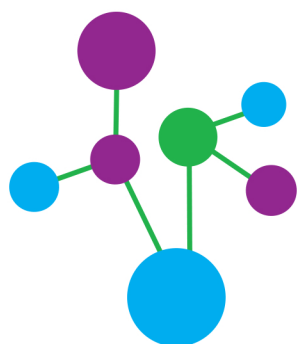


NAME: \_\_\_\_\_

**TERM  
5&6**

**YEAR 9**



**PLYMPTON ACADEMY  
HANDBOOK**

**TERM 5&6**

# HOMework PLANNER

YEAR 9	Subject 1	Subject 2	Subject 3
Monday	English	Geography	Art
Tuesday	Science (Carousel)	History	
Wednesday	Maths (Sparx)	RS	Science (Carousel)
Thursday	Maths (Sparx)	Science (Carousel)	
Friday	Maths (Sparx)	Spanish	Technology

## When I am going to do my homework

	Monday	Tuesday	Wednesday	Thursday	Friday		Saturday	Sunday
Before school								
Lunch time								
Between 3.00pm and 4.00pm								
Between 4.00pm and 5.00pm								
Between 5.00pm and 6.00pm								
Between 6.00pm and 7.00pm								
Between 7.00pm and 8.00pm								
Between 8.00pm and 9.00pm								

# Blood Brothers- Literature Paper Two.

Vocabulary	Definition
Poverty	Lacking in money linked to deprivation in social conditions, housing and education
Wealth	The abundance of money or possessions
Liverpudlian	A person who comes from Liverpool (often with a distinct accent)
Deceit	Concealing or misrepresenting the truth
Death	Ending of life
Innocence	The state of being pure and lacking in corrupt behaviour
Superstition	Irrational belief in widely held supernatural instances
Class System	The concept that there is more than one social class of people: working class, middle class and upper class and the rules which govern the lives of people in different classes lead to societal unfairness
Hierarchy	Ranking of members of society due to status or authority
Disillusioned	Disappointment in someone or something that appears to be less good than initially thought
Condescension	A patronising, condescending attitude towards others
Snobbery	The character or quality of being a snob
Underprivileged	Not having access to the same standard of living as other people in society
Omniscient Narrator	All knowing narrative voice
Dialogue	Speech
Accent	A distinctive way of pronouncing words
Dramatic Irony	From Greek tragedy: the audience is aware of the importance of events but the characters are not
Foreshadowing	Predicting or warning of a future event in the text
Pathetic Fallacy	Linking of nature and weather to human emotions/moods
Metaphor	Where one thing becomes another in a comparison
Musical	The form of the play: music plays an important part in revealing the action/events
Symbolism	Using symbols in literature to represent ideas or qualities
Motif	A dominant or recurring idea in the play

## SKILLS

### Analysis Points:

**Link to the question**

**Link to the terminology (Lang/Structure – evaluating choice)**

**Short Quote(s) -or Moment**

**Explain meaning and effect – both obvious and hidden (explicit and implicit)**

**Zoom in on words/explore connotations and effect**

**Suggest what other readers might think/feel (offering an alternative opinion)**

**Link to the writer’s intentions (step out from the close analysis to give an overview of meaning)**

**Explore a linking quote/supporting idea**

## KEY THEMES

Wealth, Poverty, Class, Superstition, Childhood, Death

## ESSAY QUESTION– 45 mins (including planning time)

### Typical Questions

**Write about the theme of \_\_\_\_\_ and how it is presented at different points in the play/text**

**In your response you should:**

☐ refer to the extract and the play as a whole;

☐ show your understanding of theme and events in the play. [35+5]

**5 of this question’s marks are allocated for accuracy in spelling, punctuation and the use of vocabulary and sentence structures.**

**This question assesses AO1, AO2 and AO4 (5 additional marks).**



## Event Guide:

### Act 1


- The narrator introduces the plot in a Greek Chorus (we realise the play is a tragedy)
- Meet two very different women, Mr J v poor agrees to give away one of her twins to Mrs L who is rich.
- Meet the twins ages 7: they are very different in many ways (nurture) but do have quite similar natures. They’re treated differently by the police/school.
- Mrs L is paranoid her son will discover his adoption so moves the family to the country to get away from Mickey and Mrs J. Years later, the council rehouses the Johnstone family in the country.

### ACT 2

- The boys meet again aged 14 and their friendship continues. The boys, again, display similar natures. They have very different qualities if education. Mickey is in love with Linda.
- Mrs L becomes increasingly mad at the thought of Edward finding out and tries to kill Mrs J.
- Aged 18, Edward goes to university and Mickey to a full-time job which he hates. The gap is widening between them.
- Linda is pregnant so she & Mickey marry. Mickey loses his job, helps Sammy rob a garage & is sent to prison. Nothing is the same for him and Linda again.
- Mickey is released from prison but is addicted to anti-depressants. Desperate, Linda asks Edward for help. He gets them a house & Mickey a job, but starts a brief affair with Linda.
- Mrs L tells Mickey about the affair, he confronts Edward with a gun in the council chamber. Mrs J reveals that they are twins. Mickey shoots Eddie and the police kill Mickey.

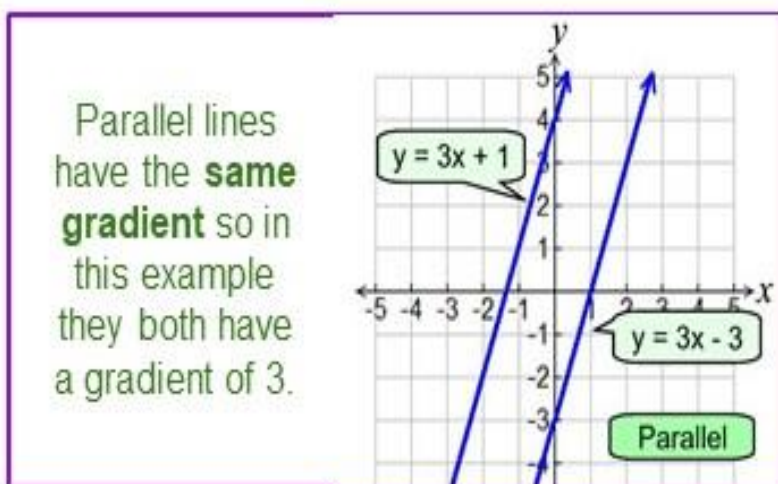
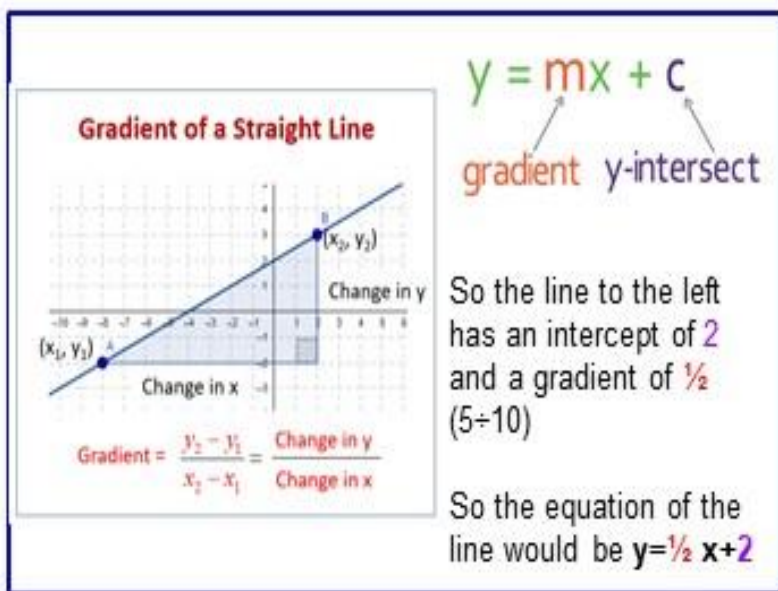
<b>MRS JOHNSTONE</b> <ul style="list-style-type: none"> <li>“He told me I was sexier than Marilyn Monroe” Recurring motif – Her looks were all she had going for her and when they were gone so was her husband.</li> <li>“By the time I was twenty-five, I looked like forty-two” Hyperbole – showing the impact on her appearance of having a hard life and so many children so young.</li> <li>“during the dance, she acquires a brush, dusters and a mop” stage directions – showing that she is happy to be working even if it is in a menial job</li> <li>“never put new shoes on a table” Foreshadowing – this superstition suggests that something bad will happen right from the start of the play. Mrs Johnstone believes in these superstitions.</li> <li>“silver trays to take meals on” / “a bike with both wheels on” – Mrs J &amp; Mrs L Juxtaposition – Highlights the different lifestyles both boys would have. Envy from Mrs J. too</li> <li>“Mrs Lyons shows the Bible to Mrs Johnstone” Religious imagery and stage directions – showing how once a pact has been made and sworn on the bible you can’t change your mind. Important symbolically as this is the point of no return in giving a baby away.</li> <li>“don’t you ever come round here again” / “I’m very sorry, but it’s Edward’s bedtime” – Mrs J and Mrs L juxtaposition of the characters</li> <li>“She removes a locket from around her neck” Symbolism</li> <li>“bright new day, we’re goin’ away” Foreshadowing and cheerful tone</li> <li>“I curse you! Witch!” – Mrs L to Mrs J hyperbole</li> </ul>	<b>THE NARRATOR</b> <ul style="list-style-type: none"> <li>“I’m up to here with hard luck stories” – Milkman/narrator</li> <li>First person – shows a lack of caring and the poverty that the family live in.</li> <li>“the devil’s got your number” – narrator</li> <li>Foreshadowing –song shows us that she won’t get away with giving up her son</li> <li>did you never hear how the Johnstones died” – narrator Foreshadowing - the narrator tells us the ending at the start of the play</li> <li>“the mother, so cruel, there’s a stone in place of her heart” – narrator Hyperbole – The narrator exaggerates how horrible Mrs J. is which we find out if not true. He is being very judgemental and patronising towards her.</li> <li>“a debt is a debt, and must be paid” – narrator repetition – here the narrator is giving a double meaning, physical money and the fact that she will have to pay for giving up her child.</li> <li>“There’s a mad man” – narrator Alliteration – referring to Mickey and his desire to kill Edward with the gun from Sammy’s robbery.</li> <li>“Do we blame superstition for what came to pass? Or could it be what we, the English, have come to know as class?” – the narrator</li> <li>Rhetorical questions – questioning tone as to whether the blame lies with society rather than the characters themselves.</li> <li>“Did you ever hear the story of the Johnstone twins, as like each other as two new pins” – narrator Cyclical structure of the novel – repetition of the opening – showing their deaths were inevitable from the start.</li> <li>“the music pulsates and builds” stage directions – showing the culmination of the action and the building to the deaths</li> </ul>	<b>EDWARD/MICKY</b> <ul style="list-style-type: none"> <li>“mam” / “mummy” “pissed off” / “you say smashing things” “the two of them immediately wriggle and giggle with glee” – Edward and Mickey Juxtaposition and difference in speech patterns</li> <li>“we’re blood brothers” Mickey and Edward Symbolism – childhood ritual and the fact they are actually twins</li> <li>“if you cross your fingers and if you count from one to ten” – the children Foreshadowing – showing childhood beliefs and superstitions</li> <li>“Peter Pan” Symbolism of never growing up – foreshadowing later difficulty when both boys do grow up</li> <li>“take a flying fuck at a rolling donut” / “it’s borin”” Juxtaposition - of trouble at school for Mickey and Edward</li> <li>“a game of piggy-in-the-middle” the stage directions and foreshadowing – showing where Linda is in the middle of Mickey and Edward throughout both their childhood and into adulthood too.</li> <li>“workin’ overtime” / “I go away to university tomorrow” – Mickey and Edward statements – shows the contrast in lifestyles and class for both boys</li> <li>“How come you got everything... an’ I got nothin’?” – Mickey, to Edward Dialogue – jealousy from Mickey to Edward showing he sees the unfairness in society</li> <li>“I could have been him!” – Mickey shouting accusatory tone –how unfair the whole situation has been and despondency Mickey at his poverty</li> <li>“walkin’ round in circles” – Mickey Tone – Mickey is resentful and angry at what has happened</li> <li>“I grew up. An’ you didn’t, because you didn’t need to” – Mickey to Edward Emotive language – shows jealousy of Edward’s freedom, money and Uni.</li> <li>“chronically depressed” – Mickey Emotive language – Mickey is reliant on pills after prison.</li> <li>“You sorted it out. You and Councillor Eddie Lyons” – Mickey Sarcastic tone –not grateful for Eddie’s help.</li> <li>Edward is “on a platform” stage directions –Edward is isolated and an easy target</li> </ul>	<b>MRS LYONS</b> <ul style="list-style-type: none"> <li>“give one to me” imperative – demanding tone showing that she is desperate for a baby and will do anything to get one.</li> <li>“How can you possibly avoid some of them being put into care?” Rhetorical Question – persuade her to give one of the twins to her.</li> <li>“You’ll be locked up” Directive – threatening Mrs J.</li> <li>“It’s just... just this place” repetition – shows her bad state of mind</li> <li>“has a lethal-looking kitchen knife in her hand” Stage directions – she is trying to stab Mrs J. showing that she is going mad.</li> </ul>
<b>MINOR CHARACTERS</b>			
<b>Mr Lyons</b> “it’s a sign of the times, Miss Jones” Statement – showing that there is no work for anyone (linking to Mickey being unemployed and unable to find a job).			
<b>Police</b> “he was about to commit a serious crime” / “it was more of a prank, really” juxtaposition of the treatment of Mickey and Edward by the police – unfairness and class stereotyping			
<b>Sammy</b> “Sammy burnt the school down” Foreshadowing – that he will be trouble and lead Mickey into trouble too.			
<b>Schoolteacher</b> “This is a boys’ school, Lyons” –negative tone – showing Edward getting into trouble.			



