Year 8 Homework Booket

Learning Cycle 2

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

Nelson Mandela

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An Academy

Name

Tutor

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Learning Cycle 2

Homework Timetable

It is expected that you complete one full page in your workbook as a minimum. Students should spend around 20 minutes on homework for each subject. Tutors will check your Knowledge Organiser homework during Tutor Time. They will be looking for a full page of work on the correct subjects of the Knowledge Organiser completed with no gaps, as well as for purple pen ticks/corrections and good presentation. Your writing needs to be neat and legible with H/W, Title and Date underlined with a ruler at the top of the page. If your tutor feels that any of these elements are not up to standard, your tutor will enter you for a homework support session that same day.

In addition to the timetable below students should also complete 30 minutes per week using online Sparx Maths.

	WEEK 1	WEEK 2
Monday	Maths Drama	Spanish Religious Studies
Tuesday	English History	Computing PE
Wednesday		
Thursday	Science French	Science Design Technology
Friday	Art Music	English Geography

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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 2, 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

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Learning Cycle 2

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

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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 2

Learning Cycle 2

Online Maths Work

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

Learning Cycle 2

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Learning Cycle 2

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

History

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

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.

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**
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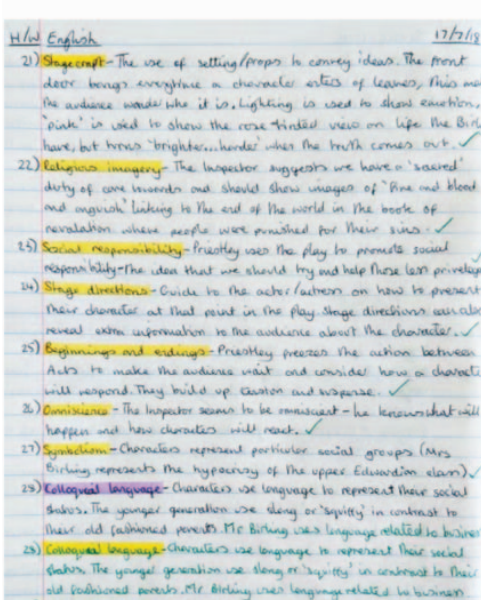
1485	-	1603	**Tudor Britain**
1603	-	1714	**Stuart Britain**
1714	-	1837	**Georgian Britain**
1837	-	1901	**Victorian Britain**
1901	-	1910	**Edwardian britain**

The five ways a historian can measure significance
1 Did the person or event **matter to the people at the time**?
2 Did the person or event **affect** a **large number** or a **small but important group** of people?
3 Did the person or event **cause change** and if so, **how great** was the change?
4 Was the change **long lasting or short term**?
5 Is the person or event **still seen as important** today?



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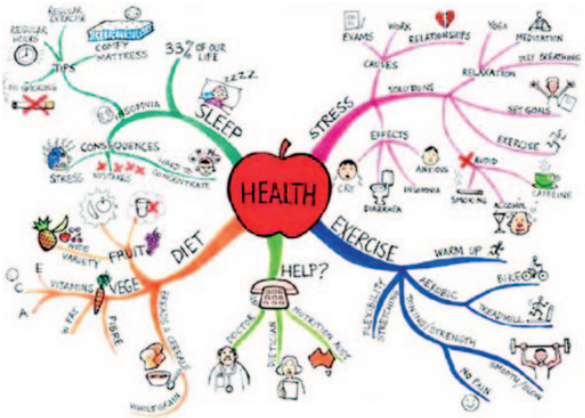
Next
Create a mind map that maps out everything from your knowledge organiser using keywords, colour and images



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Learning Cycle 2

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

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Learning Cycle 2

bedrock learning®

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 3 in **Maths** will begin by looking at simplifying algebraic expressions through collecting like terms and expanding brackets. You will investigate ways of solving equations with unknowns on one side and on both sides. You will learn about how to represent and interpret data displayed in a scatter graph and will be able to comment on the relationship and the correlation of the data presented to you.

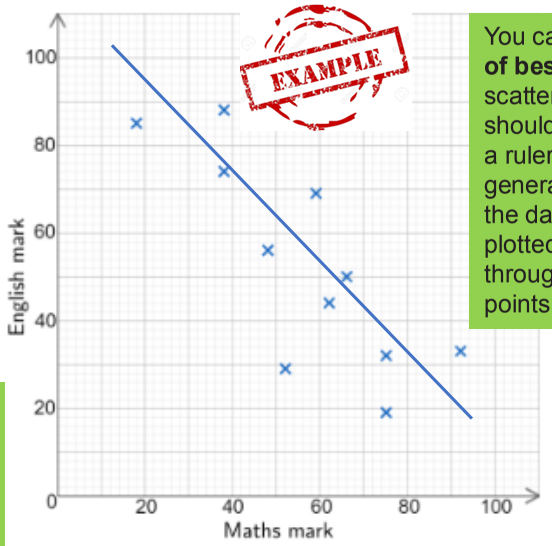
ALGEBRA– Key words and definitions	
Term	one part of an algebraic expression which may be a number, variable or a product of both
Expression	an expression is one or a group of terms and may include variables
Identity	an equation that holds true for all of its variables
Equation	a mathematical statement containing an equals sign, to show that two expressions are equal
Solve	work out the answer to a problem
Expand	multiply out the brackets
Brackets	a pair of symbols used to section a mathematical expression
Inequality	a symbol to show that the size of a number/expression e.g. 3 > 2, shows that 3 is greater than 2
Rearrange	change the order in which the calculation is written
Simplify	collect like terms
Correlation	the extent to which two variables are related

Topic 1

To be able to plot and interpret scatter-graphs

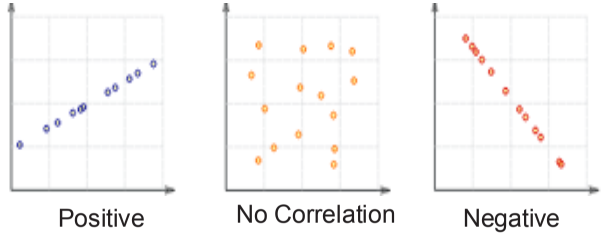
Scatter graph are used to display two sets of data and look at the **relationship** between them.

The **relationship** is a statement about how the two sets of data relate to each other, for example, when looking at this graph you can see the higher the English mark the lower the Maths mark.



You can add a **line of best fit** to your scatter graph, this should be drawn with a ruler and go in the general direction of the data you have plotted, passing through as many points as possible.

When looking at the scatter graph you can talk about the **correlation**. This tells you how strong the relationship is between the two variable

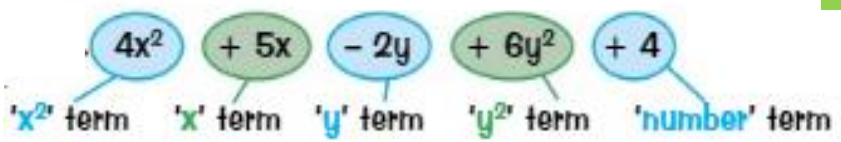


Topic 2

To be able to expand and simplify an expression by collecting like terms

You need to be careful when simplifying expressions, look at these examples to help you:
a x a x a = a^3
a + a + a + a + a = 5a
3 x a x 5 = 15a
a x b = ab

If there's no sign in front of the first term, it means there's an invisible + sign.



To **expand** a single bracket, you need to multiply each term in the bracket by the number/term outside.

$3(a + 4) = 3a + 12$

There are many different methods for expanding double brackets.

To **expand** a double bracket, you need to multiply each term in the first bracket, by each term in the second bracket.

$x \times x = x^2$ $\quad x \times 6 = 6x$

$(x - 9)(x + 6)$

$-9 \times x = -9x$ $\quad -9 \times 6 = -54$

$x^2 + 6x - 9x - 54$
$= x^2 - 3x - 54$

Topic 3

To be able to solve equations with unknowns on one side and both sides

GOLDEN RULES WHEN SOLVING EQUATIONS:

1) Always do the **same thing** to **both sides of the equation**.
2) To get rid of something, do the **opposite/inverse**.
3) Keep going until you have a letter **on its own**.

EXAMPLES:

This means 'take away 3 from both sides'.

1. Solve $x + 3 = 7$.

$x + 3 = 7$ — The opposite of +3 is –3.

$(-3)\ x + 3 - 3 = 7 - 3$

$x = 4$

EXAMPLE:

Solve the equation $5x + 2 = 12$.

$5x + 2 = 12$ — The opposite of +2 is –2, so subtract 2 from both sides.

$(-2)\ 5x + 2 - 2 = 12 - 2$

$5x = 10$ — The opposite of ×5 is ÷5, so divide both sides by 5.

$(\div 5)\ 5x \div 5 = 10 \div 5$

$x = 2$

Inequality Symbols
> Greater than
< Less than
≥ Greater than or equal to
≤ Less than or equal to

If an equation has an inequality symbol rather than an equals symbol, you solve it the same way.

In **Year 8 English Cycle 2**, you will be exposed to a range of dystopian fiction texts including: 'The Hunger Games', '1984' and 'The Handmaid's Tale'. You will develop your descriptive writing skills and an understanding of the key conventions of the genre. You will apply this to crafting your own dystopian fiction, using the ZOOM method.

Typical conventions of the dystopian genre

- Propaganda is used to control the citizens of society
- Information, independent thought and freedom are restricted
- A leader/concept is worshipped by the citizens of the society
- Citizens have a fear of the outside world
- Citizens live in a dehumanized state
- Citizens conform to uniform expectations.
- The society is an illusion of a perfect utopian world.

Vocabulary	
Dystopia	An imagined state or society in which there is great suffering or injustice
Utopia	An imagined place or state of things in which everything is perfect.
Oppression	People being governed in an unfair and cruel way.
Corruption	Illegal, bad or dishonest behaviour, especially by people in positions of power.
Tyrannical	Exercising power in a cruel, controlling way.
Dehumanisation	To deprive someone of human qualities
Conformity	Behaviour in accordance with socially accepted conventions.

Learn what SOAPAIMS stands for		
S	**Simile**	Comparing using ‘like’ or ‘as’
O	**Onomatopoeia**	Sounds
A	**Alliteration**	2+ words starting with the same letter
P	**Personification**	Giving inanimate objects human characteristics
A	**Adjectives/adverbs**	Words describing nouns/verbs
I	**Idiom**	A phrase that conveys a figurative meaning different from the words used.
M	**Metaphor**	A direct comparison
S	**Senses**	See, hear, touch, taste, smell

Using these ‘ingredients’ in your writing will help to make the description more interesting for the reader.

Literacy: using colons and semicolons		
Colon	• Introduce things in a list • Qualify a sentence	• He was going to buy three things: chairs, tables, and utensils. • They will not make it: the storm is too strong.
Semicolon	• Joins two sentences • Separates items in a list	• It was the best of times; it was the worst of times. • There are five soldiers in the trench: one from London; two from Bristol; and one from Birmingham.

Cycle 2 in Year 8 Science will focus on the topic of 'Life Diversity. You will explore how life evolved on our planet and how organisms are adapted to survive.

