in a channel
Sedimentary rock	Formed by deposition of material which is then compressed
Temperate	Never gets extremely hot or cold
Transportation	Material is moved
Weather	Day to day condition of the atmosphere
Weathering	Breaking down of rocks
Investigate	Find out about something
Process	A series of actions or steps
Structure	How something is put together

Topic 1: Location & geology

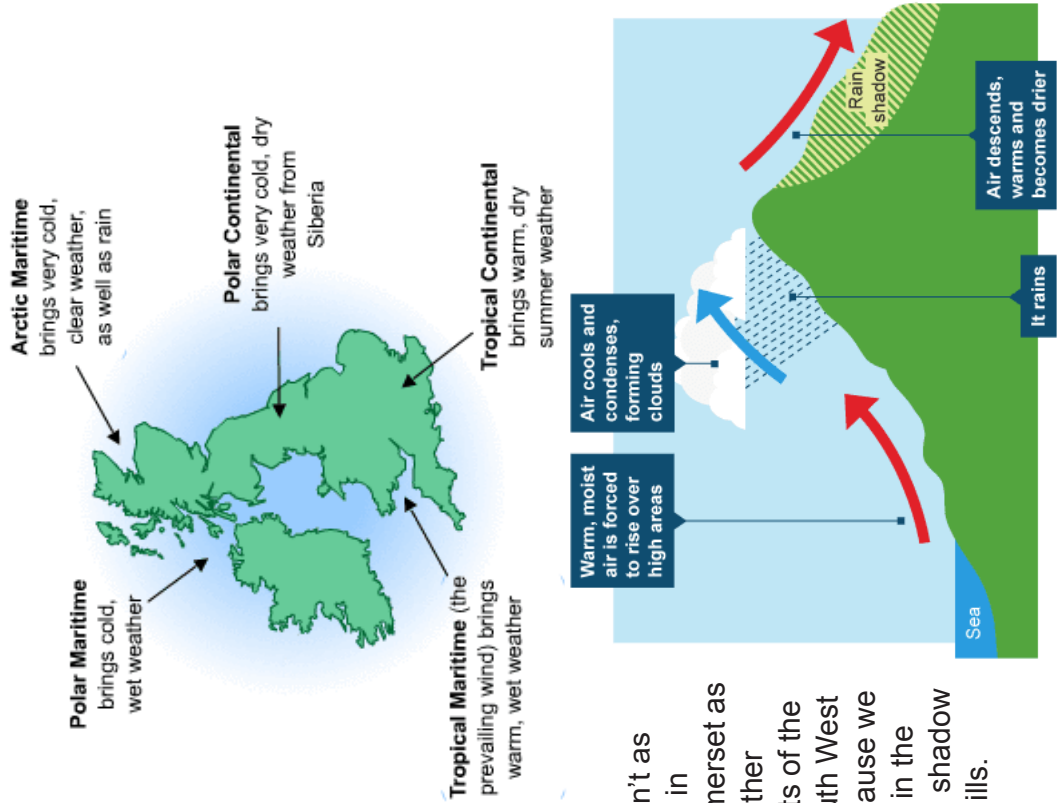


Somerset is a county in the South West of England. The geology of Somerset varies:

- Hills such as the Mendips and the Quantocks are made out of limestone and sandstone. These are sedimentary rocks. They are hard and takes a long time to erode.
- The Somerset Levels is the flat and low lying area running from Burnham on Sea to Glastonbury and beyond Bridgwater. This area used to be covered by the sea. It is made out of clay and peat.

Topic 2: Weather and Climate




Somerset has a temperate climate and is quite wet. Weather in Somerset is influenced by the air masses moving over us.



It isn't as wet in Somerset as in other parts of the South West because we are in the rain shadow of hills.

Topic 3: Landscape processes



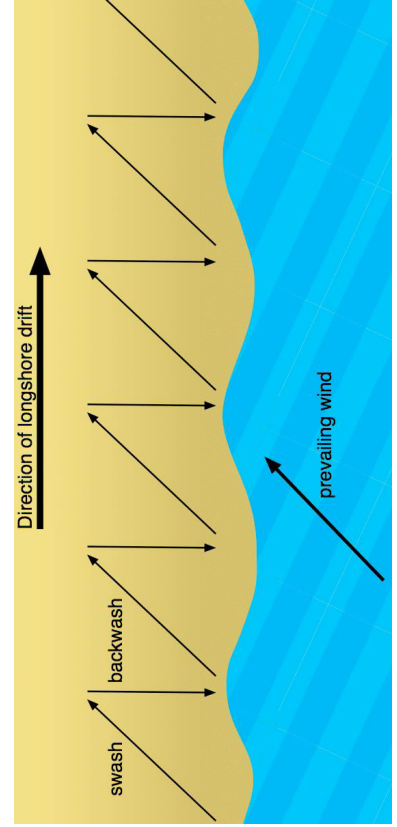
 <p>Weathering The breaking down or disintegration of substances such as rocks and minerals by physical, chemical, or biological processes</p>	 <p>Erosion The movement of sediment or soil from one location to another by means of water, ice, or wind</p>	 <p>Deposition When particles carried by water, ice, or wind are deposited (dropped) in another location</p>
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The landscape in Somerset is shaped by weathering, erosion and deposition.

Resistant (hard) rocks such as sandstone take a long time to erode, so form hills. Less resistant (softer) rocks such as shale erode rapidly.

Transportation also shapes the land.

Example: Longshore drift at the coast



Geography

Belong Believe Be Proud

Cycle 4 Knowledge Organiser

Cycle 4 in RS will focus on: Islam. Islam is an Abrahamic religion. Islam was developed in the 7th century with the founder being the Prophet Muhammad (PBUH.)

Key words and definitions

Islam	The name of the religion
Muslims	The name of the followers of Islam
Qur'an	The Holy Book. It is written in Arabic and is infallible (it has never been changed)
Allah	The Arabic word for God.
Muhammad (PBUH)	The final prophet
PBUH	Peace be upon him – a saying which shows you are respecting the prophets.
Mosque	A holy place of worship.
The Five Pillars	Five practices Muslims follow which shows dedication to their faith.
Shahadah	A declaration of faith which is recited by Muslims. "There is no God but Allah, Muhammad is His messenger"
Salah	Praying – Muslims pray 5 times a day
Sawm	Fasting (not eating or drinking during daylight hours) during the month of Ramadan.
Zakah	Giving 2.5% of wages to charity.
Haji	A pilgrimage (religious journey) to Mecca.
Arabic	A language in which the Qur'an is written.
Prophet	A messenger chosen by God to deliver God's message.

In RS you will notice that there are many very important people. In Islam, Muhammad (PBUH) is central to Islam.

The story of Islam

Muslims believe that Abraham is the founder of Islam. Abraham is also the founder of Judaism and Christianity.

Muslims believe that the Torah (the Jewish Holy book) was changed over time so God sent his message again to a new prophet.

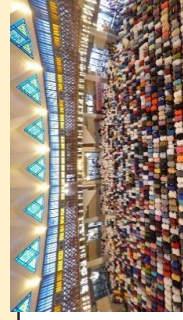
Muslims believe God sent his message to other prophets, including Jesus, who's Holy Book was the Gospels.

Muslims believe that the Gospels were changed over time so God had to resend his message.

Muslims believe Muhammad was the final prophet God chose to deliver his message to.

The final message was written down and is known today as the Qur'an. Muslims believe that the words in the Qur'an have never been changed. There is no need for God to choose another prophet to deliver his message to, as God's message is on earth in the form of the Qur'an.

How do Muslims worship?