Keystone Vocabulary	Definition 	Key Terms	Definition
Activist	A person who campaigns to bring about political or social change.	Pathos	To appeal and trigger your audience's emotions – positive or negative – depending on the purpose of your speech.
Civil Rights	The rights of citizens to political and social freedom and equality.	Ethos	How credible, reliable and trustworthy you are. When speaking to a lot of people, you want them to trust what you are saying otherwise they will not listen properly.
Corruption	Dishonest behaviours by those in power, often involving bribery	Logos	Where you apply and demonstrate logic and fact to your speech – this will also heighten how trustworthy you are.
Political	The government or public affairs of a country or the ideas or strategies of a particular party or group in politics	Symbolism	An object that is used to represent ideas or qualities
Protest	A statement or action expressing disapproval of or objection to something	Refrain	A word, line or phrase that is repeated within the lines or stanzas of the poem itself.
Representation	The description or portrayal of someone or something	Epizeuxis	A word or phrase is repeated in immediate succession, with no intervening words.
Social	Relating to society or how it is organised	Polysyndeton	Lists divided by the conjunction 'and' Example: 'It was four o'clock in the afternoon <u>and</u> the kitchen was square <u>and</u> gray <u>and</u> quiet.'
Suffrage	The right to vote in political elections	Asyndeton	Lists divided by commas Example: 'I rode a roller coaster, ate a pretzel, won a goldfish, watched a juggler.'
Year 9 Unit 5: Prejudice and Protest			

Key People	
Malcolm X	<p>Malcolm X was an African-American Muslim minister and human rights activist who was a prominent figure during the civil rights movement. A spokesman for the Nation of Islam until 1964, he was a vocal advocate for black empowerment and the promotion of Islam within the black community.</p> 
Harvey Milk	<p>Harvey Bernard Milk was an American politician and the first openly gay man to be elected to public office in California, as a member of the San Francisco Board of Supervisors.</p> 
Emmeline Pankhurst	 <p>Emmeline Pankhurst was an English political activist. She is best remembered for organizing the UK suffragette movement and helping women win the right to vote in the early 1900s.</p>
Laura Bates	<p>Laura Bates is an English feminist writer. She founded the Everyday Sexism Project website in April 2012. Her first book, Everyday Sexism, was published in 2014.</p> 
Marcus Rashford	 <p>In June 2020 Marcus Rashford's campaigning forced the UK government to make a U-turn on the provision of free food vouchers over the summer holidays. In October 2020 he launched the End Child Food Poverty campaign.</p>
William Blake	<p>Poet, painter, engraver, and visionary, William Blake worked to bring about a change both in the social order and in the minds of men. He is an important figure of the Romantic age, a time when artists and writers reacted to the massive changes happening in Europe, such as new machinery and big factories making cities much bigger and industrial.</p> 
Maya Angelou	 <p>Maya Angelou was an American poet, memoirist, and civil rights activist. She was considered the spokesperson for Black people, primarily for women.</p>

## Algebraic Proficiency



Find equation given a gradient and a point.

**Step 1** - substitute your gradient into  $y = mx + c$

**Step 2** - Substitute the coordinates of the point into the equation and solve to find c

**Step 3** - substitute your value for c into the equation from step 1.

E.g find the equation of the line with the gradient 3 which goes through the point (1,2)

**Step 1** -  $y = mx + c$   
 $y = 3x + c$

**Step 2**  $2 = 3(1) + c$   
 $2 = 3 + c$        $c = -1$

**Step 3** -  $y = 3x - 1$

Find equation given 2 points.

**Step 1** - find the gradient between the 2 points using the change in y over the change in x.

Then follow from step 1 above.

**Plotting quadratic graphs ( $x^2$ )**

**Step 1** - substitute values in for x (a table is the easiest way)

**Step 2** - generate the coordinates

**Step 3** - plot the coordinates and join with a curved line.

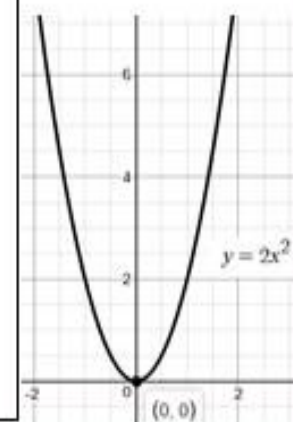
**Example** - Plot  $y = 2x^2$

x	-1	0	1	2
y	2	0	2	8
	(-1,2)	(0,0)	(1,2)	(2,8)

When  $x = -1$ , we want to find the value of the y coordinate. We substitute  $x = -1$  into  $y = 2x^2$

$$\begin{aligned} y &= 2 \times (x)^2 \\ y &= 2 \times (-1)^2 \\ y &= 2 \times 1 \\ y &= 2 \end{aligned}$$

So the coordinates are (-1,2)





## Solving equations and inequalities 1

Solve means to find the value(s) of the variable.

An inequality has one of these signs instead of =

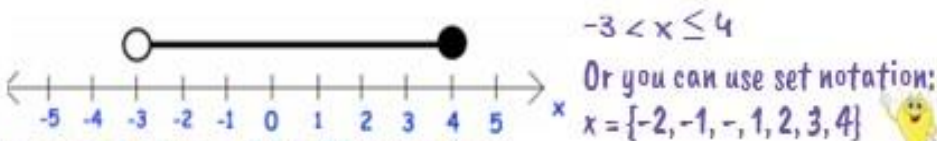
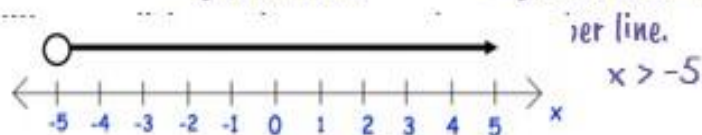
< "less than"

≤ "less than or equal to"

equal to"

> "greater than"

≥ "greater than or equal to"



You can solve inequalities (like equations) using inverse operations but you're likely to get more than one solution. Examples below

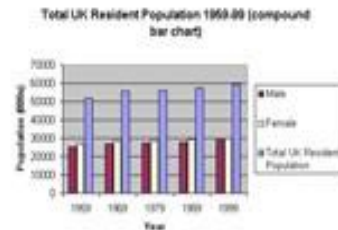
$$\begin{array}{r} 2x - 5 \geq 7 \\ +5 \quad +5 \\ \hline 2x \geq 12 \\ \hline 2x \geq 12 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline x \geq 6 \end{array}$$

$$\begin{array}{r} 3x + 2 < x - 4 \\ -x \quad -x \\ \hline 2x + 2 < -4 \\ -2 \quad -2 \\ \hline 2x < -6 \\ \hline 2x < -6 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline x < -3 \end{array}$$

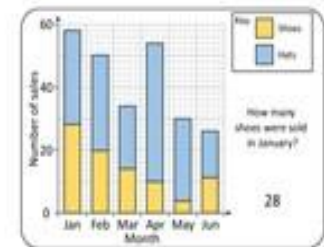
$$\begin{array}{r} -3 \leq 2x - 1 \leq 5 \\ +1 \quad +1 \quad +1 \\ \hline -2 \leq 2x \leq 6 \\ \hline -2 \leq 2x \leq 6 \\ \frac{-2}{2} \quad \frac{2}{2} \quad \frac{6}{2} \\ \hline -1 \leq x \leq 3 \end{array}$$

In the example below we must remember to undo the steps in reverse order (to all 3 sections). These are called compound inequalities.

## Presentation of data

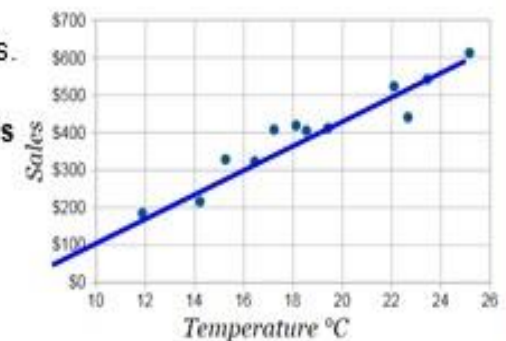


Compound/ composite bar charts can take different forms but a key is essential to be able to read it properly.



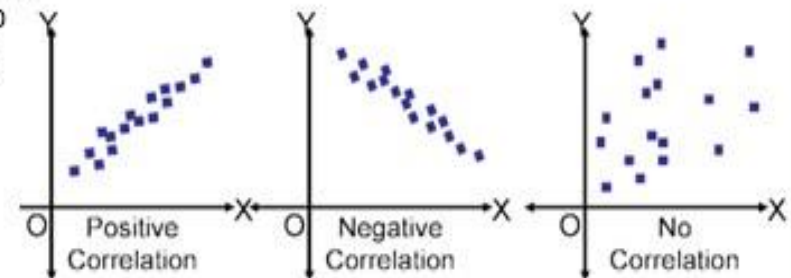
A scatter diagram/plot shows the relationship between 2 sets of data.

Correlation describes the relationship between two variables. This scatter graph shows positive correlation as warmer weather leads to more ice cream sales.

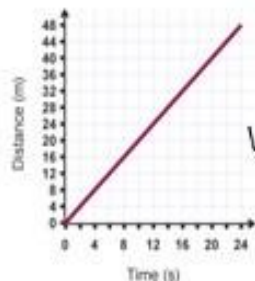


A line of best fit is a line that goes roughly through the middle of all the scatter points on a graph. The closer the points are to the line of best fit the stronger the correlation.

A scatter diagram can be used to estimate other values too.

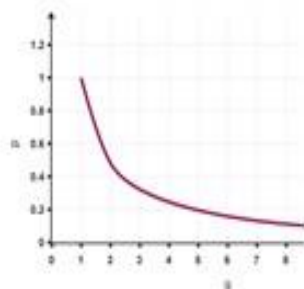


## Proportional Reasoning



### Direct Proportion

When one variable doubles the other doubles (both increase)



### Inverse Proportion

When one doubles and the other halves. (One increases, one decreases)

## Compound measures

### Speed

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



### Density

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$



### Pressure

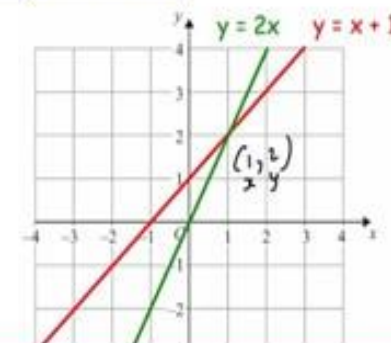
$$\text{pressure} = \frac{\text{force}}{\text{area}}$$



## Solving Equations and inequalities II

Solving simultaneous equations from graphs.

If two graphs are plotted where they **intersect** (cross) is the solution to the simultaneous equations. (There can be more than one intersection/set of solutions)



The example on the right has the solution (1,2) and so  $x=1$ ,  $y=2$

Solving simultaneous equations by elimination

**Step 1** - Make one of the coefficients of the variables the same in both equations. This may require multiplication of one or both of the equations.

**Step 2** - Decide whether you add/subtract the equation to eliminate the variable with the same coefficient.

**Step 3** - Solve the equation you are left with to find the value of the variable.

**Step 4** - Substitute that value into one of the original equations to find the other variable.

Use the elimination method to solve the given simultaneous equations

$$\begin{array}{rcl} 5x + y & = & 20 \quad (\times 5) \\ 4x + 5y & = & 37 \quad (*) \\ \hline 25x + 5y & = & 100 \\ 4x + 5y & = & 37 \\ \hline 21x & = & 63 \\ (\div 21) & & \\ x & = & 3 \quad (\div 21) \end{array}$$

substitute  $x = 3$  into

$$\begin{array}{rcl} 5x + y & = & 20 \\ 5(3) + y & = & 20 \\ 15 + y & = & 20 \\ (-15) & & \\ y & = & 5 \quad (-15) \end{array}$$

$\therefore x = 3, y = 5$

This can then be checked by substituting both values into the other equation to make sure it gives what you are expecting (the solution to the original equation)



### Index laws

You need to learn these off by heart.

$$5^3 \times 5^4 = 5^7$$

$$5^7 \div 5^4 = 5^3$$

$$(5^3)^4 = 5^{12}$$

$$5^0 = 1$$

(all the base numbers (5s here) have to be the same)

$$a^m \div a^n = a^{m-n}$$

$$a^0 = 1$$
 Anything to the power of 1 = 0

$$a^n \times a^m = a^{m+n}$$

$$(a^n)^m = a^{mn}$$

### Standard Form

This is written in the form  $a \times 10^n$ , where  $a$  is a number between 1 and 10 and  $n$  is an integer.

