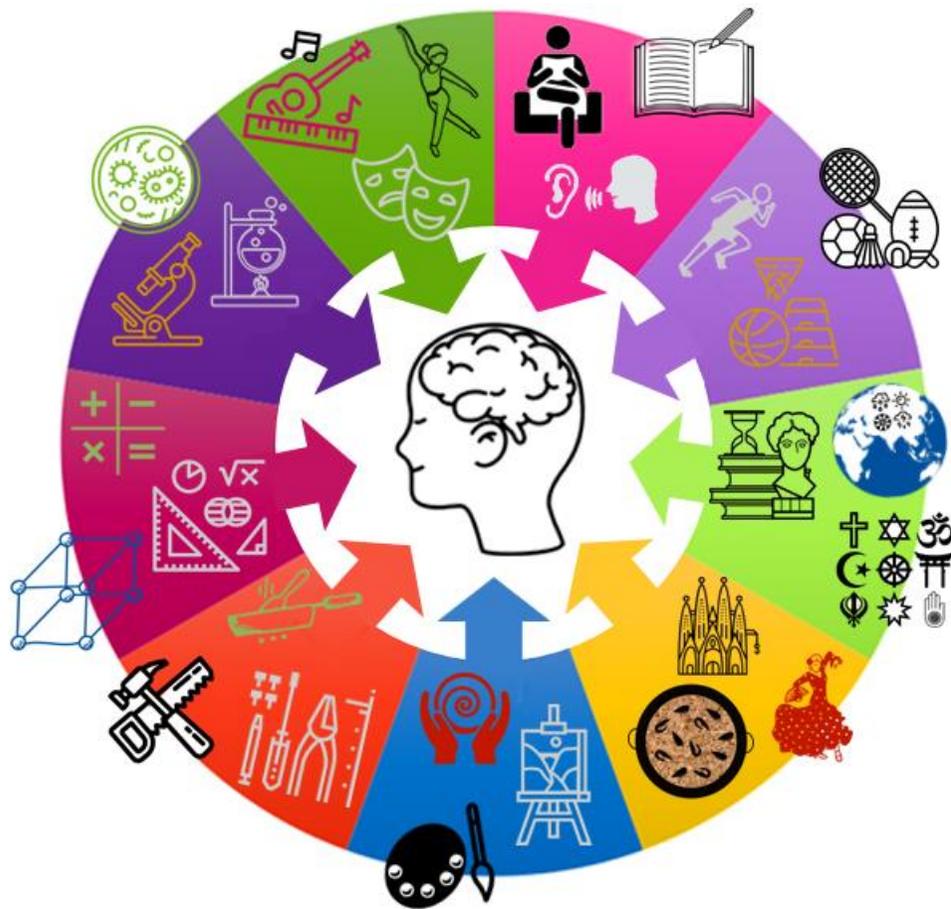


# Year 9 – Booster Knowledge Organisers

## Term 5



### Swindon Academy 2022-23

Name:	
Tutor Group:	
Tutor & Room:	

*"If you are not willing to learn, no one can help you.  
If you are determined to learn, no one can stop you."*

# Using your Knowledge Organiser and Quizzable Knowledge Organiser

## Knowledge Organisers

**Year 7 Term 1 Science/Chemistry - Topic: TOP Particles**

**What are we learning this term:**

- Particle model
- Changing state
- Mixtures
- Separating techniques

**4 Key Words for this term:**

- Matter
- Particles
- Changes of state
- Mixing

**6. What is particle theory?**  
The theory that all matter is made up of particles.

**A. Describe the properties of the three states of matter.**

Solid	Liquid	Gas
<ul style="list-style-type: none"> <li>• Particles are packed closely together in a regular pattern.</li> <li>• Particles vibrate in place.</li> <li>• Particles are held together by strong forces.</li> </ul>	<ul style="list-style-type: none"> <li>• Particles are close together but can move past each other.</li> <li>• Particles are held together by weak forces.</li> </ul>	<ul style="list-style-type: none"> <li>• Particles are far apart and move randomly.</li> <li>• Particles have a lot of energy and move in all directions in a high speed.</li> </ul>

**B. What is the law of conservation of mass?**  
The Law of Conservation of Mass states that mass cannot be created or destroyed.

**What are the different changes of state?**

Melting	change of state from solid to liquid
Freezing	change of state from liquid to solid
Evaporation	change of state from liquid to gas
Condensation	change of state from gas to liquid

**What is the difference between a pure and an impure substance?**

**Pure**: A material that is made up of only one type of particle.

**Impure**: A material that is made up of more than one type of particle.

## Quizzable Knowledge Organisers

**A. What is particle theory?**

**A. What is the law of conservation of mass?**

**A. Describe the arrangement and movement of particles in the three states of matter.**

Solid	
Liquid	
Gas	

**B. What are the different changes of state?**

Melting	
Freezing	
Evaporation	
Condensation	

**What is the difference between a pure and an impure substance?**

**Pure**

**Impure**

**Diagram:** A cycle showing solid, liquid, and gas states with arrows indicating transitions: solid to liquid (melting), liquid to solid (freezing), liquid to gas (evaporation), gas to liquid (condensation), and solid to gas (sublimation).

## Expectations for Prep and for using your Knowledge Organisers

1. Complete all prep work set in your subject prep book.
2. Bring your prep book to every lesson and ensure that you have completed all work by the deadline.
3. Take pride in your prep book – keep it neat and tidy.
4. Present work in your prep book to the same standard you are expected to do in class.
5. Ensure that your use of SPAG is accurate.
6. Write in blue or black pen and sketch in pencil.
7. Ensure every piece of work has a title and date.
8. Use a ruler for straight lines.
9. If you are unsure about the prep, speak to your teacher.
10. Review your prep work in green pen using the mark scheme.

Knowledge Organisers contain the essential knowledge that you **MUST** know in order to be successful this year and in all subsequent years.

They will help you learn, revise and retain what you have learnt in lessons in order to move the knowledge from your short-term memory to long-term memory.

These are designed to help you quiz yourself on the essential Knowledge.

Use them to test yourself or get someone else to test you, until you are confident you can recall the information from memory.

### Top Tip

Don't write on your Quizzable Knowledge Organisers! Quiz yourself by writing the missing words in your prep book. That way you can quiz yourself again and again!

# How do I complete Knowledge Organiser Prep?

## Step 1

Check Epraise and identify what words /definitions/facts you have been asked to learn. Find the Knowledge Organiser you need to use.

The image shows the epraise website interface. On the left is a 'Planner' for the week of 10th May to 16th May 2020, with a grid for subjects like Science, History, and English. On the right is a 'Knowledge Organiser' for 'What is particle theory?' with sections for 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', and 'What is the law of conservation of mass?'.

## Step 2

Write today's date and the title from your Knowledge Organiser in your Prep Book.

The image shows a student's prep book. The date '29th May 2020' and the title 'Particle theory' are written in blue ink. The background shows the same knowledge organiser as in Step 1, with sections for 'What is particle theory?', 'Describe the arrangement and movement of particles in the three states of matter', and 'What is the law of conservation of mass?'.

## Step 3

Write out the keywords/definitions/facts from your Knowledge Organiser in FULL.

The image shows a student's prep book with handwritten definitions and facts for particle theory. The text is written in blue ink on lined paper. The date '29th May 2020' is written at the top. The title 'Properties of the states of matter' is written below. The definitions are: 'Particle theory = all matter is made of particles', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other. Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'.

## Step 4

Read the keywords/definitions/facts out loud to yourself again and again and write the keywords/definitions/facts at least 3 times.

The image shows a student's prep book with the handwritten definitions and facts from Step 3 repeated three times. The text is written in blue ink on lined paper. The definitions are: 'Solid = regular pattern particles vibrate in fixed position', 'Solid = regular pattern particles vibrate in fixed position', and 'Solid = regular pattern particles vibrate in fixed position'.

## Step 5

Open your quizzable Knowledge Organiser. Write the missing words from your quizzable Knowledge organiser in your prep book.

The image shows a student's prep book with the quizzable Knowledge Organiser. The questions are: 'What is the law of conservation of mass?', 'What are the different changes of state?', and 'Describe the arrangement and movement of particles in the three states of matter.' The answers are: 'Self quizzing', 'Arrangement/movement of matter', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid =', and 'Gas ='. There are also diagrams for solid, liquid, and gas states.

## Step 6

Check your answers using your Knowledge Organiser. Repeat Steps 3 to 5 with any questions you got wrong until you are confident.

The image shows a student's prep book with the handwritten definitions and facts from Step 3. The text is written in blue ink on lined paper. The definitions are: 'Particle theory = all matter is made of particles', 'Solid = regular pattern particles vibrate in fixed position', 'Liquid = particles are arranged randomly but are still touching each other. Particles can slide past each other and move around.', and 'Gas = Particles are far apart and are arranged randomly. Particles carry a lot of energy'. There are checkmarks and corrections in blue ink.

Make sure you bring in your completed Prep notes to demonstrate that you have completed your prep.

# Comparative Poetry: F Knowledge Organiser

Poem Journey Type			
'Wherever I Hang' Grace Nichols	<ul style="list-style-type: none"> <li>Physical journey from Guyana to England</li> <li>Spiritual reflection of the changes she has made in her viewpoints</li> </ul>	<ol style="list-style-type: none"> <li>'I leave me people, me land, me home / For reasons I not too sure'</li> <li>'And de people pouring from de underground system / Like beans'</li> <li>'I don't know really where I belong'</li> </ol>	
'The Night Mail' W. H. Auden	<ul style="list-style-type: none"> <li>The journey of letters across the country</li> </ul>	<ol style="list-style-type: none"> <li>'This is the Night Mail crossing the border, / Bringing the cheque and the postal order'</li> <li>'All Scotland waits for her: / In the dark glens, beside the pale-green sea lochs / Men long for news'</li> <li>'For who can bear to feel himself forgotten?'</li> </ol>	
'Swing Low Sweet Chariot' Wallace Willis	<ul style="list-style-type: none"> <li>The journey of slaves to freedom</li> <li>The journey of Christians to heaven</li> </ul>	<ol style="list-style-type: none"> <li>'Swing low, sweet chariot, Coming for to carry me home'</li> <li>'Tell all my friends I'm coming too, Coming for to carry me home.'</li> <li>'But still my soul feels heavenly bound'</li> </ol>	
'The Canterbury Tales' Geoffrey Chaucer	<ul style="list-style-type: none"> <li>Pilgrimage to Canterbury</li> <li>From the city to the countryside</li> </ul>	<ol style="list-style-type: none"> <li>'pilgrims were they all / That toward Canterbury would ride'</li> <li>'When April with his showers sweet with fruit / The drought of March has pierced unto the root'</li> <li>'Of England they to Canterbury wend'</li> </ol>	
'Telling Tales' Patience Agbabi	<ul style="list-style-type: none"> <li>Pilgrimage to Canterbury</li> <li>The journey of language evolving over time</li> </ul>	<ol style="list-style-type: none"> <li>'On this Routemaster bus: get cerebral/Tabard Inn to Canterbury Cathedral'</li> <li>from the grime to the clean-cut iambic,/rime royale, rant or rap, get your slam kick</li> <li>'Chaucer Tales, track by track, here's the remix'</li> </ol>	
'Paradise Lost' John Milton	<ul style="list-style-type: none"> <li>The journey of Satan to hell</li> </ul>	<ol style="list-style-type: none"> <li>'Of Man's First Disobedience, and the Fruit / Of that Forbidden Tree'</li> <li>'Who first seduc'd them to that foul revolt?'</li> <li>'Him the Almighty Power / Hurld headlong flaming from th' Ethereal Skie'</li> </ol>	
'The Road Not Taken' Robert Frost	<ul style="list-style-type: none"> <li>Reflecting on the journey taken between two roads</li> <li>The journey as a metaphor for a decision</li> </ul>	<ol style="list-style-type: none"> <li>'I took the one less travelled by, / And that has made all the difference'</li> <li>'And both that morning equally lay'</li> <li>'I shall be telling this with a sigh / Somewhere ages and ages hence'</li> </ol>	
'My Father Thought It' Simon Armitage	<ul style="list-style-type: none"> <li>The journey of growing up</li> </ul>	<ol style="list-style-type: none"> <li>'My father thought it bloody queer / the day I rolled home with a ring of silver in my ear'</li> <li>'the hole became a sore, became a wound, and wept'</li> <li>'At twenty-nine, it comes as no surprise to hear / my own voice breaking like a tear'</li> </ol>	
'Gap Year' Jackie Kay	<ul style="list-style-type: none"> <li>The journey of motherhood</li> <li>The journey of a child growing up</li> </ul>	<ol style="list-style-type: none"> <li>'I remember your Moses basket before you were born'</li> <li>'A flip and a skip ago, you were dreaming in your basket'</li> <li>'I have a son out in the big wide world'</li> </ol>	

Vocabulary: Key words	Terminology: Key words	Historical Context:	Comparative Writing:
immigrant-: a person who moves to live in another country permanently. When <b>immigrants</b> travel to a new place, they <b>migrate</b> .	comparative statement: These statements clearly explain what the poems have in common and how they are different	Nichols is an immigrant who wrote about the Afro-Caribbean experience. She uses dialect in her poems and is influenced by the rhythmic nature of Caribbean language.	<ul style="list-style-type: none"> <li>Identify similarities and differences between poems.</li> <li>To see how different poets, with different backgrounds and interests, write about the same topic.</li> <li>To see how different writers use the same literary techniques.</li> <li>To see how views on topics have changed over time.</li> <li>To understand the individual poems better.</li> </ul>
dialect: a form of language that is used in a specific area.	dramatic irony: When the audience is aware of something that a character is not.	Willis was a slave in America. Many people hoped for death rather than live as a slave. For them, the promise of being taken to heaven after death would have given them hope.	
astrology: the study of the stars and how their movement affects earth. <b>Astrologers</b> study the stars.	discourse markers: A word or phrase that helps to organise communication	Many people in the Medieval era believed astrology influenced many things like the weather, nature, personalities and hormones. Astrology was a respected science that was used alongside other medical theories.	
remix: to change or improve something that already exists.	personification: a type of metaphor used by writers to make something seem like it is alive with a human personality.	A gap year is a year between leaving school and starting university or starting employment. Most people spend the year travelling or working.	
slang: very informal language used by particular groups of people. It is usually spoken rather than written.	epic: a long, narrative poem		
domineering: trying to control others.	Venn diagram: a diagram representing common elements represented by intersecting circles.		
emulate: imitate			
endeavour: to try hard or to achieve something			
mendacious: lying			