8LD – Life Diversity Key words and definitions	
Variation	Differences between individuals within a species. This can be caused by inherited or environmental factors.
Organisms	An organism is an individual animal, plant, or single-celled life form
Breeding	Selective breeding is when organisms are deliberately bred so their offspring have the desirable characteristics.
Desired characteristics	Characteristics wanted in an organism
Offspring	The product of the reproductive processes of an animal or plan
Competition	When two or more living creatures struggle against each other to get the same things.
Adaptations	An adaptation is a characteristic of an organism that improves its chances of surviving and/or reproducing.
Evolution	Evolution is the way that living things change over time.
Natural selection	Natural selection is a process by which a species changes over time in response to changes in the environment, or competition between organisms, in order for the species to survive.
Continuous variation	Characteristic that changes gradually over a range of values shows continuous variation.
Discontinuous variation	A characteristic of any species with only a limited number of possible values.
Gametes	Sex cells.
Population	All the members of a single species that live in a habitat. community
Histogram	A bar chart representing a frequency distribution.
Frequency	How often something occurs.

1. Variation

In a population the individuals vary. This is because they have different versions of genes.

Mice population:
variation in fur colour.

Owl population:
variation in eyesight.

good eyesight

poor eyesight

2. Competition

Organisms need resources to survive and reproduce.

For animals: food, shelter, a mate (for reproduction)

For plants: water, sunlight, minerals, pollinating organisms (for reproduction)

In any environment the resources are limited. Organisms are forced to compete.

Owls compete when hunting mice.

3. Survival

Some features are adaptations.
They give organisms an advantage.
Better adapted organisms are more likely to survive.
Less adapted ones are more likely to die young. This is 'survival of the fitter'.

Better eyesight helps owls catch more mice.

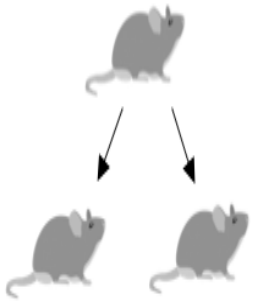
better eyesight

worse eyesight

Darker fur makes mice less visible at night.

4. Reproduction

Organisms that survive longer are more likely to reproduce. Their offspring inherit similar adaptations. The process repeats many times. Eventually most of the population has the adaptations.



There are 4 stages to natural selection:

1. Variation → 2. Competition → 3. Survival → 4. Reproduction

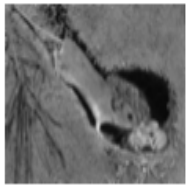
1. How organisms are adapted to their environment

Adaptations are special features that help organisms survive and reproduce in their environment. They can be:

a) Structural: features you can see.

Thick, white fur is an adaptation which gives polar bears warmth and camouflage.

b) Behavioural: things an organism does



Sleeping in a burrow all day is an adaptation that helps desert rats avoid heat and predators.

c) Functional: how cells, tissues and organs function

Making poison is an adaptation that helps stinging nettles avoid being eaten.

2. How adaptations help organisms survive environmental conditions

Environmental conditions are abiotic factors. E.g. temperature, amount of rainfall, amount of oxygen.

Abiotic factor	Organism that survives it	Adaptation
Cold temperature	Polar bear	Thick fur for insulation
Very low rainfall	Cactus	Can store water

3. How adaptations help organisms get resources

Plants need: water, sunlight, carbon dioxide (for photosynthesis), minerals, pollinating organisms (for reproduction)

Animals need: food, shelter, a mate (for reproduction)

A scent helps roses attract bees for pollination.

By growing up a tall structure, ivy reaches the light faster.

Colourful feathers help peacocks attract mates.

Good eyesight helps eagles find food.

1. How genes cause variation

Organisms vary in how they look and function:

An animal's sex, eye colour or blood group is decided by which genes it inherits from its parents. This is **genetic variation**.

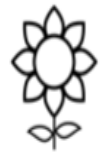
Organisms in a population have different characteristics. People find some characteristics more desirable.

Examples:


fast speed


good flavour


friendly nature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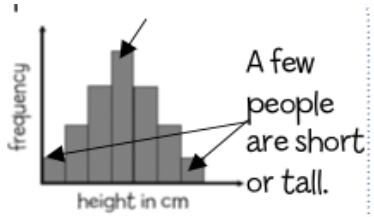
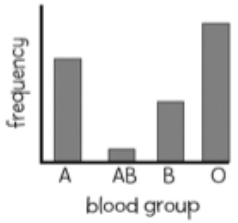
2. How charts show genetic variation

Variation is caused either by one gene or many genes.

Many genes: This results in a range of values, or **continuous variation**. E.g. human height.



One gene: This results in certain values but none in between, or **discontinuous variation**. E.g. blood group.



3. How environments causes variation

For most characteristics, the environment causes some of the variation.


food affects weight/height


sun exposure affects skin colour

Some characteristics *only* have an **environmental cause** e.g.


hair length


speaking accent


scars

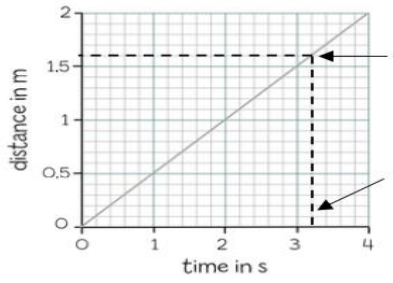
Science 8M Movement

Belong Believe Be Proud

Cycle 2 in Year 8 Science will focus on the topic of 'Movement. You will explore the motion of objects to calculate their speed, distance travelled and time taken.

8M - Movement Key words and definitions	
Speed	The speed of an object tells you how fast or slow it is moving.
Velocity	The velocity of an object is its speed in a particular direction.
Average speed	You can find the average speed of an object if you know: the distance travelled & the time taken to travel that distance.
Terminal velocity	At terminal velocity, the object moves at a steady speed in a constant direction because the resultant force acting on it is zero
Motion graphs	It shows how the distance moved from a starting point changes over time.
Acceleration	Acceleration is the change in speed or velocity of an object over a certain time. It can be calculated by dividing the change in velocity by the total time.
Constant speed	An object is travelling at a steady or constant speed when its instantaneous speed has the same value throughout its journey
Stationary	An object not moving
Gradient	Gradient is the measure of the steepness of a straight line.

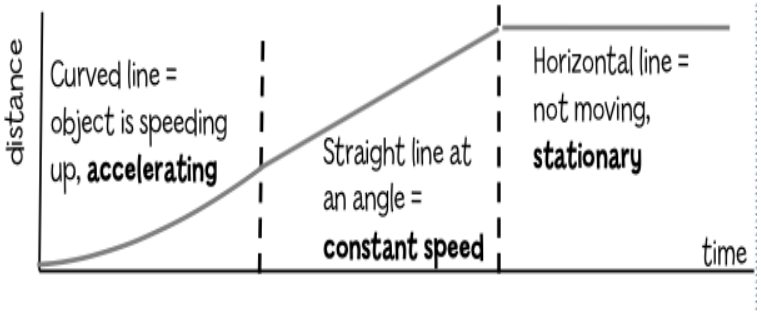
1. How to read a distance-time graph



To read the distance value, look left . The object travels 1.6 m.

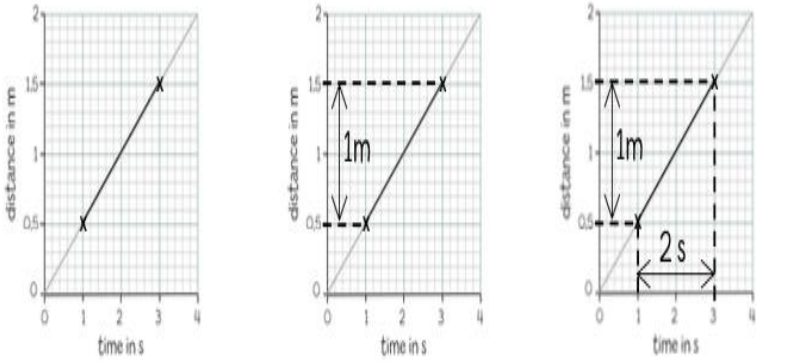
To read the time value, look down. The object covers the distance in 3.2 s.

2. How to interpret a distance-time graph



3. How to calculate speed from the gradient

If the speed is constant, the object's speed = gradient of the straight line.



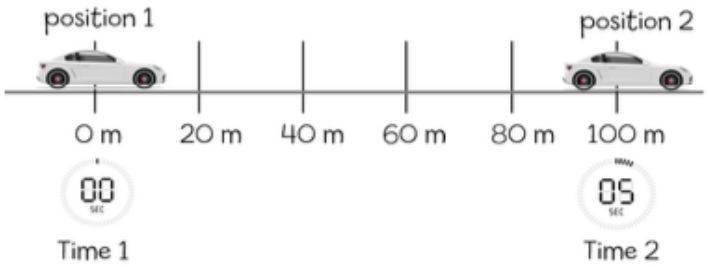
$$\text{Speed} = \text{gradient} = \frac{\text{change in distance}}{\text{change in time}}$$

Speed = 1 ÷ 2 = 0.5 m/s

1. How to calculate speed

The speed of an object depends on two quantities:

- Distance travelled, the difference between position 1 and 2
- Time taken, the difference between time 1 and 2



Example	Typical Speed
Walking	1.5 m/s
Running	3 m/s
Cycling	6 m/s
Car	10 to 30 m/s
Passenger aeroplane	200 - 250 m/s
Sound	330 - 340 m/s

Speed is the ratio of distance travelled: time taken. It means how fast an object's position is changing every second, minute, or hour.

It can be written as an equation:

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

1 cm = 10 mm

100 cm = 1 m

1000 m = 1 km

2. How to choose the right unit

If distance is in	And time is in	Then speed is in
m	s	m/s
km	hour	km/h (kph)

Unit of speed is: unit of distance ÷ unit of time.

3. How to calculate distance and time

Method A: Use ratio E.g. a snail moves at 1 m/hr. How far does it go in 2 hours?

It goes 1 m in 1 hour.
2 hours is double the time.

Time		Distance	
1 hour	x 2	1 m	x 2
2 hours		? m	

So it goes double the distance, or 2 m.

Method B: Rearrange the equation

To get distance on its own, multiply both sides by time.