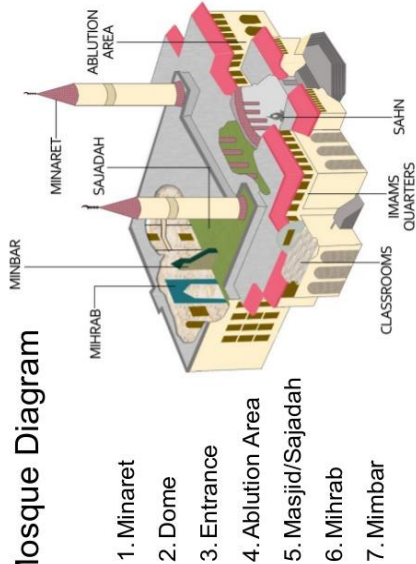


- Praying 5 times a day
- Saying prayers in private
- By living good lives
- Worshipping at the Mosque on a Friday
- Celebrating the festivals, such as Eid-ul-Fitr

The Five Pillars

1. The Shahadah is the declaration of faith. "There is no God but Allah, Muhammad is His messenger" summarises the core beliefs for Muslims, that they believe in one God and Muhammad was the final prophet. To become a Muslim, the Shahadah is said 3 times in front of 2 other Muslims.
2. Salah is the pillar of prayer. Muslims pray 5 times a day. Before Muslims pray they wash themselves in a ritual called Wudu. This washing process is completed because Muslims want to be clean in front of God before they pray to Him. All Muslims face the Ka'aba, a black building in Mecca, Saudi Arabia. In a Mosque, a Mihrab (an indentation in the wall) indicates which way Mecca is located.
3. Sawm is fasting during the month of Ramadan. Muslims do not eat or drink during daylight hours. Muslims do this to remember those who are less fortunate than themselves who often go hungry and to be thankful for what God has provided them with.
4. Zakah is performed by all adult Muslims. Muslims give 2.5% of their money to charity (after bills have been paid.) Muslims are able to give more than 2.5% if they wish.
5. Hajj is a pilgrimage (religious journey) to Mecca, Saudi Arabia. Only Muslims can enter the city as it is a Holy place where Muhammad (PBUH) was born and the Qur'an was revealed on the Night of Power. Muslims take part in many rituals which strengthen their faith, such as circling the Ka'aba 7 times anti clock wise and throwing rocks at the Jamarat Pillars to signify warning off the devil.

Features of a Mosque Mosque Diagram



Islamic Festivals – Eid-ul-Fitr & Eid-ul-Adha

Eid-ul-Fitr

Eid-ul-Fitr, commonly referred to as 'Eid', is a festival which celebrated the end of Ramadan. Ramadan is a month of fasting during daylight hours. During Eid, Muslims celebrate with their families, they have a feast, they pray, share presents, have parties.



Eid-ul-Adha

Eid-ul-Adha remembers the sacrifice Abraham was willing to make. God asked Abraham to sacrifice his son as a test of his faith. Abraham was willing, but God stopped the sacrifice and replaced Abraham's son with an animal. To remember Abraham's dedication to God, Muslims sacrifice an animal during this festival. A third of the meat is eaten by the Muslims who own the animal, a third of the meat is given to family & friends, and a third is given to the poor. Muslims disagree with wasting food.

Religious Studies

MFL - French

Belong Believe Be Proud

In Learning Cycle 4, we're describing where we live. We'll be talking about the things to see and do in our town or region, and arrange to go out with friends.

On peut...

visiter **les musées**
visiter **les jardins**
manger au restaurant
aller au concert
jouer au babyfoot *au café*
faire une promenade
faire du roller/du skate
faire du vélo
faire du bowling

You can...

visit **the museums**
visit **the gardens**
eat at a restaurant
go to a concert
play table football *at a café*
go for a walk
go rollerskating/skateboarding
go cycling
go bowling

Going somewhere using aller à

The article à (to) changes depending on the noun following it:
à + le = **au** je vais **au** collègue (*I go to school*)
à + la = **à la** je vais **à la** patinoire (*I go to the ice rink*)
à + l' = **à l'** je vais **à l'**église (*I go to the church*)
à + les = **aux** je vais **aux** magasins (*I go to the shops*)

Avoir (to have)

j'ai *I have*
tu as *you (sing.) have*
il/elle a *he/she have*
on a *we have*
nous avons *we have*
vous avez *you (pl) have*
ils/elles ont *they (m/f) have*

Être (to be)

je suis *I am*
tu es *you (sing.) are*
il/elle est *he/she is*
on est *we are*
nous sommes *we are*
vous êtes *you (pl) are*
ils/elles sont *they (m/f) are*

Developing your answers – make your writing more interesting!

J'adore aller au parc d'attractions *parce que c'est vraiment amusant*
I love to go to the theme park *because it's really fun*

Dans ma ville <i>il y a</i> beaucoup à faire.	In my town <i>there is</i> a lot to do.
D'habitude, le weekend je vais en ville pour faire du shopping <i>avec</i> mes amies.	Normally at the weekend I go into town in order to do some shopping <i>with</i> my friends.
Quelquefois on va à la patinoire, et après on va <i>au cinéma</i> , ou au restaurant .	Sometimes we go to the ice rink, and after we go <i>to the cinema</i> or to the restaurant .
Tous les ans ma famille va <i>aux États-Unis</i> pour les vacances d'été . C'est génial!	Every year my family goes <i>to the USA</i> for the summer holidays . It's great!
Nous visitons les musées et <i>les monuments</i> , et nous adorons faire du camping <i>aussi</i> .	We visit the museums and <i>the monuments</i> , and we love going camping <i>too</i> .
L'année dernière nous sommes allés visiter la Maison Blanche ,	Last year we went to visit the White House ,
mais l'année prochaine j'ai hâte d' <i>aller</i>	but next year I look forward to <i>going</i>
en Australie avec toute <i>ma famille</i> .	to Australia with all <i>my family</i> .
Ça va être super cool!	It's going to be super cool!

Translation task ↑

Choose to translate into English (easy) or French (harder):

- LOOK – read one line at a time in both languages
- COVER – cover one side so that you can't see it
- WRITE – try to translate the text you can see
- CHECK – uncover the text, and purple pen your corrections

Writing task

Imagine you're telling a French friend about your town.

Write 2 sentences for each of these bullet points:

- What things there are to do where you live
- What you like/dislike, and why
- Something you do regularly at the weekend with friends
- Describe a holiday you're going to go on

MFL - French

Belong Believe Be Proud

J'habite à <i>I live in</i>	C'est <i>It is</i>	un village <i>a village</i> une petite ville <i>a small town</i> une grande ville <i>a large town</i>	dans le Sud-Ouest de l'Angleterre <i>in the south-west of England</i>
Il y a (aussi) <i>There is (also) a... / There are (also) some...</i>	il n'y a pas de <i>there isn't a/an</i>	un collège <i>school</i> un centre de loisirs <i>leisure centre</i> un château <i>castle</i> un stade <i>stadium</i> un marché <i>market</i> une patinoire <i>ice rink</i> une église <i>church</i> une piscine <i>swimming pool</i> des magasins <i>shops</i> des musées <i>museums</i>	
Cependant <i>However</i>	NB: You don't need un, une or des after this!		
À mon avis <i>In my opinion</i>	c'est <i>it is</i>	assez <i>quite</i> vraiment <i>really</i> un peu <i>a little</i> très <i>very</i> trop <i>too</i>	bien <i>good</i> intéressant <i>interesting</i> joli <i>pretty</i> génial <i>great</i> nul <i>rubbish</i> ennuyeux <i>boring</i> petit <i>small</i>
Je pense que <i>I think that</i>	ce n'est pas <i>it isn't</i>		