# Comparative Poetry: F Knowledge Organiser

## Poem Journey Type

'Wherever I Hang' Grace _____	<ul style="list-style-type: none"> <li>_____ journey from Guyana to England</li> <li>_____ reflection of the changes she has made in her _____</li> </ul>	<ol style="list-style-type: none"> <li>'I leave me _____, me _____, me _____ / For reasons I not too sure'</li> <li>'And de people _____ from de _____ system / Like _____'</li> <li>'I don't know really where I _____'</li> </ol>
'The Night Mail' W. H. _____	<ul style="list-style-type: none"> <li>The journey of _____ across the country</li> </ul>	<ol style="list-style-type: none"> <li>'This is the Night Mail crossing the _____, / Bringing the _____ and the _____'</li> <li>'All _____ for her: / In the dark _____, beside the pale-green sea _____ / Men _____ for news'</li> <li>'For who can _____ to feel _____?'</li> </ol>
'Swing Low Sweet Chariot' Wallace _____	<ul style="list-style-type: none"> <li>The journey of _____ to _____</li> <li>The journey of _____ to _____</li> </ul>	<ol style="list-style-type: none"> <li>'Swing low, _____ chariot, Coming for to _____ me _____'</li> <li>'Tell all my _____ I'm coming too, Coming for to _____ me _____.'</li> <li>'But still my _____ feels _____'</li> </ol>
'The Canterbury Tales' Geoffrey _____	<ul style="list-style-type: none"> <li>Pilgrimage to _____</li> <li>From the _____ to the _____</li> </ul>	<ol style="list-style-type: none"> <li>'_____ were they all / That toward _____ would _____'</li> <li>'When _____ with his _____ with _____ / The _____ of March has _____ unto the _____'</li> <li>'Of _____ they to _____ wend'</li> </ol>
'Telling Tales' Patience _____	<ul style="list-style-type: none"> <li>_____ to _____</li> <li>The journey of _____ evolving over _____</li> </ul>	<ol style="list-style-type: none"> <li>'On this _____ bus: get _____ / Tabard Inn to Canterbury Cathedral'</li> <li>from the grime to the clean-cut iambic /rime royale, rant or rap, get your slam kick</li> <li>'Chaucer Tales, track by track, here's the remix'</li> </ol>
'Paradise Lost' John _____	<ul style="list-style-type: none"> <li>The journey of _____ to _____</li> </ul>	<ol style="list-style-type: none"> <li>'Of Man's First _____, and the _____ / Of that _____'</li> <li>'Who first _____ them to that _____?'</li> <li>'Him the _____ Power / Hurd headlong _____ from th' _____ Skie'</li> </ol>
'The Road Not Taken' Robert _____	<ul style="list-style-type: none"> <li>Reflecting on the journey taken between _____</li> <li>The journey as a _____ for a _____</li> </ul>	<ol style="list-style-type: none"> <li>'I took the one _____ by, / And that has _____ all the _____'</li> <li>'And _____ that morning _____'</li> <li>'I shall be _____ this with a _____ / Somewhere _____ and _____ hence'</li> </ol>
'My Father Thought It' Simon _____	<ul style="list-style-type: none"> <li>The journey of _____</li> </ul>	<ol style="list-style-type: none"> <li>'My _____ thought it _____ / the day I _____ home with a _____ of _____ in my ear'</li> <li>'the _____ became a _____, became a _____, and _____'</li> <li>'At _____, it comes as no _____ to _____ / my own voice _____ like a _____'</li> </ol>
'Gap Year' Jackie _____	<ul style="list-style-type: none"> <li>The journey of _____</li> <li>The journey of a _____</li> </ul>	<ol style="list-style-type: none"> <li>'I remember your _____ before you were _____'</li> <li>'A _____ and a _____ ago, you were _____ in your _____'</li> <li>'I have a _____ out in the _____'</li> </ol>

### Vocabulary: Key words

immigrant-: a _____ who _____ to live in another _____ permanently. When _____ travel to a _____ place, they _____.
dialect: a form of _____ that is used in a _____ area.
astrology: the study of the _____ and how their _____ affects _____. <b>Astrologers</b> study the _____.
remix: to _____ or improve something that _____.
slang: very _____ language used by particular _____ of people. It is usually _____ rather than _____.
domineering: trying to _____ others.
emulate: _____
endeavour: to try _____ or to _____ something
mendacious: _____

### Terminology: Key words

comparative statement: These statements clearly _____ what the _____ have in _____ and how they are _____
dramatic irony: When the _____ is _____ of something that a _____ is _____.
discourse markers: A _____ or _____ that _____ to organise _____
personification: a type of _____ used by _____ to make something seem like it is _____ with a _____ personality.
epic: a long, _____ poem
Venn diagram: a _____ representing _____ elements represented by _____.

### Historical Context:

Nichols is an _____ who wrote about the _____ experience. She uses _____ in her poems and is influenced by the _____ nature of _____.
Willis was a _____ in _____. Many people hoped for _____ rather than live as a _____. For them, the _____ of being taken to _____ after _____ would have given them _____.
Many people in the _____ era believed _____ influenced many things like the _____, _____, _____ and _____. Astrology was a _____ that was used alongside other _____ theories.
A gap year is a year between _____ and _____ or _____. Most people _____ the year _____ or _____.

### Comparative Writing:

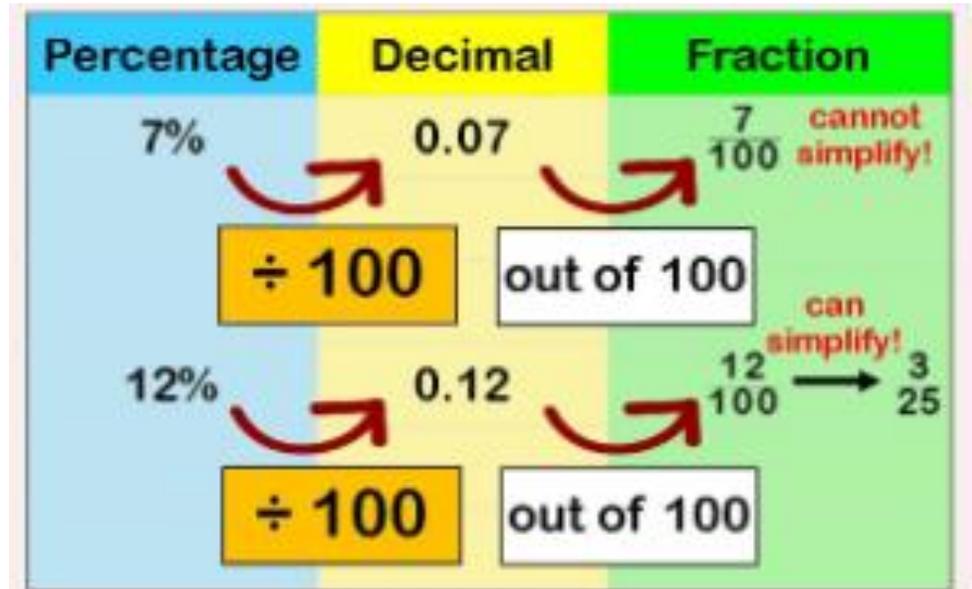
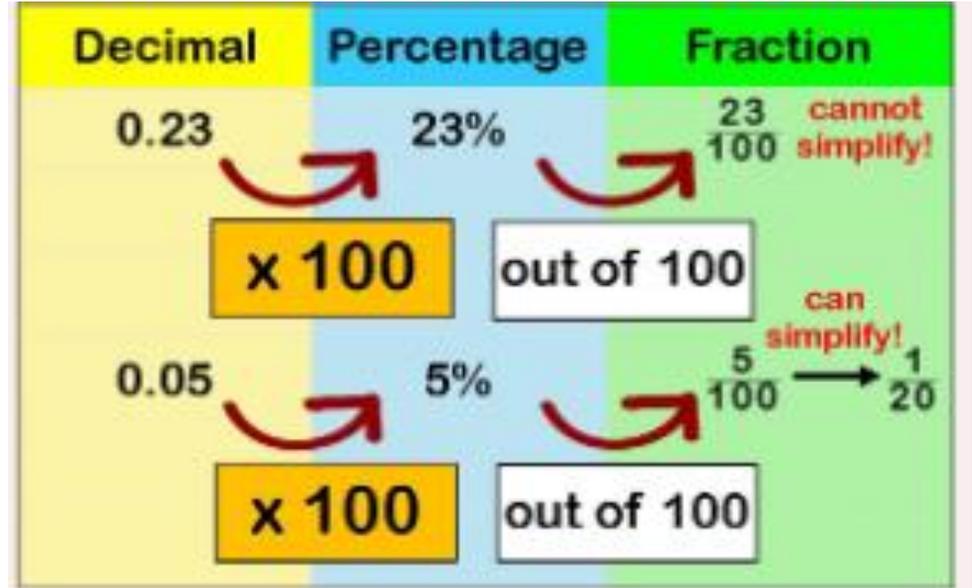
- Identify \_\_\_\_\_ and \_\_\_\_\_ between poems.
- To see how different \_\_\_\_\_, with different \_\_\_\_\_ and \_\_\_\_\_, \_\_\_\_\_ about the same \_\_\_\_\_.
- To see how different writers use the same \_\_\_\_\_.
- To see how \_\_\_\_\_ on \_\_\_\_\_ have \_\_\_\_\_ over \_\_\_\_\_.
- To \_\_\_\_\_ the \_\_\_\_\_ better.

How to convert Decimals, Fractions and Percentages (Key Learning)

Ratio – Key Vocabulary		
1	Ratio	A ratio is a relationship between two numbers indicating how many times the first number contains the second
2	Simplifying	To make something less complicated and therefore easier to do or understand
3	Scale Factors	A scale factor is a number which scale, or multiplies, some quantity
4	Compare	Estimate, measure, or note the similarity or dissimilarity between a set of values
5	1: n	A way of showing the value in a ratio of 1 part of the other value

Ratio Skills		
6	Writing ratios in the form <u>1:n</u>	To write a ratio in the form 1: n, divide both sides by the left hand number For example, with the ratio 4:10 you would divide both sides by 4, giving the equivalent ratio 1:2.5
7	Simplifying Ratio	For example, if a bowl of fruit contains eight oranges and six lemons, then the ratio of oranges to lemons is eight to six (that is – 8:6 which is equivalent to the ratio 4:3)
8	Dividing a quantity <u>in a given ratio</u>	Share 50 in the ratio 2:3 1) Find the total number of parts 2) Divide the amount by the total number of parts $50 \div 5 = 10$ (value of one part) 3) Find the value of the parts $10 \times 3 = 30$ $10 \times 2 = 20$

Fractions, Decimals and Percentages		
1	Fraction	Fractions are a way of showing numbers that are parts of a whole
2	Decimals	A decimal is a way of writing a number that is not whole
3	Percentage	Out of a hundred
4	Equivalent Fractions	Equivalent Fractions are fractions that have the same value but different numerators and denominators



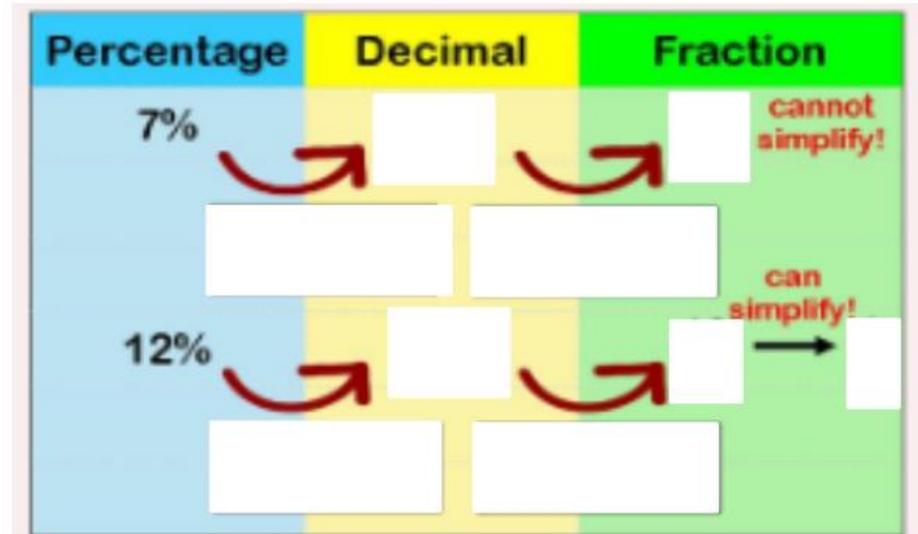
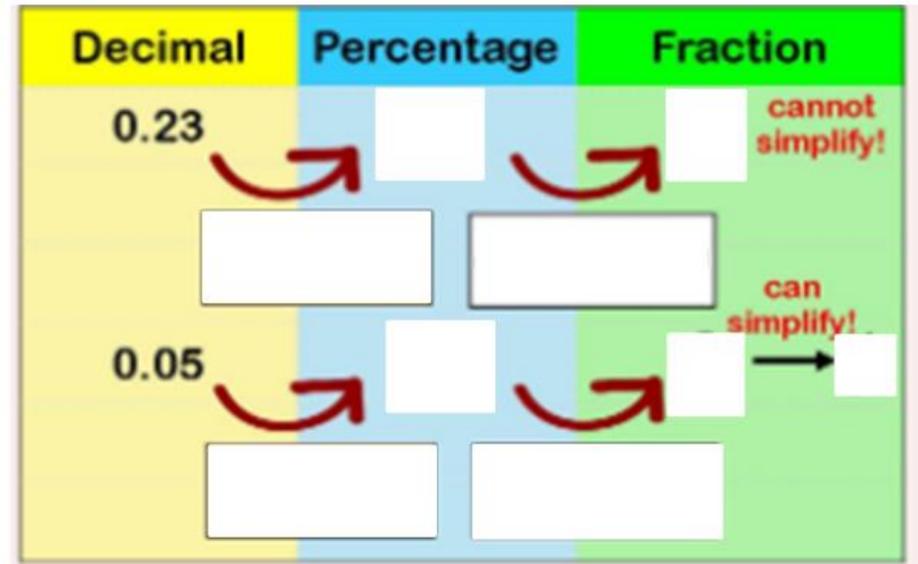


How to convert Decimals, Fractions and Percentages (Key Learning)