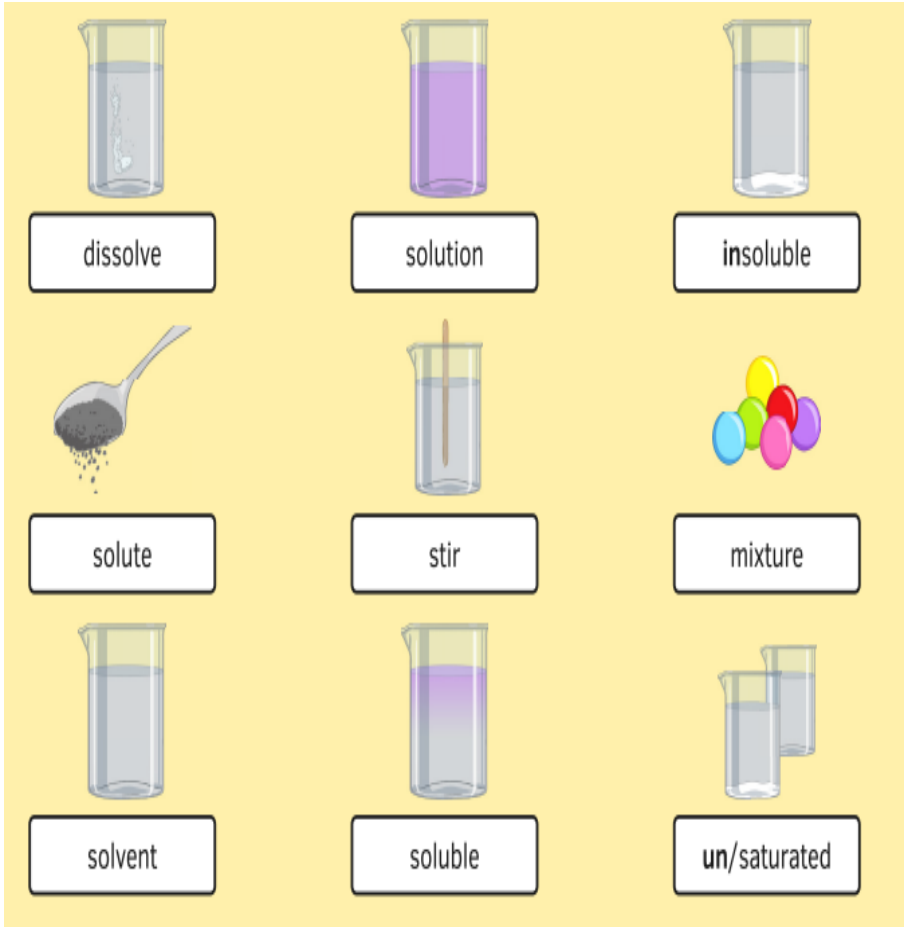
$$\text{speed} = \frac{\text{distance}}{\text{time}} \quad (\times \text{time}) \quad (\times \text{time}) \rightarrow \text{speed} \times \text{time} = \text{distance}$$

To get time on its own, divide each side by speed.

$$\text{speed} \times \text{time} = \text{distance} \quad (\div \text{speed}) \quad (\div \text{speed}) \rightarrow \text{time} = \frac{\text{distance}}{\text{speed}}$$

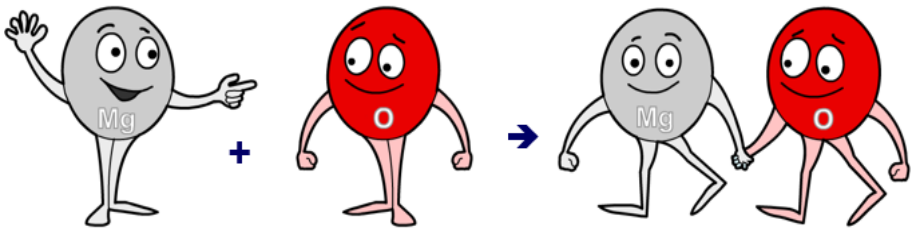
Key concept- Reactions in Solutions

Keywords	
Solvent	A substance that dissolves a solute to make a solution.
Solute	A substance that dissolves to make a solution.
Mixture	Contains different substances that are not chemically combined or joined together.
Dissolving	Particles of a solvent collide with particles of solute. They surround the particles of solute, moving them away until the particles are evenly spread through the solvent.
Filtration	A method used to separate an insoluble solid from a solvent.
Evaporation	When a liquid reaches its boiling point and turns to a gas.
Distillation	A method for separating the solvent from a solution by boiling the mixture.. For example, water can be separated from salt solution.



Key concept- Combustion

Combustion	
balanced chemical equation	A chemical equation written using the symbols and formulae of the reactants and products, so that the number of units of each element present is the same on both sides of the arrow.
base	A substance that reacts with an acid to neutralise it and produce a salt.
chemical change	A type of stored energy. It is taken in when chemical bonds break, and given out when chemical bonds are made.
combustion	The process of burning by heat.
oxidation	The gain of oxygen, or loss of electrons, by a substance during a chemical reaction.
reduction	The loss of oxygen, or gain of electrons, by a substance during a chemical reaction.



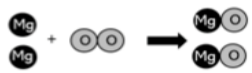
magnesium + oxygen → magnesium oxide

1. How to recognise oxidation

Oxidation is a chemical reaction where a substance gains oxygen.

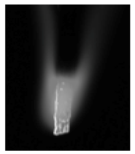
Example: heated magnesium reacts with in oxygen

magnesium + oxygen → magnesium oxide



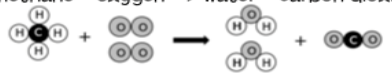
Magnesium and oxygen atoms combine.

Oxidation makes compounds called oxides.



Burning, or **combustion,** is is a type of of oxidation.
Example: Methane gas in a Bunsen burner:

methane + oxygen --> water + carbon dioxide



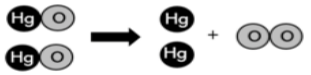
The carbon and hydrogen atoms are both oxidised.

2. How to recognise reduction

Reduction is a chemical reaction where a substance loses oxygen.

Example: Heating mercury oxide:

mercury oxide → mercury + oxygen



Mercury oxide loses oxygen to form mercury.

Since mercury oxide breaks up, the reaction is called **decomposition**.

2. How to recognise a redox reaction

Oxidation and reduction can happen together. This is called a **redox** reaction.

reduction oxidation

Example: heating copper oxide with carbon.

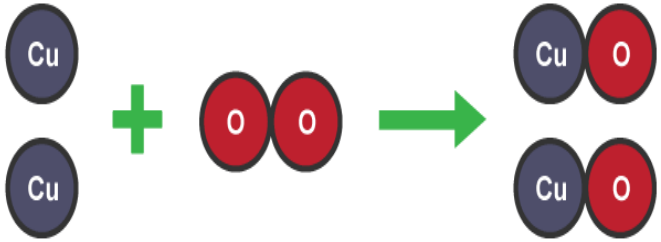
copper oxide + carbon → copper + carbon monoxide

Reduction: copper oxide loses oxygen to form copper.

Oxidation: carbon gains oxygen to form carbon monoxide.

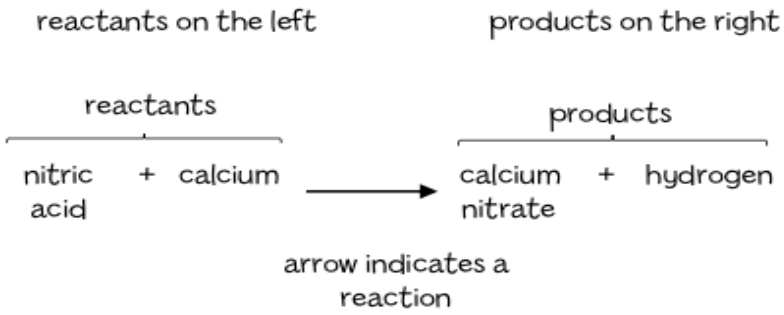
Key concept- Reactions in Solutions

Conservation of Mass	
Product	A substance formed in a chemical reaction.
Reactants	Substances present at the start of a chemical reaction.
Word equation	An equation in which only the names of the reactants and products are used to model a reaction.



1. How a word equation shows a reaction

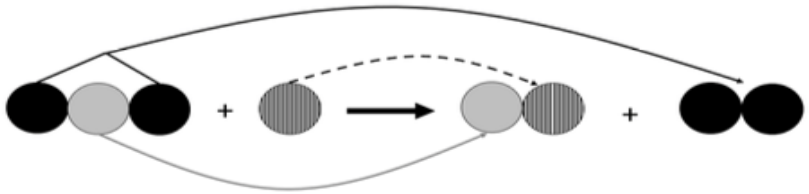
A **word equation** is a summary of the reactants and products:



2. How a reaction rearranges atoms

If we could zoom into a chemical reaction, we would see the atoms changing places. No atoms are lost or made.

We can show this in a particle diagram. Each circle shows an atom.



If you know the atoms in the reactants, a you can work out what products the atoms become when they rearrange.

Year 8 Cycle 2 Knowledge Organiser

History

Belong Believe Be Proud

Cycle 2 in History will focus on the **story of ordinary people** in the Industrial Revolution. There will be a short enquiry focused on how we should remember the protest which became known as Peterloo.

Key words and definitions	
Industrial Revolution	a huge change in how people produced goods - from working at home to working in factories
textiles	cloth production
mill	a factory
council	a group of people elected to run local government
empire	a group of countries ruled over by one
industrialisation	growth of factories and cities
merchants	traders
socialist	someone who believes that wealth should be shared more equally
terraced	a row of houses joined end to end
privy	an outside toilet
Tuberculosis, typhus and cholera	killer diseases from the industrial era
workhouses	place where poor people were given food and shelter in return for work
trade union	a group of people who join together to improve their pay or working conditions
Act	a new law passed by Parliament
pauper	a poor person
urban	towns or cities

TIER 2 Vocabulary
strategic = careful planning to achieve a particular aim

Population change: the population of Britain went from 9.2 million people in 1701 to 27.4 million by 1851 and reached 41.5 million people by 1901.

The Industrial Revolution - consequences

At the same time the population was increasing, there was a move from the countryside to the towns. The fast-developing iron, coal and textile industries were creating new work and the towns and cities began to grow.

Why were cities so unhealthy?

Houses were built close together. They were small, cheap and nasty. Damp was normal.

The poorest people lived in cellars which were dirty and wet. Animals were common here.

There were very few homes with piped water. Water from a standpipe was often dirty and carried germs.

Privies were shared between several families. Human waste collected in cesspits which often overflowed.

Working class men did not have the right to vote until 1884. This meant that a lot of their complaints were ignored because Members of Parliament did not need to listen to them. But, working class people formed trade unions and protest groups so the government had to listen.

Child workers in the Industrial Revolution

- The Industrial Revolution had a **terrible impact** on child workers.
- Children worked on the fields, down the mines and in factories.
- Children started work at a very young age. Some children as young as **6 or 7** worked in the coal mines.
- Children **worked long hours**; some factory workers started at 5 a.m. and finished at 6 p.m.
- Factory work was very **dangerous**. The machines never stopped. Some children were employed to **crawl** under the machines to pick up stray pieces of cotton. Many children were injured or killed. Factories also had an **over-looker** who made sure that people worked hard. If any faults were found with a child's work, they were **beaten** with a leather strap.

- Child mine workers carried coal up to the pit head. The roof of the mine was low and the children's backs were bent for hours at a time.
- In 1831 the government set up an **enquiry** into children's working conditions in factories. Hundreds of children were asked about their hours of work, wages, accidents, health and beatings.
- The industrial cities had a huge number of **orphans and abandoned children**. Those children had limited choices about what to do in life. They could: live in the streets, go into a workhouse, try to get adopted or go into an orphanage.
- Two Victorian authors tried to highlight to their **middle-class** readers how terrible life was for the children of the industrial revolution. These authors were **Charles Dickens and Charles Kingsley**. They both wrote stories where children were the main characters; **Oliver Twist** is a good example.

How should we remember Peterloo?