Directions	Excuse me <i>where is/are...</i> <i>It's</i> on the left on the right straight on at the crossroads between behind
Pardon Où est/sont... C'est à gauche à droite tout droit au carrefour entre derrière	

Opinions	<i>I like</i> <i>I don't like</i> <i>I love</i> <i>I hate</i> <i>I prefer</i> <i>I'd (really) like</i> <i>I look forward to</i>
j'aime je n'aime pas j'adore je déteste je préfère j'aimerais (bien) j'ai hâte de (+verb)	

Talking about past/future holidays	<i>I went</i> <i>I'm going to go</i>
je suis allé je vais aller	

Reasons	<i>because</i>
parce que	

All your LC4 vocab is also on Quizlet:



Present tense – ER verbs	Remove <i>-er</i> from the infinitive, and add:
je regarde	I watch
tu regardes	you (singular) watch
il/elle regarde	he/she watches
on regarde	we watch
nous regardons	we watch
vous regardez	you (plural) watch
ils/elles regardent	they (m/f) watch
je ne regarde pas	I don't watch

Infinitive phrases	Use these after <i>an opinion</i> or <i>past/future tense phrases</i>
retrouver mes amis en ville	meeting my friends in town
regarder la télévision	watching the TV
jouer sur ma PS5	playing on my PS5
écouter de la musique	listening to music
faire les magasins	doing shopping
faire du sport	doing sport
jouer au foot	playing football
traîner avec mes copains	hanging out with my friends

In Learning Cycle 4, we're describing where we live.

We'll be talking about the things to see and do in our town or region, and arrange to go out with friends.

¿Cuándo encontramos? (When are we meeting?)

- a la una at one o'clock
- a las dos at two o'clock
- a las dos y cinco at five past two
- a las tres y diez at ten past three
- a las siete y cuarto at quarter past seven
- a las ocho y media at half past eight
- a las nueve menos cuarto at quarter to nine
- a mediodía at midday
- a medianoche at midnight

Going somewhere using ir a

The article **a** (to) changes depending on the noun following it:

- a + le = al voy al colegio (I go to school)
- a + la = a la voy a la iglesia (I go to church)
- a + los = a los voy a los museos (I go to the museums)
- a + les = a las voy a las tiendas (I go to the shops)

Tener (to have)

- tengo I have
- tienes you (sing.) have
- tiene he/she have
- Usted tiene you have (formal)
- tenemos we have
- tenéis you (pl) have
- tienen they (m/f) have

Estar (to be) [at a place]

- estoy I am
- estás you (sing.) are
- está he/she is
- Usted está you are (formal)
- estamos we are
- estáis you (pl) are
- están they (m/f) are

Developing your answers – make your writing more interesting!

Me encanta ir a los museos *porque es realmente divertido*
I love to go to the museums *because it's really fun*

En mi ciudad <i>hay</i> mucho a hacer.	In my town <i>there is</i> a lot to do.
Todos los sábados voy en la ciudad para ir de compras <i>con</i> mis amigos.	Every Saturday I go into town in order to go shopping <i>with</i> my friends.
De vez en cuando vamos a la piscina, y después vamos <i>al cine</i> , o a un restaurante .	Sometimes we go to the swimming pool, and after we go <i>to the cinema</i> or to a restaurant .
En julio mi familia va a los <i>Estados Unidos</i> para las vacaciones . ¡Es guay!	In July my family goes <i>to the USA</i> for the holidays . It's cool!
Visitamos los museos y <i>los centros comerciales</i> y nos encantan ir a los parques temáticos.	We visit the museums and <i>the shopping malls</i> , and we love going to the theme parks.
El año pasado fuimos a ver la Casa Blanca,	Last year we went to see the White House ,
pero el año próximo tengo ganas de ir a Australia con toda mi familia.	but next year I look forward to going to Australia with all <i>my family</i> .
¡Va a ser asombroso!	It's going to be amazing!

Translation task ↑

Choose to translate into English (easy) or Spanish (harder):

- LOOK – read one line at a time in both languages
- COVER – cover one side so that you can't see it
- WRITE – try to translate the text you can see
- CHECK – uncover the text, and purple pen your corrections

Writing task

Imagine you're telling a Spanish friend about your town.

Write 2 sentences for each of these bullet points:

- What things there are to do where you live
- What you like/dislike, and why
- Something you do regularly at the weekend with friends
- Describe a holiday you're going to go on

Vivo en

I live in

Es

It is

un pueblo *a village*
una ciudad *a town*
una gran ciudad
a large town/city

en el suroeste de
Inglaterra
in the south-west of England

Hay (también)

*There is (also) a... /
There are (also) some...*

un colegio *school*
un polideportivo *leisure centre*
un castillo *castle*
un estadio *stadium*
un mercado *market*
una biblioteca *ice rink*
una iglesia *church*
una piscina *swimming pool*
unas tiendas *shops*
unos museos *museums*

Sin embargo

However

no hay
there isn't a/an

NB:
*un/una is optional
after no hay*

En mi opinion

In my opinion

es

it is

bastante *quite*
realmente *really*
un poco *a little*
muy *very*
demasiado *too*

bien *good*
interesante *interesting*
comodo *pretty*
genial *great*
aburrido *boring*
ruido *noisy*
pequeño *small*

Pienso que

I think that

no es

it isn't

En el cafe (in the café)

perdón *excuse me*
para mí *for me...*
quisiera *I would like*
un cafe *a coffee*
un cafe con leche *a coffee with milk*
un té *a tea*
la cuenta *the bill*
por favor *please*
[muchas] gracias *[many] thanks*

Las opiniones (Opinions)

me gusta[n] *I like*
no me gusta[n] *I don't like*
me encanta[n] *I love*
odio *I hate*
prefiero *I prefer*
me gustaría *I'd like*
tengo ganas de (+verb) *I look forward to*

Talking about past/future holidays

fui/fuimos *I went/we went*
Voy a ir *I'm going to go*

Infinitive phrases

Use these after an opinion or voy a (see future tense →)

encontrar mis amigos **meet my friends in town**
ver la televisión **watch the TV**
jugar en mi PS5 **play on my PS5**
escuchar música **listen to music**
comer al restaurante **eat at a restaurant**
montar en bici **go cycling**
jugar al tenis **play tennis**
pasar el rato con mis amigos **hang out with my friends**

Future tense ("going to")

*e.g. Voy a estudiar español
(I'm going to study Spanish)*

voy a *I'm going to*
vas a *you're going to*
va a *he/she is going to*
vamos a *we're going to*
vais a *you're going to*
van a *they're going to*

Connectives

parece que *because*
y *and*
o *or*
sin embargo *however*
pero *but*
por/para *for*
en vez de *instead of*
primero *first*
hasta *until*

MFL - Spanish

Each learning cycle will build upon the different elements of music theory. Knowledge quizzes will check your understanding of key points. Extra, optional materials will be posted in google classrooms for students wishing to study in more depth and challenge themselves by taking a grade 1 theory exam at the end of year 7.

MUSICAL ELEMENTS

Tempo	Speed of the music
Dynamics	How loud or quiet the music is
Pitch	How high or low the notes are
Rhythm	Note values, and the patterns of different note values.
Meter	Time signatures - how many beats are in each bar
Articulation	Different styles of playing the notes / music.

PITCH

Vocabulary - **effective** - successful or achieving the results that you want

IDENTIFYING KEY SIGNATURES

The **key signature** of a piece of music is always found at the beginning. The flats / sharps found here tell you the key signature.