Make sure you know how to use your calculator for standard form ( $\times 10^x$  key or maybe EXP)



We can do simple standard form calculations without a calculator too:

For addition/subtraction you need the same power of 10 (then it stays the same)

$$4.5 \times 10^4 + 1.5 \times 10^3 = 4.5 \times 10^4 + 0.15 \times 10^4 = 4.65 \times 10^4$$

$$4.5 \times 10^4 - 1.5 \times 10^3 = 4.5 \times 10^4 - 0.15 \times 10^4 = 4.35 \times 10^4$$

For multiplication/division, use the index laws.

$$(4.5 \times 10^4) \times (1.5 \times 10^3)$$

$$4.5 \times 1.5 \times 10^4 \times 10^3 = 6.75 \times 10^7$$

$$(4.5 \times 10^4) \div (1.5 \times 10^3)$$

$$(4.5 \div 1.5) \times (10^4 \div 10^3) = 3 \times 10^1$$

### Calculating

Roots are the inverse of powers

$$5^2 = 25 \quad \sqrt{25} = 5$$

$$3^3 = 27 \quad \sqrt[3]{27} = 3$$

$$2^4 = 16 \quad \sqrt[4]{16} = 2$$



### Lower and Upper Bounds

If we have a rounded number, we need to understand what that number started off as.

4200 has been rounded to 2 significant figures.

If it was rounded down, it was 42??

The biggest possible value is the upper bound UB

That's 4249.999999 (so we use 4250)

If it was rounded up, it was 41??

The smallest possible value is the lower bound LB

That's 4150

Call the number you started with  $n$

$$4150 \leq n < 4250$$

We use  $\leq$  because 4150 IS a possible starting number, < because 4250 would actually round up to 4300 so the upper bound has to be less)



Truncating is cutting a number short.

It's kind of like rounding without the rules.

Examples:

Truncate 34567 to the nearest 10/100/1000

34567 truncates to 34560 (get rid of the units)

34567 truncates to 34500 (get rid of the tens & units)

34567 truncates to 34000 (get rid of the hundreds, tens & units)

Truncate 3.4567 2 decimal places:

3.4567 truncates to 3.45 (no need to round up)

Truncate 34567 to 1 significant figure:

34567 truncates to 30000

Truncating never makes the answer larger (as you've cut something off). If  $n$  has been truncate to 1 significant figure to give the answer 40



$$40 \leq n < 50$$

### Calculating with Bounds

max sum = upper + upper

min sum =

lower + lower

max product = upper  $\times$  upper

min product = lower  $\times$  lower

BUT

max difference = upper - lower

min difference = lower - upper

max quotient = upper  $\div$  lower

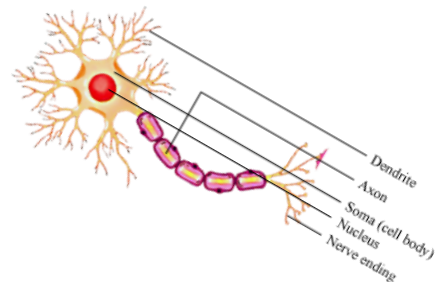
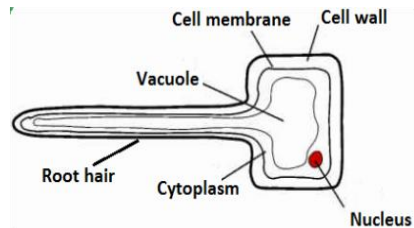
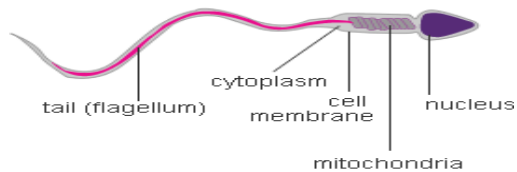
min quotient = lower  $\div$  upper

Try using some numbers to check this out.

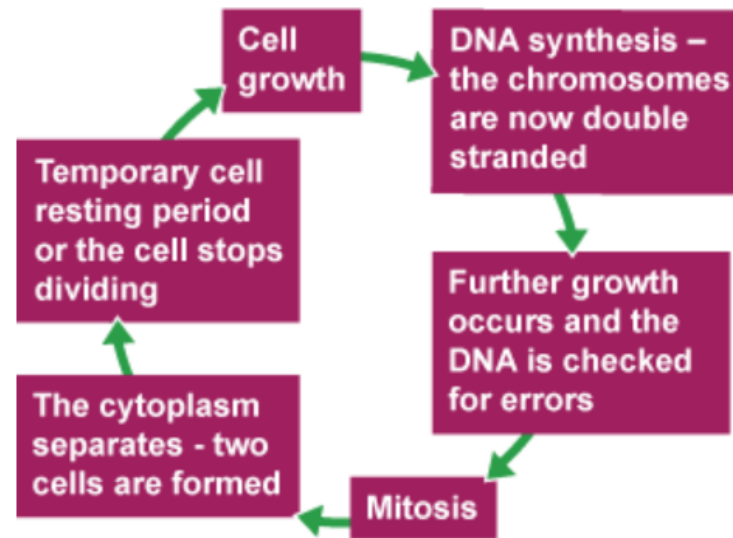
# Cell Biology

## Specialised Cells

Specialised Cell	How structure relates to function
Sperm Cell	Acrosome contains enzyme to break into egg, tail to swim. Many mitochondria to provide energy.
Nerve Cell	Long to transmit electrical impulses across a distance.
Muscle Cell	Contain protein fibres that contract when energy is available, making the cells shorter.
Root Hair Cell	Long extension to provide a large surface area for water & mineral absorption- thin cell wall.
Xylem Cell	Waterproofed cell wall, cells are hollow to allow water through.
Phloem Cell	Some cells have a lot of mitochondria to give energy for active transport. Some cells have little cytoplasm for sugars to move through easily.

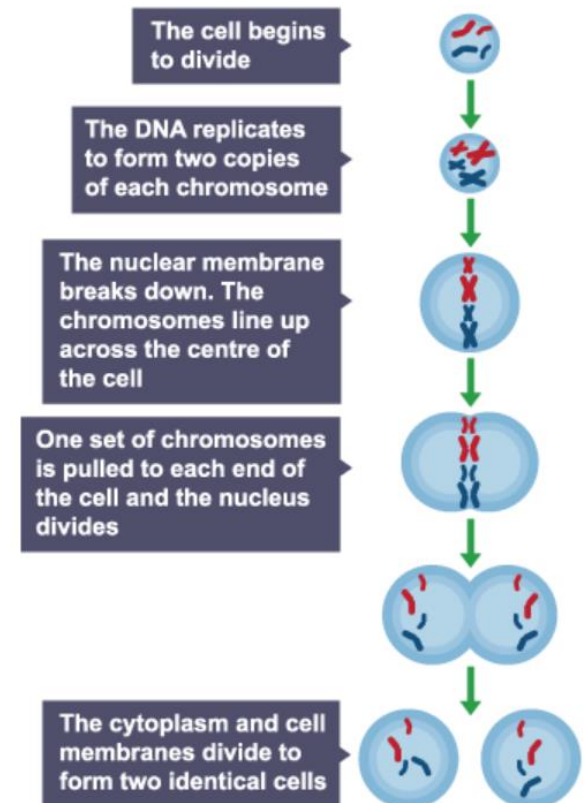


## The cell cycle



## Microscopy

Magnification	Tells you how many times bigger a microscope makes an object. <b>Magnification = length of magnified object ÷ length of actual object</b>
Resolution	The ability of a microscope to distinguish between 2 separate points.
Light Microscope	A basic microscope, using light. Can magnify objects ×1500
Electron Microscope	A microscope which uses electrons, to magnify images more than a light microscope. Gives greater detail. Can magnify objects ×2,000,000





# Cell Biology – Microscopy Required Practical

## What the Examiner Might ask:

- Make sure you can use and rearrange the equation
- Make sure you know the units:  $1\text{mm} = 1000\mu\text{m}$   $1\mu\text{m} = 1000\text{nm}$
- You may need a ruler to measure the size of images and work out their real size.
- Explain why we can see the nucleus and cell wall but not the mitochondria (*they're far too small and not stained*).
- How can we see smaller parts of cells? (*An electron microscope has much more resolution and magnification*).
- Explain why we wouldn't start on the largest objective lens? (*because you get a wider field of view on smaller lens and less chance of damaging the slide*).

## Method for Setting up and Using a Light Microscope:

• Place your microscope on a flat surface and switch on the light source, which is typically located on the bottom of the microscope.

• Rotate the lenses that the low power, e.g.  $\times 10$ , is in line with the stage.



• Turn the coarse focus so that the stage is as close to the objective lens as possible. You should not look through the microscope to do this.

• Place the microscope slide - either one you have prepared, or a permanent slide - on the stage. Line it up so that the specimen - if you can see it - is in the centre of the stage, where the light passes through.

• Focus the slide away from you by turning the coarse focus adjustment.

• Rotate the objectives so that the high power objective, e.g.  $\times 40$ , is in line with the stage. Bring the slide back into focus using the fine focus adjustment. If you do not succeed, go back to low power and re-focus, then try again.

### Risks

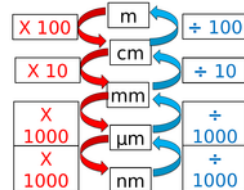
- Care must be taken when looking down the microscope if the illumination is too bright.
- Care when using microscope stains. (can stain surfaces, skin, clothing etc, also could irritate skin).
- Care when handling coverslips and microscope slides. (made of glass so fragile, easily break, risk of cuts).



## Converting Units:

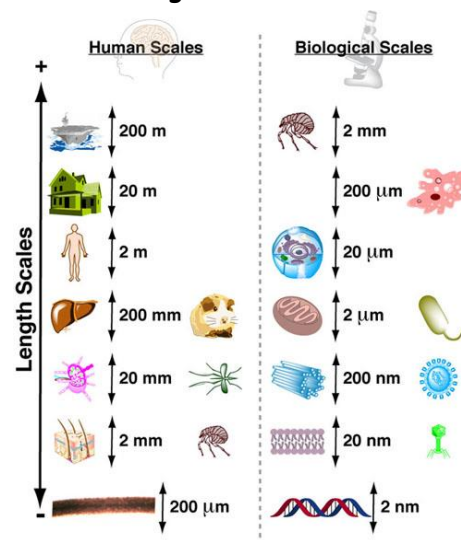
$1\text{m} = 100\text{cm} = 1000\text{mm} = 1000000\mu\text{m} = 1000000000\text{nm}$

Standard Form:  $a \times 10^n$



Standard Form	Ordinary Form	Standard Form	Ordinary Form
$1 \times 10^4$	10000	$1 \times 10^0$	1
$1 \times 10^3$	1000	$1 \times 10^{-1}$	0.1
$1 \times 10^2$	100	$1 \times 10^{-2}$	0.01
$1 \times 10^1$	10	$1 \times 10^{-3}$	0.001

## Orders of Magnitude:



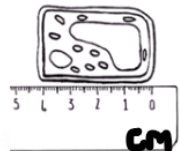
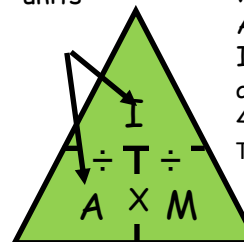
## The Equations:

Total magnification = power of eyepiece lens  $\times$  power of objective lens.

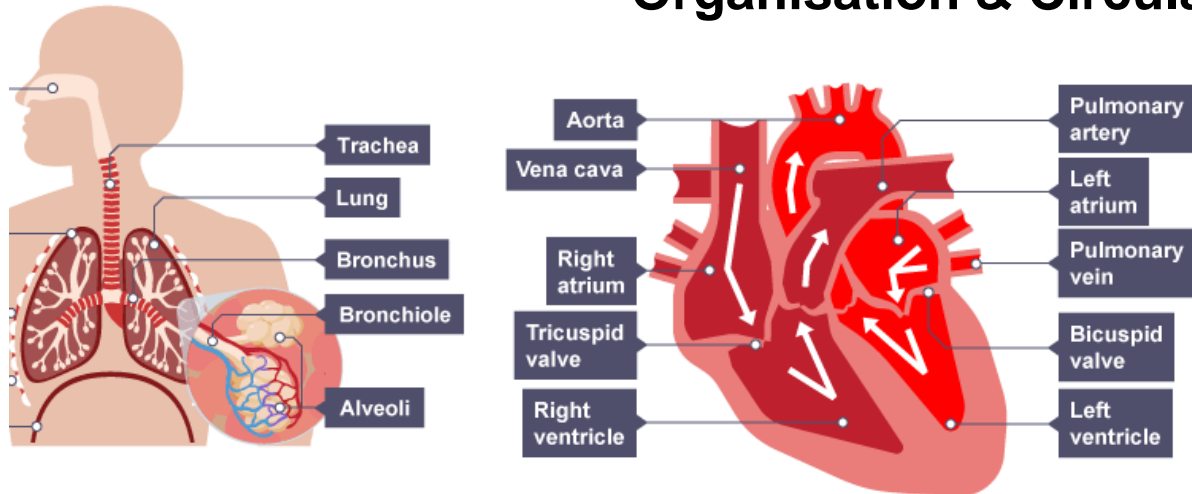
E.g. a student uses an eyepiece lens with a power of  $10\times$ , and selects an objective lens with a power of  $60\times$  to view a sample of human cheek cells. What is the total magnification?  
 $10 \times 60 = 600$

Must be the same units

E.g. a plant cell was viewed under a light microscope, the actual length of the cell was  $80\mu\text{m}$ , using the image, work out the total magnification.  
 Actual size =  $80\mu\text{m}$   
 Image size =  $40\text{mm}$  (convert so both are same units  $40,000\mu\text{m}$ )  
 $40,000 \div 80 = 500$   
 Total magnification =  $500\times$



# Organisation & Circulatory System

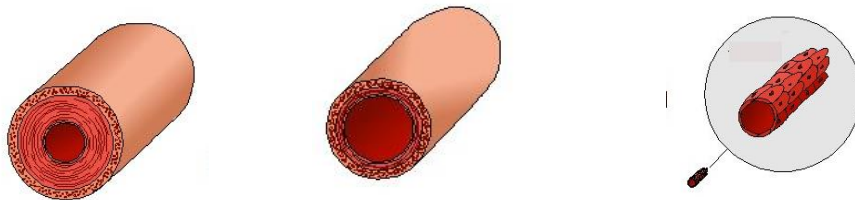


## Section 6a: Structures in the Heart

Pacemaker	Group of cells in the <b>right atrium</b> that controls <b>resting heart rate</b> .
Right ventricle	Pumps <b>deoxygenated blood</b> to the <b>lungs</b> for <b>gas exchange</b> .
Left ventricle	Pumps <b>oxygenated blood</b> to the <b>body</b> . <b>Thick, muscular wall</b> .
Valve	Stops blood flowing the <b>wrong way</b> / leaking.