16th August 1819 St Peter's Field, Manchester

1. **What happened?** A crowd of 60,000 had gathered at St Peter's Field to hear a radical speaker called Henry Hunt. It was a friendly crowd of people who were protesting for better rights. Government soldiers tried to stop Hunt from speaking. The crowd tried to stop the soldiers from arresting Hunt so the soldiers attacked the people with their sabres. 17 were killed and hundreds injured.
2. **Why was it called Peterloo?** It was a sarcastic reference to the Battle of Waterloo in 1815.
3. **Why was the protest held?** Radicals wanted changes to the political system. The government had taxed working people heavily to pay for wars with France. Many became unemployed and homeless. Radicals were strong and popular in the north of England. They demanded that working men be given the vote.
4. **What did the government do after Peterloo?** The government ignored the demands and would not change the political system. The government had no sympathy for what happened in Manchester. Instead they arrested Hunt, shut down radical newspapers and banned meetings of more than 50 people.
5. **What did the radicals do after Peterloo?** The radicals produced memorabilia to make sure that Peterloo was not forgotten. They made mugs and paintings and handkerchiefs with images from the day of the massacre.
6. **Was Peterloo significant?** Yes, very significant. The memory of what happened made people even more determined to change the political system and make it fairer. The struggle was a long one but eventually there were changes: In 1832 men who owned property were given the vote; in 1884 all men were allowed the vote; in 1918 women over 30 were given the vote and by 1928 men and women had equal voting rights. All this progress may not have happened without the events of 16th August 1819 – the Peterloo Massacre.

Cycle 3 Knowledge Organiser

Geography

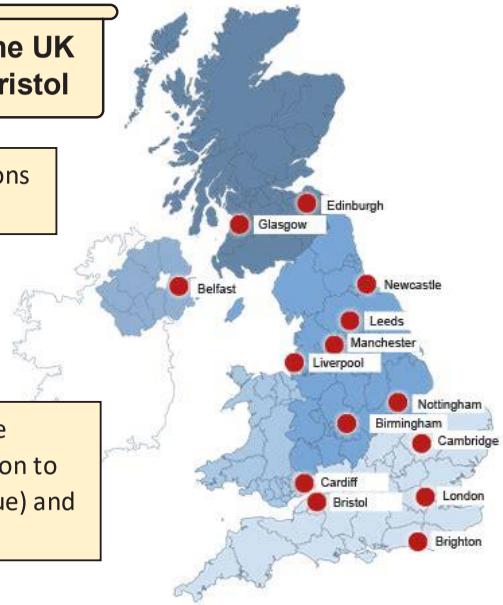
Belong Believe Be Proud

Cycle 2 in Yr 8 Geography will focus on the topic of 'Bristol – a city in the UK. You will learn why Bristol is important, the opportunities it provides and the challenges it faces, then focus on regeneration of Temple Quarter.

Key words and definitions	
Location	Where a place is
National migration	People move within the UK
International migration	People move to the UK from other countries
Urban area	A built up area
Social opportunities	Make life better for people
Economic opportunities	Chances to make money
Cultural mix	People from different backgrounds live in the same place
Integrated transport system	Transport network works well together i.e. parking, trains, buses
Urban greening	Improving availability of open spaces in a city
Inequality	When some people have more opportunities than others
Urban deprivation	People don't have enough to meet their needs
Derelict building	A building that is not used and falling apart
Brownfield site	An area previously used for industry which is now unused
Greenfield site	An area that hasn't been built on before
Urban sprawl	When cities spread into the countryside
Rural-urban fringe	Where the city meets the countryside
Regeneration	Improving an urban area
Classify	Put things into categories i.e. towns, cities
Influence	Has an effect something
Integrate	Combining items to create a new thing

Topic 1: Cities of the UK & introduction to Bristol

UK map: Learn the locations of the 14 cities shown.



Bristol map: Learn where Bristol is located in relation to motorways (shown in blue) and other cities and towns.

Topic 2: Opportunities & challenges in Bristol

Description	**City of 440 500 people in the South West of England. 9% growth since 2000.**
Importance	• **UK -** One of ten core cities. 2 universities, Bristol Old Vic Theatre, Avonmouth docks • **Wider world -** International airport, good rail links to Europe, global role in finance.
Causes of growth	• **National migration -**people and businesses moved from London - land is cheaper • **International migration -** accounts for ½ of pop growth - mainly Poland, Somalia & India.

Opportunities created by growth	• **Social & economic**
	  ○ **cultural mix -** St Paul's Carnival
	  ○ **recreation and entertainment -** Bristol City & Rovers, Cabot Circus shopping
	  ○ **employment -** below average unemployment, many high-tech companies i.e. Toshiba
	  ○ **integrated transport systems (ITS) -** 3 bus routes link Temple Meads Station with Park and Ride sites.
	• **Environmental - urban greening-** 90% of Bristolians live within 350m of a park or waterway. Aim to cover 30% of city in trees.

Challenges created by growth	• **Social and economic - urban deprivation & inequalities**
	  ○ **Filwood -** top 10% of most deprived areas in country. 1300 crimes a year, life expectancy of 78 years
	  ○ **Stoke Bishop** - affluent - less than 300 crimes a year, life expectancy 83 yrs
	• **Environmental**
	  ○ **dereliction -** Stokes Croft - old industrial buildings abandoned
	  ○ **building on brownfield sites -** Finzels Reach - sugar refinery being redeveloped into flats, shops & offices
	  ○ **building on greenfield sites** - Harry Stoke - 3000+ homes built on fields
	  ○ **waste disposal -** over 0.5 million tonnes a year - problem with food waste. Improving education & kerbside collections
	• **Impact of urban sprawl -** Bradley Stoke - extended city to the north.

Regeneration of Temple Quarter	• This area is next to Temple Meads station and was an industrial area in the past • It fell into decline with derelict buildings, a lack of job opportunities and poor access • Now it is an **Enterprize Zone** with improved transport links and buildings i.e. at Paintworks

Year 8 Cycle 2 Knowledge Organiser

Religious Studies

Belong Believe Be Proud

Cycle 2 in RS will focus on the **beliefs and practices** of Buddhism

Key words and definitions	
Buddha	An enlightened being; also used to refer to the first Buddha, Siddhartha Gotama
compassion	sympathy and concern for others
Dharma	universal truth and law
enlightened being	a person who has found the way to overcome suffering and achieve happiness
festivals	times of religious celebration
Four Noble Truths	the four central beliefs of Buddhism: suffering; the cause of suffering; the end of suffering; the way to end suffering
karma	The fundamental idea that a person's actions will affect what will happen to them in the future
mala	Buddhist prayer beads
mandala	a geometrical pattern created to represent life
mantra	a word or phrase repeated in worship
meditate	thinking deeply
Middle Way	a way of life where a person does not rely on luxuries to make them happy but does not go without basic needs either
nirvana	the state of having overcome desires and suffering
Noble Eight Fold Path	the way to end suffering outlined by the Buddha
puja	Demonstration of worship
samsara	Cycle of birth, life, death, rebirth
Fundamental	Beliefs which are important, for example karma is a fundamental belief.

DID YOU KNOW? Buddhist scriptures are called the Tipitaka or Three Baskets and a Buddhist temple is s vihara.

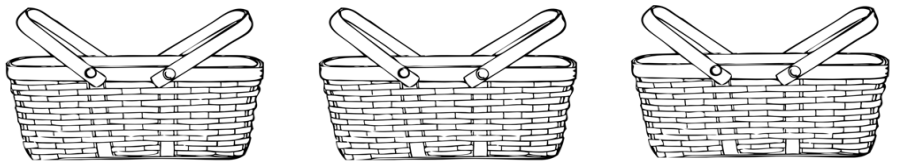
The origins of Buddhism

Buddhism began in India. It is the fourth largest religion in the world with 500 million followers today. The founder of Buddhism was a prince called Siddhartha Gotama He became commonly known as the Buddha which means the 'enlightened one'.

What is the Tipitaka?

The Tipitaka is a collection of scriptures (writings) used by Buddhists. The word Tipitaka can be translated to mean 'three baskets'. Some think that it is called the three baskets because the scriptures were written on long leaves sewn together with boards either side of the leaves to keep them flat. These were stored in baskets. Others think it was the fact that the writings can be divided into three sections. The Tipitaka is also called the Pali Canon because it was originally written in Pali which is an ancient language that was used in the Indian subcontinent when the Buddha lived.

This contains the teachings of Buddha and stories about the Buddha.	This contains 227 rules for Buddhist monks.	THE SUTTA PITAKA
THE ABHIDHAMMA PITAKA	THE VINAYA PITAKA	This contains explanations of what Buddhist teaching mean and other teachings made after Buddha's death.



The Four Noble Truths

Buddhist teaching explain the nature of suffering and how it can be overcome. This comes in the **FOUR NOBLE TRUTHS.**

NOBLE TRUTH 1 – Life involves suffering.

NOBLE TRUTH 2 – Suffering is caused by cravings, wanting things, greed, selfishness.

NOBLE TRUTH 3 – Suffering can be overcome by ending cravings/your selfish desires.

NOBLE TRUTH 4 – Follow the Buddhist **EIGHTFOLD PATH** to end suffering.

The Eightfold Path

Right View
Having the Buddhist perspective on life

Right Action
Acting in ways that do not hurt yourself or others.

Right Mindfulness
Meditating to achieve wisdom and insight.

Right Effort
Being willing to change and improve your life

Right Speech
Speaking the truth, avoiding gossip and not saying hurtful things.

Right Concentration
Being aware of what you are doing and the effects your actions are having.

Right Livelihood
Doing jobs that fit in with the Five Precepts*.

Right Intention
Trying hard to improve your life and others' lives.

*Five Precepts = guidelines for behaviour

Learning Cycle 2 will enable you to talk about food, exercise and healthy living.
You will explore French music and fashions and will begin using the perfect (past) and near future tenses.

Aujourd'hui *Today*	je mange *I eat* je bois *I drink* je prends *I have*	du beurre du café du chocolat chaud du jus d'orange du lait du pain du pain grille du thé du poulet du poisson du jambon du riz du gâteau de la confiture des céréales de la viande de la glace des legumes des pâtes des haricots verts des fruits de mer des saucisses des escargots des cruisses de grenouilles des huitres des sucreries de l'agneau un croissant une tartine	*butter* *coffee* *hot chocolate* *orange juice* *milk* *bread* *toast* *tea* *chicken* *fish* *ham* *rice* *cake* *jam* *cereal* *meat* *ice cream* *vegetables* *pasta* *green beans* *seafood* *sausages* *snails* *frogs' legs* *oysters* *sugary foods* *lamb* *a croissant* *a slice*	et c'est *and it is*	bon **très** bon **super** bon délicieux dégoûtant horrible **trop** chaud **trop** froid tiède sain malsain	*good* ***very** good* ***super** good* *delicious* *disgusting* *horrible* ***too** hot* ***too** cold* *warm* *healthy* *unhealthy*
Hier *Yesterday* La semaine dernière *Last week* Le mois dernier *Last month* L'année dernière *Last year*	j'ai mangé *I ate* j'ai bu *I drank* j'ai pris *I had*			et c'était *and it was*	
Demain *Tomorrow* La semaine prochaine *Next week* Le mois prochain *Next month* L'année prochaine *Next year*	je vais **manger** *I'm going **to eat*** je vais **boire** *I'm going **to drink*** je vais **prendre** *I'm going **to have***			et ça va être *and it's going to be* et ce sera *and it will be*	
				et il y avait une mouche/un cheveux dans ma soupe *there was a fly/a hair in my soup* et le serveur n'était pas aimable *and the waiter wasn't nice*	

The partitive article – *de* (some)

To say "some" in French, you need to look at the *gender* of the item – le, la and les change to:

Masculine:	du poisson	(***some*** *fish*)
Feminine:	de la pizza	(***some*** *pizza*)
Plural:	des petits pois	(***some*** *peas*)
Words with a vowel:	**de l'**eau	(***some*** *water*)

Les quantités (Quantities)

un kilo de	*a kilo of*
500 grammes de	*500 grammes of*
un demi-kilo de	*half a kilo of*
un litre de	*a litre of*
une bouteille de	*a bottle of*
une boîte de	*a can/tin of*
un paquet de	*a packet of*
un pot de	*a pot of*
une tranche de	*a slice of*

Writing task 1:

Write a dialogue between a waiter and a customer.