C major = no flats / sharps



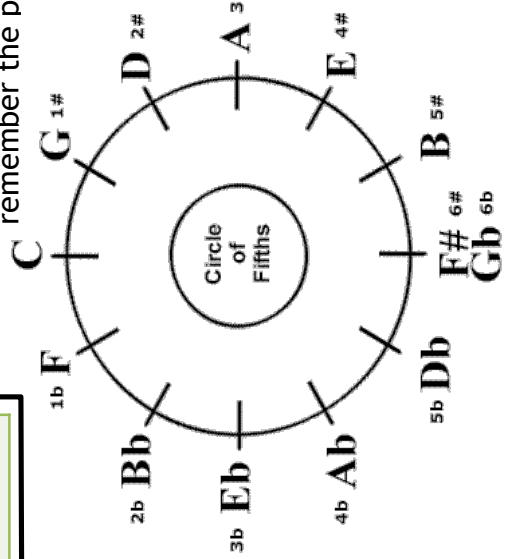
F major = 1 flat (B)



G major = 1 sharp (F)

THE CYCLE OF FIFTHS CAN BE USED TO REMEMBER THE ORDER OF FLATS AND SHARPS IN DIFFERENT KEY SIGNATURES

The most **effective** way of remembering the order of flats and sharps around the cycle of fifths circle is to remember the mnemonic in the green box.



CYCLE OF FIFTHS

A very common chord progression used in all styles of music. Usually most notable by its distinctive bass line. Named 'Cycle of 5ths' as the notes / chords move in intervals of a 5th each time.



Scan the QR code to hear some examples of songs that use a Cycle of 5th progression

SHARPS

Father
Charles
Goes
Down
And
Ends
Battle

FLATS

Battle
Ends
And
Down
Goes
Charles'
Father

Each learning cycle will build upon the different elements of music theory. Knowledge quizzes will check your understanding of key points. Extra, optional materials will be posted in google classrooms for students wishing to study in more depth and challenge themselves by taking a grade 1 theory exam at the end of year 7.

Music

PITCH

INTERVALS

An interval is the difference in pitch between 2 notes. Find it by counting up / down the keyboard. ALWAYS INCLUDE THE STARTING NOTE AS NUMBER 1!

E.g.

The interval between C **up** to G is a 5th.



An interval of 8 notes (i.e. C to a higher C) is called an **OCTAVE**

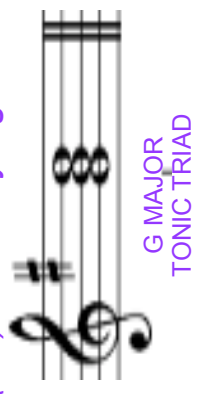
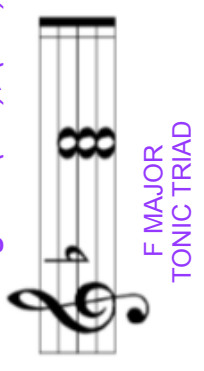
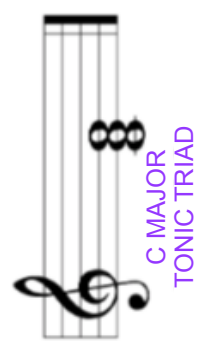
From D **up** to F is a third.



From B **down** to D is a sixth



TONIC TRIAD - A chord of 3 notes using the (1st), (3rd) and (5th) of the key signature

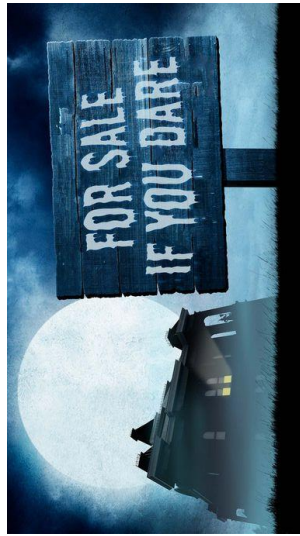


The focus for cycle 3 in drama is: Learning how to build tension through sound, movement and pause.

THE LEGEND OF DARKWOOD MANOR

Darkwood Manor lies on the top of a hill in the village of Darkwood. It has been derelict for many years but was once owned by Lord and Lady Darkwood who were the local landowners.

The villagers are afraid to go near the house because of all the rumours surrounding it. Some say there was a great fire, others say that a small boy drowned... All say that the house is terribly haunted.



Darkwood Manor

Enter those who dare!

£250

Is offered to those souls with
courage enough to brave one
night in the Manor.

The present owner desperately wants to sell the house. As you can imagine, this is proving quite difficult for them.

To lure people in and finally stop the rumours of the house being haunted the owners created a reward for anyone who could survive a night at Darkwood Manor.

KEY WORD	DEFINITION
Tension	Tension is a growing sense of expectation within the drama, a feeling that the story is building up towards something exciting happening.
Suspense	A sense of uneasiness that something unusual or shocking may be about to happen.
Pace	How fast or how slow the movement or voice is. Varying the pace can add suspense and build tension such as a dramatic pause to show something shocking is about to happen.
Stimulus	The starting point, idea or inspiration for your devised drama. It is what you base your drama around.

Drama

Belong Believe Be Proud

TYPES OF SOUND

Diegetic Sound

This is sound that the characters in the scene **can** hear and they add to the story somehow.

This could be:



Door knocking

A scream



Phone ringing



A siren

Non-Diegetic Sound

This is sound that the characters in the scene **can't** hear and instead help to add atmosphere, show emotions or build tension.

This could be:



Sad music to show emotion.



Intense music to build tension.