Ratio- Key Vocabulary		
1	Ratio	
2	Simplifying	
3	Scale Factors	
4	Compare	
5	1: n	

Ratio Skills		
6	Writing ratios in the form 1: n	
7	Simplifying Ratio	
8	Dividing a quantity in each ratio	

Fractions, Decimals and Percentages		
1	Fraction	
2	Decimals	
3	Percentage	
4	Equivalent Fractions	



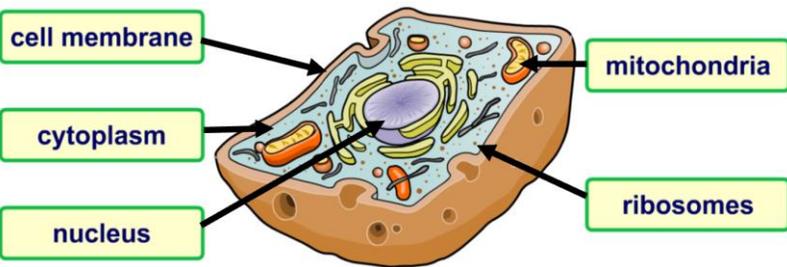
**What we are learning this term:**

- A. Eukaryotic cells
- B. Cell Specialisation
- C. Microscopy
- D. Transport

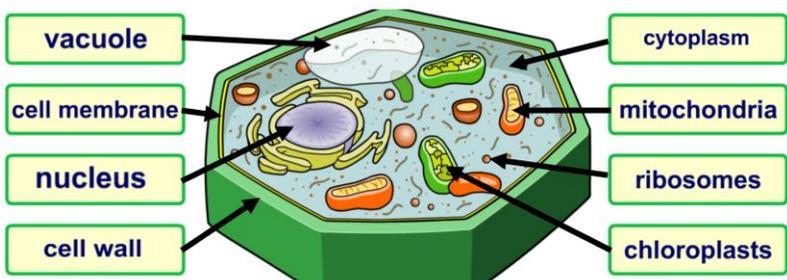
**6 Key Words for this term**

- |                |                 |
|----------------|-----------------|
| 1. Transport   | 4. Mitochondria |
| 2. Osmosis     | 5. Eukaryotic   |
| 3. Specialised | 6. Prokaryotic  |

**A. Label the parts of an animal cell**



**A. Label the parts of a plant cell**



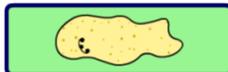
**C. What is the equation to calculate magnification?**

$$\text{Magnification} = \frac{\text{Size of image}}{\text{Actual size of object}}$$

**B. Match the specialised plant cell to its function**

Root hair cell		increases the surface area of the roots
Xylem cell		transports water up the plant
Sieve cell		transports carbohydrates around the plant
Palisade cell		site of photosynthesis in the leaves
Epidermal cell		form the top layer of cells in leaves

**B. Match the specialised animal cell to its function**

White blood cell		able to change shape and engulf microbes
Red blood cell		contains haemoglobin to transport oxygen
Neurone		conducts electrical signals to distant muscles
Goblet cell		secretes mucus
Sperm cell		has a tail for movement
Muscle cell		contains fibres enabling the cell to contract



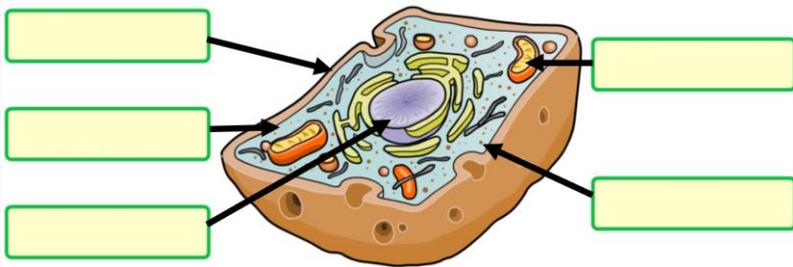
**What we are learning this term:**

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- B. Cell Specialisation
- C. Microscopy
- D. Transport

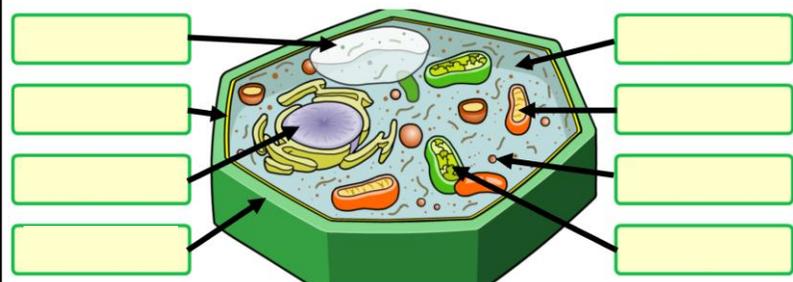
**6 Key Words for this term**

- |    |    |
|----|----|
| 1. | 4. |
| 2. | 5. |
| 3. | 6. |

**A. Label the parts of an animal cell**



**A. Label the parts of a plant cell**

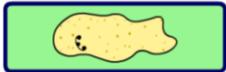


**C. What is the equation to calculate magnification?**

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Neurone		secretes mucus
Goblet cell		contains haemoglobin to transport oxygen
Sperm cell		conducts electrical signals to distant muscles
Muscle cell		contains fibres enabling the cell to contract



<b>C. Which microscope is which?</b>	
<b>Electron Microscope</b>	<b>Light Microscope</b>
Greater resolution	Lower resolution
Greater magnification	Lower magnification
More expensive	Less expensive
Many more sub-cellular structures are visible	Very few sub-cellular structures are visible

<b>D.</b>	<b>What 3 factors affect the rate of diffusion?</b>
<ol style="list-style-type: none"> <li>1. Surface area</li> <li>2. Membrane thickness</li> <li>3. Concentration gradient</li> </ol>	

<b>D.</b>	<b>Name the type of solution</b>
<b>Isotonic</b>	The solute concentration outside the cell is the <b>same</b> as the internal concentration.
<b>Hypertonic</b>	The solute concentration outside the cell is the <b>higher than</b> the internal concentration.
<b>Hypotonic</b>	The solute concentration outside the cell is the <b>lower than</b> the internal concentration.

**D. Define each transport method and draw the arrow on the concentration gradients**

<b>Diffusion</b>	The net movement of particles from an area of higher concentration to an area of lower concentration, <b>down</b> a concentration gradient.	
<b>Osmosis</b>	The diffusion of water through a partially permeable membrane from a dilute solution (high concentration of water) to a concentrated solution (low concentration of water), <b>down</b> a concentration gradient.	
<b>Active transport</b>	The movement of substances from a dilute solution to a more concentrated solution <b>against</b> a concentration gradient, requiring energy from respiration.	

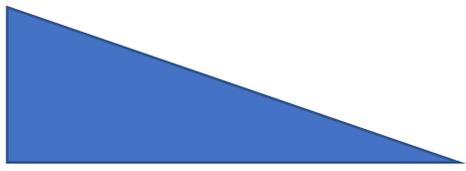
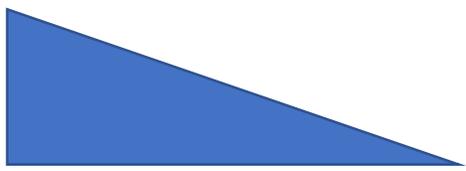


<b>C.</b>	<b>Which microscope is which?</b>	
	Greater resolution	Lower resolution
	Greater magnification	Lower magnification
	More expensive	Less expensive
	Many more sub-cellular structures are visible	Very few sub-cellular structures are visible

<b>D.</b>	<b>What 3 factors affect the rate of diffusion?</b>
	1. 2. 3.

<b>D.</b>	<b>Name the type of solution</b>
	The solute concentration outside the cell is the <b>same</b> as the internal concentration.
	The solute concentration outside the cell is the <b>higher than</b> the internal concentration.
	The solute concentration outside the cell is the <b>lower than</b> the internal concentration.

<b>D.</b>	<b>Define each transport method and draw the arrow on the concentration gradients</b>	
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<b>Diffusion</b>		
<b>Osmosis</b>		
<b>Active transport</b>		



# Year 9 Alternative Curriculum Term 5 Science - Chemistry : Topic C1.1 Atomic Structure



<b>What we are learning this term:</b>	
A. Atoms, elements and compounds B. Mixtures and separation C. Development of the atomic model D. Structure of the atom E. Electronic structure	
<b>6 Key Words for this term</b>	
1. Isotopes 2. Protons 3. Ionisation 4. Aqueous 5. Residue	
<b>B.</b>	<b>What is a mixture?</b>
A mixture consists of two or more elements or compounds not chemically combined.	
<b>What properties do mixtures have?</b>	
Each substance in the mixture will have the same chemical properties	
<b>How are mixtures separated?</b>	
By physical methods:	Filtration
Crystallisation	Simple Distillation
Fractional Distillation	Chromatography
<b>Are new substances made?</b>	
No new substances are made	
<b>A.</b>	<b>What is Conservation of Mass</b>
Atoms are not created or destroyed in a reaction	

<b>A.</b>	<b>What are atoms?</b>		
All substances are made of atoms. An atom is the smallest part of an element that can exist			
<b>What are elements?</b>		<b>What are compounds?</b>	
An element is a substance made of one type of atom		Compounds contain two or more elements chemically combined	
<b>How are elements represented?</b>		<b>How are compounds represented?</b>	
By a chemical symbol.		By the symbols of the atoms that formed them	
<b>Example: Sodium</b>	Na	<b>Example: Sodium Chloride</b>	NaCl
<b>How many elements are there?</b>		<b>How can compounds be separated?</b>	
There are about 100, all shown on the periodic table		By chemical reactions only	

<b>A.</b>	<b>What are word equations?</b>		
These show the names of each substance that is involved in a chemical reaction. The reactants are shown on the left. The products are shown on the right.			
<u>Reactants</u> → <u>Products</u>			
<b>Copper Oxide + Sulphuric Acid → Copper Sulphate + Water</b>			
<b>What are symbol equations?</b>			
The chemical formulae (symbols) of the reactants and products show what happens in a chemical reaction			
<b><math>\text{CuO} + \text{H}_2\text{SO}_4 \rightarrow \text{CuSO}_4 + \text{H}_2\text{O}</math></b>			

<b>D.</b>	<b>What are subatomic particles?</b>	<b>Where are each subatomic particles found?</b>
The particles that make up atoms		
<b>Name the 3 subatomic particles</b>		
Protons, neutrons and electrons		



<b>What we are learning this term:</b>	
<ul style="list-style-type: none"> <li>A. Atoms, elements and compounds</li> <li>B. Mixtures and separation</li> <li>C. Development of the atomic model</li> <li>D. Structure of the atom</li> <li>E. Electronic structure</li> </ul>	
<b>6 Key Words for this term</b>	
<ul style="list-style-type: none"> <li>1. Isotopes</li> <li>2. Protons</li> <li>3. Ionisation</li> <li>4. Aqueous</li> <li>5. Residue</li> </ul>	
<b>B.</b>	<b>What is a mixture?</b>
<b>What properties do mixtures have?</b>	
<b>How are mixtures separated?</b>	
<b>Are new substances made?</b>	
<b>A.</b>	<b>What is Conservation of Mass</b>

<b>A.</b>	<b>What are atoms?</b>		
<b>What are elements?</b>		<b>What are compounds?</b>	
<b>How are elements represented?</b>		<b>How are compounds represented?</b>	
<b>Example: Sodium</b>		<b>Example: Sodium Chloride</b>	
<b>How many elements are there?</b>		<b>How can compounds be separated?</b>	
<b>A.</b>	<b>What are word equations?</b>		
_____ → _____ <b>Copper Oxide + Sulphuric Acid → Copper Sulphate + Water</b>			
<b>What are symbol equations?</b>			
<b>D.</b>	<b>What are subatomic particles?</b>		<b>Where are each subatomic particles found?</b>
<b>Name the 3 subatomic particles</b>			



C. Development of the Atomic Model – How was our current atomic model developed?					
<b>Person/Time</b>	Demicritus (400BC) Dalton (1803)	JJ Thomson (1898)	Ernest Rutherford (1909)	Niels Bohr (1913)	James Chadwick (1932)
<b>Ideas/model</b>	<ul style="list-style-type: none"> <li>Small indivisible matter</li> <li>Tiny hard spheres.</li> </ul>	Plum Pudding model  <ul style="list-style-type: none"> <li>Sphere of positive charge with negative charged particles spread throughout (like plums in a pudding)</li> </ul>	<ul style="list-style-type: none"> <li>Alpha particle scattering experiment</li> <li>Proved that mass of atoms found in the centre – nucleus</li> <li>Negative electrons surround the positive nucleus</li> </ul>	<ul style="list-style-type: none"> <li>Electrons are restricted to certain orbits like planets round the sun</li> </ul>	<ul style="list-style-type: none"> <li>Discovered the neutron</li> </ul>
<b>Diagram</b>					
<b>Contribution to current model:</b>	Everything is made of atoms	Negative electrons	Positive mass in the centre surrounded by negative electrons	Electrons orbit in shells/orbitals at specific distances	Neutrons found in nucleus along with protons

<b>D.</b>	<b>How big are atoms?</b>
0.1nm ( $1 \times 10^{-10}$ m)	
<b>How big is the radius of an atom?</b>	
1/10000 the size of the atom – $1 \times 10^{-14}$ m	

<b>D.</b>	<b>What is relative mass and charges of the subatomic particles?</b>	
<b>Subatomic particle</b>	<b>Relative Mass</b>	<b>Relative Charge</b>
Proton	1	+1
Neutron	1	0
Electron	1/2000	-1

<b>D.</b>	<b>What is the overall charge of an atom?</b>
Atoms have no charge	
No of protons = no of electrons	

<b>D.</b>	<b>How do we know how many subatomic particles are in each element?</b>	
C	12	← Mass Number
	What is Mass number?	
	Number of protons and neutrons	
	6	← Atomic Number
What is atomic number?		
Number of protons – same for each individual element		

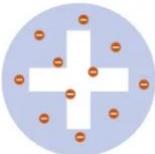
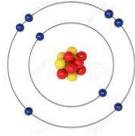
<b>D.</b>	<b>How can we know what element we have?</b>
Each element has a unique number of protons	
<b>What is an isotope?</b>	
An isotope is a substance with the same number of protons but different number of neutrons	

<b>D.</b>	<b>What is relative atomic mass of an element?</b>
An average value that takes account of the abundance of the isotopes of an element	

<b>E.</b>	<b>Which energy level do electrons fill first?</b>	
Electrons in an atom occupy lowest energy level first		
<b>How many electrons does each orbital hold?</b>		
First	Up to 2	
Second	Up to 8	
Third	Up to 8	

<b>Electronic structure of Sodium:</b>	
	2,8,1



C. Development of the Atomic Model – How was our current atomic model developed?					
Person/Time	Demicritus (400BC) Dalton (1803)	JJ Thomson (1898)	Ernest Rutherford (1909)	Niels Bohr (1913)	James Chadwick (1932)
Ideas/model					
Diagram					
Contribution to current model:					

D.	How big are atoms?
How big is the radius of an atom?	

D.	What is relative mass and charges of the subatomic particles?	
Subatomic particle	Relative Mass	Relative Charge
Proton		
Neutron		
Electron		

D.	What is the overall charge of an atom?

D.	How do we know how many subatomic particles are in each element?	
C	12 ← Mass Number	What is Mass number?
	6 ← Atomic Number	What is atomic number?