- Include what you want to eat for each course
- Say what you'd like to drink
- Include a problem
- Be polite (e.g. ask for the bill, please, thank you etc.)

Writing task 2:

Design a poster about healthy eating

Write 2 sentences for each of these bullet points:

- What you must eat (*Il faut manger…*)
- What you must avoid (*Il faut éviter…*)
- Some activities you can do to stay fit
- Say if you eat healthily or not (and why)

Bonjour **monsieur**/madame	Hello **sir**/madam
Vous désirez?	What would you like?
Je voudrais…, s'il vous plaît	I would like…, please
Et pour **vous**?	And for **you**?
Comme **entrée**/plat principal	As a **starter**/main course
Comme **dessert**/boisson	As a **dessert**/drink
C'est **combien**?	**How much** is it?
Tout va bien?	How's everything going?
Est-ce qu'il y a un problème?	**Is there** a problem?
Je n'ai pas de…	I don't have a…
fourchette/**couteau**/cuillère	fork/**knife**/spoon
On a besoin de **l'addition**	We'd like **the bill**
Laissez un **pourboire**	Leave a **tip**
Au revoir	Goodbye

Vivre sain (Healthy living)

il faut **boire** un litre d'eau par jour
*you must **drink** a litre of water each day*
il faut **manger** des fruits et des legumes
*you must **eat** fruits and vegetables*
il faut **manger** sain
*you must **eat** healthily*
il faut **faire** du sport *you must **do** sport*
il faut bien **dormir** *you must **sleep** well*
il faut **se relaxer** *you must **relax***
il ne faut pas **fumer** *you must not **smoke***
il ne faut pas trop **boire**
*you must not **drink** too much*

All your LC2 vocab is also on **Quizlet:**

Learning Cycle 1 is an introductory module to study Spanish. You will learn some of the basics of the language to set you up ready for Learning Cycle 2.

Subject Pronouns	Singular yo = I tú = you (informal) él/ella = he/she elle (el-yay) = they	Plural nosotros = we vosotros = you (informal) ellos/ellas/elles = they Usted(es) = you (formal)
Nouns	identify places, people and things. Nouns have *gender* e.g. **el** colegio (school) – **masculine (m)** **la** mujer (woman) – **feminine (f)** **los** chicos (boys) / las chicas (girls) – **plural (pl)**	
Adjectives	describe nouns. They have to *agree* with the noun: e.g. **el** bolígrafo negro **los** bolígrafos negros **la** regla negra **las** reglas negras	
Verbs	are doing words, e.g. él **juega** al tenís = he **plays** tennis. Verbs need to be put into a *tense* (see below)	
Adverbs	add more detail to a sentence e.g. muy (very), quite (bastante), a menudo (often), a veces (sometimes)	
Infinitives	are the "to" form of the verb. Spanish has three kinds: -AR (e.g. jug**ar**) –ER (e.g. ten**er**) and –IE (e.g. viv**ir**)	

Key word – COMPARISON

Compare the days and the months in both languages. What's the same, and what is different?

A ah	**B** bay	**C** thay	**D** day	**E** ay
F effay	**G** hay	**H** atchay	**I** ee	**J** hota
K ka	**L** ellay	**M** emmay	**N** ennay	**O** oh
P pay	**Q** koo	**R** erray	**S** essay	**T** tay
U oo	**V** oovay	**W** oovaydoblay	**X** ek-ees	**Y** ee griayga
Z theta	**Ñ** enyay			

Los días de la semana (the days of the week)

lunes	*Monday*
martes	*Tuesday*
Miércoles	*Wednesday*
jueves	*Thursday*
viernes	*Friday*
sábado	*Saturday*
domingo	*Sunday*
el fin de semana	*the weekend*

Los meses del año (the months of the year)

enero	*January*
febrero	*February*
marzo	*March*
abril	*April*
mayo	*May*
junio	*June*
julio	*July*
agosto	*August*
Septiembre	*September*
octubre	*October*
Noviembre	*November*
diciembre	*December*

Los colores (Colours) (m/f)

blanco / blanca	*white*
negro / negra	*black*
rojo / roja	*red*
amarillo / amarilla	*yellow*
morado / morada	*purple*

gris (*grey*), azul (*blue*), verde (*green*), naranja (*orange*) marrón (*brown*)

Los números - Numbers

1. uno/una
2. dos
3. tres
4. cuatro
5. cinco
6. seis
7. siete
8. ocho
9. nueve
10. diez
11. once
12. doce
13. trece
14. catorce
15. quince
16. dieciséis
17. diecisiete
18. dieciocho
19. diecinueve
20. veinte
21. veintiuno
22. veintidós
23. veintitrés
24. veinte cuatro
25. veinticinco
26. veintiséis
27. veinte siete
28. veinte ocho
29. veinte nueve
30. treinta
31. treinta y uno
32. treinta y dos
33. treinta y tres
34. treinta y cuatro
35. treinta y cinco

40. cuarenta
50. cincuenta
60. sesenta
70. setenta
80. ochenta
90. noventa
100.cien

Lo siento, *(Sorry,)*	he olvidado *(I've forgotten)*	mi *(my) (singular)* mis *(my) (plural)*	lápiz (m) *(pencil)* bolígrafo (m) *(pen)* regla (f) *(ruler)* cosas (pl) *(things)*
	no tengo *(I don't have)*		mi cuaderno (m) *(my exercise book)* diccionario (m) *(a dictionary)*

¿Puedo *(Can I)*	ir a los servicios *(go to the toilet)*		por favor? *(please?)*
	usar *(borrow)*	un lápiz un bolígrafo una regla	
	tener *(have)*	un nuevo cuaderno *(a new exercise book)*	
	hablar con Usted *(talk to you)*		
¿Puede *(Can you)*	ayudarme *(help me)*		
	abrir *(open)* cerrar *(close)*	la puerta *(the door)* las ventanas *(the windows)*	

Key verbs

soy	*I am*
no soy	*I am* ***not***
tengo	*I have*
no tengo	*I* ***don't*** *have*
¿Cuántos años tienes?	*How old are you?*
tengo ... años	*I'm ... years old*
me llamo...	*My name is...*
hay	*there is/are*
no hay	*there is/are* ***not***

How to say my/your/their

mi	*if the noun is* **singular**
mis	*if the noun is* **plural**
tu/tus	*= your,*
su/sus	= his/her/their

En mi mochila hay (In my bag there is)

un cuaderno	*an exercise book*
un libro	*a [text]book*
un lápiz	*a pencil*
un bolígrafo	*a pen*
un móvil	*a phone*
un sacapuntas	*a pencil sharpener*
un estuche	*a pencil case*
una regla	*a ruler*
una goma	*a rubber*
una agenda	*a diary*
una calculadora	*a calculator*
unas tijeras	*some scissors*

¿Qué tiempo hace?
What is the weather like?

hace calor/frío	*it's hot/cold*
hace **mucho** calor	*it's* ***really*** *hot*
hace buen tiempo	*it's nice*
hace mal tiempo	*it's horrible*
hace sol	*it's sunny*
hace viento	*it's windy*
está nublado	*it's cloudy*
está nevando	*it's snowing*
hay niebla	*it's foggy*
hay tormenta	*it's stormy*
llueve	*it's raining*

Hablar en la aula
Speaking in the classroom

Señor/Señora	Sir/Miss
¿Entiendes?	*Do you understand?*
no entiendo	*I don't understand*
por favor/gracias	*please/thank you*
necesito	*I need*
mira la pizarra	*look at the whiteboard*
el professor / la profesora	*the teacher*
estoy enfermo/a	*I'm ill*
levantaos	*stand up*
sentaos	*sit down*
recoger	*pack away*

me gusta	*I like*
no me gusta	*I* ***don't***

Key word: EXAMINE (to look at) – Examine the classroom objects. Which words are masculine/feminine?

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 2 theory exam at the end of year 8.

MUSICAL ELEMENTS

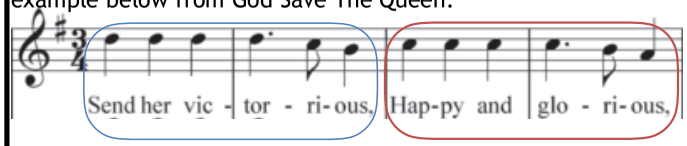
Tempo	Speed of the music
Dynamics	How loud or quiet the music is
Pitch	How high or low the notes are
Rhythm	Note values, and the patterns of different note values.
Meter	Time signatures - how many beats are in each bar
Articulation	Different styles of playing the notes / music.

PITCH

SEQUENCE

Scan the QR codes to hear the examples of sequence in these songs.

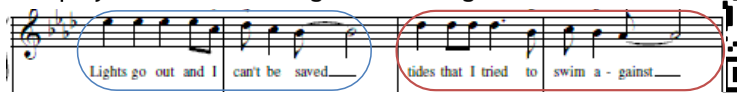
Sequence is a device used by, taking a motif (part of a melody) and then repeating it higher or lower in pitch than the original. See this example below from God Save The Queen.



Original motif (0.43-0.48 seconds)

Repeated in sequence, lower pitch than the original motif (0.49 - 0.54 seconds)

Coldplay do the same thing in their song "Clocks"



Original motif (0.30 - 0.33 seconds)

Repeated in sequence, lower pitch than the original motif (0.34 - 0.37 seconds)

METER

DIFFERENT TIME SIGNATURES

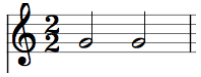
VOCABULARY
Ensure *- make sure something happens*

A time signature tells you how the music is to be counted. The time signature is written at the beginning of the staff *after* the clef and key signature. Time signatures consist of two numbers

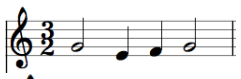
If composing, always **ensure** each bar has the correct number of beats.

The **top number** of the time signature tells you *how many* beats to count.
The **bottom number** tells you what kind of note to count. It tells you to divide a semibreve by this number, and use these as the beat values.

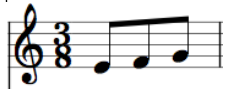

2 minim beats per bar




3 minim beats per bar




3 quaver beats per bar



$\frac{3}{8}$ means 3 quaver beats per bar, because:

3 Three beats per bar

8 Divide the semibreve by 8 (you can use the rhythm trees on the next page to help you).
There are 8 quavers in a semibreve, so your beats are quavers.