Body language

Gesture

Gait

Physical skills

Facial expression

Stance

Posture

Body language

Projection

Pace

Tone

Pitch

Vocal skills

Emphasis

Clarity

Accent

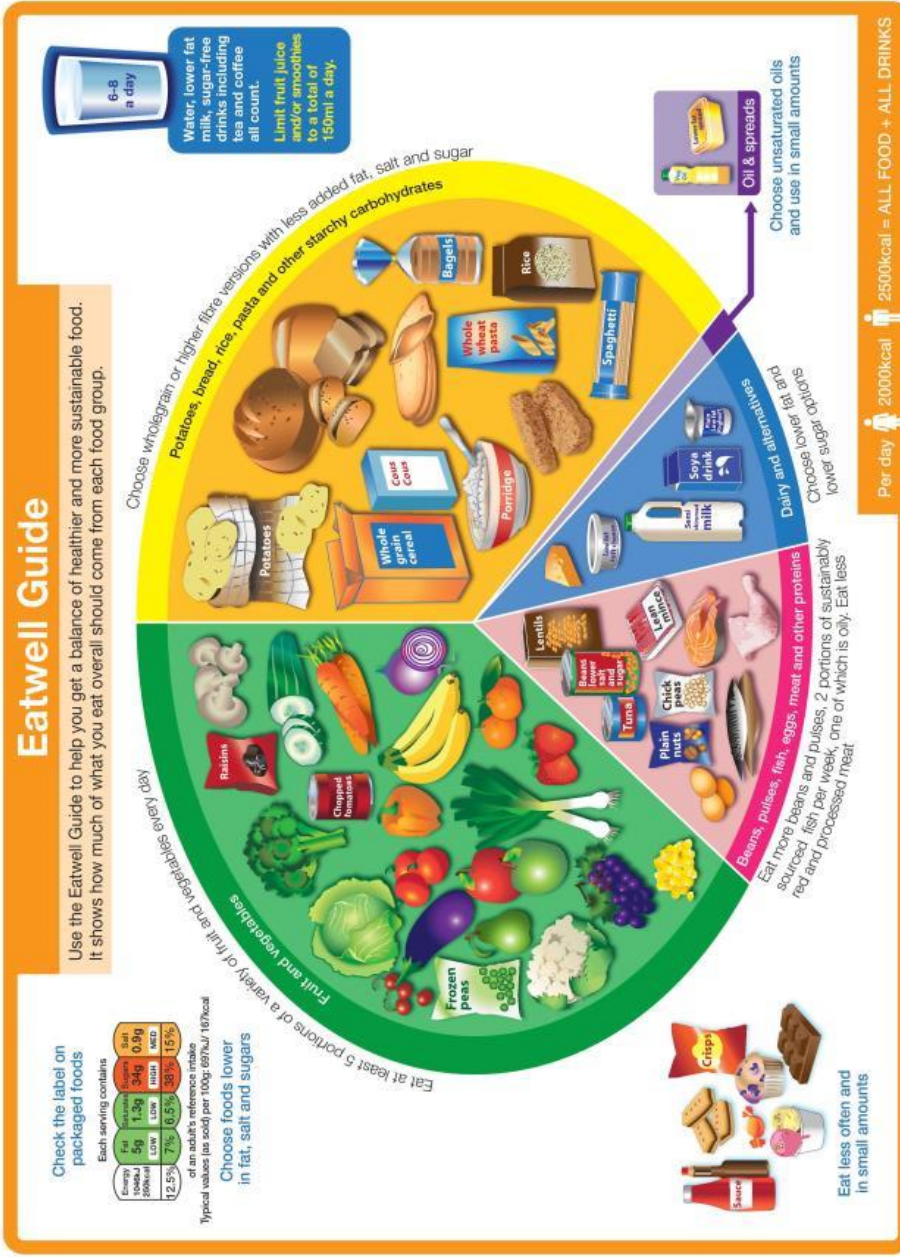
Volume

SPELLINGS TO LEARN THIS CYCLE

Tension Suspense Pace Pause Diegetic Movement Proxemics Staging Audience
 Performance Rehearsal Collaboration Atmosphere Sightlines Characterisation

Quiz 1 General Knowledge

Food Cycle Knowledge Organiser



Learn the names of each of the food groups and examples of foods in each group:

- Starchy foods (yellow)
- Fruit and vegetables (green)
- Protein foods (pink)
- Dairy (blue)
- Fats and oils (purple)

The only fats that you need to add to foods are vegetable fats.

You should get 50% of your energy from starchy carbohydrates (starchy foods).

1/3 (30%) of your plate should be starchy foods

1/3 (30%) of your plate should be fruits and vegetables

About 1/5 (20%) of your plate should be protein foods and where possible these should be low in saturated fat

About 1/6 (17%) of your plate should be dairy products – where possible they should be low fat (includes soya)

Drink 6-8 glasses of liquid (without sugar) every day

Use the traffic lights symbols on food packages to help you make healthy choices (but remember they are based on an average adult woman - red for anyone under 20 should be extra red).

Cut down on foods high in sugar, fats (especially saturated fats) and salt.



Design and Technology

Belong Believe Be Proud

Quiz 2 Key Words

Key word	Definition (What it means)
Hazard	Something dangerous
Control	To make a hazard safer
Safety	Reducing the risk of accidents
Hygiene	Keeping food clean and preventing bacterial growth
Evaluation	Looking back at what you have done and assessing it
Adjective	A describing word
Boiling	100°C, large bubbles
Simmering	95°C, small bubbles
Bridge hold	Make a bridge with one hand to hold veg/fruit, picture overleaf
Claw grip	Make a claw with one hand to hold fruit/veg, picture overleaf
Produce	make or manufacture from components or raw materials.
Previous/ Previously	occurring before in time or order



KNIFE SAFETY

Food Cycle Knowledge Organiser

Quiz 3 General Knowledge

Health and Safety

- **Take off blazer, roll up long sleeves**
- **Tie up long hair**
- **Stack the stools**
- **Wash hands in warm soapy water**
- **No nail varnish**
- **Short nails**
- **Put on an apron**
- **Make sure your work surface and equipment are clean**
- **Throw away food you drop on the floor**
- **If you need to sneeze or cough, move away from the food to do it**
- **If you touch your hair, cough or sneeze, wash your hands again**
- **Keep your work area free of rubbish**
- **Wash up properly in hot soapy water**
- **Dry equipment thoroughly**
- **Keep high risk foods in the fridge**

Quiz 1 Key Words

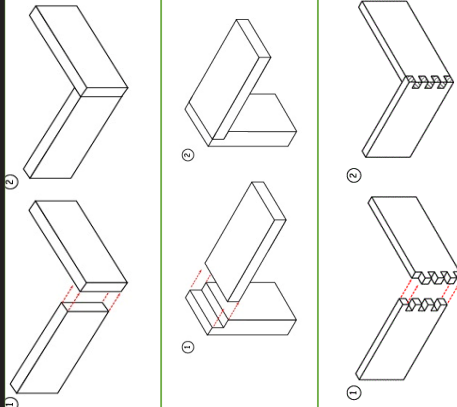
Research	To investigate
Completely	Totally, Fully



During this topic you will learn the types, properties, structures and uses of the main natural and manufactured boards.

Timbers Cycle Knowledge Organiser

Quiz 1 General Knowledge



Wood joints

Butt joint

A very simple joint but it is also very weak. They tend to be used for making picture frames, corner pieces and nails are often used to strengthen the joint.

Lap joint

This joint is only slightly stronger than the butt joint. There is however a bigger surface area for gluing. This joint is often strengthened with nails.

Comb joint

This is the strongest joint on this page. The comb joint can be difficult to make but looks very good. It has a lot of surface area to glue together.

Quiz 1

Knots

Knots - Appear in the trunk where there are, or were branches. As the tree grows wider older branches tend to die off and are subsumed by the increasing girth of the trunk.



Grain is the direction or pattern of fibres seen in a cut surface of wood.

Quiz 1 General Knowledge



Medium density fibreboard (MDF)

- Has a smooth flat surface, which makes it easier to sand and paint.
- Denser (more compact) than other manufactured boards.
- It has equal strength in all directions
- **Used in flat-pack furniture, storage units.**

MDF is made by squashing tiny particles of timber together with adhesive (glue).

Manufactured boards

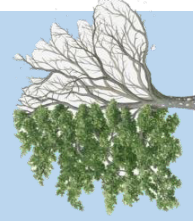
Made from wood; often using off-cuts from natural timber. They are bonded together with adhesives. They tend to be cheaper than solid wood planks



Quiz 2 Properties

Hardwood

Hardwoods mostly come from **broad-leaved, deciduous tree (trees that shed their leaves in autumn and winter)**. They are generally **slow growing** and are therefore usually more **scarce and more expensive than softwoods**.



Properties

- Tough
- Durable
- Hard
- Attractive grain

Uses

- Flooring
- Furniture
- Whisky barrels

Oak



During this topic you will learn new tools, equipment and joining methods for woods.

Quiz 2 Properties

Softwoods – come from coniferous trees that have long needle-like leaves and are generally found in cold climates. They are quick growing and can therefore be replaced quicker than hardwoods.

Wood is an organic material that is the main substance in the trunk and branches of a tree. Wood prepared for use in building and carpentry is known as timber. There are two types of natural timber: **Hardwood** and **Softwood**. These names do not refer to how hard the wood is.