## Structures in the Lungs

Alveoli	Small sacs where <b>gas exchange</b> occurs. <b>Surrounded by capillaries</b> . <b>Oxygen moves from the alveoli into the capillaries</b> , carbon dioxide moves from the capillaries into the alveoli
Trachea and Bronchi	Tubes through which gases move. <b>Lined with cartilage</b> so they don't collapse.



	Artery	Vein	Capillary
Purpose	Takes blood <b>away from the heart</b> .	Takes <b>blood back to the heart</b> .	<b>Exchange of substances between blood and cells</b> .
Adaptations	<b>Thick wall</b> to <b>withstand high pressure</b>	Thin wall. <b>Valves to prevent backflow of blood</b> .	Wall is <b>one cell thick</b> to allow <b>quick diffusion</b> of substances.

## Heart Disease

Coronary Heart Disease	Build up of <b>fatty material in coronary arteries</b> . Can lead to a <b>blood clot</b> and a <b>heart attack</b> .		
Treatment	What it is	Advantage	Disadvantage
Stent	<b>Wire mesh that opens up a blocked artery</b> .	Keeps artery open. Low-risk surgery.	Fatty material can rebuild.
Statin	Drug that <b>reduces cholesterol</b> .	Reduces fat being deposited in arteries.	Side effects e.g. liver damage.
Heart transplant	<b>Replacement heart</b> from a donor.	Long-term.	Major surgery. Could be rejected.
Artificial heart	<b>Man-made heart</b> used while <b>waiting for a transplant</b> .	Not rejected. Keeps patient alive.	Short life-time. Battery has to be transported. Limited activity.
38 Mechanical heart valve	Mechanical replacement of faulty heart valve.	Can last a life-time.	Can damage red blood cells.
39 Biological heart valve	Biological replacement of faulty heart valve.	Don't damage red blood cells.	Valve hardens and may need replacing.

## Components of the Blood

Plasma	<b>Liquid</b> part of the blood. Transports blood cells as well as <b>carbon dioxide, proteins, glucose, hormones</b> and <b>urea</b> .
Red Blood Cells	<b>Carries oxygen</b> . Packed with <b>haemoglobin</b> , a protein that binds to oxygen. <b>No nucleus</b> to create extra space for haemoglobin. <b>Biconcave shape</b> to give a <b>large surface area</b> .
White Blood Cells	<b>Destroy pathogens</b> . Some can produce <b>antibodies</b> .
Platelets	Cell fragments that help to <b>clot wounds</b> .

## WORKING SCIENTIFICALLY

Key terms	Definition
<b>Independent variable</b>	A variable in an experiment that you change to find out its effect on the dependent variable
<b>Dependent variable</b>	Variable that is measured in an experiment to see how it changes
<b>Control variable</b>	Variables that are kept the same in an experiment to ensure it doesn't affect the dependent variable
<b>Repeats</b>	The number of times the experiment is carried out to collect data from which to calculate a mean
<b>Mean</b>	The average when repeated data is added together and divided by the number of repeats (anomalous data is not included in the calculation)
<b>Equipment</b>	The scientific apparatus used to make the experiment accurate.
<b>Anomalous</b>	Results that do not fit the pattern seen in other data or are much higher or lower than other repeated readings (outliers).
<b>Equipment</b>	The scientific apparatus used to make the experiment accurate.
<b>Valid</b>	Suitability of the method used to answer the question being asked.
<b>Hypothesis</b>	A proposal intended to explain certain facts or observations.
<b>Prediction</b>	A forecast or statement about what should happen in an experiment.

### Key Facts:

**Investigating** an **independent variable** and its' effect on a **dependent variable** allows us to look for a **correlation**. This means we can describe a relationship between the two variables.

To do this we need to:

- Make a **prediction** based on some previous scientific knowledge.
- Use **equipment** that allows us to make **accurate** measurements
- Identify **hazards** and take **precautions** against them
- **Record** our **results** in a meaningful way
- **Repeat** the test to make sure the **data** we get is the same each time
- **Process** the **data**
- **Analyse data** to identify relationships
- **Evaluate** the method and the data to show it is accurate and valid

### Hypothesise and Variables

- A hypothesis is a predication made about an experiment based on some previous scientific knowledge.
- The hypothesis is then tested by carrying out the experiment.
- When designing experiments, there are three types of variable that we need to consider:
  1. The dependent variable (what we measure)
  2. The independent variable (what we change)
  3. The control variables (what we keep the same)

### Methods

When writing a method you should include:

1. A clear sequence
2. Information on which equipment to use
3. Volumes and masses for reagents
4. Scientific language

**Precision**

Firstly, 25cm<sup>3</sup> sulphuric acid was added to a small beaker. Using a spatula, excess insoluble base (copper oxide powder) was added to the acid. Check the base is in excess by looking for remaining powder in the beaker. Next, the excess base was filtered out using filter paper in a funnel. The filtrate was allowed to filter into a conical flask. When filtration was complete, the filter paper was discarded and the filtrate solution was poured into an evaporating dish. The solution was left for a few days or the evaporating dish heated for the dissolved salt to crystallise.

**Sequencing**















**Equipment**

**Scientific language**



## Equipment

This is some of the most common laboratory equipment that you will be using. Ensure that you learn each piece.

Equipment	Picture	Use	Equipment	Picture	Use
Beaker		For pouring and transferring liquids and solutions.	Test Tube		For carrying out chemical reactions with small amounts of liquid
Conical Flask		For carrying out reactions	Boiling Tube		A boiling tube is used to heat substances in a Bunsen Burner
Bunsen Burner		To heat substances	Measuring Cylinder		To accurately measure out volumes of liquid
Tripod		To support	Spatula		To move small amounts of solid powders
Gauze		To place an object on for example conical flask that you are going to heat.	Stirring Rod		To stir solutions.
Heatproof mat		To protect the desk from the heat produced by the Bunsen Burner and any spillages from the substances which are being heated	Thermometer		To measure the temperature of a substance
Evaporating basin		To evaporate the water from solutions. Leaving behind the solute.	Tongs		To hold and move hot solids for example pieces of metal

## Results Tables

- In a results table the independent variable should always go on the left.
- When drawing a results table the following things are good practice::
  - Show all repeat measurements
  - Include the units in the headings
  - Circle anomalies
  - Discount these when calculating a mean

For example:

Concentration of acid (M)	Time taken for reaction to complete (s)			Mean (s)
0.1	102.1	105.6	103.4	103.7
0.2	88.8	86.5	87.2	87.5
0.3	69.1	67.3	64.2	66.9
0.4	56.2	40.1	53.3	54.8
0.5	32.1	30.1	33.2	31.8

## Maths skills

To calculate a mean:

- Add together the values for collected data.
- Divide the total by the number of data values used.

E.g. No anomalies:

$$102.1 + 105.6 + 103.4 = 311.1$$

then  $311.1 \div 3 = \mathbf{103.7}$

E.g. With anomaly:

$$56.2 + 53.3 = 109.5$$

then  $109.5 \div 2 = \mathbf{54.75}$

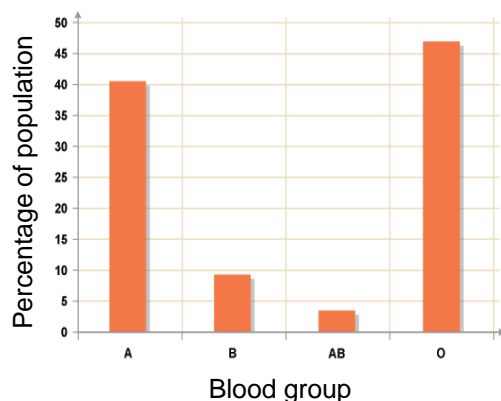
Notice that we left out the smaller number **40.1** and divided by **2**.

In the table the values are all to 1 decimal place so we round **54.75** to **54.8**

Key terms	Definition
<b>Continuous data</b>	Can take any value as whole number or decimals; usually collected by measuring variables, such as mass, volume or density.
<b>Discrete data</b>	Can only take exact whole number (integer) values; usually collected by counting.
<b>Bar chart</b>	Used when one variable is categorical (a label, name or group)
<b>Line Graph</b>	Used when both variables are continuous (have numerical data from measuring)
<b>Line of best fit</b>	Drawn so that plotted points are evenly distributed either side of the line; can be straight or curved.
<b>Evaluate</b>	Use the information supplied, as well as knowledge and understanding, to consider evidence for and against when making a judgement.
<b>Hazard</b>	Something that can cause harm e.g. an object, a property of a substance or an activity
<b>Risk</b>	The likelihood that a hazard will actually cause harm.
<b>Precaution</b>	Action to remove or reduce a risk

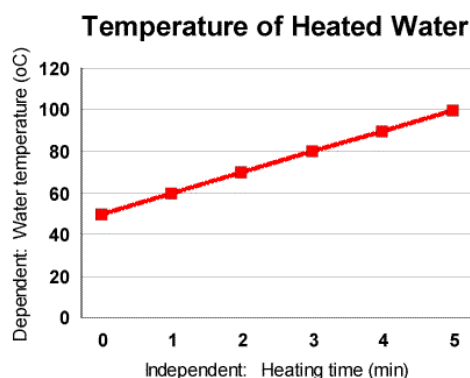
### Discontinuous data

Discontinuous or categoric data can only take certain values for example eye colour and blood group, these should be plotted on a bar graph.



### Continuous data

Continuous data can take any value, for example height or temperature. This should be plotted on a line graph.



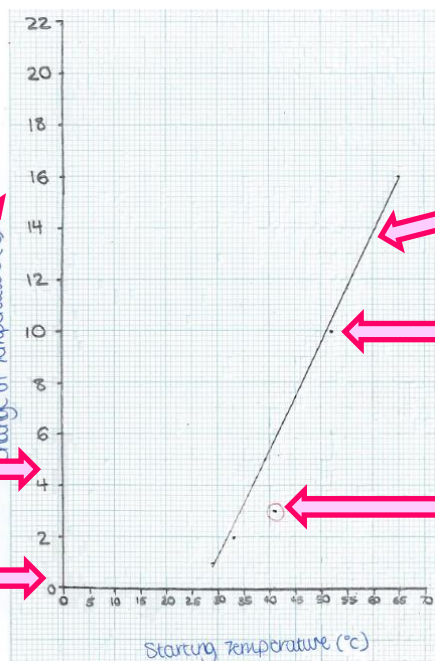
### Drawing good line graphs

When drawing a graph you should:

1. Plot the dependent variable on the y axis and independent variable on the x axis
2. Label axis and include units
3. Use small precise crosses to mark your points
4. Add a line of best fit which goes smoothly though as many points as possible (this does not have to be a straight line, it can be a curve but it is not a dot to dot exercise!)
5. Circle anomalies and don't include them when drawing the line of best fit

Labels for axes, with units given in brackets

Both axes have suitable scales (equal intervals)



Accurate line of best fit, passing through most points, excluding anomalies.