D.	How can we know what element we have?
What is an isotope?	

D.	What is relative atomic mass of an element?

E.	Which energy level do electrons fill first?	
How many electrons does each orbital hold?		
First		
Second		
Third		

Electronic structure of Sodium:



<b>What we are learning this term:</b>
<ul style="list-style-type: none"> <li>A. Energy stores and transfer between energy stores</li> <li>B. Work done</li> <li>C. Gravitational potential energy</li> <li>D. Kinetic energy and elastic energy stores</li> <li>E. Wasted energy and Dissipation</li> <li>F. Energy efficiency</li> </ul>

<b>6. Key Words for this term</b>
<ul style="list-style-type: none"> <li>1. Energy stores</li> <li>2. Work done</li> <li>3. Force</li> <li>4. Joules</li> </ul>

<b>A.</b>	<b>What are the changes in energy stores for the following objects?</b>
<b>An arrow being thrown directly up into the air</b>	From kinetic to gravitational potential. As it comes back down, the opposite is true.
<b>A toy car (with battery) hitting a wall head on</b>	Energy is transferred from chemical to kinetic to vibrational in sound and heat.
<b>A car accelerating</b>	Energy is transferred from the chemical energy from the petrol/diesel to kinetic energy.
<b>A bike slowing down</b>	Energy is transferred from kinetic to heat.
<b>Water boiling in an electric kettle</b>	Energy is transferred from electrical to heat.

<b>A.</b>	<b>What is a system?</b>
It is an object or group of objects	

<b>A.</b>	<b>What is the law of conservation of energy?</b>
Energy cannot be created or destroyed, just changed in form.	

<b>A.</b>	<b>Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?</b>
20000 J, assuming non is lost by air resistance/friction	

<b>A.</b>	<b>What are the 8 energy stores?</b>
1. Chemical	5. Gravitational potential (GPE)
2. Kinetic (KE)	6. Thermal (internal)
3. Magnetic	7. Elastic potential
4. Nuclear	8. Electrostatic

<b>A.</b>	<b>What is the energy store of a person on a bungee jump?</b>
Whilst the rope is slack, energy is transferred form GPE to KE. As the rope tightens, the jumpers KE store decrease but the ropes elastic potential energy store increases. They stop when all the KE store is stored as elastic potential energy.	

<b>B.</b>	<b>What is work?</b>
When energy is transferred, work is done.	
What is the link between work and energy?	
Work done = energy transferred	
If the units for energy are –joules, what are the units for work done?	
-joules (J)	

<b>A.</b>	<b>What is the energy transfer from the sun, to solar panel to light bulb?</b>			
Sun → solar panel → lightbulb.				
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">store of nuclear energy in <u>sun</u></div>	→	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">energy transferred to <u>light bulb</u> by electric current</div>	→	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">energy transferred to <u>surroundings</u> by heating and light waves</div>

<b>B.</b>	<b>If a person uses 300 J of energy pushing a bike, what is the work done?</b>
300 J	

<b>B.</b>	<b>What is the equation for work done?</b>
<b>Work done = force x distance moved</b>	
Force is measured in newtons (N)	
Distance is measures in meters (m)	
Work done is measured in joules (J)	

<b>B.</b>	<b>If a person pushes a trolley with force of 800 N and moves it down a 50 m isle, how much work has been done by the person?</b>
Work done = 800 x 50 = 4000 J or 4 kJ	

<b>B.</b>	<b>A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?</b>
Work done = 400 x 15 = 6000 J or 6 kJ	



<b>What we are learning this term:</b>
A. Energy stores and transfer between energy stores B. Work done C. Gravitational potential energy D. Kinetic energy and elastic energy stores E. Wasted energy and Dissipation F. Energy efficiency

<b>6. Key Words for this term</b>
1. Energy stores 2. Work done 3. Force 4. Joules

<b>A.</b>	<b>What are the changes in energy stores for the following objects?</b>
	An arrow being thrown directly up into the air
	A toy car (with battery) hitting a wall head on
	A car accelerating
	A bike slowing down
	Water boiling in an electric kettle

<b>A.</b>	<b>What is a system?</b>

<b>A.</b>	<b>What is the law of conservation of energy?</b>

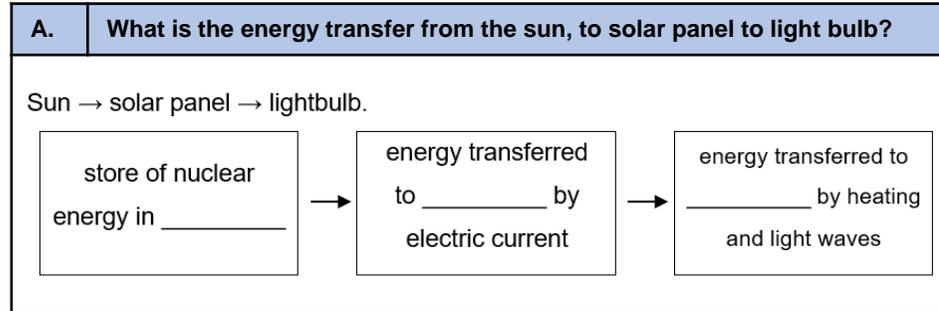
<b>A.</b>	<b>Theoretically, if a roller-coaster has 20000 J of GPE at the top of the slope, how much KE will it have gained when it reaches the bottom?</b>

<b>A.</b>	<b>What are the 8 energy stores?</b>
1.	5.
2.	6.
3.	7.
4.	8.

<b>A.</b>	<b>What is the energy store of a person on a bungee jump?</b>

<b>B.</b>	<b>What is work?</b>

**What is the link between work and energy?**



<b>B.</b>	<b>If a person uses 300 J of energy pushing a bike, what is the work done?</b>
	300 J

**If the units for energy are –joules, what are the units for work done?**

-joules (J)

<b>B.</b>	<b>What is the equation for work done?</b>
	_____ is measured in _____
	_____ is measured in _____
	_____ is measured in _____

<b>B.</b>	<b>If a person pushes a trolley with force of 800 N and moves it down a 50 m isle, how much work has been done by the person?</b>

<b>B.</b>	<b>A crane lifts 400 N crate full of coca cola 15 m. How much work was done by the crane?</b>



<p><b>B. Who is doing the most work in these images and why?</b></p>	<p><b>B. Why, when work is done, isn't all the energy transferred?</b></p>	<p><b>C. What is the equation to calculate gravitational potential energy (GPE)?</b></p>		
	<p>Some is lost in heat and sound.</p> <p><b>Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor. Which needs more force and why? Which is more work done?</b></p>	<p><b>GPE = mass × gravitational field strength × height</b>          Mass, m is measured in kilograms (kg)          Gravitational field strength, g, is measured in newtons per kilogram (N/kg), usually taken as 10 N/kg on Earth.          Height, h, is measured in metres (m).          GPE is measured in joules (J).</p>		
	<p>For the glass block, most of the energy will be transferred into kinetic energy, so only a small force is needed. For the wooden block, most of the energy will be transferred into heat, so a large force is needed. More work is done on the wooden block as more energy is transferred to heat rather than KE.</p>	<p><b>A bird with a mass of 3 kg flies at a height of 150 m about the ground, how much GPE does it have?</b></p> <p>GPE = 3 kg × 10N/kg × 150 m = 4500 J or 4.5 kJ</p>		
<p><b>D. What is the equation for kinetic energy?</b></p> <p><b>KE = ½ × mass × velocity<sup>2</sup></b>          = ½mv<sup>2</sup>          Mass is measured in kilograms (kg).          Velocity is measured in metres per second (m/s).          KE is measured in joules (J).</p> <p><b>If a car with a mass of 1750 kg is travelling at a velocity of 30 m/s, what is the KE of the car?</b></p> <p>KE = ½ × 1750 kg × 30<sup>2</sup> = 787,500 J or 787.5 kJ</p>	<p><b>D. What is the equation for elastic potential energy?</b></p> <p><b>EPE = ½ spring constant × extension<sup>2</sup></b>          EPE is measured in joules (J)          Spring constant is measured in Newtons per metre (N/m)          Extension is measured in Meters (m)</p> <p><b>If a spring has a spring constant of 25 N/m and the extension is 0.2 m, what is the EPE?</b></p> <p>EPE = ½ 25 N/m × 0.2<sup>2</sup> = 0.5 J</p>	<p><b>D. What happens to energy that is not usefully used?</b></p> <p>It spreads out to the surrounding in many forms, this is called dissipated energy.</p> <p><b>Are the following useful or wasteful; energy transfers:</b>          Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?</p> <table border="1" data-bbox="1265 829 1612 1019"> <tr> <td><u>Useful</u> Heater: heat heater: light car: kinetic television: sound</td> <td><u>Wasteful</u> car: sound television: light car: heat television: heat</td> </tr> </table>	<u>Useful</u> Heater: heat heater: light car: kinetic television: sound	<u>Wasteful</u> car: sound television: light car: heat television: heat
<u>Useful</u> Heater: heat heater: light car: kinetic television: sound	<u>Wasteful</u> car: sound television: light car: heat television: heat			
<p><b>F. What is energy efficiency?</b></p> <p>All devices waste energy, so no device is perfectly efficient. The more efficient a device is, the less energy is wasted.</p> <p><b>Why is energy efficiency so important?</b></p> <p>It saves money and the planet as it uses less energy, so uses less fossil fuels.</p> <p><b>How do you calculate energy efficiency?</b></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>energy efficiency = <math>\frac{\text{useful output energy}}{\text{total input energy}}</math></b></p> </div>	<p><b>C. How is power calculated?</b></p> <p><b>Power (Watts, W) = energy transferred (Joules, J)/time taken (seconds, s)</b></p> <p><b>If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?</b></p> <p><b>P = 2000 J / 10 s = 200 W</b></p>			



**B. Who is doing the most work in these images and why?**




**B. Why, when work is done, isn't all the energy transferred?**

Compare a glass block being pushed 1 m across a polished floor with a wooden block being pushed 1 m across a rubber floor.  
Which needs more force and why?  
Which is more work done?

**C. What is the equation to calculate gravitational potential energy (GPE)?**

\_\_\_\_\_ is measured in \_\_\_\_\_  
\_\_\_\_\_ is measured in \_\_\_\_\_, usually taken as 10 N/kg on Earth.  
\_\_\_\_\_ is measured in \_\_\_\_\_  
\_\_\_\_\_ is measured in \_\_\_\_\_

**A bird with a mass of 3 kg flies at a height of 150 m about the ground, how much GPE store does it have?**

**D. What is the equation for kinetic energy?**

**If a car with a mass of 1750 kg is travelling at a velocity of 30 m/s, what is the KE of the car?**

**D. What is the equation for elastic potential energy?**

**If a spring has a spring constant of 25 N/m and the extension is 0.2 m, what is the EPE?**

**D. What happens to energy that is not usefully used?**

**Are the following useful or wasteful; energy transfers:**  
Heater: heat, car: sound, heater: light, television: light, car: heat, car: kinetic, television: sound, television: heat?

Useful

Wasteful

**F. What is energy efficiency?**

**Why is energy efficiency so important?**

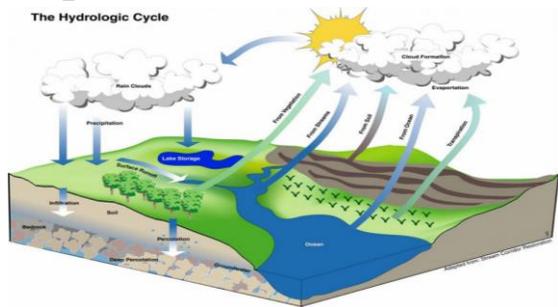
**How do you calculate energy efficiency?**

**C. How is power calculated?**

**If a student did 2000 J of work walking up the stairs and I took 10 seconds, what is the power?**

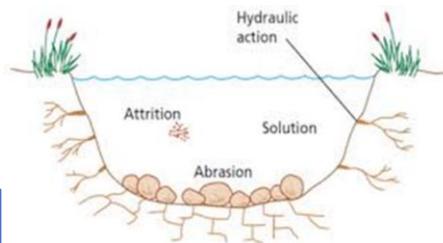


The Hydrologic Cycle



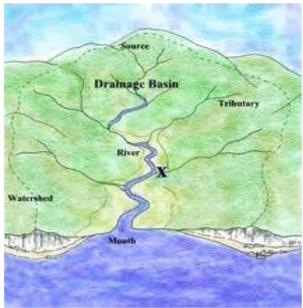
**What are we learning this term**

A. The Hydrological cycle  
 B. Drainage basins  
 C. Factors influencing the hydrological cycle  
 D. Key terms



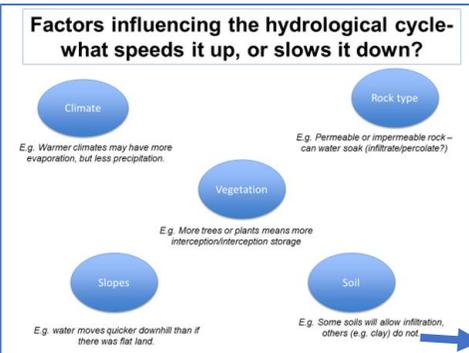
Erosion in a river has a number of different forms.