Properties

- Easy to work with
- Quite strong
- Lots of knots

Uses

- Furniture
- Construction
- Door frames

Pine



Properties

- Natural oils make it
- Durable
 - Weather resistant

Uses

- Outdoor Furniture
- Sheds
- Fencing

Cedar



Quiz 2 Properties

Hardness

The resistance to indentation, scratching and wear and tear.

Toughness

The ability to withstand impact without fracturing

Durability

The ability to resist damage, pressure and the wear and tear of daily use.

Quiz 3 Processes

1. **Try square** Marking 90° angles

2. **Tenon saw** Cutting straight lines in wood.

3. **Coping saw** Cutting curves in wood and plastic.

4. **Bench hook** Helps hold wood in place whilst cutting.

5. **Wood vice** Holding working whilst cutting/filing.

6. **File/s** Removes fine amount of material from work.








7. **Pillar drill** Drills accurate 90° vertical holes in materials.

8. **Sanding disc** Sanding and finishing wood.

9. **G clamp** Holding work down whilst cutting or gluing.

10. **Steel rule** Measuring material in cm/mm.

Tool names and uses

1. 	2. 
3. 	4. 
5. 	6. 
7. 	8. 
9. 	10. 

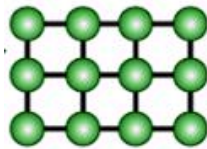


Polymer & Metal Cycle Knowledge Organiser

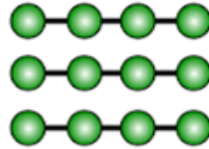
Quiz 1 General Knowledge

Plastics / Polymers

There are two categories of polymers, **thermosetting plastics** and **thermoplastics**



Thermosetting: Links between the polymer chains do not allow for any movement, meaning thermosetting plastics cannot be remoulded. Once thermosetting plastics are set, they cannot be remoulded. They are not recyclable, but are resistant to heat.



Thermoplastic: No links between the chains allowing movement when heated so thermoplastics can be remoulded. They become soft or *plastic* when heated, allowing them to be remoulded over and over, and are therefore recyclable

Thermoplastic

- Hard and rigid
- Range of colours
- Easily scratched
- Waterproof
- Insulator
- Safe alternative to glass



Acrylic

Thermosetting plastic



Polyester resin

- Hard
- Brittle
- Can be cast into shapes
- When combined with fiberglass it becomes GRP (glass reinforce plastic)

Quiz 1 General Knowledge

Metals

Metals are usually produced from rocks mined from the earth, called ore. Metals can be divided into two groups - **ferrous metals** and **non-ferrous metals**

Ferrous metals and properties

- Mild Steel**
(low carbon steel)
- Iron + Carbon (0.25%)
 - Malleable
 - Ductile
 - Tough
 - Poor corrosion resistance



The word **ferrous** comes from the Latin word **ferrum**, meaning **iron**.

Non-ferrous metals and properties

- Aluminium
- Lightweight
 - Corrosion resistant
 - Malleable
 - Tough
 - High electrical & thermal conductivity



Quiz 2 Key Words

Form

Shape, or appearance

Justify

Show it, or prove it

Quiz 2 Properties

Material Properties

Plasticity



The ability to be easily shaped or moulded.

Elasticity



The ability to stretch and return to its original shape.

Brittle







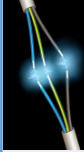
Shatters easily under pressure or vibration e.g. glass.



Polymer & Metal Cycle Knowledge Organiser

Quiz 2 Properties

Material Properties

Insulator		A material which does not conduct electricity or heat.
Hard/ hardness		The resistance to indentation or scratching.
Tough/ toughness		The ability to withstand a sudden impact
Thermal conductivity		The ability to transfer heat through the material.
Electrical conductivity		The ability to allow electricity to pass through it.

Quiz 3 Processes

Metal Surface Finishes

Paint		Paint
Plastic dip coating/ powder coating		Plastic dip coating/ powder coating
Lacquering		Lacquering Clear spray protective coating

Metal surface finishes prevents corrosion of metals by creating a barrier and enhances the aesthetics (appearance) of metals. Before finishes are added to a metal, it is first smoothed and cleaned with abrasives and cleaners to get a quality finish.

1. 	2. 
3. 	4. 
5. 	6. 
7. 	8. 
9. 	10. 

Quiz 3 Processes

Tool names and uses when using metals








1. Metal vice	To hold work whilst cutting/ filing.	6. Wet and dry paper	Creates a smooth finish on plastic edges.
2. Coping saw	Cutting curves in wood and plastic.	7. Hacksaw	Cutting straight lines in metal.
3. Strip heater	Used to heat and bend acrylic.	8. Scriber	Use to mark out lines/ design on metal.
4. Pillar drill	Drills accurate 90° vertical holes in materials.	9. Centre punch	Make an indent in metal before drilling.
5. File/s	Removes fine amount of material from work.	10. Ball peen hammer	Use to shape metal/ use with centre punch.



During this topic you will learn the types, textiles, tools and health and safety rules

Quiz 1 General Knowledge

Technical Textiles

Agro-textiles		Textiles used in the agriculture industry (farming) e.g. netting to protect crops.
Construction textiles		Netting on scaffolding to protect people from falling debris. Lining for ponds.
Geotextiles		Used to hold sand for preventing flooding and protect eroding coastlines.
Domestic textiles		Common in homes e.g. cleaning cloths, cushion padding, carpet.
Environmentally friendly textiles		Textiles that come from sustainable and organic sources (without the use of pesticides and fertilisers).
Protective textiles		Can protect against heat (fire fighters clothing), harmful chemicals and bullets (Kevlar®).
Sport textiles		They can remove moisture (sports tops), control bacteria (running socks), resist impact (sports shoes).

Quiz 1 Key Words

Various

More than one, different types

Alter



Change something

Textiles Cycle Knowledge Organiser

Quiz 2 Properties

Natural Fibres

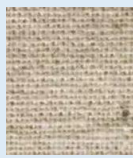
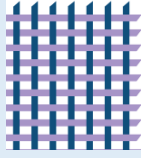


Natural fibres come from plants or animals. They are easily **renewable** and **biodegradable**.

Name	Image	Properties	Uses
Cotton Sourced from the cotton plant		<ul style="list-style-type: none"> Highly absorbent Cool to wear when hot Creases easily Flammable 	Clothing, upholstery and towels.
Wool Sourced from animal fleece (mainly sheep)		<ul style="list-style-type: none"> Warm Absorbent Crease-resistant Low flammability Can shrink 	Jumpers, rugs, blankets, coats and carpets.

Quiz 2 Properties

Woven Fibres

Woven fabrics are made by weaving two sets of yarn at right (90°) angles to each other.

Name	Image	Properties	Weave
Calico Plain weave		<ul style="list-style-type: none"> Basic weave Cheapest weave Pattern same on both sides Shirts 	
Denim Twill weave		<ul style="list-style-type: none"> Hard wearing Strong Diagonal pattern Jeans 	



Textiles Cycle Knowledge Organiser

During this topic you will learn the types, textiles, tools and health and safety rules

Quiz 2 Properties

Synthetic Fibres

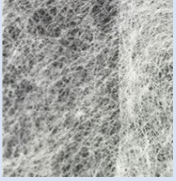

Synthetic fibres are **thermoplastics** are made from chemicals and **fossil fuels**. Most synthetic fibres are not sustainable or biodegradable

Name	Image	Properties	Uses
Polyester		<ul style="list-style-type: none"> Durable Poor absorbency Resistant to creases Not very warm 	Sportswear, raincoats and medical textiles.
Acrylic Imitation wool		<ul style="list-style-type: none"> Warm Dries quickly It is crease resistant Poor absorbency 	Knitwear, blankets and upholstery fabrics.