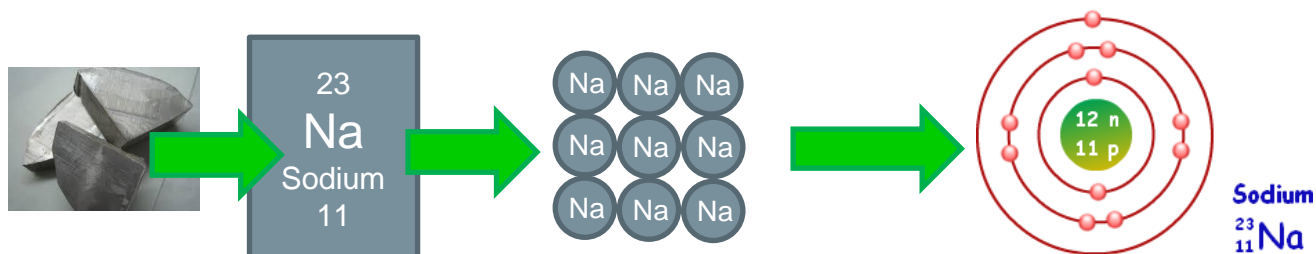
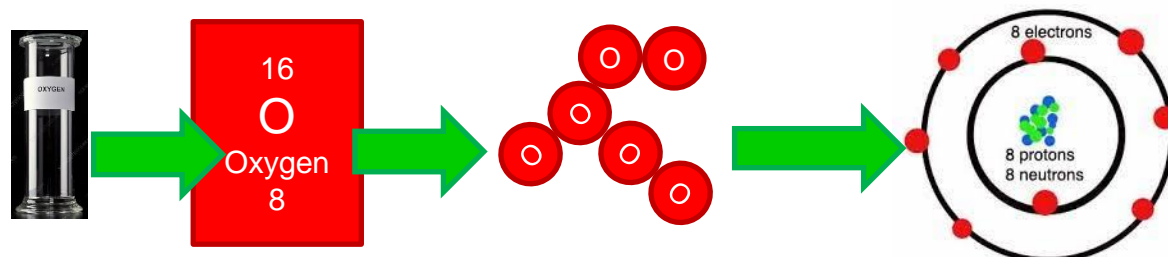
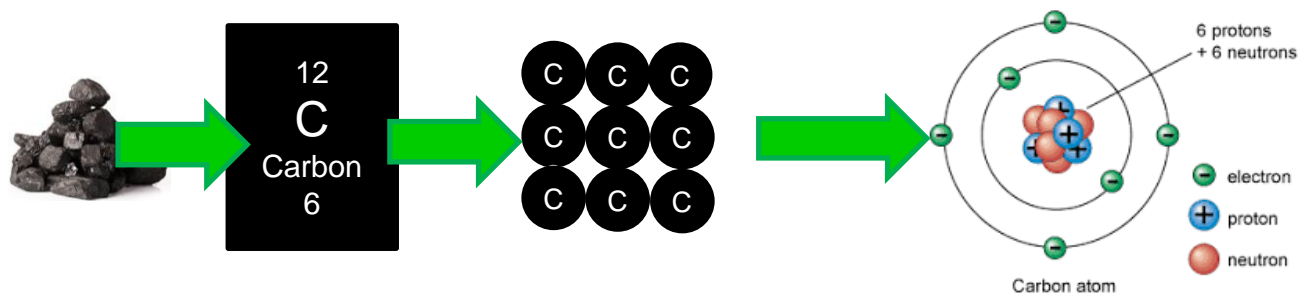
Neat, accurately placed plots.

Anomaly recognised and highlighted on the graph

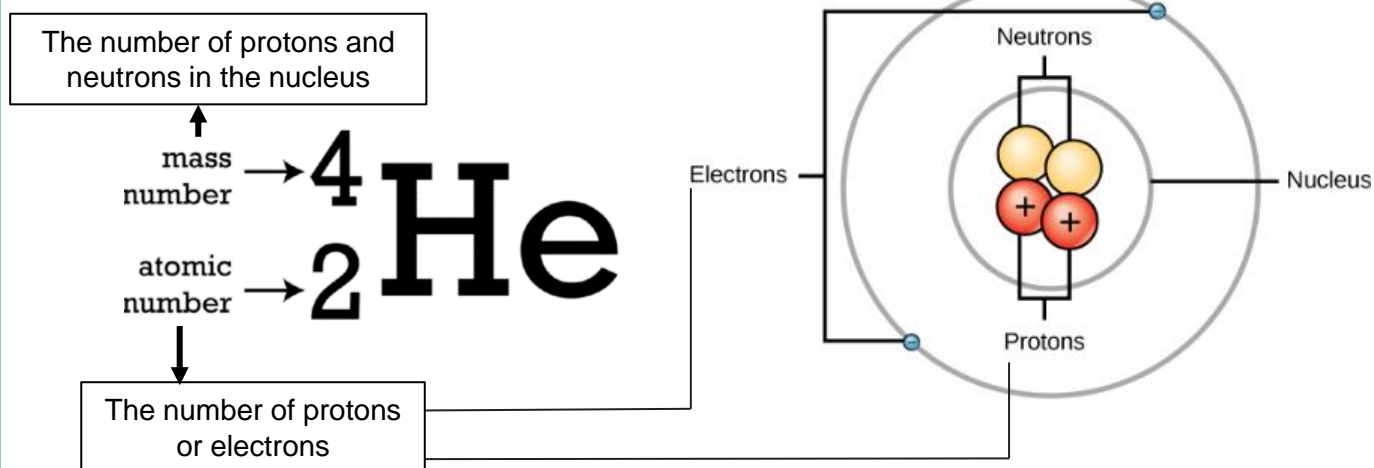
# THE ATOM

Key terms	Definition
<b>Particle</b>	Circle that represents an element or compound in particle diagrams.
<b>Element</b>	Made up of only one type of atom, found on the periodic table.
<b>Atom</b>	Atoms are the smallest particles of an element that still have the properties of the element
<b>Energy level / shell</b>	An area on the outside of the atom where electrons are found. Atoms can have many energy levels.
<b>Nucleus</b>	The central area of an atom where protons and neutrons are located, this part of the atom contains the mass (this mass is due to the neutrons and protons within nucleus)
<b>Electron</b>	A particle, found in the energy level, it has a negative charge and a negligible mass (1/2000th of the mass of a proton).
<b>Proton</b>	A particle found in the nucleus of the atom. It has a positive charge and a relative mass of 1.
<b>Neutron</b>	A particle found in the nucleus. It has a relative mass of 1 and no charge.
<b>Atomic number</b>	Shown for each element on the periodic table, this number states the number of protons in the nucleus (proton number)
<b>Atomic mass</b>	The sum of the protons and neutrons in the nucleus, (number of protons and neutrons added together).
<b>Indivisible</b>	Term used to describe that an object cannot be broken down into smaller parts.
<b>Positive charge</b>	A type of charge indicated by the symbol +. A positively charged object is attracted to an object with a negative charge, however it is repelled by an object with a positive charge.
<b>Negative charge</b>	A type of charge indicated by the symbol -. A negatively charged object is attracted to an object with a positive charge, however it is repelled by an object with a negative charge.

Substances are made up of atoms. In an element the atoms are all the same.



## The structure of the atom



Subatomic Particle	Location	Charge	Mass
Proton	Nucleus	1+	1
Neutron	Nucleus	No Charge	1
Electron	Energy Level / Shell	1-	1/2000 <sup>th</sup> Mass of proton

Key terms	Definition
<b>Atomic model</b>	A model used to describe the structure of an atom
<b>Plum pudding</b>	A model proposed by JJ Thomson which describes the atom as a sphere of positive charge which contained negative electrons evenly dispersed through the positive charge. It was suggested it looked like a plum pudding.
<b>Nuclear model</b>	A model proposed by Rutherford after discovering the positive charge is concentrated at the centre or nucleus of the atom.
<b>Planetary model</b>	A model suggested after the discovery of electrons being found in energy levels / shells rather than evenly dispersed through the atom.

**The development of the atomic model** – our understanding of the structure of the atom has changed over time. Scientists relied on experimental evidence, deduction and technological developments to identify the components of the atom.

When	Who	Proposed Model
440BC	Democritus	All matter is made up of atoms that were <b>indivisible</b>
1803	John Dalton	All matter is made up of indivisible <b>spheres</b> called atoms. He stated that substances made of the same type of atom were elemental and described different type of atom chemically bonded as compounds.
1904	JJ Thomson	Discovered the <b>electron</b> . He proposed a model of the atom, with the sphere being made up of positively charged matter with negatively charged electrons dotted through it – this model was described as the plum pudding model.
1909 - 1911	Rutherford	Identified the <b>nucleus</b> of the atom has a positive charge and that the <b>mass of the atom</b> is concentrated at the centre. This evidence disproved the plum pudding model.
1913 - 1916	Bohr	Identified that electrons orbit the nucleus in <b>energy levels/shells</b> .
1920	Rutherford	Identified the existence of the <b>proton</b> , the positive particle in the nucleus.
1932	Chadwick	Identified the <b>neutron</b> in the nucleus.



# A HISTORY OF THE ATOM: THEORIES AND MODELS

How have our ideas about atoms changed over the years? This graphic looks at atomic models and how they developed.

## SOLID SPHERE MODEL



JOHN DALTON



1803

Dalton drew upon the Ancient Greek idea of atoms (the word 'atom' comes from the Greek 'atomos' meaning indivisible). His theory stated that atoms are indivisible, those of a given element are identical, and compounds are combinations of different types of atoms.



RECOGNISED ATOMS OF A PARTICULAR ELEMENT DIFFER FROM OTHER ELEMENTS



ATOMS AREN'T INDIVISIBLE - THEY'RE COMPOSED FROM SUBATOMIC PARTICLES

## PLUM PUDDING MODEL



J.J. THOMSON



1904

Thomson discovered electrons (which he called 'corpuscles') in atoms in 1897, for which he won a Nobel Prize. He subsequently produced the 'plum pudding' model of the atom. It shows the atom as composed of electrons scattered throughout a spherical cloud of positive charge.

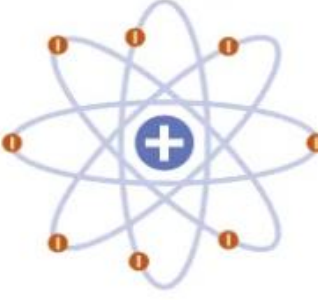


RECOGNISED ELECTRONS AS COMPONENTS OF ATOMS



NO NUCLEUS; DIDN'T EXPLAIN LATER EXPERIMENTAL OBSERVATIONS

## NUCLEAR MODEL



ERNEST RUTHERFORD



1911

Rutherford fired positively charged alpha particles at a thin sheet of gold foil. Most passed through with little deflection, but some deflected at large angles. This was only possible if the atom was mostly empty space, with the positive charge concentrated in the centre: the nucleus.

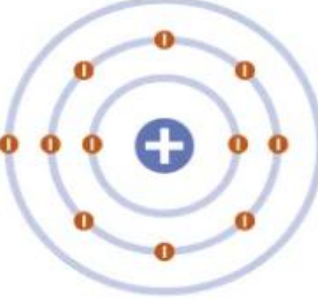


REALISED POSITIVE CHARGE WAS LOCALISED IN THE NUCLEUS OF AN ATOM



DID NOT EXPLAIN WHY ELECTRONS REMAIN IN ORBIT AROUND THE NUCLEUS

## PLANETARY MODEL



NIELS BOHR



1913

Bohr modified Rutherford's model of the atom by stating that electrons moved around the nucleus in orbits of fixed sizes and energies. Electron energy in this model was quantised; electrons could not occupy values of energy between the fixed energy levels.



PROPOSED STABLE ELECTRON ORBITS; EXPLAINED THE EMISSION SPECTRA OF SOME ELEMENTS



MOVING ELECTRONS SHOULD EMIT ENERGY AND COLLAPSE INTO THE NUCLEUS; MODEL DID NOT WORK WELL FOR HEAVIER ATOMS

## QUANTUM MODEL



ERWIN SCHRÖDINGER



1926

Schrödinger stated that electrons do not move in set paths around the nucleus, but in waves. It is impossible to know the exact location of the electrons; instead, we have 'clouds of probability' called orbitals, in which we are more likely to find an electron.



SHOWS ELECTRONS DON'T MOVE AROUND THE NUCLEUS IN ORBITS, BUT IN CLOUDS WHERE THEIR POSITION IS UNCERTAIN




STILL WIDELY ACCEPTED AS THE MOST ACCURATE MODEL OF THE ATOM

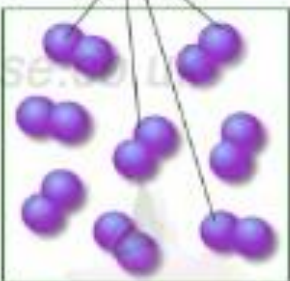


# THE PERIODIC TABLE

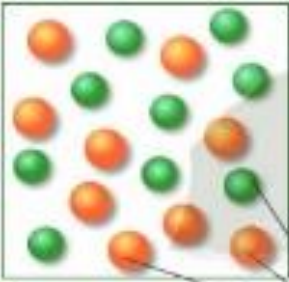
Key terms	Definition
Periodic table	Shows all the known elements in order of atomic number.
Element	Made up of only one type of atom, found on the periodic table.
Compound	Two or more different atoms chemically joined together.
Particle	Circle that represents an element or compound in particle diagrams.

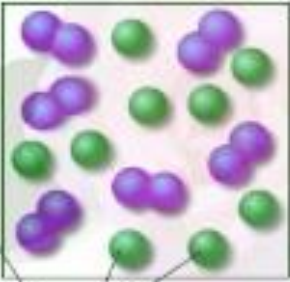
Atoms
Molecules


Elements


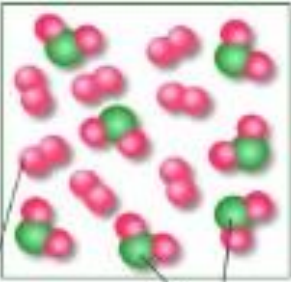
Molecules


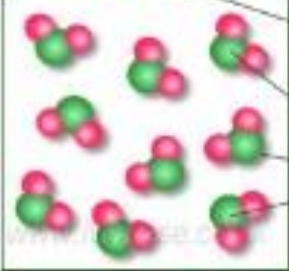
- **Atoms** are represented by single spheres. Spheres of the **same size and colour** represent **atoms of the same element**.
- **Molecules** are represented by two or more spheres joined together.
- **Molecules of elements** are represented by two or more spheres of the **same size and colour** joined together.
- **Molecules of compounds** are represented by two or more spheres of **different sizes and colours** joined together.