$\frac{2}{2}$ means 2 minim beats per bar, because:

2 Two beats per bar

2 Divide the semibreve by 2.
There are 2 minims in a semibreve, so your beats are minims.

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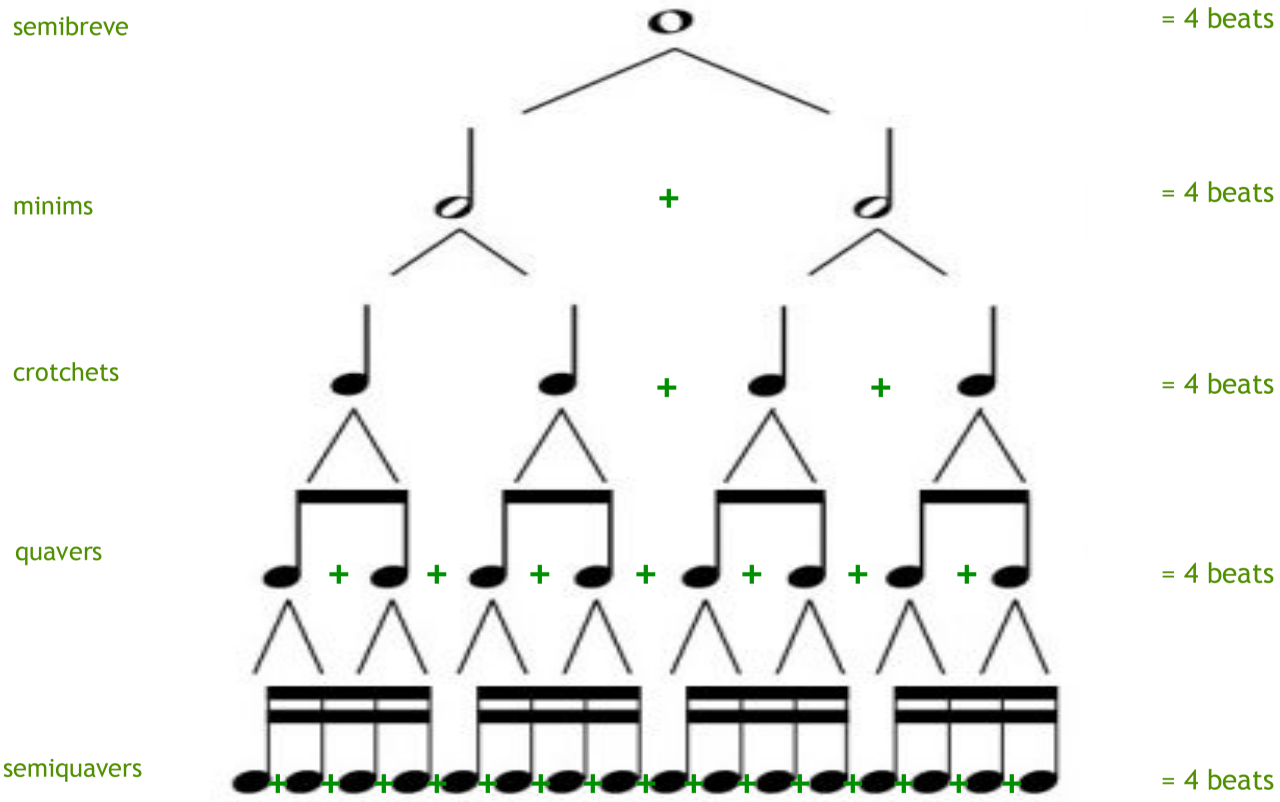
RHYTHM

These are the most common note values that you will use.
When used together they create the rhythms of the music.

	DOTTED CROTCHET	1 AND A HALF BEATS
	SEMIQUAVER	QUARTER OF A BEAT

Each line below is equivalent to 4 beats:



2 or more semiquavers together are usually ‘beamed’ (joined up) in pairs or fours:

Cycle 2 focus: A study of the play text 'Curious Incident of a Dog in the Night-time'

PLOT

MAIN CHARACTERS

Christopher Boone is a **very talented 15 year old**. He knows a lot about space and mathematics - he also **finds people confusing** and notices the tiniest details about the world around him that most people would ignore.

Ed Boone is Christopher's father. Ed and Christopher have a loving but at times tense relationship. Ed can be very **patient and caring** with Christopher but he shows stubborn **determination** and on occasions loses his temper with Christopher - in one scene he and Christopher actually have a fight.

Judy is Christopher's mother. At the start of the play, Christopher thinks that she died, two years ago after going to hospital. He finds out that this is not true when he discovers a number of letters she has sent to him Through these letters we discover that **Judy struggled to cope with Christopher and his unusual behaviours**

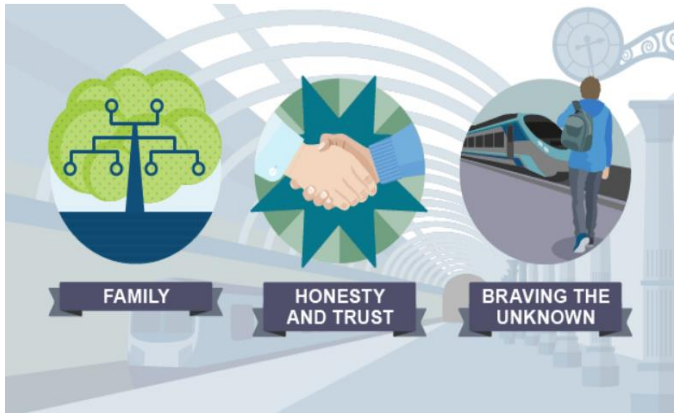
SECONDARY CHARACTERS

Siobhan is Christopher's teacher. Christopher talks to her about his problems and she reads the note book in which Christopher records his investigation and writes his stories. She is very **encouraging** and gives him advice about what he should and shouldn't do.

Roger Shears becomes the prime suspect in Christopher's investigation of the murder of Wellington the dog. He is the only person Christopher can think of that might not like Mrs Shears, as they are divorced.

Mrs Alexander is an elderly lady who lives on Christopher's street. She is **kind** and welcoming whenever she sees Christopher but the audience might see her as a **gossip** when she reveals to Christopher that his mother had an affair with Mr Shears.

KEY THEMES



KEY WORD/TERM	DEFINITION
Blocking	Deciding where each character should stand, sit or move to in a scene. This is then set and rehearsed.
Proxemics	The usage of space on a stage, or how the actors/characters are placed on a stage. The distance or level between character/actors shows their relationships and feelings, and give clues of the situation or the people within the situation at that moment.
Dialogue	Dialogue is a written or spoken exchange of words between one or more characters.
Characterisation	The act of changing voice, body language, movement, gesture and facial expressions to show your character.
Physical Theatre	Physical Theatre is a type of performance where physical movement is the primary method of storytelling. It may incorporate other techniques such as mime, gesture and modern dance to create performance pieces.

Spellings to learn this cycle.

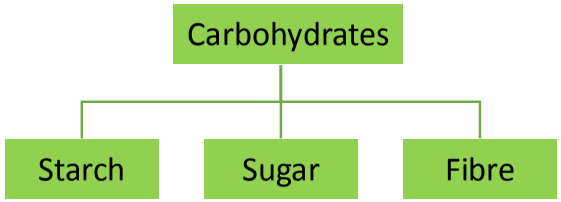
Performance	Characterisation	Rehearsal	Status
Proxemics	Relationship	Dialogue	Blocking
Sightlines	Physicality	Staging	Scene

This Learning cycle in Food covers:
carbohydrates, special diets and cooking methods.

Food Cycle Knowledge Organiser

Quiz 1 General Knowledge | **Carbohydrates**

Key words and definitions:	
Nutrient	A chemical in foods that your body can absorb and use
Carbohydrate	A macronutrient used for energy
Starch	A complex carbohydrate used for long term energy
Sugar	A simple carbohydrate used for short term energy
Fibre	A type of complex carbohydrate used to fill you up and clean out your digestive system
Sources	Foods that contain high amounts of a nutrient
Functions	The jobs nutrients do in your body
Excess	If you have to much of a nutrient in your diet
Deficiency	If you don't have enough of a nutrient in your diet
Allergy	A medical condition, results in an allergic reaction which might be damaging to your health or even fatal.
Intolerance	A reaction to a food that will cause some discomfort but that is not threatening to your life.
Allergen	The food or ingredient that causes an allergic reaction.
Vegetarian	Limits the animal products they eat - there are different types.



Sources of starch, sugar and fibre: Use this link
https://www.nhs.uk/live-well/healthy-weight/why-we-need-to-eat-carbs/
or google NHS Livewell Carbohydrates.
Find and learn the sources of starch, sugar and fibre.

Functions of fibre:
Insoluble fibre – collects rubbish, keeps your system clean, prevents constipation, diverticular disease and cancer in your colon.
Soluble fibre – makes you feel fuller for longer, feeds healthy gut bacteria and can help lower cholesterol.

Function of sugar: gives you energy quickly, if you don't use it immediately it is converted to fat and stored.
Excess sugar= tooth decay, gum disease, obesity, type 2 diabetes.
How much sugar should you eat? As little as possible, your body can make it from other foods.

Function of starch: a slow and steady release of energy.
Other nutrients in starchy foods: B vitamins, calcium, iron.
How much starch should you eat? 30% (1/3) of the food you eat should be starchy food.
Is starch healthy? The NHS recommend that you get 50% of your energy from starch, it contains less than half the calories of fat and also bulks out your diet if you choose wholegrain varieties.

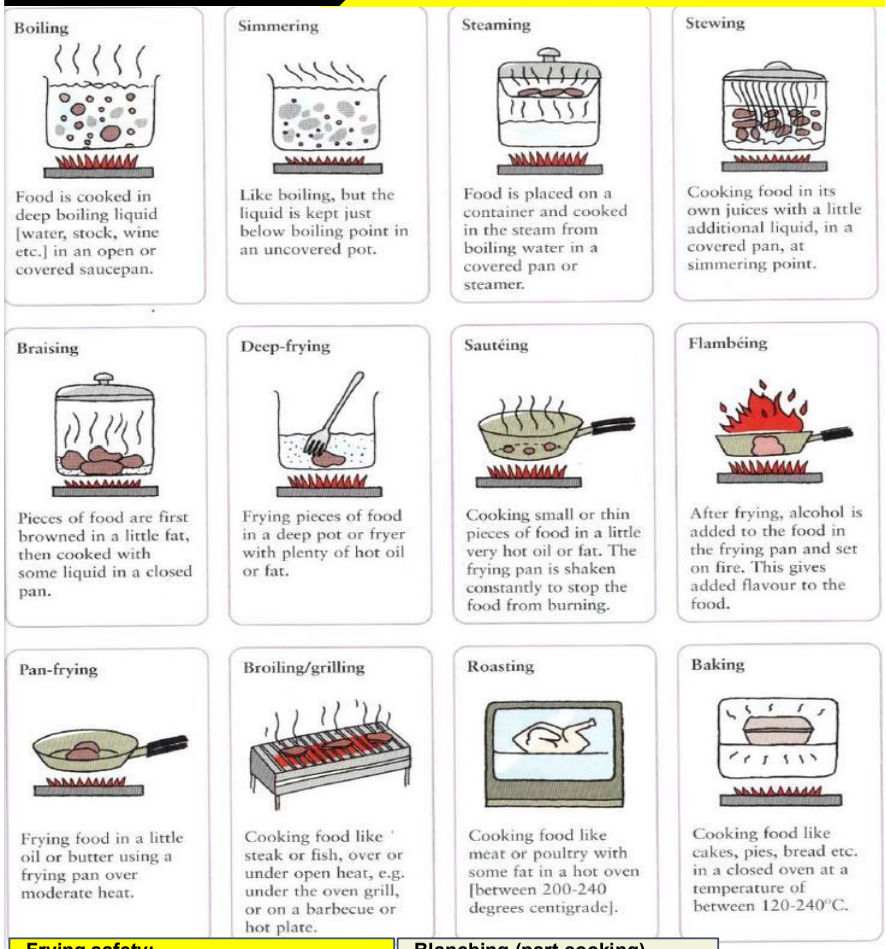
Food Knowledge Organiser

Quiz 2 Key Words

To form an idea about something. To assess — **Evaluate**

To think carefully or deeply about — **Reflect**

Quiz 2 Processes — Cooking Methods



Frying safety:
1. Do not leave pan unattended.
2. Use dry food.
3. Reduce heat if it smokes.
4. NEVER put water on a fat fire.