Quiz 2 Properties

Non-woven fabrics

Non-woven fabrics are made directly from fibres that have not been spun into yarns.

Name	Image	Properties	Uses
Bonded fabrics		<ul style="list-style-type: none"> Webs of fibres bonded together with glue, heat and stitching. Weak Do not fray 	Disposable clothing, tea bags
Felt		<ul style="list-style-type: none"> Matting wool fibres together using moisture heat and pressure. Pulls apart easily 	Hats, crafts, pool table surface

Quiz 3 Processes

Textiles Health and Safety

- Always follow your teacher's instructions.
- Only use equipment you've been shown how to use.
- Tie long hair up.
- Keep your eyes on your work.
- Keep your desk area tidy.
- No running/ rushing around.
- Tuck in stools when not using.
- No liquids in the room.
- Do not distract other students whilst using equipment.

Quiz 3 Processes

Tool names and uses

- Un-picker** Used for cutting or removing stitches.
- Tailors chalk** Marking out on fabric.
- Tape measure** A flexible ruler for measuring.
- Fabric shears** The main tool for cutting fabric.
- Needles** Used for hand sewing.
- Pins** Temporarily holds the fabric in place when attaching and cutting patterns, or whilst sewing.



Learning cycle 4 in Food covers: adapting recipes and practical skills.

Key words and definitions:

Skills	The skills in a recipe are the difficult or technical parts.
Adapt	Change it to something different but similar.
Servings	The number of people a recipe serves.

Test 1 – Adapting recipe quantities

- **Recipes serve different numbers of people.**
- **You will be given 2 recipes and asked to adapt them to serve a different number of people.**
- **All you have to do is practice dividing by 2, 3 and 4.**
- **Practice the examples below and check your answers.**

Cup cakes, makes 24.	Adapt the recipe so that it makes 12.	Burgers, makes 16.	Adapt the recipe so that it makes 4.	Scones, makes 12.	Adapt the recipe so that it makes 4.
220 g	SR flour	4	Onions	525 g	SR flour
220 g	Margarine	2 kg	Beef mince	129 g	Margarine
220 g	Caster sugar	4	Eggs	4.5 tbsp	Caster sugar
4	Eggs	16	Burger buns	264 ml	Milk
Garlic chicken, serves 6.	Adapt the recipe so that it serves 2.	Mushroom Omelette, serves 4.	Adapt the recipe so that it serves 1.	<p>Answers: Cup cakes-110, 110, 110, 1. Burgers-1,500g or 0.5kg, 1,4. Scones-175, 43, 1.5, 88. Garlic chicken-2, 320, 150, 200, 0.5. Mushroom omelette-1, 25, 2, 1, 50.</p> <p>Hint - divide the number of servings by the number you want to get to. Then divide the recipe quantities by that number. • Eg a recipe serves 20, you want to cook for 5. $20/5=4$, so divide the recipe by 4.</p>	
6	Chicken breasts	4 tbsp	Oil		
960 g	Pastry	100 g	Cheese		
450 g	Garlic cream cheese	8	Eggs		
600g	Green beans	4 tbsp	Chopped parsley		
1.5	Lemons	200 g	Mushrooms		

Test 2 - for this test you will need to be able to identify basic and moderate skills in recipes and adapt recipes to make them healthier.

Cycle 4 Knowledge Organiser

Use the eatwell guide and dietary goals to adapt recipes:

1. Cut down on fats

If frying, use a good non-stick pan and dry fry (e.g. in the case of mince). Leaving out the oil could cut 45 calories per teaspoon in your meal. If your food is drying out, don't add more oil, add a little water. Use fats and oils that are high in good fats (poly- and mono-unsaturated fats), e.g. olive oil and try using less than the recipe suggests.

2. Cut down on salt

Most recipes indicate that you need to add salt. Replace salt with alternative seasonings such as pepper, herbs, spices, lemon juice, vinegar or mustard.

3. Cut down on sugar

Experiment by using less sugar when you bake – most cakes will work even if the quantity of sugar in the recipe is halved. Items such as fruit cakes, fruit scones and tea breads can be made without adding sugar as the dried fruit will provide sweetness.

4. Increase fibre

Use brown alternatives of rice, pasta and bread to increase the fibre content of recipes which will help you feel fuller for longer. Instead of using all plain white flour in recipes, use a mix of wholemeal and plain flour when baking, e.g. when making apple crumble – you can also add porridge oats to make the top crunchy and add more fibre! Top dishes usually requiring pastry, such as chicken pie, with mashed potato instead.

When changing ingredients try to add:

- More fibre
- Less salt
- Less sugar
- Less fat (especially saturated fat)

5. Vegetables

Flavour cooked vegetables with herbs instead of butter or oil. Replace some meat in dishes such as shepherd's pie, casseroles and lasagne, with vegetables and pulses (peas, beans and lentils). It is a great way to disguise vegetables for those fussy eaters.

6. Meat

Trim the fat from meat and remove the skin from poultry before cooking. Then bake, grill, microwave, roast or poach instead of frying it. When roasting, place the meat on a grill rack – this allows the fat to drip away. If you are cooking minced meat, brown it and drain away the fat before adding other ingredients.

Basic skills:

Chopping, boiling, simmering, rolling out pastry, shaping burgers or fishcakes, all-in-one cake mix, using ready made sauces, pasta with tomato sauce, filled wraps.

Moderate skills:

Finely slicing or chopping vegetables, making short crust pastry and shaping it accurately, creamed cake mix with simple icing but they must all be the same size, home made sauce for egg curry / chilli, removing skin from chicken to make something like goujons, pies, vegetable stir fry.



Cycle 4 in Year 7 PE will focus on developing your **wellbeing** through activities such as Cricket, Rounders and Tennis.

Cycle 4 Knowledge Organiser

<u>Key words and definitions</u>	
<u>Concept - Wellbeing</u>	<u>Wellbeing - Focus Statement</u>
Health	<i>I begin to understand how physical activity affects my health</i>
Flourish	<i>I can begin to identify factors that help me succeed</i>
Confidence	<i>Adapting my technique to improve with some confidence</i>
Guide	<i>Supporting others with their learning with some confidence</i>
Awareness	<i>Identifying how my attitude affects my team's success</i>
Mental Toughness	<i>Responding appropriately to competition even if I am not the winner</i>
Mindset	<i>Approaching activities with a positive outlook</i>
Perseverance	<i>Completing my assessment with the best of my ability</i>
Growth	<i>Responding to feedback to enhance my knowledge and skills</i>



Wellbeing



Cycle 4 - AI and Machine Learning

What is AI?

Artificial intelligence is the creation of human-like intelligence that can 'think' like humans with abilities such as learning or problem solving.

Machine Learning

The process of a computer using huge amounts of data to learn how to do tasks rather than being programmed to do them.

AI has made a breakthrough in mid 20th century and is growing at a very fast pace in the 21st century.