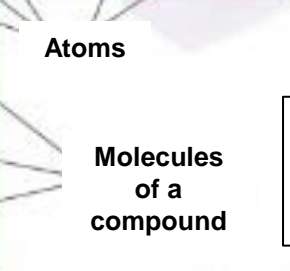
Mixtures


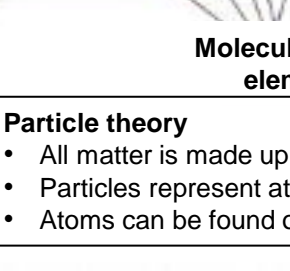


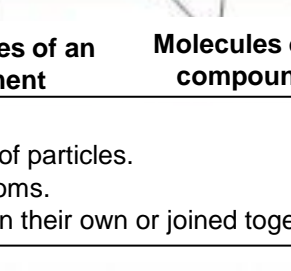




Compounds


Atoms


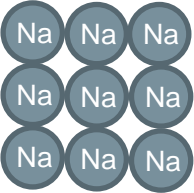
Molecules of an element


Molecules of a compound


**Particle theory**

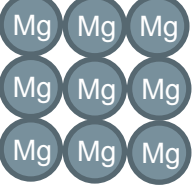
- All matter is made up of particles.
- Particles represent atoms.
- Atoms can be found on their own or joined together.

23  
**Na**  
 Sodium  
 11



16  
**O**  
 Oxygen  
 8

24  
**Mg**  
 Magnesium  
 12

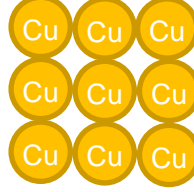


12  
**C**  
 Carbon  
 6

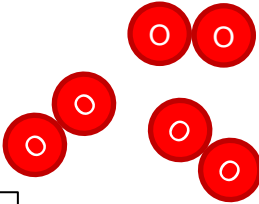
**Elements**

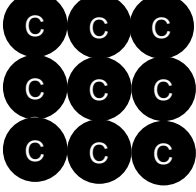
- Elements are found on the periodic table.
- In an element the atoms are all the **same**.
- The arrangement of atoms show if the substance is solid, liquid or gas

63.5  
**Cu**  
 Copper  
 29



35.5  
**Cl**  
 Chlorine  
 17





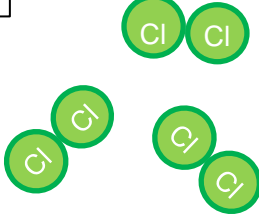



Diagram illustrating the chemical reaction between sodium (Na) and chlorine (Cl) to form sodium chloride (NaCl). The reaction is shown as:  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$ . The diagram uses blue circles for Na atoms and green circles for Cl atoms. On the left, two Na atoms and a chlorine molecule (two Cl atoms bonded together) are shown. An arrow points to the right, where two NaCl molecules (one Na atom and one Cl atom bonded together) are shown.



$$\text{Mg} + \text{Cl}_2 \rightarrow \text{MgCl}_2$$

The diagram illustrates the reaction:  $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ . On the left, two grey circles labeled 'Mg' are shown next to two red circles labeled 'O'. An arrow points to the right, where two molecules of magnesium oxide are shown. Each molecule consists of one grey circle labeled 'Mg' and one red circle labeled 'O' bonded together.



$$\text{Cu} + \text{Cl}_2 \rightarrow \text{CuCl}_2$$


- Particle diagrams help us to see how the atoms of elements combine in compounds.
- Elements combine in fixed proportions to make compounds.
- In a compound the atoms are **different**. This shows the elements the compound is made from.
- Compounds are not found on the periodic table.

- Most elements are solid at room temperature, two elements are liquids and the rest are gases.
- Elements are arranged in order of increasing atomic number and according to their properties.
- As you go down a group and across a period the elements show patterns in physical properties  
e.g.:
  - Atoms increase in size (atomic radius) down a group
  - Atomic mass increases
  - Elements change state as you move from left to right across a period.

1

2

Key terms	Definition
<b>Metal</b>	Found on the left of the periodic table. Usually good thermal and electrical conductors, shiny, ductile, malleable and solid at room temperature.
<b>Non-metal</b>	Found on the right of the periodic table. Usually poor thermal and electrical conductors, dull, brittle and solid or gas at room temperature.
<b>Groups</b>	Vertical column of elements with similar properties
<b>Period</b>	Horizontal row of elements that change state as you move from left to right
<b>Group 1</b>	Contains reactive metals called alkali metals
<b>Group 7</b>	Contains non-metals called halogens.
<b>Group 0</b>	Contains unreactive gases called noble gases.
<b>Physical change:</b>	One that changes the physical properties of a substance, but no new substance is formed.
<b>Chemical reaction:</b>	A change in which a new substance is formed.
<b>Property</b>	A way of describing how a chemical acts or behaves.
<b>Atomic weight</b>	The mass of an atom. Each element has a different mass. It is determined by the number of protons and neutrons in the nucleus.
<b>Atomic (proton) number</b>	The positive charge of the nucleus, indicates the number of protons in the nucleus.

Metal name	Use
Gold, Silver	It is used to make jewellery, ornaments
Mercury	It is used in thermometers
Iron, Copper, Aluminium	It is used to make Utensils
Copper	It is used to make Electric Wires
Aluminium	Aluminium Foil used for Packing
Iron	Used to Make Nails, Screws
Zinc	Zinc Coating is done to prevent iron from rusting

Non-metal name	Use
Sulfur	It is used to make insecticides
Hydrogen	Used as rocket fuel and making margarine hard
Oxygen	Respiration and combustion reactions
Nitrogen	Making fertiliser
Argon	Used in light bulbs to protect the filament
Carbon	Graphite is used in pencils and diamond is used for jewellery
Chlorine	Making plastic and bleach
Iodine	Making antiseptic

Metals and non-metals mean have a range of uses. These are specific to the properties of these elements. When elements combine to make compounds, the range of properties and uses increases.

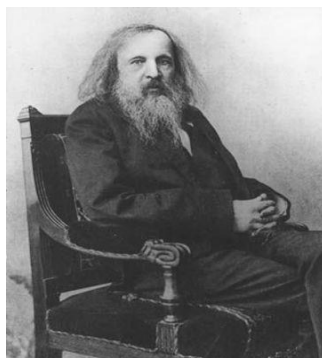
### The development of the Periodic Table

- Early models of the periodic table arranged elements in order according to their atomic weight.
- This approach had some shortfalls because some elements were positioned incorrectly according to their properties.
- Dmitri Mendeleev was the scientist who managed to create a periodic table that positioned elements both in order of their atomic weight and with other elements of similar properties.
- Mendeleev realised that some elements had not yet been discovered. He left gaps for these elements where he predicted they must go and predicted their properties with a high level of accuracy.
- Today, the periodic table is arranged according to atomic number, rather than atomic weight. The development of the periodic table is an example of the Scientific Process – the use of evidence to develop theories, and adjusting theories as more discoveries are made.



Newlands (1865)

No.	No.	No.	No.	No.	No.	No.	No.	No.
H 1	F 8	Cl 15	Co & Ni 12	Br 29	Pd 36	I 42	Pt & Ir 50	
Li 2	Na 9	K 16	Cu 23	Rb 30	Ag 37	Cs 44	Os 51	
G 3	Mg 10	Ca 17	Zn 24	Sr 31	Cd 38	Ba & V 45	Hg 52	
Be 4	Al 11	Cr 19	Y 25	Ce & La 33	U 40	Ta 46	Ti 53	
C 5	Si 12	Fe 18	In 26	Zr 32	Sn 39	W 47	Pb 54	
N 6	P 13	Mn 20	As 27	Di & Mo 34	Sb 41	Nb 48	Bi 55	
O 7	S 14	Se 21	Te 28	Ro & Ru 35	Te 43	Au 49	Th 56	



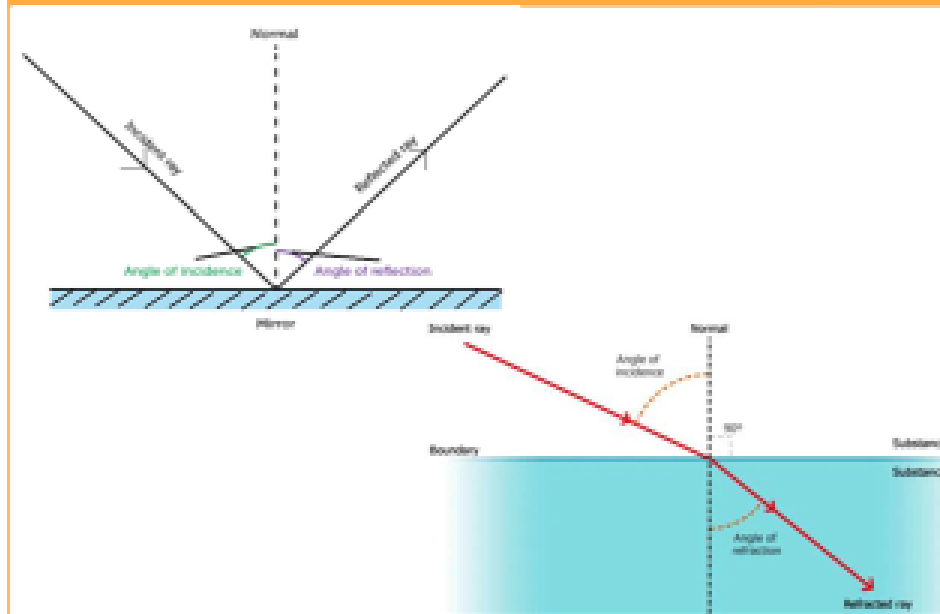
ПЕРИОДИЧЕСКАЯ СИСТЕМА ЭЛЕМЕНТОВ									
I II III IV V VI VII VIII									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300
301	302	303	304	305	306	307	308	309	310
311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330
331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350
351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370
371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390
391	392	393	394	395	396	397	398	399	400
401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430
431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470
471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500
501	502	503	504	505	506	507	508	509	510
511	512	513	514	515	516	517	518	519	520
521	522	523	524	525	526	527	528	529	530
531	532	533	534	535	536	537	538	539	540
541	542	543	544	545	546	547	548	549	550
551	552	553	554	555	556	557	558	559	560
561	562	563	564	565	566	567	568	569	570
571	572	573	574	575	576	577	578	579	580
581	582	583	584	585	586	587	588	589	590
591	592	593	594	595	596	597	598	599	600
601	602	603	604	605	606	607	608	609	610
611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650
651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670
671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690
691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710
711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730
731	732	733	734	735	736	737	738	739	740
741	742	743	744	745	746	747	748	749	750
751	752	753	754	755	756	757	758	759	760
761	762	763	764	765	766	767	768	769	770
771	772	773	774	775	776	777	778	779	780
781	782	783	784	785	786	787	788	789	790
791	792	793	794	795	796	797	798	799	800
801	802	803	804	805	806	807	808	809	810
811	812	813	814	815	816	817	818	819	820
821	822	823	824	825	826	827	828	829	830
831	832	833	834	835	836	837	838	839	840
841	842	843	844	845	846	847	848	849	850
851	852	853	854	855	856	857	858	859	860
861	862	863	864	865	866	867	868	869	870
871	872	873	874	875	876	877	878	879	880
881	882	883	884	885	886	887	888	889	890
891	892	893	894	895	896	897	898	899	900
901	902	903	904	905	906	907	908	909	910
911	912	913	914	915	916	917	918	919	920
921	922	923	924	925	926	927	928	929	930
931	932	933	934	935	936	937	938	939	940
941	942	943	944	945	946	947	948	949	950
951	952	953	954	955	956	957	958	959	960
961	962	963	964	965	966	967	968	969	970
971	972	973	974	975	976	977	978	979	980
981	982	983	984	985	986	987	988	989	990
991	992	993	994	995	996	997	998	999	1000

# Light

## Key words

<b>Luminous</b>	An object that emits (gives out) light.
<b>Non- luminous</b>	An object that does not emit light but can reflect it.
<b>The law of reflection</b>	When a ray of light bounces off a surface, the angle of reflection is always equal to the angle of incidence.
<b>Incident ray</b>	The incoming ray.
<b>Reflected ray</b>	The outgoing ray.
<b>Normal</b>	The line from which angles are measured, at right angles to the surface.
<b>Angle of incidence</b>	The angle between the normal and the incident ray.
<b>Angle of reflection</b>	The angle between the normal and the reflected ray.
<b>Refraction</b>	Change in the direction of light when going from one material into another.
<b>Absorption</b>	When energy is transferred from light to a material.
<b>Scattering</b>	When light reflects off an object in all directions.
<b>Transparent</b>	A material that allows all light to pass through it. A clear image can be seen through it.
<b>Translucent</b>	A material that allows light to pass through it, but scatters it. An unclear image can be seen through it.
<b>Opaque</b>	A material that allows no light to pass through it. Nothing can be seen through it.