Blanching (part cooking)
1. Food is submerged in boiling water for a few mins.
2. Food is plunged into cold water.

Quiz 3 General Knowledge — special diets

Lactose intolerance intolerance to the sugar (lactose) in cow's milk.

Coeliac disease an allergy to the protein (gluten) in wheat. Some people are also allergic to the proteins in other cereals eg oats, corn.

Gluten intolerance intolerance to the protein (gluten) in wheat.

The 14 most common allergens have to be highlighted on food labels BY LAW in the ingredients list (underlined or put in bold text). Think of the reasons why this is the law. Look them up.

Vegetarians:
Pescetarians - no meat
Lacto-ovo vegetarians - no meat, no fish
Lacto vegetarians - no meat, no fish, no eggs
Vegans - no meat, no fish, no eggs, no animal products (honey, gelatin (in jellies, gravies, made from bones and cartilage)). They need to eat foods fortified with Vitamin B12 because it is only found in animal foods.
(Hint - pesce = fish (Italian), lacto = milk, ova/ovum = egg)

Religious diets:
Halal and Kosher meats are slaughtered in a particular way. Ramadan is an Islamic festival that prohibits eating and drinking during daylight hours.

Religion	Alcohol	Pork	Beef	Lamb	Chicken	Fish
Islam	No	No	Halal	Halal	Halal	No
Hinduism	No	No	No	Yes	Yes	Yes
Judaism	Yes	No	Kosher	Kosher	Kosher	Yes
Sikhism	No	No	No	Yes	Yes	Yes
Buddhism (strict)	No	No	No	No	No	No
Seventh Day Adventist	No	No	No	No	Yes	Yes
Rastafarian	No	No	No	No	No	No

Timbers Cycle Knowledge Organiser

TEAMTECH

Design and Technology

Belong Believe Be Proud

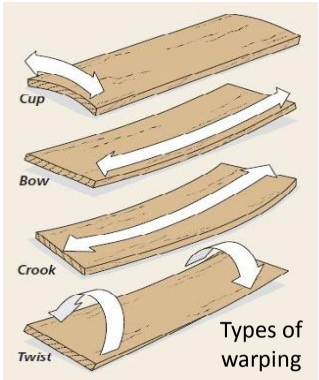
39

Quiz 1 Key Words

Accurate	Reliable, Exact, Correct
Assemble	To fit separate parts together

Quiz 1 General Knowledge — Natural timbers

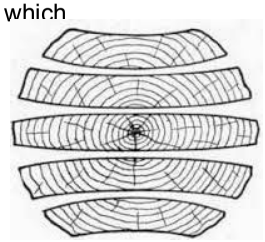
Wood is an organic material that is the main substance in the trunk and branches of a tree. Wood prepared for use in building and carpentry is know as timber. There are two types of natural timber: Hardwood and softwood. These names do not refer to how hard the wood is.



Types of warping

Warping is the bending or twisting that happens to natural timber as it dries out.

Manufactured boards do not have a grain in the same way, which means they are much more stable and do not warp like natural boards.



Quiz 1 General Knowledge — Manufactured boards

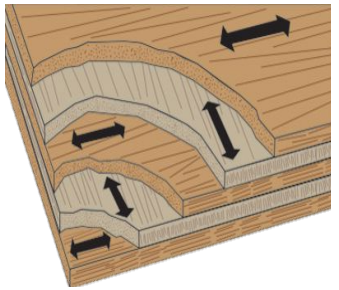
Made from wood; often using off-cuts from natural timber. They are bonded together with adhesives. They tend to be cheaper than solid wood planks

Plywood

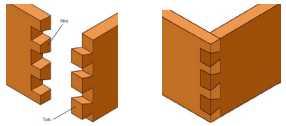
- Plywood is very strong in all directions; often stronger than solid wood.
- Outside layers are finished with a higher-quality veneer.
- Must always include an odd number of layers with the grain running in alternating directions.
- **Used in construction, furniture.**
- Flexi ply is a form of plywood but it is extremely flexible.

Alternate layers of wood (veneers) are glued together at 90 degrees to each other, to build up the thickness needed.

Construction of plywood.
Arrows show direction of wood grain.

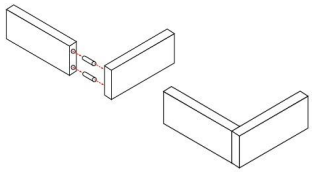


Quiz 1 General Knowledge — Wood joints



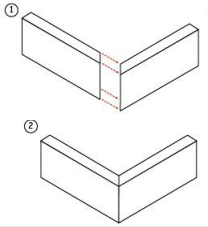
Dovetail joint

A very strong because of the way the 'tails' and 'pins' are shaped. This makes it difficult to pull the joint especially when glued. Used in box constructions such as drawers, jewellery boxes and other pieces of furniture where strength is required.



Dowel joint

This joint consists of drilling accurate holes in both sections of wood and joining them with dowel pegs. Within industry this is often used to construct flat pack furniture.



Mitre joint

Mitre joints are often used to produce the corners of picture frames and boxes. The mitre needs to be cut at a 45 degree angle, this is often used with a mitre saw that can cut at many different angles.

Timbers Cycle Knowledge Organiser

Quiz 2 Properties — Properties of wood

Softwood

Properties	Uses	Pine
• Easy to work with • Quite strong • Lots of knots	• Furniture • Construction • Door frames	

Hardwood

Properties	Uses	Mahogany
• Hard • Easy to work • Resistant to rot • Expensive	• Flooring • Fine furniture • Jewellery boxes	

Properties	Uses	Beech
• Hard • Tough • Finishes well	• Laminated furniture • Children's toys • Flooring	

Quiz 2 Properties — Wood Properties

Density	Compactness of a material, defined as mass per unit volume
Stability	Ability to resist changes in shape over time
Stiffness	The ability to resist bending

Quiz 3 Processes — Tool names and uses

1.	**Twist drill**	Cutting tool used to create holes	6.	**Mallet**	Used with chisels and for knocking pieces of wood together
2.	**Marking gauge**	To mark a line parallel to an edge	7.	**Power drill**	Drills holes in material – battery powered and hand held
3.	**Mitre square**	Used to mark out 45° angles	8.	**Bevel chisel**	Bevelled blades can get in corners for cutting dovetails
4.	**Palm sander**	Sanding, finishing wood surfaces	9.	**Counter sink**	Creates a cavity in material so screw heads can be flush to the surface.
5.	**Flat bit**	Drills larger holes in wood	10.	**Mitre box**	Used to guide a hand saw to make precise mitre cuts

During this topic you will learn the types, properties and uses of metals

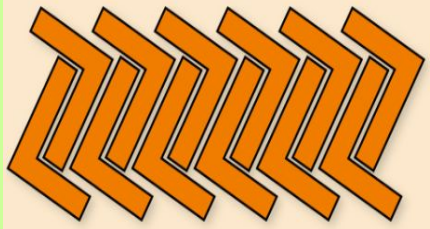
Metal Cycle Knowledge Organiser

Quiz 1 General Knowledge

Planning, cutting and shaping

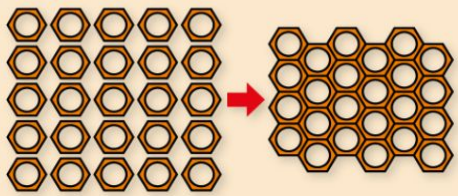
Wastage = total area of material – area of material used for shapes

Nesting



Arrange shape efficiently and close together. **Reduces** amount of **waste material** between each shape.

Tessellation



Used for shapes that **fit perfectly together** with **no space** between them. **Waste material is kept to the edge.**

Area of a square
A = base x height

Area of a triangle
A = ½ x base x height

When cutting shapes from materials, try to determine the best way to organise the shapes so that as many as possible can be cut from the least amount of material, here are two examples:

Quiz 1 Key Words

The standard, or excellence of something	Quality
An item, or substance that is manufactured	Product

Quiz 2 Properties

Metal Properties

Non-ferrous metals and properties

Aluminium

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

Zinc

- Corrosion resistant
- Used mainly for plating (covering) metals like steel and iron.

Ferrous metals and properties

Cast Iron

- Iron + Carbon (2-4%)
- Hard skin but brittle, soft core.
- Good in compression
- Poor corrosion resistance

Mild Steel (low carbon steel)

- Iron + Carbon (0.25%)
- Malleable
- Ductile,
- Tough.
- Poor corrosion resistance

Metal Cycle Knowledge Organiser

Design and Technology

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Quiz 2 Properties	Material Properties
Insulator	A material which does not conduct electricity or heat.
Hardness	The resistance to indentation, scratching and wear and tear at the surface.
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 the material.
Ductility	The ability to draw the material out so it gets longer and longer and thinner and thinner.
Malleability	If a metal is able to be hammered or pressed into a flatter and wider shape without breaking or cracking.
Corrosion Resistance	The ability of a material to be weather resistant and not rust.

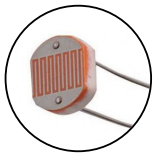
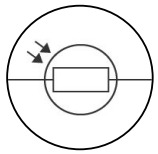
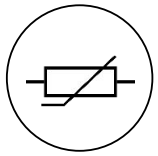
Quiz 3 Processes		Tool names and uses			
1.	**Metal vice**	To hold work whilst cutting/ filing.	6.	**File/s**	Removes fine amount of material from work.
2.	**Hacksaw**	Cutting straight lines in metal.	7.	**Ball pein hammer**	Use to shape metal/ or use with centre punch.
3.	**Tin snips**	Cutting straight lines in sheet metal.	8.	**Steel rule**	Measuring material in cm/mm.
4.	**Sheet metal nibbler**	Cuts through sheet metal.	9.	**Centre punch**	Make an indent in metal before drilling.
5.	**Twist drill**	Cutting tool used to create holes	10.	**Scriber**	Use to mark out lines/ design on metal.

Electronics & CAD/CAM Cycle Knowledge Organiser

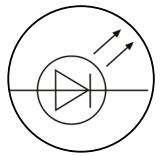
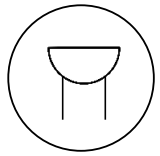
Quiz 1 General Knowledge

Electronics

Sensors (input devices)

Picture		Symbol
	**Light-dependant resistor (LDR)** Detects changes in light levels. The resistance decreases as the brightness increases. LDRs are used in **outdoor street lamps**	
	**Thermistor** Its resistance changes with **temperature.** Thermistors are often used where it is important to know the temperature, such as inside a **refrigerator**	

Outputs

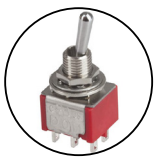
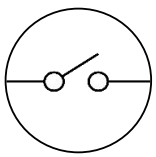
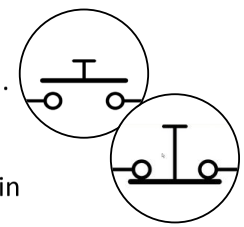
Picture		Symbol
	**Light-emitting diode LED** Gives out light when current passes through it. Low voltage/ low power consumption. E.g. power indicators and **TV screens**	
	**Buzzer** Makes a **noise** when a **current passes** through it. Useful in a sensing device to give people a warning that something needs their attention	

A system is made up of several parts that work together as a whole to carry out a function.
All electronic systems require an **input**, a **process** (control device…) and an **output.**

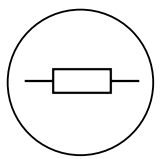
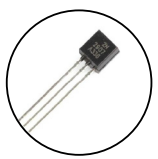
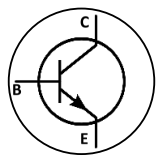
System

Input device	Control devices and components	Output device
Key on a keyboard pressed.	Controller reads the input and tells the program what to do.	Monitor displays the processed data.