Uses of AI

- Facial and fingerprint recognition
- Language processing
- Gaming - computer player
- Driverless cars
- Speech recognition
- Robot vacuum cleaners



Draughts

1950s



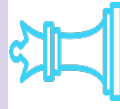
Chatbot

1960s



Self-drive

1980s



Chess

1990s



Vacuum

2000s

Cycle 4 - AI and Machine Learning

AI and jobs

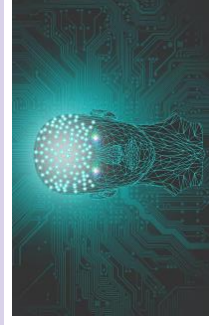
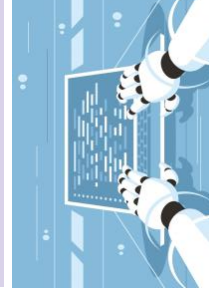
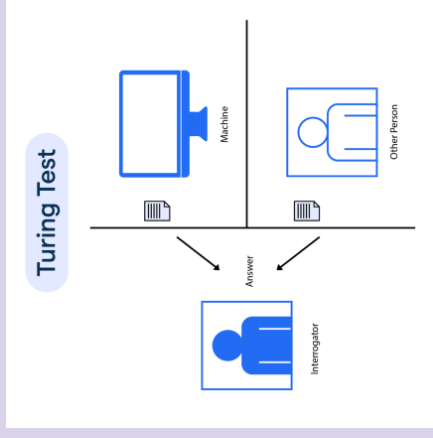
- Up to 40% of jobs could be replaced by automation and AI by 2035
- Many jobs could be lost including:
 - Telemarketing
 - Taxi drivers and transportation
 - Receptionists
 - Proofreading
 - Retail sales

For instance, online shopping can use AI to determine the best way to advertise and sell products

This leads to job losses on the high street

The Turing Test

- This test was created by Alan Turing in 1950.
- A human sits in one room and asks questions through a computer.
- The questions go to a computer and a human.
- If the human cannot tell the difference between talking to a computer and a human, the computer passed the test.



Throughout learning cycle 4 you will create a clay ocarina and decorate it with various colours and patterns.

Ceramics: Key Words

Biscuit:

First time the raw clay goes into the kiln.



Wedging:

How to get air out of clay.



Throwing:

Using a potter's wheel to shape clay.

Kiln: A pottery oven that get really hot.



Ceramics:

Pottery, Bricks, Tiles, China, Porcelain

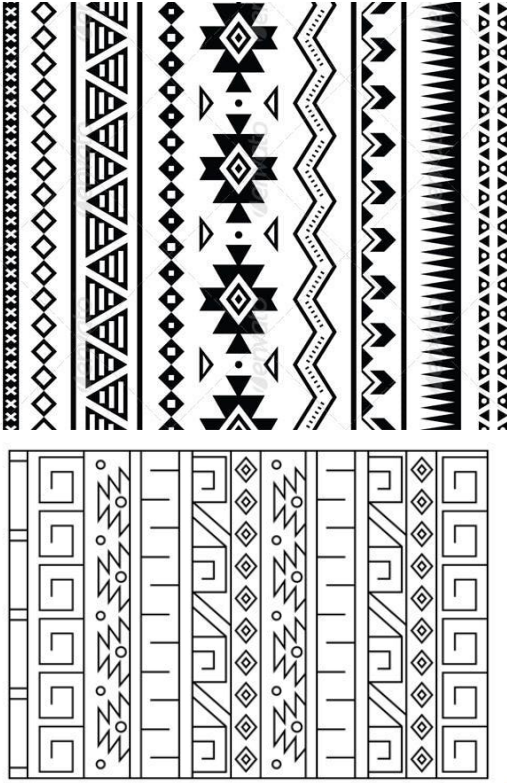
Firing:

Baking the clay in the kiln.

Burnishing:

Making the clay shiny.

Glaze: The colour that you add to clay.



Red	Represents blood
Green	Fields and Nature
Blue	Symbolises the sky and the cosmos
Brown	Is for the soil

In your homework book, draw one or more of the patterns above. You can use squared paper if it helps.

Art

Belong Believe Be Proud



1) Create a pinch pot out of two equal sized lumps of clay.



2) Use slip (a mix of clay and water) to bond each pinch pot together.



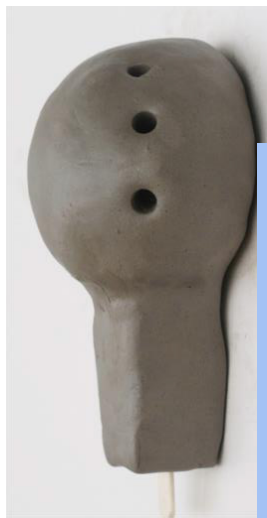
3) Form a clay mouthpiece and create an air hole using a lollipop stick.



4) Score: scratch two clay surface areas to join together using slip.



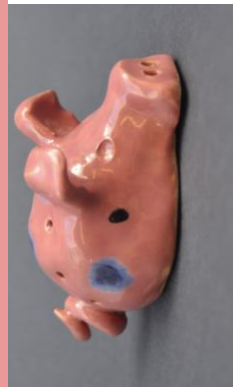
5) Cut the whistle hole in the base. You must have a 45 degree angle otherwise the air will not circulate correctly.



6) Add pitch holes around the side (maximum of 6)



7) Add on extra pieces of clay to turn it in to your chosen animal.



During cycle 4 you will research Peruvian patterns and look at how they are repeated. You will also look at the work of Escher.

Peruvian Patterns

- Patterned fabrics have been **woven** together on a loom.
- Each pattern from a different village and part of their **ancestry/history**.
- Patterns are drawn from natural things such as, landscapes and animals.
- Patterns are often **repeated** and made to fit together.



The colours that are chosen have different meanings to tell different stories.
Red represents blood.
Green is for the fields and nature.
Blue symbolises the sky and the cosmos.
Brown is for the soil.

Key words

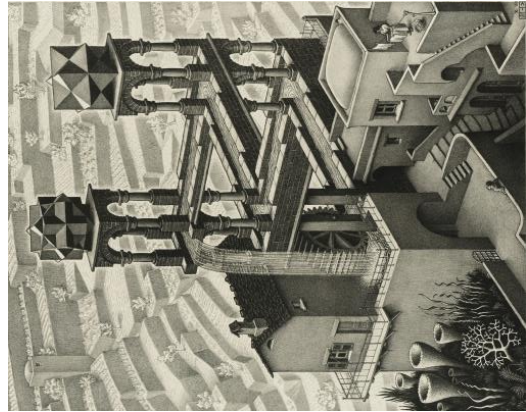
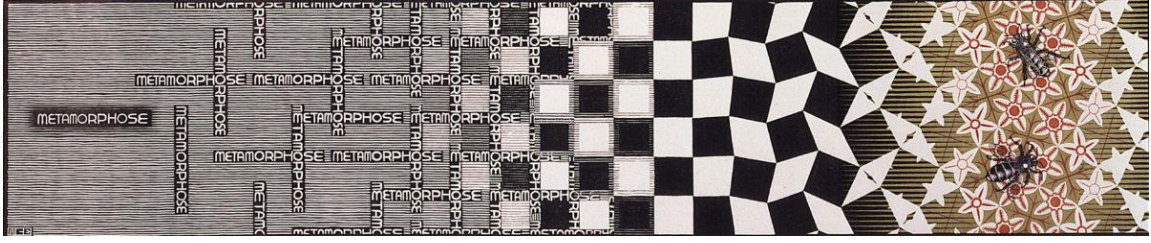
Repeated	Done or occurring again several times in the same way.
Tessellate	A pattern with repeated shapes that fit together.
Woven	Interlace threads so as to form fabric.
Ancestry	One's family or ethnic descent
Continuous	Without stopping

M.C. Escher

- A Dutch artist whose work was inspired by shapes fitting together.
- This is called **tessellation**.
- His work creates illusions (tricks on the eye).



In his life time Escher made 448 artworks and over 2000 drawings and sketches



Key words

Optical Illusions

Something that tricks the eye by looking like something else.

Infinity

Without an end. Infinity will go on forever.

Display

To put something where it can be clearly seen.

Art

Belong Believe Be Proud

Stick Timetable Here



Belong

Believe

Be Proud