A.	The hydrological cycle
The hydrological cycle is a closed system. This means that water never leaves, or enters the cycle of water from sea, land and atmosphere. The cycle is important because it shows us how water can enter the drainage basin, and how water can be responsible for increasing or decreasing our risk of flooding. Key words include:	
Evaporation	the process of water turning from a liquid in to water vapour as it is warmed.
Transpiration	Transpiration – the loss of water from trees and plants
Condensation	water vapour returning to a liquid once cooled.
Interception	water being trapped by tree leaves and plant leaves
Surface run off	water travelling <b>over</b> the land
Infiltration	water soaking into the soil
Throughflow	water flowing downhill in the soil
Percolation	water passing vertically through soil and rock
Groundwater flow	water flowing vertically through rock.
Channel flow	water flowing in a river channel
Channel storage	water being stored in the river



The drainage basin is the area of land drained by a river and its tributaries. Its boundary is the *watershed*. The start of a river is called the *source*, and the end of the river as it enters the sea is the *mouth*. The main river channel may be joined by smaller rivers called *tributaries*, and this meeting point is called a *confluence*.

Some factors will influence the way that water travels to the river – see below.



Hydrographs are a method to show us the relationship between rainfall and discharge (the amount of water in the river at a given time). Hydrographs can help us to predict the risk of flooding, but also can help us to understand how water has made it's way the river...

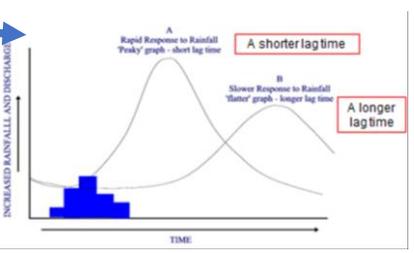
D	Key terms
Attrition	is the 'smashing' of sediment against each other to become more rounded.
Hydraulic action	is the sheer force of the water breaking down the river banks and bed.
Corrosion (solution)	is the dissolving of material.
Abrasion (corasion)	is the action of sediment scraping against the bed and bank of the river (like sandpaper

**Transportation.**

- Transportation happens in one of four ways:
- As solution: dissolved minerals carried in the water.
- Suspension: Small particles of rock and soil are carried along – they make the water look cloudy or muddy.

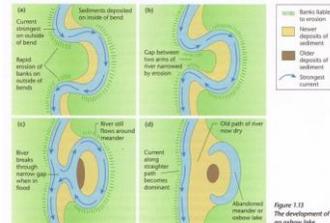
- As **saltation**: sand grains and small stones just bounce along.
- As **traction**: Larger stones and rocks get rolled along.

The **lag time** of a hydrograph is the time between the peak rainfall and the peak discharge. If this is long (e.g. b) then it means water will have infiltrated rather than moved through surface run off, as surface run off would cause water to enter the river quickly, and so our hydrograph would have a shorter lag time (e.g. a).

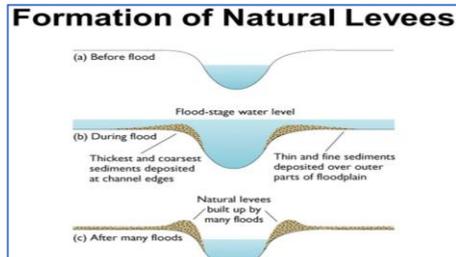




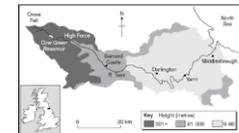
E	Reducing flooding
Rivers flooding can be caused by a number of factors. These could be human factors:	
Farming	ploughing can cause water to collect in the troughs and run directly in to the river.
Urbanisation	building with tarmac and concrete does not allow infiltration so water moves to the river through surface run off, or might sit on the land.
Deforestation	cutting down trees will reduce interception storage and increase surface run off.
Or physical factors:	Or physical factors:
Weather and climate:	hotter weather increases evaporation which will then decrease the amount of discharge. Colder weather will cause more surface run off as frozen ground cannot infiltrate water.
High amounts of rainfall	saturated ground will not infiltrate further rainfall, which increases surface run off, and therefore the discharge in the river.
Steep land	steep land increases surface run off and therefore the discharge in the river



A meander is a bend in a river. Erosion happens on the outside of the bend as the velocity is faster. Deposition happens on the inside of the bend as velocity is slowest. This meander may over time become an oxbow lake as erosion on the outside of the bend exaggerates the bend, and when the river floods, water might take the quickest route – therefore cutting off the bend!



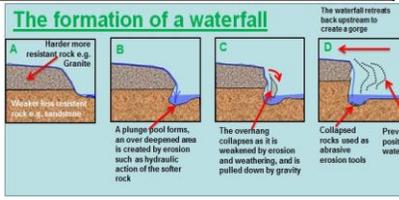
The river is 85 miles long, and drains an area of 710 square miles. Its source is in the Pennine hills, and flows in to the North Sea at Middlesbrough.



**Middle/lower course:** There are good examples of meanders, levees and floodplains along the River Tees. The natural levees have built up over time as the river floods and sediment is deposited on the banks of the river. There are large industries in the lower course of the river, making the most of the flat land and river's flow in to the North Sea. This area of the river needs high levels of management. In Yarn there are extensive flood protection methods.

**Upper course:** The upper course of the river has impressive waterfalls. The river drops 20m in a single sheet of water – High Force Waterfall (tallest in England). The waterfall has retreated back overtime to form a gorge. There are high v-shaped valleys, and interlocking spurs in the upper course of the river.

The image above tracks the journey of a river from source to mouth. Note that the river starts on high land, and meets the sea on flat land. The features of a river will change from source to mouth. This is due to erosion and transportation of material. Typically larger material is found in the upper course of a river, and the material reduces in size as it makes its way to the mouth. Erosion will change from vertical (downwards) to horizontal erosion.



A waterfall will form when bands of hard and soft rock lie on top of each other. Over time the hard (more resistant) rock will be eroded, and therefore the soft rock will be eroded vertically. This creates a plunge pool – and overtime the waterfall will retreat backwards creating a gorge.

The river has been straightened and widened over time to allow navigation for industry and trade.

River flooding might bring a lot of effects to an area. They are worse in LICs as the countries are unable to prepare, or protect. These impacts can be social, economic or environmental.

**Social:** loss of homes, death, loss of possessions etc.



**Economic:** Cost of repairs, loss of income from flooded farmland, loss of business, loss of jobs etc.

**Environmental:** Damaged habitats, destroyed land, contaminated water sources etc.

Banbury is located in the Cotswolds, north of Oxford.

**Impacts of flooding:** In 1998 flooding led to the closure of the railway station, local roads and caused £12.5m damage. More than 150 homes and businesses were affected. In 2007 these impacts were repeated.

Banbury Floods:

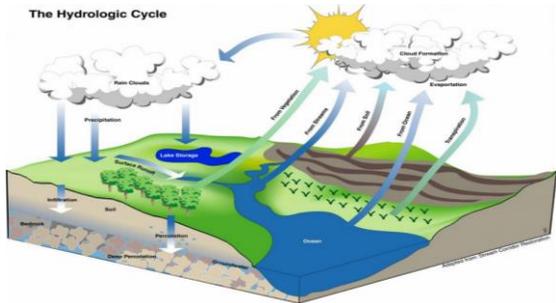
- What has been done to reduce flooding?**
- A361 raised, and drainage below the road improved.
  - Earth embankments built.
  - Floodwalls built.
  - Pumping station to transfer excess water.
  - Creation of new Biodiversity Action Plan to allow nature to 'soak' up excess water.

**What were the costs/benefits?**

*Socially:* quality of life has improved, reduced levels of anxiety of flooding, the A361 will no longer need to be closed.

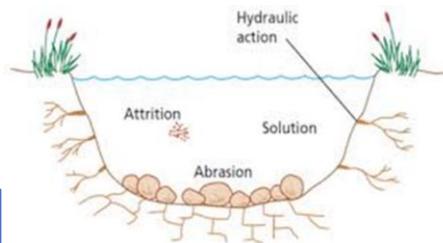
*Economically:* Cost £18.5m, but benefits of protecting are over £100m!

*Environmentally:* Small reservoir created from earth taken for embankments, new Biodiversity Action Plan has created new habitats, and floodplain protected for flooding.



**What are we learning this term**

A. The Hydrological cycle  
 B. Drainage basins  
 C. Factors influencing the hydrological cycle  
 D. Key terms

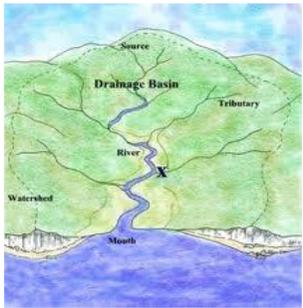


Erosion in a river has a number of different forms.

**A. The hydrological cycle**

The hydrological cycle is a closed system. This means that water never leaves, or enters the cycle of water from sea, land and atmosphere. The cycle is important because it shows us how water can enter the drainage basin, and how water can be responsible for increasing or decreasing our risk of flooding. Key words include:

Evaporation	
Transpiration	
Condensation	
Interception	
Surface run off	
Infiltration	
Throughflow	
Percolation	
Groundwater flow	
Channel flow	
Channel storage	



Some factors will influence the way that water travels to the river – see below.

The drainage basin is the

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

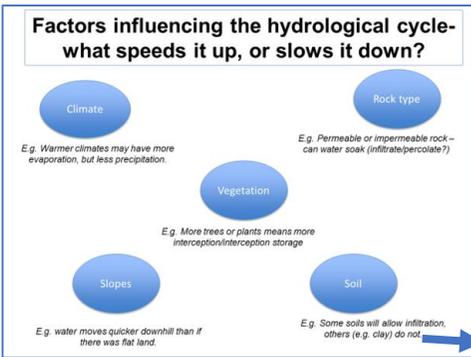
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

D	Key terms
Attrition	
Hydraulic action	
Corrosion (solution)	
Abrasion (corasion)	



**Transportation.**

- Transportation happens in one of four ways:
- As solution: dissolved minerals carried in the water.
- Suspension: Small particles of rock and soil are carried along – they make the water look cloudy or muddy.

- As **saltation**: sand grains and small stones just bounce along.
- As **traction**: Larger stones and rocks get rolled along.

Hydrographs are

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

The lag time of a hydrograph is

\_\_\_\_\_

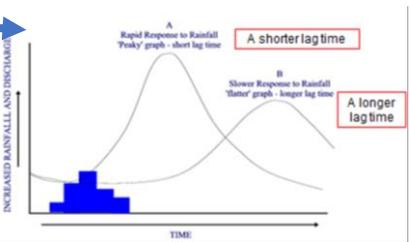
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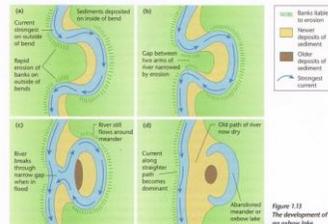
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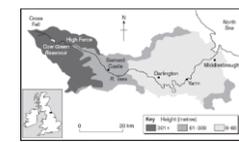


E	Reducing flooding
Rivers flooding can be caused by a number of factors. These could be human factors:	
Farming	
Urbanisation	
Deforestation	
Or physical factors:	
Weather and climate:	
High amounts of rainfall	
Steep land	



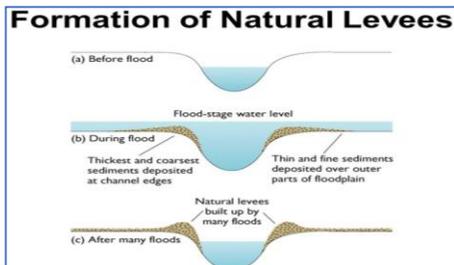
A meander is \_\_\_\_\_. Erosion happens on \_\_\_\_\_ as the velocity \_\_\_\_\_. \_\_\_\_\_ happens on the inside of the bend as velocity \_\_\_\_\_. This meander may over time become \_\_\_\_\_ as erosion on the \_\_\_\_\_ of the bend exaggerates the bend, and when the river floods, water might take the quickest route – \_\_\_\_\_!

The river is 85 miles long, and drains an area of 710 square miles. Its source is in the Pennine hills, and flows in to the North Sea at Middlesbrough.



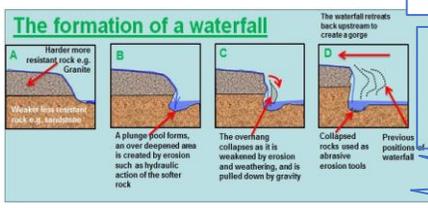
**Middle/lower course**

**Upper course:**



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**Impacts of flooding:**

What were the costs/benefits?

**What we are learning this term:**

- 1.1 Ideas about the cause of disease and illness
- 1.2 Approaches to treatment and prevention
- 1.3 Dealing with the Black Death 1348-49

**Year 9 History : Medicine in Medieval England c1250-1500**

**Key People**

Key People			
Hippocrates	Galen	Physicians, apothecaries and surgeons	Hospitals
<p>'Father of Medicine' – 4 humours, clinical observation (watch and record details, use this to help with future cases), importance of exercise, Hippocratic Oath for doctors (to preserve life)</p>	<p>Built on Hippocrates' ideas – theory of opposites (if cold, give something hot), also dissected animals to find out about anatomy (structure of body). Proved brain, not the heart, controls the body</p>	<ul style="list-style-type: none"> <li>• <b>Physicians</b> – diagnosed + recommended treatment, trained at university for around 7 years. Did not get to see dissections so new little about body. Learned everything from Galen's books. Only for super rich</li> <li>• <b>Apothecaries</b> – mixed herbal remedies (joined a guild, worked for master to train).</li> <li>• <b>Surgeons</b> – least qualified, also cut hair. Learned on job and only performed minor, on-invasive surgeries</li> <li>• <b>Monks and nuns</b> – worked in hospitals mostly prayed for patients and gave comfort. Not allowed to cut or bleed patients so could not do surgery</li> <li>• <b>Housewives and mothers</b> – treated most people. Mixed herbal remedies and treated minor wounds</li> </ul>	<ul style="list-style-type: none"> <li>• Ran by monks and nuns</li> <li>• Offered patients shelter, beds, food and very limited treatment.</li> <li>• Treatments mostly religious based – praying</li> <li>• Patients would offer share beds which led to all of diseases spreading around the hospitals</li> </ul>

**C. Dealing with the Black Death**

What is the Black Death?

- Bubonic plague – outbreak in 1348-9 – 1/3<sup>rd</sup> to 1 / 2 of the population died in England. Caused by bacteria Yersinia pestis that was thought to have originated in China and came to Britain on fleas, on rats on ships.