## Ray Diagrams - Reflection and Refraction



## Key knowledge

Light always travels in straight lines

For a mirror, the angle of incidence equals the angle of reflection

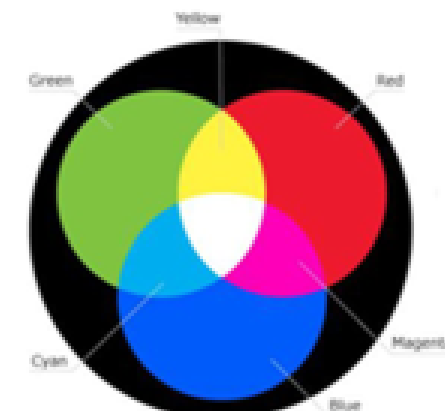
When a light ray meets a different medium, some of it is absorbed and some reflected

The ray model can describe the formation of an image in a mirror and how objects appear different colours

Light can also change direction when it enters a different medium (substance) at an angle – e.g. when light travels from air to water

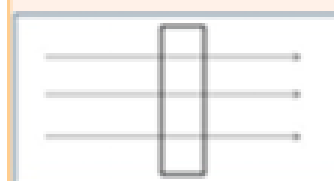
The light changes speed at the boundary and this cause the light to change direction, this is called refraction.

## Seeing Colour

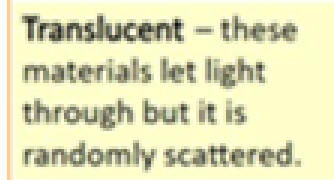


Because light is a wave, it can have different wavelengths' We perceive different wavelengths of light as different colour

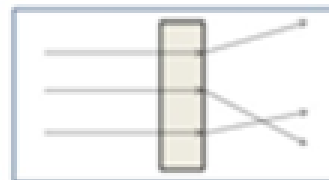
Light of different wavelengths can be combined to make other colours. For example, red and green light combined makes yellow light. White light is all the colours combined.



**Transparent** – these are materials which let all of the light straight through.



**Translucent** – these materials let light through but it is randomly scattered.



**Opaque** – these materials let no light through.

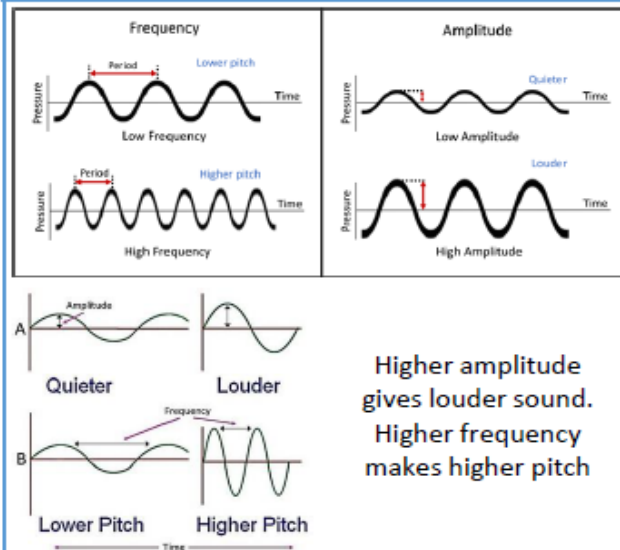


# Sound

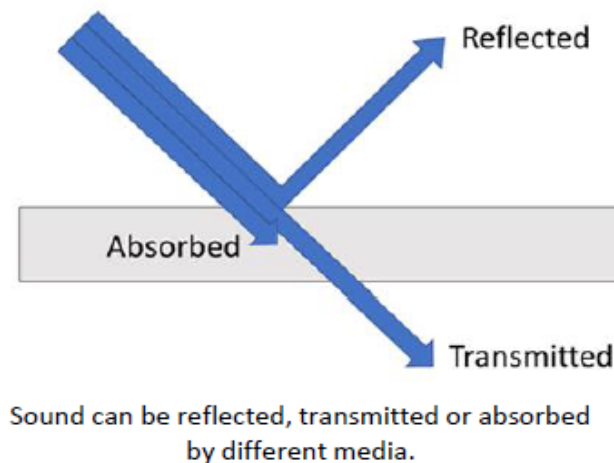
Key words	Definitions
Vibration	A back and forth motion that repeats.
Longitudinal wave	Where the direction of vibration is the same as that of the wave.
Volume	How loud or quiet a sound is, in decibels (dB).
Pitch	How low or high a sound is. A low (high) pitch sound has a low (high) frequency.
Amplitude	The maximum amount of vibration, measured from the middle position of the wave, in metres.
Wavelength	Distance between two corresponding points on a wave, in metres.
Frequency	The number of waves produced in one second, in hertz.
Vacuum	A space with no particles of matter in it.
Oscilloscope	Device able to view patterns of sound waves that have been turned into electrical signals.
Absorption	When energy is transferred from sound to a material.
Auditory range	The lowest and highest frequencies that a type of animal can hear.
Echo	Reflection of sound waves from a surface back to the listener.

Key knowledge
Sound consists of vibrations which travel as a longitudinal wave through substances
The denser the medium, the faster sound travels. The greater the amplitude of the waveform, the louder the sound
The greater the frequency (and therefore the shorter the wavelength), the higher the pitch
Sound does not travel through a vacuum.
The speed of sound in air is 330 m/s, a million times slower than light.

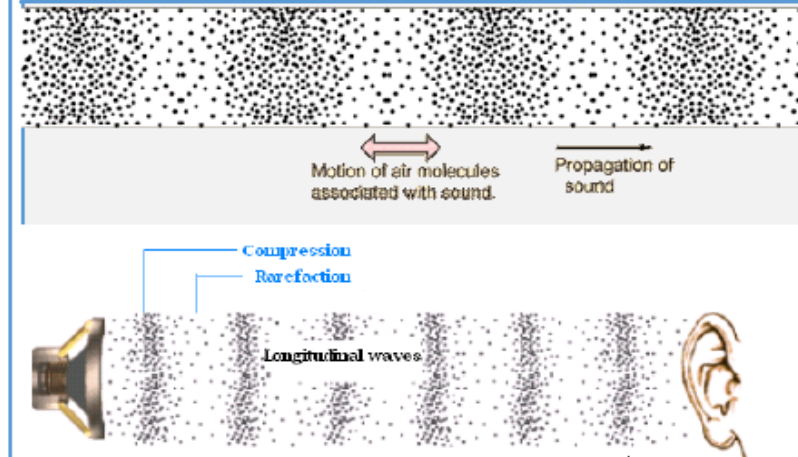
## Key diagram – Amplitude and frequency



## Practical – Observing Sound



## Key process – How sound travels



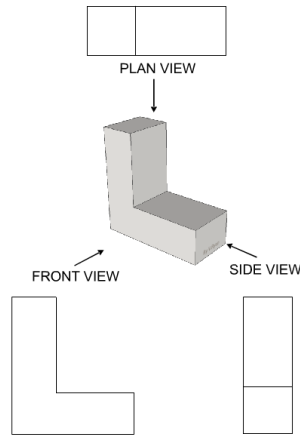


# Yr9 Engineering

## Layout out of an Engineering drawing

Before drawing an engineered component a suitable border and title block is required. The drawing border and title block has the following Dimensions

5mm space  
10mm text line  
5mm space  
5mm space  
10mm border



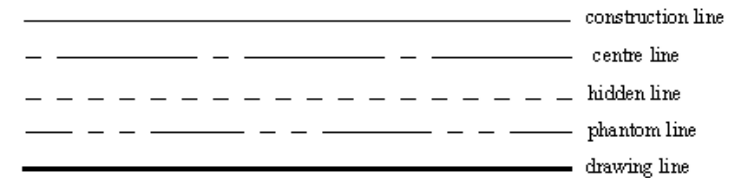
## Types of lines

A **construction line** is a really light line. It is a line that can be removed for the final drawing, it may be a part of a circle that was draw or a line that was used to lay the drawing out correctly.

A **centre line** shows the centre of an object or components that is equal in size on either side.

A **hidden line** shows a space, void or part of an object that can not be seen from the view that has been drawn. Although it cannot be seen it still needs to be represented and is show as a dashed line.

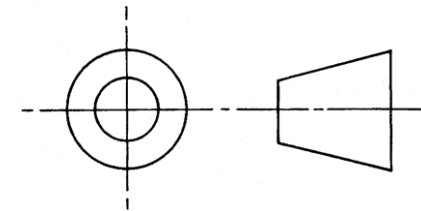
A **dimension line** shows the size or length of part of the component or object



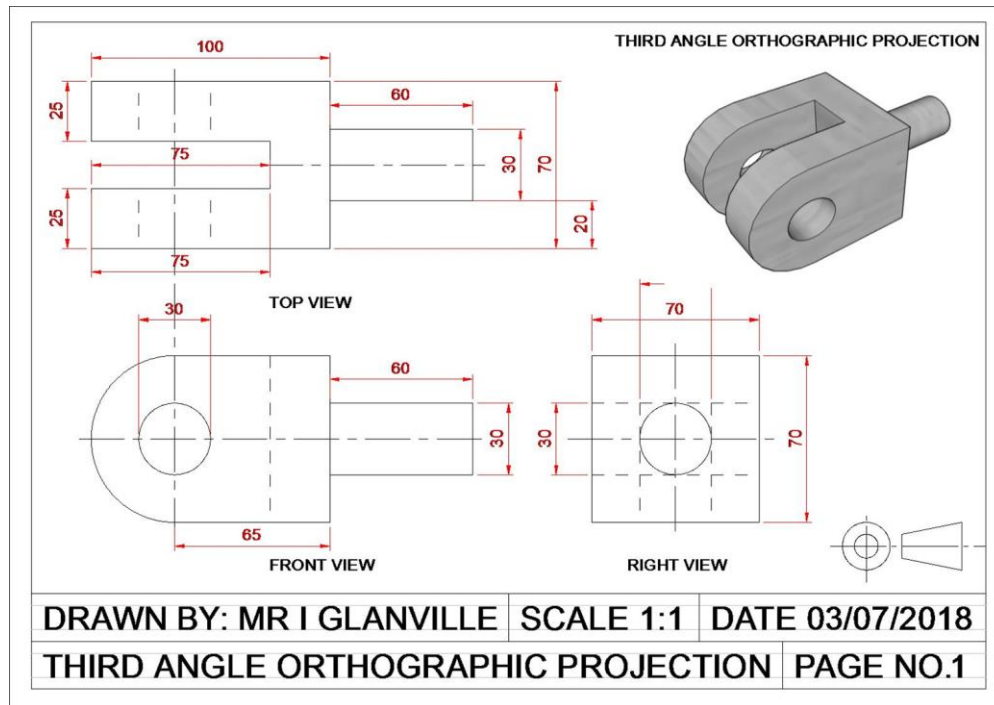
## Third angle orthographic projection

The standard symbol that you will find on a drawing arranged in a third angle projection looks a traffic cone.

This will help remind you how to set out the drawing



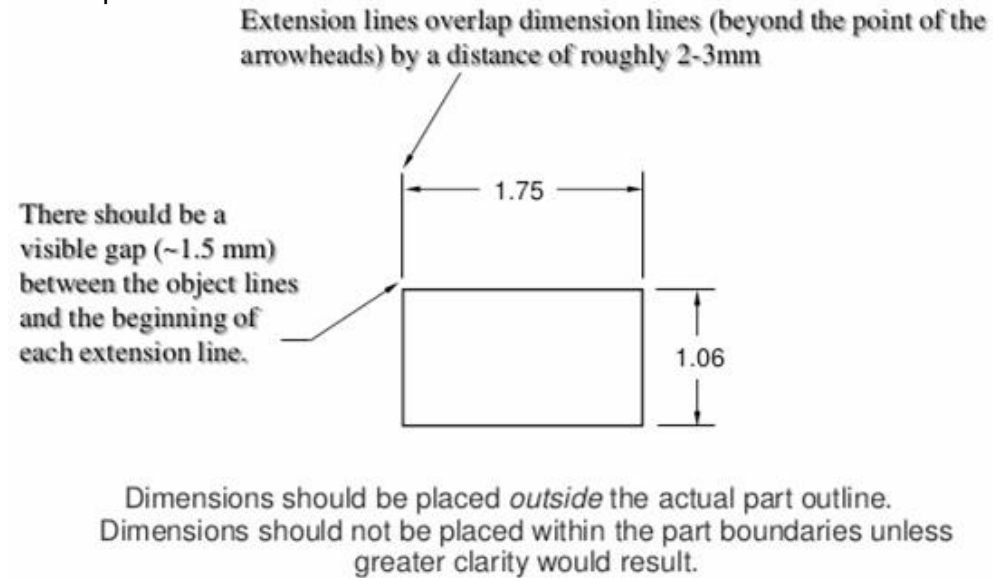
This means the first drawing you will see is the top view, then the side view.



Information required can include, name of person completing the drawing, what the drawing is, the name of the company, a date and perhaps a number if it is a series of drawings.