Control devices and components

Picture		Symbol
	**Toggle switch** Used to **complete** or **disconnect** a **circuit.** Can be turn on (closed) to let current flow or turned off (open) to stop current flow.	
	**Push to make switch** Current flows when pushed in. **Push to break switch** Circuit is broken when pushed in	

Control devices and components

Picture		Symbol
	**Resistor** It can be added to a circuit to change its **resistance.** It can **restrict** the **flow** of **electricity** in a circuit.	
	**Transistor** Used as either a electrical switch or a current amplifier. When a small **voltage** at the **B**ase connection is detected, **current** can flow between the **C**ollector and the **E**mitter.	

Electronics & CAD/CAM Cycle Knowledge Organiser

Design and Technology

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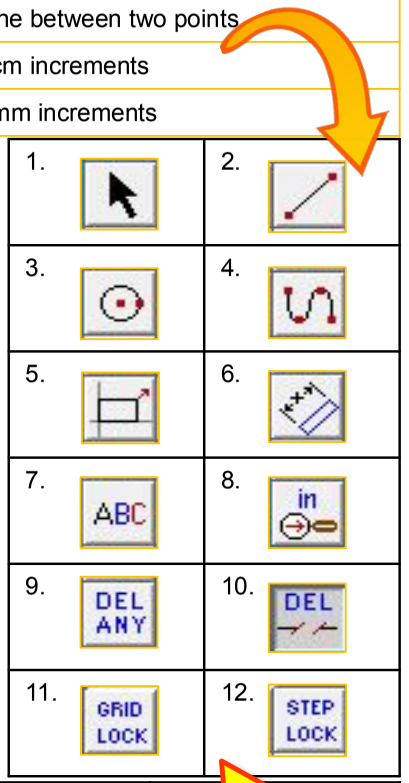
Quiz 2 Processes — 2D Design tools

1. Select	Select shapes and icons	**7. Text**	Allows text to be written on work
2. Straight line	Draws a straight line	**8. Zoom to selected area**	Allows user to see close up within the workspace
3. Circle	Draws a circle	**9. Delete any object**	Deletes selected object
4. Curved line	Draws curved shapes	**10. Delete part of line**	Delete a part of a line between two points
5. Rectangle	Draws rectangular shapes	**11. Grid lock**	Moves cursor in 1 cm increments
6. Dimensions	Measures in mm between two points	**12. Step lock**	Moves cursor in 1 mm increments



Quiz 3 Computer Aided Design

CAD software is commonly used by designers to create design ideas, develop and model 2D and 3D products and manipulate before manufacturing. e.g. 2D design and Autodesk Inventor (3D)

Advantages

- More accurate than hand drawings
- Designs can be changed and tested before production.
- Offers views of 3D models from all angles
- Final drawing/file can be emailed instantly

Disadvantages

- Can be difficult to learn
- Expensive software

Computer Aided Manufacturing

CAM uses computer numerical control (CNC) to manufacture the CAD designs. e.g. Laser cutter, 3D printer, CNC router and lathes.

Advantages

- High level of accuracy
- Consistent quality of product manufactured
- Increases speed of production
- Can operate 24 hours a day
- Products can be made directly from CAD files

Disadvantages

- Expensive equipment
- Replaces human workforce

Quiz 3 Properties and Key Words — Types of Thermoplastics

Acrylic

- Hard and rigid
- Range of colours
- Easily scratched
- Waterproof
- Insulator

HIPs
High impact polystyrene

- Flexible
- Lightweight
- Can be vacuum formed
- Range of colours
- Waterproof
- Insulator

In a favourable or superior position Or, in an unfavourable or inferior position	**Advantage/ disadvantage**
the quality of being attractive or interesting	**Appeal**
Evolution, Growth, Expansion, Maturing	**Development**

Cycle 2 in Year 8 PE will focus on developing your ***Effective Teams*** *through activities such as of Netball, Basketball, Football & HRF.*

Cycle 2 Knowledge Organiser

Key words and definitions	
Concept - Effective Teams	***Effective Teams - Focus Statement***
Support	*Being able to support others in their skill development*
Considerate	*Showing consideration to others in a variety of settings*
Communication	*Communicate with effectiveness to my peers*
Trust	*Allocating roles within teams to suit strengths*
Collaboration	*Collaborating with others to enhance development and success*
Evaluation	*Working with my peers to effectively evaluate performance*
Problem Solving	*Assessing different situations to problem solve effectively*
Teamwork	*Completing my assessment to the best of my team's' ability*
Adaptation	*Responding to feedback to improve my skills/ understanding*

THE PRIORY LEARNING TRUST

Effective Teams

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In cycle 2 we study iMedia with a focus on the basics of digital graphics editing for the creative and digital media sector. You will learn where and why digital graphics are used and the techniques involved in their creation.

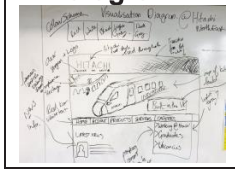
Key words and definitions	
Assets	These are the component parts that are used in the creation of digital graphics. Examples would be photographs, images, graphics, text, logos.
File formats	This refers to the type of image file and file extension that is being used or considered. Typical examples of file formats are .tiff, .jpg, .png, .bmp, .gif and .pdf.
Image editing software	Software with a range of image editing tools and techniques.
DPI	DPI (Dots Per Inch) is used to describe the resolution number of dots per inch in a digital print and the printing resolution of a hard copy print.
Properties	The properties of digital graphics refer primarily to the pixel dimensions and dpi resolution.
Bitmap image	A bitmap is a digital image made of a matrix of dots. Each dot corresponds to an individual pixel on a display.
Vector image	Digital images made using mathematical statements that place lines and shapes in 2D points, so excellent for graphics that require resizing.

You will understand the purpose and properties of digital graphics, and know where and how they are used. You will plan the creation of digital graphics, create new digital graphics using a range of editing techniques and review a completed graphic against a specific brief.

Topic 1

Learning Outcome 1: To understand the purpose and content of pre-production.

Graphics:

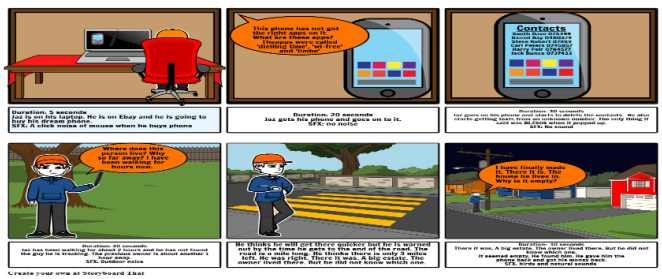
	**Computer Graphics** – A graphic is an image or visual representation of an object. Therefore, computer graphics are simply images displayed on a computer screen.
	**Pixel** (short for picture element) - is the smallest unit of a digital image or graphic that can be displayed and represented on a digital display device. Pixels are combined to form a complete image on a computer display.
	**Resources** - This refers to the hardware and software used to create the graphics. Examples would include both the computer equipment, image capture hardware and the image editing software application.
Visualisation diagram 	A sketch or diagram of what is to be created as the digital graphic. It can be hand drawn or produced using a software application. The intention is the client can get an idea of what the final product will look like. It can include annotations in addition to the draft layout.

Topic 2

Learning Outcome 2: To be able to plan pre-production for a given scenario.

Key words and definitions

Timescales	**Timescale** is the period of time that is needed to do something, such as the development of a website for a customer.
Copyright	**Copyright** is a law that gives the owner of a work (like a book, movie, picture, song or website) the right to say how other people can use it.
Trademark	A **trademark** is a recognisable sign, design or expression, which identifies products or services of a particular source from those of others.
Intellectual property	**Intellectual property** refers to creations of the mind, such as inventions; literary and artistic works, designs and symbols.
Milestones	A significant stage or event in the development of something, set to monitor progress of larger projects.
Target audience	A particular group at which a product, such as a website, is aimed.
Mood Board	A **mood board** is a collage of images, fonts, and colour schemes for use in a new project.
Spider Diagram	**Spider diagrams** are very similar to **mind maps**. The main **differences** are that **spider diagrams** do not always use colour, and there are no specific rules on how to structure a **spider diagram.**
Storyboard	A **storyboard** is a planning tool consisting of a series of thumbnail sketches that show in simple pictures, the main points of action.



Pre-Production

This refers to the tasks done before production begins. For a small video company this could mean everything that happens before shooting begins, for example meeting with the client, research storyboarding, location planning.

THE PRIORY LEARNING TRUST

Throughout learning cycle 2 you will create a series of printing techniques. This is a skills based project where you will have the opportunity to trial Sgraffito, Monoprint and Collagraph printing.

How to make a collagraph

1	Glue collage materials onto cardboard to make a specific design. The printmaking term for this surface is a "plate."
2	Once the collage is created and the glue is dry, materials need to be sealed to protect them from the ink - cover the plate with a single coat of varnish,
3	Apply ink to the collage using a roller. Work quickly, because water-based ink will dry in a short time,
4	Carefully lay the paper over the inked surface. Rub the surface using firm pressure. Make sure all areas are covered,
5	Pull the paper carefully away and view the print!

Key words	Printing processes...
Sgraffito	A **printmaking** process where a top layer of colour is scratched to reveal a colour beneath.
Mono-print	A **printmaking** process where the image can only be made once, unlike most printmaking which allows for multiple originals.
Collagraph	A **printmaking** process in which materials are applied to a rigid surface (such as cardboard or wood). The textured surface (plate) is then varnished and can be printed or left as a 'relief'.

ANNOTATION

WHEN TALKING ABOUT YOUR OWN WORK, TRY TO SAY:

- ★ **WHAT** you have done
- ★ **HOW** have you done it
- ★ **WHAT** inspired you
- ★ **WHY** is it successful
- ★ **IS** there anything that you would change

SENTENCE STARTERS

USE THESE TO HELP YOU GET STARTED

In this piece of work I have...
I have created this piece by...
I was inspired by...
The successful parts of my work are...
The areas I could change in my work are...

How to monoprint

1	Add a pea sized amount of printing ink to your Perspex (plastic) or table..
2	Roll the ink out evenly and smoothly with a roller.
3	Blot your ink with a piece of newspaper to lift off the excess ink.
4	Place a piece of paper on top of the rolled out ink, THEN your image on top facing upwards and masking tape it into place to keep it still.
5	Apply pressure with a sharp pencil or pen and start tracing your drawing. Don't lean on the image with your hand or elbow!
6	Put some darker marks on some areas to **emphasise** shadows and create tone and detail.
7	You can use your finger to draw out areas of shadow.
8	Slowly pull the paper away to reveal your image!

Notes

Notes

Notes

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