Causes

Miasma – bad air from the filthy conditions making you ill.  
 Astrology – there was a weird alinement of Jupiter, mars and Saturn the previous year which was blamed for the plague  
 Punishment from God- = People thought that society had become wicked so God had sent the plague to punish them.

Treatments

Confesses sins and pray, bleeding and purging (but seemed to make worse), sweet herbs or fire to clean air.

Prevention

Pray and fast, leave the area, carry sweet herbs, quarantine (new people stay away for 40 days), clean streets (or don't, maybe bad smell will drive out miasma)

A.	Can you define these key words?
Miasma	Bad air that was believed to be filled with harmful fumes.
Quarantine	Separating the sick from the healthy to stop the spread of a disease.
Humours	The humours were four fluids that were thought to spread throughout the body and influence its health.
Purging	To get rid of anything unwanted.
Phlebotomy	The drawing of blood by opening a vein.
Leprosy	a painful skin disease
Prevention	To stop something from happening
Treatment	giving medicine or using other means to help a person get better when sick or hurt
Apothecary	A person who mixes herbal remedies and treated patients as an alternative to a doctor as they were cheaper.
Barber surgeon	Barbers and surgeons who also performed minor operations such as removal of warts .

What were the causes of disease in Medieval England?		
<u>Causes</u>	<u>Prevention</u>	<u>Treatments</u>
<b>Religious – Punishment from God</b> God has sent an illness as punishment for sins. Especially true at times of panic such as the Black Death.	<b>Religious - Church</b> – Lead a life free of sin. Regular prayers and confessions. Offering tithes to the church to make sure sins were forgiven quickly.	<b>Religious – Healing prayers and incantations</b> Paying for a special mass to be said Fasting Pilgrimages
<b>Rational - Miasma</b> – You had breathed in bad air. This was thought to come from swamps or rubbish. During this period there was a lot of animal manure in towns and often open sewers in the streets meaning the whole place stank. In these filthy places disease was more common seemingly proving this theory	<b>Rational and religious - Regimen Sanitatis</b> – A set of instructions provided by physicians to maintain good health. Bathing was also used to prevent miasma.	<b>Supernatural - Astrology</b> – Treatments varied according to the horoscope of the patient. The alignment of the planets was checked at every stage of the treatment prescribed eg herb gathering.
<b>Rational - The Theory of the Four Humors</b> – The 4 liquids in your body (blood, yellow bile, black bile, phlegm) were seen to be out of balance making you ill. Recovery came from getting them back in to balance through the theory of opposites Created in ancient Greece by Hippocrates.	<b>Rational - Diet</b> – Eating to much was strongly discouraged. What and when you ate were considered to be important in preventing a humoral imbalance.	<b>Rational - Humoral Treatments</b> – Blood letting – Bad humours could be removed from the body by removing some of the blood. Purging – Purging the digestive system to remove any leftover food. Eg using a laxative.
<b>Supernatural - Astrology</b> – Impact of the stars and planets on health. Physicians would use star charts to examine a patient and work out what was wrong with them.	<b>Rational - Purifying the air</b> –This was achieved by spreading sweet herbs.	<b>Rational - Herbal remedies</b> – Using herbal infusions to drink, sniff or bathe in.

**What we are learning this term:**

- 1.1 Ideas about the cause of disease and illness
- 1.2 Approaches to treatment and prevention
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Prevention

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A.	Can you define these key words?
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_____	Separating the sick from the healthy to stop the spread of a disease.
_____	The humours were four fluids that were thought to spread throughout the body and influence its health.
P_____	To get rid of anything unwanted.
Phl_____	The drawing of bloody by opening a vein.
Le_____	a painful skin disease
Prev_____	To stop something from happening
Tre_____	giving medicine or using other means to help a person get better when sick or hurt
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**What we are learning this term:**

- A. Food opinions
- B. Countries
- C. Hotel
- D. Transport
- E. Weather
- F. Places
- G. Key verbs
- H. adjectives

**6 Key Words for this term**

- |                 |           |
|-----------------|-----------|
| 1. La ensalada  | 4. Cama   |
| 2. El balcón    | 5. Ciudad |
| 3. El pasaporte | 6. Nieva  |

**A. Food opinions**

el agua	water
el agua con gas	fizzy water
el arroz	rice
el bistec	steak
el bocadillo	sandwich
la carne	meat
los champiñones	mushrooms
las cerezas	cherries
el coca cola	coke
el cerdo	pork
el carne de vaca	beef
los caramelos	sweets
el chocolate	chocolate
los cereales	cereals
la ensalada	salad
los espaguetis	pasta
la fruta	fruit
las galletas	biscuits
las hamburguesas	burgers
el helado	ice cream
los huevos	eggs
los guisantes	peas
el jamón	ham
la lechuga	lettuce
la limonada	lemonade
la manzana	apple
el melocotón	peach
los mariscos	seafood
la naranja	orange
el pescado	fish
el perrito caliente	hot dogs
el pan	bread
el pollo	chicken
las patatas fritas	chips
los pasteles	cakes

**B. Countries**

Una parcela	a pitch
Una piscina	a pool
Pasaporte	Passport
Servicio	toilet
Una caravana	a caravan
Una tienda	a tent/shop

**C. Hotel**

La habitación	Room
Balcón	Balcony
Baño	Bath
Ducha	Shower
Cama	Bed
Cuarto de baño -	Bathroom
Una noche	A night
Una cama de matrimonio	Double bed
Una semana	A week
Reservar	To reserve
Vistas al mar	Views of the sea
Quisiera	I would like
Media pensión	Half board
Pensión completa	Full board

**D. Transport**

En coche	by car
En autocar	by coach
En tren	by train
En avión	by plane
En bicicleta	by bike
En barco	on boat

**Key Verbs**

Ser To be	Tener To have	Present	Past	Future
Soy = I am	Tengo = I have	Hablo I speak	Hablé I spoke	Voy a Hablar I am going to speak
Eres = You are	Tienes = You have	Como I eat	Comí I ate	Voy a comer I am going to eat
Es = s/he is	Tiene = s/he has	Voy I go	Fui/fue I am/it was	Voy a ir I am going to go
Somos = We are	Tenemos = We have	Soy I am	Fui I was	Voy a ser I am going to be
Son = They are	Tienen = They have	Tengo I have	Tuve I had	Voy a tener I am going to have

**F. Places**

Iglesia	church
Piscina	pool
Castillo	castle
Estadio	stadium
Pueblo	town
Ciudad	city
El campo	the countryside
Las montañas	the mountains
En la costa	on the coast
Cerca de la playa	near the beach
Al extranjero	Abroad
Pista de hielo	ice rink
El restaurante	teh restaurant
El bar	the pub
El hotel	the hotel
El viaje	trip
Vacaciones	holidays

**G. Key verbs**

vivir	to live
hablar	to speak
deber	to have to
querer	to want to
visitar	to visit
comer	to eat
beber	to drink
salir	to go out
leer	to read
trabajar	to work
pensar	to think
escribir	to write

**H. Adjectives**

Pintoresco	picturesque
Elegante	Smart
Bonito	pretty
Hermoso	pretty
Rapido	fast
Comodo	comfy
Caro	expensive
Barato	cheap
Practico	practical
Que Me da miedo	scary
Agradable	Nice
Limpio	clean

**E. The weather**

Hace buen tiempo -	it's good weather
Hace mal tiempo -	it's bad weather
Hace sol	it's sunny
Llueve	it's raining
Hace viento	it's windy
Hace calor	it's hot
Hace frio	it's cold
Nieva	it's snowing



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_____	water
el agua con gas	_____
_____	rice
el bistec	_____
el bocadillo	_____
_____	meat
los champiñones	_____
las cerezas	_____
_____	coke
el cerdo	_____
el carne de vaca	_____
_____	sweets
_____	chocolate
_____	cereals
_____	salad
_____	pasta
_____	fruit
_____	biscuits
_____	burgers
_____	ice cream
_____	eggs
los guisantes	_____
_____	ham
la lechuga	_____
la limonada	_____
_____	apple
el melocotón	_____
los mariscos	_____
la naranja	_____
el pescado	_____
el perrito caliente	_____
el pan	_____
el pollo	_____
las patatas fritas	_____
los pasteles	_____

**B. Countries**

Una parcela	_____
_____	a pool
_____	Passport
Servicio	_____
_____	a caravan
_____	a tent/shop

**C. Hotel**

_____	Room
_____	Balcony
_____	Bath
_____	Shower
_____	Bed
_____	Bathroom
Una noche	_____
Una cama de matrimonio	_____
_____	A week
_____	To reserve
Vistas al mar	_____
_____	I would like
Media pensión	_____
Pensión completa	_____

**D. Transport**

_____	by car
_____	by coach
_____	by train
_____	by plane
_____	by bike
_____	on boat

**E. The weather**

_____	it's good weather
_____	it's bad weather
_____	it's sunny
_____	it's raining
Hace viento	_____
_____	it's hot
_____	it's cold
Nieva	_____

**Key Verbs**

Ser To be	Tener To have	Present	Past	Future
_____	_____	_____	_____	_____
= I am	= I have	I speak	I spoke	I am going to speak
_____	Tienes	_____	_____	_____
= You are	= You have	I eat	I ate	I am going to eat
_____ = s/he	_____	_____	_____	_____
is	= s/he has	I go	I am/it was	I am going to go
_____	_____	_____	_____	_____
= We are	= We have	I am	I was	I am going to be
_____ =	Tienen	_____	_____	_____
They are	= They have	I have	I had	I am going to have

**F. Places**

_____	church
_____	pool
_____	castle
_____	stadium
_____	town
_____	city
_____	the countryside
_____	the mountains
_____	on the coast
Cerca de la playa	_____
Al extranjero	_____
Pista de hielo	_____
_____	the restaurant
_____	the pub
_____	the hotel
_____	trip
_____	holidays

**G. Key verbs**

_____	to live
_____	to speak
_____	to have to
_____	to want to
_____	to visit
_____	to eat
_____	to drink
_____	to go out
_____	to read
_____	to work
_____	to think
_____	to write

**H. Adjectives**

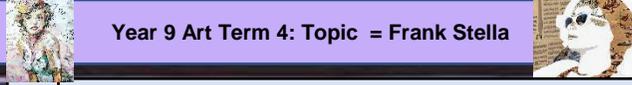
_____	picturesque
_____	Smart
_____	pretty
_____	pretty
_____	fast
_____	comfy
_____	expensive
_____	cheap
_____	practical
_____	scary
_____	Nice
_____	clean



G. Translation Practice		H . Key Questions: Answer the following in your own words. Use these model answers	
Normally I eat fruit because it is healthy. N c f p e s	¿Adónde vas de vacaciones normalmente? Where do you normally go	Normalmente, voy de vacaciones a España. Vamas a Malaga en España eln el sur cerca de la costa. Nos alojamos en el hotel. Me encantan mis vacaciones porque son divertidas	
In my hotel there are twelve bedrooms and ten balconies. E m h d h y d b	¿Cómo vas de vacaciones normalmente? How do you normally get there	Normalmente vamos en avión y en coche. Me encanta ir en avión porque es rápido y divertido.	
In my bedroom there is a shower and a bed. E m h h u d y u c.	¿Con quién vas de vacaciones normalmente? With whom do you go	Normalmente voy con mi familia, mis padres y mis hermanos	
There is a beach however there is not a park. H u p s e n h u p	¿Qué haces de vacaciones normalmente? What do you do there	A menudo vamos a la playa y jugamos baloncesto en la playa. Me gusta también ir de compras en las tiendas. También, me baño en el mar y en la piscina. También, visitamos el museo, el centro comercial, el castillo. Me encantan mis vacaciones porque son divertidas.	
I go to Spain with my friends. V a E c m a	Qué hiciste el año pasado What did you do last year	El año pasado, fui a Francia. Fui con mis padres. Fuimos en coche y en barco. Fuimos a un hotel. Fuimos a la playa. Nadé en el mar, bailé en la discoteca, comí hamburguesas y bebí coca cola. Me alojé en un hotel. Fue fenomenal	
We go by plane because it is funny. V e a p e d			
My bedroom has sea views. M h t v a m			
I would like a full board . Q u p c			
He goes abroad by train. V a e e t			
I never go to France by boat. N v a F e b			

J. Key Grammar	
Comparatives Más/menos que - more/less than Mejor/peor que - better/worse than Lo mejor/lo peor = the best/the worst Tan...como = as .... As	Use past and future tenses Ayer - yesterday Comí - I ate, bebí - I drank, hice - I did, jugué - I played, fue - it was Use future tense Mañana - tomorrow Será - it will be, voy a jugar - I am going to play, voy a hacer - I am going to do

I. Key Questions: Key Questions: Translate these model answers using the KO	
¿Adónde vas de vacaciones normalmente? Where do you normally go	Normaly, I go on holidays to Spain. We go to Malálaga in Spain, in the south close to the sea. We stay in a hotel. I love my holidays because they are funny.
¿Cómo vas de vacaciones normalmente? How do you normally get there	Normaly we go by plane and car. I love to go by plane because it is fast and funny.
¿Con quién vas de vacaciones normalmente? With whom do you go	Normaly I go with my family , my parents and my brothes
¿Qué haces de vacaciones normalmente? What do you do there	Often we go to the beach and we play basketball in the beach. I also like going shopping to the shops. Also O swim in the sea and in the swimming pool. Also, we visit the museum and the shoping mall, the castle. I love my holidays because they are funny.
Qué hiciste el año pasado What did you do last year	Last year, I went to France. I went to my parents.We went by car and boat. We went to a hotel. We went to the beach. I swam in the sea, I danced in the disco, I ate burguers and I drank coke. I stayed in a hotel.It was amazing.



**What we are learning this term:**

- Cubism
- Frank Stella
- Segments and Templates
- Relief Sculpture
- Clay, Score & Slip



**B Answer the questions about Frank Stella**

- What type of sculptures does Frank make? Relief Sculptures
- What materials does he use? Frank uses a range of metal and Cardboard to create skeleton of the sculpture
- How big are his sculptures? His sculptures can fill a whole room and usually fill up a whole wall.



**A. Cubism- List 3 facts about Cubism.** What does it look like? Who created it? What different types of cubism are there?

- Cubism can be described as angular and a smashed mirror effect
- Cubism was created by Georges Braque and Pablo Picasso in 1907
- There are two types of Cubism; Analytical and Synthetic. Analytical is sharp and dull colours, Synthetic is bright and organic

Using the grid method technique, draw this Frank Stella image into 'Your response' box.



Example

Your response

**C. Segments & Templates- Looking at the image below, what describing words could you use to describe this artwork by Frank Stella. Use your formal elements to guide you.**

- Organic, natural, colourful, curvy, bright, bold, pattern, skewed, misshaped, mixed, disconnected, random, thought provoking

**D This is a relief sculpture; how has it been made and what materials have been used?**



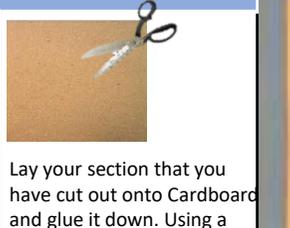
To create a relief sculpture you will need Cardboard or a strong yet easily cut material. Start by having an image to create from. The image on the left has been created by many layers of cut Cardboard. As more layers are added they create a 3-dimensional illusion.



**Write a step by step guide to making a cardboard template for relief sculpture**



Firstly cut out individual sections and shapes from your chosen image. use scissors



Lay your section that you have cut out onto Cardboard and glue it down. Using a sharp pair of scissors cut this out of Cardboard staying very close to the edge



Once you have cut out all of your shapes and sections from the Cardboard you can arrange them and layer them onto



Finally seal all of your relief sculpture together with PVA glue .this will help to secure it , give it extra

**E Write a step- by- step guide to slab method & score and slip.**



Slab

Firstly, start off by having your wooden board your wooden slats and your rolling pin With your ball of clay in the middle. Make sure the slats are the same thickness. Start off by gently rolling out your ball of clay in a rectangle, lifting up the clay every so often to rotate it so that you create a square. The slats will prevent the Play from going too thin. The rolling pin should now be rested on the slats as you roll, therefore the clay cannot go any thinner.



Score& Slip

Score and slip enables you to join 2 pieces of clay together. The scoring on each side of the clay will create a rough surface for attachment. The slip is watered down clay to create a paste. Using the slip like glue, add

	Keywords
Abstract	Abstract art is art that does not attempt to represent an accurate depiction of a visual reality but instead use shapes, colours, forms and gestural marks to achieve its effect
Geometric	Is something associated with geometry, or the use of straight lines and shapes. An example of geometric is an art piece made from rectangles, squares and circles
Sculpture	The art of processing by carving, modeling with plastic or hard materials into works of art. A three-dimensional work of art such as a statue
Formal Elements	are line, shape, form, tone, texture, pattern, colour and composition
Ines Kouidis	A collage artist who collages famous people
Collage	A piece of art made by sticking various materials such as photographs and pieces of paper or fabric on to a backing.



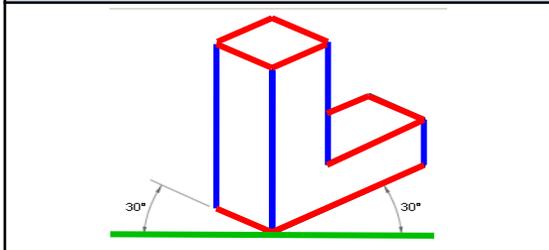


What we are learning this term:	
A.	Drawing Skills
B.	Wood Theory
C.	Wooden Joints & Their Uses
D.	Tools & Machinery

**A. Drawing Skills**

**Isometric Technical Drawing**

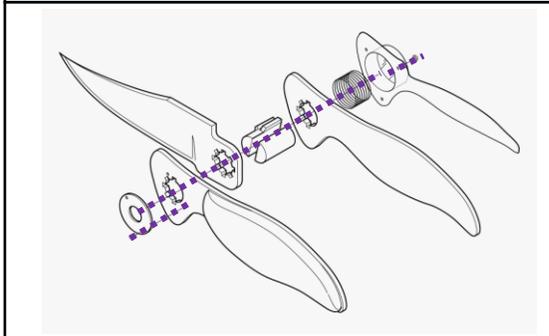
Made up of a series of parallel **vertical lines** and parallel **30-degree lines**. But no **horizontal lines**.



Used to show a 3D (3-dimensional) perspective of a object or product.

**Exploded Technical Drawing**

Isometric drawing of all the parts and components of an object.



All parts are shown separately so you can see all aspects. **Dashed lines** indicate where everything goes and in what order.

**B. Wood Theory**

<i>Natural</i>	Advantages	Disadvantages
<b>Hardwood:</b> <ul style="list-style-type: none"> <li>Stronger &amp; durable</li> <li>Weather resistant</li> <li>Fire resistant</li> </ul>	<ul style="list-style-type: none"> <li>Harder to cut / curve</li> <li>More expensive</li> <li>Longer to grow</li> </ul>	
<b>Softwood:</b> <ul style="list-style-type: none"> <li>Easy to cut / curve</li> <li>Cheaper</li> <li>Quicker to grow</li> </ul>	<ul style="list-style-type: none"> <li>Not weather resistant</li> <li>Not fire resistant</li> <li>Weaker &amp; less durable</li> </ul>	
<i>Manufactured</i>	Advantages	Disadvantages
<b>MDF:</b> <ul style="list-style-type: none"> <li>Easy to cut and sand</li> <li>Takes paint well</li> <li>Comes in wide sheets</li> </ul>	<ul style="list-style-type: none"> <li>Not as aesthetically pleasing</li> <li>Doesn't stain well</li> </ul>	
<b>Plywood:</b> <ul style="list-style-type: none"> <li>Strong board</li> <li>Can be waterproof</li> <li>Comes in wide sheets</li> </ul>	<ul style="list-style-type: none"> <li>Not as aesthetically pleasing</li> <li>Doesn't stain well</li> </ul>	

**Sustainability = Natural Wood Vs Manufactured Boards**

Manufactured boards are more sustainable than natural woods because made from wasted wood and offcuts.	Softwood is more sustainable than hardwood, because it grows a lot quicker.
--	---

**C. Wooden Joints & Their Uses**

Joint	Uses	Image
<b>Mitre Joint</b>	Used mainly for picture frames. Great aesthetics but not very strong unless a dowel is added.	
<b>Dowel Joint</b>	Can be used to repair stripped screw holes and in toy making they are the perfect axles in toy vehicles.	
<b>Mortise and Tenon Joint</b>	Mainly used for furniture. This joint is very strong and durable as well as looking very professional.	
<b>Cross Halving Joint</b>	Mainly used for cabinets, doors and windows. This joint has very good resistance to side-to-side movement.	

**D. Tools & Machinery**

Steel Rule	Tri Square	Mitre Square	Bench Hook	Quick Clamp	Wooden Vice	Tenon Saw	Bandfacer	Pillar Drill



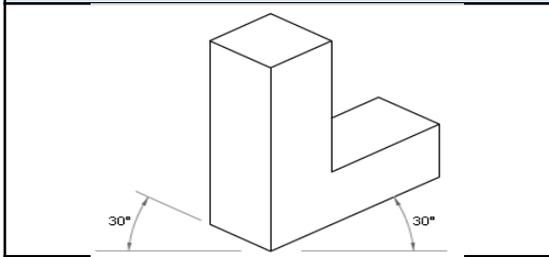
**What we are learning this term:**

- A. Drawing Skills
- B. Wood Theory
- C. Wooden Joints & Their Uses
- D. Tools & Machinery

**A. Drawing Skills**

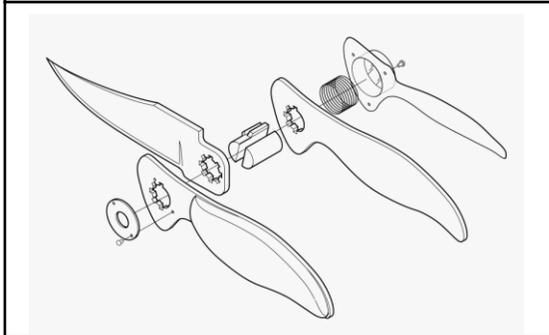
**Technical Drawing**

What is it & what is it used for?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**Technical Drawing**

What is it & what is it used for?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**B. Wood Theory**

Natural	Advantages	Disadvantages
<b>Hardwood:</b>	_____ _____ _____	_____ _____ _____
<b>Softwood:</b>	_____ _____ _____	_____ _____ _____

Manufactured	Advantages	Disadvantages
<b>MDF:</b>	_____ _____ _____	_____ _____ _____
<b>Plywood:</b>	_____ _____ _____	_____ _____ _____

Sustainability = Natural Wood Vs Manufactured Boards	
_____	_____
_____	_____
_____	_____

**C. Wooden Joints & Their Uses**

Joint	Uses	Image
<b>Mitre Joint</b>	_____ _____ _____	
<b>Dowel Joint</b>	_____ _____ _____	
<b>Mortise and Tenon Joint</b>	_____ _____ _____	
<b>Cross Halving Joint</b>	_____ _____ _____	

**D. Tools & Machinery**



**What we are learning this term:**

- A. Health, safety and hygiene in the kitchen
- B. The Eatwell guide and nutrients
- C. The Dietary requirements of a teenager
- D. Skills testing
- E. Healthy cooking
- F. Chopping Board Colours

**Year 9 – High Skills**

**B. Can you list 5 of the dietary requirements of a teenager?**

- 1 A diet high in carbohydrate as a teenager is normally an energetic person.
- 2 A diet with 2-3 portions of protein to maintain muscle growth and cell repair
- 3 A diet with 2 -3 sources of calcium to build developing teeth and bones.
- 4 A diet low in fat to avoid becoming obese or developing other health problems.
- 5 Drinking 2 litres of water a day.

**6 Key Words for this term**

- |                        |                       |
|------------------------|-----------------------|
| 1 Hygiene              | 4 Healthy             |
| 2 Dietary Requirements | 5 Teenager            |
| 3 Skills Test          | 6 Cross Contamination |

**A. Explain the main four things that you should do when you enter the kitchen area.**

Remove all of your jewellery.	Jewellery can harbour bacteria and could fall off into the food.
Tie back your hair	Hair could fall into the food or touch equipment.
Wash your hands with hot soapy water.	To remove any germs and bacteria from your hands and nails.
Put on and apron and tie it back.	To protect you from the food and equipment and the food from touching you.

**FOOD SAFETY CHOPPING BOARDS**  
If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

	RAW MEAT
	RAW FISH
	COOKED MEATS
	SALAD & FRUIT PRODUCTS
	VEGETABLE PRODUCTS
	BAKERY & DAIRY PRODUCTS

 Clean and store chopping boards correctly after use



**A. What is cross contamination and how can it be prevented?**

Cross contamination happens when you use the wrong chopping board or equipment to prepare food which can therefore result in food poisoning. You must use the correct equipment for the correct ingredients. You must also ensure that you are always following good hygiene practices when cooking.

**B. What do the following terms mean?**

Grilling	Using the top part of the oven. It involves a significant amount of direct, radiant heat, and tends to be used for cooking meat and vegetables quickly. It is also a healthier method of cooking meat products.
Baking	Baking is a method of preparing food that uses dry heat, normally in an oven. Heat is gradually transferred from the surface of cakes, cookies, and breads to their centre.
Frying	Frying is the cooking of food in oil or another fat. It is usually done in a frying pan using the hob of the cooker. It also known to be unhealthy.

**C. Can you list 5 reasons for why we cook food and why it is important?**

<u>Rules</u>	<u>Why it is important</u>
<ul style="list-style-type: none"> <li>• 1 to get rid of bacteria on the food</li> <li>• 2 to make the food taste better</li> <li>• 3 to make food chewable</li> <li>• 4 to ensure that food is not raw</li> <li>• 5 to add colour to the food</li> </ul>	<ul style="list-style-type: none"> <li>• 1 to stop food poisoning</li> <li>• 2 to make the food more appealing</li> <li>• 3 it could be raw or a choking hazard</li> <li>• 4 to stop food poisoning</li> <li>• 5 to make it look more appetising or change its use</li> </ul>

E.	Keywords
Hygiene	A method of keeping yourself and equipment clean
Research	Information that you find out to help you with a project
Nutritious	A meal that is healthy and contains vital nutrients.
Target Market	The age or type of person you re creating a product for.
Carbohydrates	Foods that give you energy
Protein	Food that grow and repair your muscles
Fibre	Foods that keep your digestive system healthy and avoid constipation.
Calcium	Foods that make your teeth and bones strong
Design Idea	A sketch or plan of how you are hoping a project to turn out.
Organisation	Having everything ready for a lesson and following instructions
Time keeping	Using the time to remain organised.
Sensory analysis	Use your senses to taste and describe a product
Mood Board	A collage of photos and key words based on a project
Time Plan	Instructions of wat you are going to do and how long it should take.
Skills Test	Demonstrating your knowledge of a cooking term.
Teenager	Someone between the age of 13 – 19.



**What we are learning this term:**

- A. Health, safety and hygiene in the kitchen
- B. The Eatwell guide and nutrients
- C. The Dietary requirements of a teenager
- D. Skills testing
- E. Healthy cooking
- F. Chopping Board Colours

**6 Key Words for this term**

- 1 Hygiene
- 2 Dietary Requirements
- 3 Skills Test
- 4 Healthy
- 5 Teenager
- 6 Cross Contamination

**A.** Explain the main four things that you should do when you enter the kitchen area.




**Year 9 – High Skills**

**B.** Can you list 5 of the dietary requirements of a teenager?

- 1
- 2
- 3
- 4
- 5

**FOOD SAFETY CHOPPING BOARDS**  
If used correctly, colour coded chopping boards can eliminate or reduce the risk of cross contamination during food preparation

- RAW MEAT
- RAW FISH
- COOKED MEATS
- SALAD & FRUIT PRODUCTS
- VEGETABLE PRODUCTS
- BAKERY & DAIRY PRODUCTS

Clean and store chopping boards correctly after use



**A.** What is cross contamination and how can it be prevented?

.

**B.** What do the following terms mean?

Grilling

Baking

Frying

**C.** Can you list 5 reasons for why we cook food and why it is important?

Rule

- 1
- 2
- 3
- 4
- 5

Why it is important

- 1
- 2
- 3
- 4
- 5

**E. Keywords**

Hygiene

Research

Nutritious

Target Market

Carbohydrates

Protein

Fibre

Calcium

Design Idea

Organisation

Time keeping

Sensory analysis

Mood Board

Time Plan

Skills Test

Teenager



**What we are learning this term:**

- A. Film Composers and Orchestra Instruments
- B. How to write a perfect Evaluation
- C. Playing the Keyboard / Chords
- D. What are the musical elements?
- E. What are the music symbols – Note Values
- F. Keywords
- G. How to read music – treble clef and bass clef

**7 Key Words for this term**

1 Leitmotif	4 Synchronising	7 Atonal
2 Soundtrack	5 Non-Diegetic	
3 Underscore	6 Mickey-Mousing	

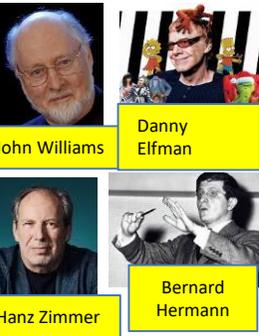
**C Playing the Keyboard / Chords**

LEFT HAND: C D E F G A B C  
RIGHT HAND: C D E F G A B C

Chords shown: C, G, Am, F

F	Keywords
Leitmotif / motif	a <b>recurrent theme</b> throughout a musical composition, associated with a person, idea, or situation
Musical Clichè	A cliché is a <b>phrase which is often used</b> , or overused
Theme Tune	A piece of <b>music that is known for representing</b> the film/tv show
Soundtrack	The <b>collection of songs and musical arrangements</b> played during a film/TV show.
Underscore	the <b>background music</b> used in a film to set the mood/atmosphere.
Opening / Closing Credits	A list of <b>important people involved in the production of film/tv shows</b> included at the start and end of films.
Mickey-Mousing	When the <b>music perfectly fits with the action</b> on the screen.
Atonal	term used to define <b>music that seems to lack a clear tonal center – it doesn't sound good</b> . It is perfect for horror movies!
Synchronising	The process of <b>combining music/audio with moving image</b>
Non-Diegetic	<b>Sound and effects</b> that are added for dramatic effect.

**A Famous Film Composers / Instruments of the Orchestra**



**D What are the musical elements?**

Timbre	Sound quality
Pitch	High or low sounds
Texture	How many sounds
Tempo	Fast or slow
Duration	Long or short
Structure	The musical plan
Dynamics	Loud or quiet
Silence	No sound / rests in the music
Attack/Decay	How notes start and stop

**B How to write a perfect Evaluation?**

1	Write a full sentence explaining what your musical performance or music composition was about
2	Explain what you were trying to communicate to an audience and how you did it
3	Pick out at least two moments that worked really well, using specific examples and say what you did that made them successful
4	Pick out one moment that you could make better. Explain why it needed improving and how you would make it better if you did your performance again
5	Sum up your evaluation and discuss one thin that you will take forward into your next work

**E What are the music symbols?**

Note	Name	Beats	Rest	Note	Name	Beats	Rest
	Semibreve, Whole Note	4 beats			Dotted Semibreve, Dotted Whole Note	6 beats	
	Minim, Half Note	2 beats			Dotted Minim, Dotted Half Note	3 beats	
	Crotchet, Quarter Note	1 beat			Dotted Crotchet, Dotted Quarter Note	1½ beats	
	Quaver, Eighth Note	1/2 beat			Dotted Quaver, Dotted Eighth Note	¾ beat	

**G How to read music – treble clef and Bass Clef**

TREBLE LINES: E G B D F      TREBLE SPACES: F A C E

BASS LINES: G B D F A      BASS SPACES: A C E G



**What we are learning this term:**

- A. Film Composers and Orchestra Instruments
- B. How to write a perfect Evaluation
- C. Playing the Keyboard / Chords
- D. What are the musical elements?
- E. What are the music symbols – Note Values
- F. Keywords
- G. How to read music – treble clef and bass clef

**7 Key Words for this term**

1  4  7 A

2  5 N

3  6 M

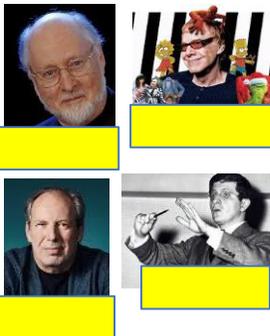
**C Playing the Keyboard / Chords**

LEFT HAND RIGHT HAND

C G Am F

<b>F</b>	<b>Keywords</b>
<b>Leitmotif / motif</b>	a <b>recurrent theme</b> throughout a musical composition, associated with a person, idea, or situation
	A cliché is a <b>phrase which is often used</b> , or overused
<b>Theme Tune</b>	A piece of <b>music that is known for representing</b> the film/tv show
<b>Soundtrack</b>	
	the <b>background music</b> used in a film to set the mood/atmosphere.
<b>Opening / Closing Credits</b>	
	When the <b>music perfectly fits with the action</b> on the screen.
<b>Atonal</b>	
<b>Synchronising</b>	
	<b>Sound and effects</b> that are added for dramatic effect.

**A Famous Film Composers / Instruments of the Orchestra**



**D What are the musical elements?**

Timbre	
Pitch	
Texture	
Tempo	
Duration	
Structure	
Dynamics	
Silence	
Attack/Decay	

**B How to write a perfect Evaluation?**

1	Write a full sentence explaining what your musical performance or music composition was about
2	<input type="text"/>
3	<input type="text"/>
4	Pick out one moment that you could make better. Explain why it needed improving and how you would make it better if you did your performance again
5	<input type="text"/>

**E What are the music symbols?**

Note	Name	Beats	Rest	Note	Name	Beats	Rest
	<input type="text"/>	4 beats	<input type="text"/>		Dotted Semibreve, Dotted Whole Note	<input type="text"/>	
	<input type="text"/>	2 beats	<input type="text"/>		Dotted Minim, Dotted Half Note	<input type="text"/>	
	<input type="text"/>	1 beat	<input type="text"/>		Dotted Crotchet, Dotted Quarter Note	<input type="text"/>	
	<input type="text"/>	1/2 beat	<input type="text"/>		Dotted Quaver, Dotted Eighth Note	<input type="text"/>	

**G How to read music – treble clef and Bass Clef**



What we are learning this term:	
A.	How to develop our vocal techniques.
B.	How to develop our physical techniques.
C.	How to interpret the director's creative intention for a group piece.
D.	How to reflect, analyse and evaluate our development.



Noughts and Crosses by Malorie Blackman	Cape by Inua Allams,	Gone Too Far by ola Agbaje
A stage adaptation of Malorie Blackman's best selling novel, the world of the Crosses and the noughts is reminiscent of Shakespeare's Romeo and Juliet. It's a modern-day tale of star-crossed lovers, race and violence. Noughts and Crosses is about a segregated society teetering on a volatile knife edge. As violence breaks out, Sephy and Callum draw closer, but this is a romance that will lead them into terrible danger.	Someone mugged Bruce's mum and he is not having it. The shock is still visible in her trembling fingers, rippling out across the calm waters of their lives. He grabs his hoodie, his uniform, his cape and goes out to find the culprit. Smithy wants everyone to stay inside, Uhuru wants everyone out. Tanya thinks it's boyish fun and games until, very suddenly, it isn't.	Nigeria, England, America, Jamaica; are you proud of where you're from? Dark skinned, light skinned, afro, weaves, who are your true brothers and sisters?  When two brothers from different continents go down the street to buy a pint of milk, they lift the lid on a disunited nation where everyone wants to be an individual but no one wants to stand out from the crowd.

KEY WORDS	
<b>articulation</b>	the clarity or distinction of speech
<b>aside</b>	Lines spoken by an performer to the audience and not supposed to be overheard by other characters on-stage.
<b>business</b>	a piece of unscripted or improvised action, often comic in intention, used to establish a character, fill a pause in dialogue, or to establish a scene. An author may simply suggest 'business' to indicate the need for some action at that point in the play.
<b>characterisation</b>	how a performer uses body, voice, and thought to develop and portray a character.
<b>dialogue</b>	spoken conversation used by two or more characters to express thoughts, feelings, and actions.
<b>focus</b>	in acting, the act of concentrating or staying in character.
<b>gesture</b>	any movement of the performer's head, shoulder, arm, hand, leg, or foot to convey meaning.
<b>imaging</b>	a technique which allows performers to slow down and focus individually on an issue. The performers, sitting quietly with eyes closed, allow pictures to form in their minds. These images may be motivated by bits of narration, music, sounds, smells, etc.
<b>improvisation</b>	the spontaneous use of movement and speech to create a character or object in a particular situation; acting done without a script.
<b>inflection</b>	change in pitch or loudness of the voice.
<b>Interaction</b>	the action or relationship among two or more characters
<b>language</b>	in drama, the particular manner of verbal expression, the diction or style of writing, or the speech or phrasing that suggests a class or profession or type of character.
<b>mannerism</b>	a peculiarity of speech or behaviour.
<b>mime</b>	acting without words.
<b>mirroring</b>	copying the movement and/or expression or look of someone else exactly.
<b>monologue</b>	a long speech made by one performer; a monologue may be delivered alone or in the presence of others.
<b>motivation</b>	the reason or reasons for a character's behaviour; an incentive or inducement for further action for a character.
<b>movement</b>	stage blocking or the movements of the performers onstage during performance; also refers to the action of the play as it moves from event to event.
<b>pace</b>	rate of movement or speed of action
<b>performance elements</b>	include acting (e.g., character motivation and analysis, empathy), speaking (breath control, vocal expression and inflection, projection, speaking style, diction), and nonverbal expression (gestures, body alignment, facial expression, character blocking, movement).
<b>pitch</b>	the particular level of a voice, instrument or tune.

Tongue Twisters	
<i>Peter Piper</i>	Peter Piper picked a peck of pickled peppers A peck of pickled peppers Peter Piper picked If Peter Piper picked a peck of pickled peppers Where's the peck of pickled peppers Peter Piper picked?
<i>Betty Botter</i>	Betty Botter bought some butter But she said the butter's bitter If I put it in my batter, it will make my batter bitter But a bit of better butter will make my batter better So 'twas better Betty Botter bought a bit of better butter

	Themes and Issues Explored
Diversity	Being composed of differing elements and variety. The inclusion of people of different races, cultures, etc. in a group or organization.
Racism	Behaviour or attitudes that reflect and foster this belief : racial discrimination or prejudice.
Relationships	Connecting or binding people in either a family, friendship or work collaboration.
Responsibility	Moral, legal or mental accountability.
Society	A community, nation, or broad grouping of people having common traditions, institutions, and collective activities and interests

**Script Work- Key focus**

You will explore the different techniques needed to explore how to perform a character. Through a series of workshops and rehearsals you will explore the different Stanislavski techniques used to perform a naturalistic scene. You will explore different physical and vocal exercises needed to perform a character. You will learn what it takes for an actor to memorise the words and movements of a character in a scene and then will perform your chosen scene to an audience in the final week.





What we are learning this term:	
A.	How to develop our vocal techniques.
B.	How to develop our physical techniques.
C.	How to interpret the director's creative intention for a group piece.
D.	How to reflect, analyse and evaluate our development.



KEY WORDS	
articulation	
aside	
business	
characterisation	
dialogue	
focus	
gesture	
imaging	
improvisation	
inflection	
Interaction	
language	
mannerism	
mime	
mirroring	
monologue	
motivation	
movement	
pace	
performance elements	
pitch	

Noughts and Crosses by M..... B.....	Cape by I..... A.....	Gone Too Far by O..... A.....
A stage adaptation of M..... B..... best selling novel, the world of the Crosses and the noughts is reminiscent of Shakespeare's Romeo and Juliet. It's a modern-day tale of star-crossed lovers, race and violence. Noughts and Crosses is about a segregated society teetering on a volatile knife edge. As violence breaks out, Sephy and Callum draw closer, but this is a romance that will lead them into terrible danger.	Someone mugged Bruce's mum and he is not having it. The shock is still visible in her trembling fingers, rippling out across the calm waters of their lives. He grabs his hoodie, his uniform, his cape and goes out to find the culprit. Smithy wants everyone to stay inside, Uhuru wants everyone out. Tanya thinks it's boyish fun and games until, very suddenly, it isn't.	Nigeria, England, America, Jamaica; are you proud of where you're from? Dark skinned, light skinned, afro, weaves, who are your true brothers and sisters?  When two brothers from different continents go down the street to buy a pint of milk, they lift the lid on a disunited nation where everyone wants to be an individual but no one wants to stand out from the crowd.

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# SWINDON ACADEMY READING CANON

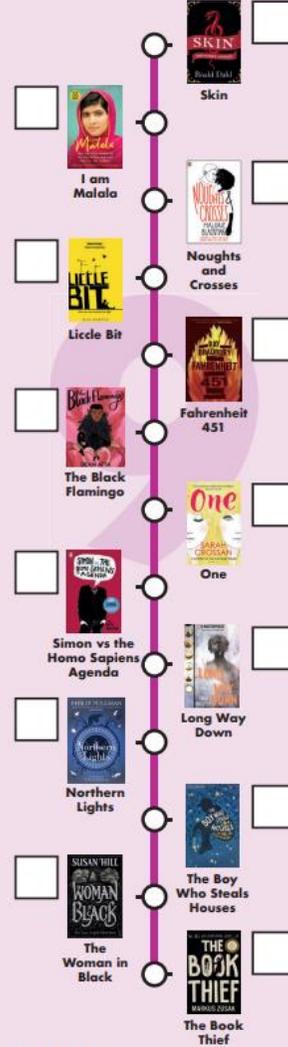
## Year 7



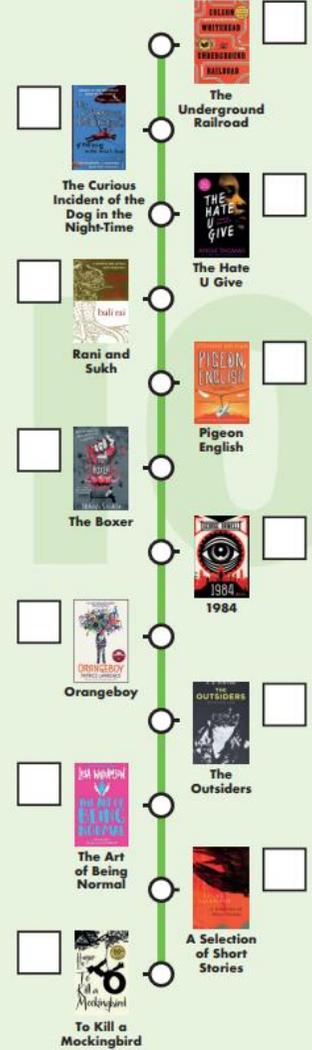
## Year 8



## Year 9



## Year 10



#ReadingisPower