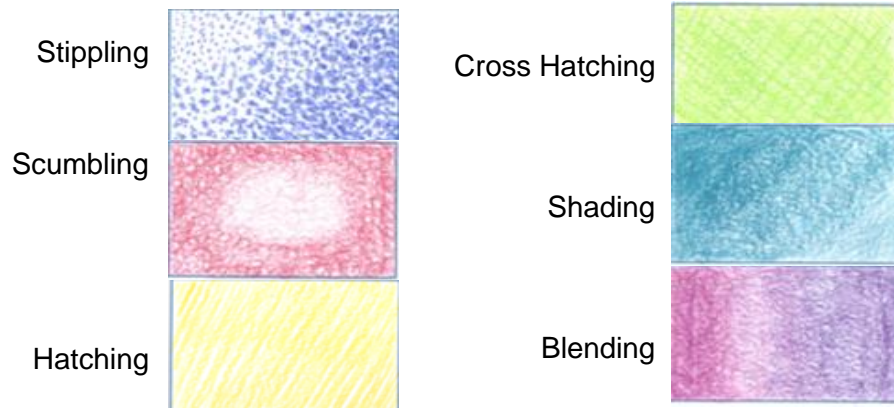
## Representing dimension lines on a drawing

Dimension lines show the size or measurements of an engineered product or component

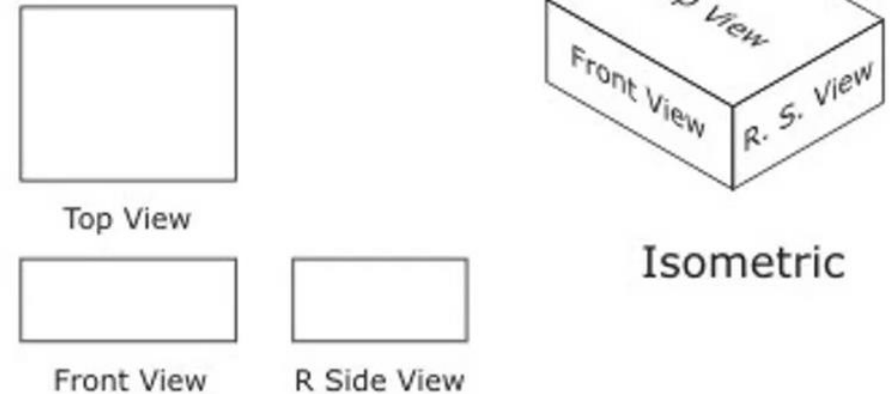


## Types of rendering

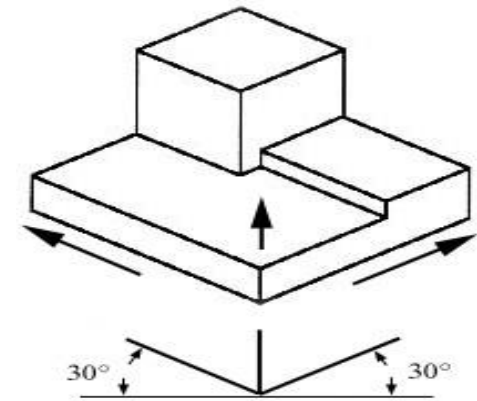
Shading or rendering a three dimensional isometric drawing will give the drawings a realistic feel and show materiality.(what it is made of).



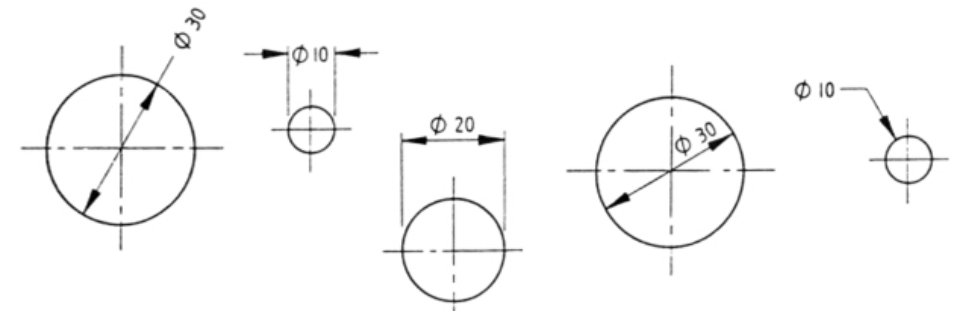
## Isometric drawing



As well as a third angle orthographic projection, an engineering drawing can include an isometric projection which uses **vertical lines** and lines drawn at **30°** to horizontal.



## Representing dimension lines on circles



All of the above are acceptable when showing the dimensions, diameter or radius of a circle

## Design brief analysis and key terms

### Analysing a brief

When design a product you need to what information you are being given in order to find a solution to the engineered problem.

#### **Look for info on what....**

**Physical requirements** - what does it do, hold, cover carry?

**Aesthetics** - how it looks

**Size** - does it have maximum/minimum size, is it replacing something?

**Function** - what does it do/control?

Performance requirements - How can you measure its success, does it work well?

### Features of an engineered product

**Dimensions** - Size

**Tolerance** - How much bigger or smaller can a product be and still fit/work?

**Surface finish** - measure in micrometres (µm). How it might look or wear or resistant to corrosion/rust water.

**Physical form** - 2D 3D flat curved. Is it long joined to something, sharp edges etc.

### Key terms and definitions for analysing a brief

**Form** - why it is shaped as it is?

**Function** - what its function is – whether it works.

**User requirements** - what attributes would persuade users to choose the product and why?

**Performance requirements** - What would the product be required to do to achieve optimum performance.

**Material and component requirements** - what would each part of the products material need to achieve to perform correctly.

**Ease of manufacture** - How easy can the product be manufactured?

**Ease of maintenance** - Does the product require routine servicing, if so how can this be performed?

**Legal and safety requirements** - Are there any legal standards the product should meet?

**Aesthetic Properties** - How does the material look?

**Mechanical Properties** - Does the material move?

**Electrical Properties** - Does the material require a current to pass through it?

**Raw Material and Processing** - How is the material made?

**Environmental Impact** - How does the material affect the environment?

### Prototypes

A test model either virtually on computer or a model.

#### **Why?**

To find faults and mistakes, to test one example therefore preventing expensive mistakes. Several prototypes can be made to develop a design making improvements on each one.

#### **How?**

**Functional tests** - Checking everything works, moves, fits

**Ergonomic tests** - Checking easy to use, controls can be reached

**Destructive tests** - Will it break, how much can it take, load, pressure.

### Key terms and definitions

Third angle projection - Three views of an object

PPE - Personal protective equipment

Scale - The relation between the real size of something and a model or drawing

Isometric drawing - 3D drawing 30 degrees from the horizontal.



## Vocabulary

### Emphasis

The focal point of an artwork-: the point where the artist wants the viewer's attention to be.

### Variety

The differences found in a work, of art: the thickness of lines, the sizes of objects, the colors used. The differences can be related, a variation on a theme.

### Unity

The whole or total effect of a work of art resulting from the way the elements have been put together. A work has unity when all its parts are linked together in some way.

### Balance

The way parts of a composition are placed together to create a sense of unity.. Balance may be symmetrical with one half of a design being almost a mirror image of the other half. Or balance may be asymmetrical, with two halves that are very different.

### Rhythm

The movement created by the repetition of such visual elements as lines, shapes and colors.

**Contrast** The use of opposites in close proximity. There can be contrast in color, shape, line or texture. Bold contrast - black and white, subtle contrast - soft colors.

### Harmony

An overall agreement between all the parts of a work of art. Harmony often involves the use of similar elements with slight variations.

### Proportion

The size relationship between the parts and the whole, or between one part and another. An artist uses proportion to convey a sense of space of depth, and may also use it for emphasis.

## SHAPE PSYCHOLOGY

SHAPE CAN ALSO REINFORCE THE PILARS OF YOUR BRAND



**CIRCLES**  
COMMUNITY  
UNITY  
COMPLETE



**SQUARES**  
BALANCE  
PROFESSIONALISM  
SECURITY



**TRIANGLES**  
POWER  
MASCULINITY  
STABILITY



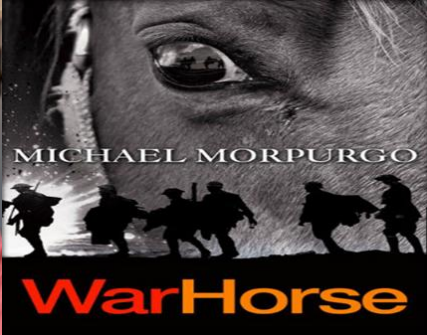
**Using a circle** or ring can represent a positive emotional message, love and unity, togetherness.

**The square** can represent stability and balance , it is a strong message and represents professional and efficient.

**The triangle** can mean mystery and power it can be used to represent scifi, religious or law related brands.

**Vertical lines** communicate commitment and strength. When use in a logo it reflects goals and progress.

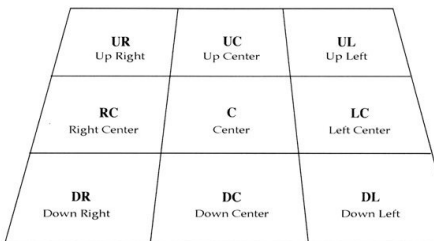
**Horizontal lines** give a sense of moving through time. It conveys futuristic and technology



# Year 9 Drama Knowledge Organiser

## Design

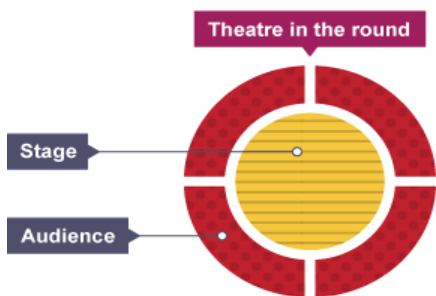
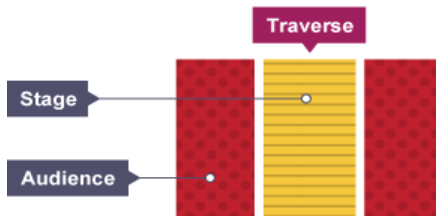
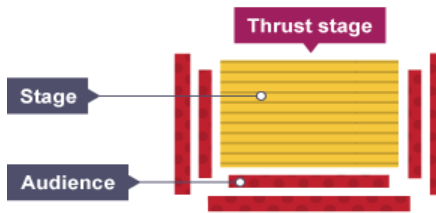
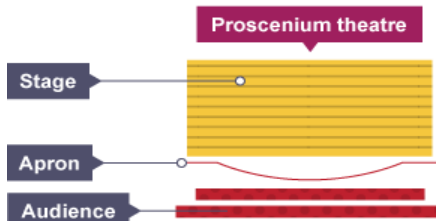
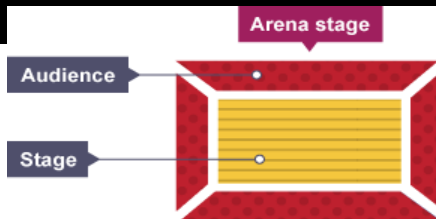
Staging \* Costume  
 \* Set \* Cast \*  
 Props \* Sound  
 \* Music  
 \* Symbolism \*  
 Semiotics



The Audience

## Style of the Production:

The style was minimalistic but with elements of expressionism. The designer, Rae Smith, based her design around the character of Major Nicholls and his love of sketching. The set design consisted of a large torn sheet of paper hung above the stage.



- Michael Morpurgo was born in St. Albans, Hertfordshire, on 5 October 1943, whilst his father was away fighting in the war.
- After primary school, Michael was sent off to a boarding school in Sussex.
- Michael joined the army at Sandhurst after school, and whilst he liked the good food and the friends he made, he didn't enjoy being shouted at.
- Michael decided to become a teacher and went to study English and French at King's College, London.
- Michael decided to change direction once again, and set up a charity: Farms for City Children.
- Throughout this time, Michael was writing his much-loved books and becoming a brilliant storyteller.
- Michael was the Children's Laureate from 2003-2005 and received an OBE in 2006 for his services to literature.



War Horse by  
 Michael  
 Morpurgo  
 b. 1943



**A01** EXPLORE  
**DEVELOP**  
**DEVELOP IDEAS**  
 INVESTIGATE & RESEARCH  
 OTHER ARTISTS WORK  
**ANALYSE**  
 ANNOTATE



**A03** EVIDENCE  
**RECORD**  
**PRESENT IDEAS**  
 PRIMARY OBSERVATION  
 DRAWING, PAINTING,  
 PRINTING, PHOTOGRAPHY,  
 WRITING, PHOTOGRAPHY...  
**ANNOTATE**  
 DIFFERENT MEDIA



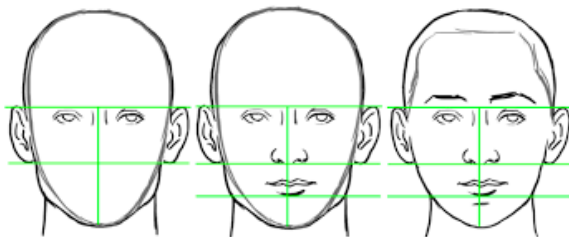
ARTIST REFERENCES -  
 VINCENT VAN GOGH, GRAYSON PERRY,  
 FRIDA KAHLO, JEAN MICHEL BASQUIAT

**A02** REVIEW  
**REFINE**  
**EXPERIMENT**  
 EXPLORE DIFFERENT IDEAS  
 AND MEDIA  
 A RANGE OF TECHNIQUES  
 & PROCESSES  
**SELECT**  
 IMPROVE



Portraiture is a very old art form going back at least to ancient Egypt, where it flourished from about 5,000 years ago. Before the invention of photography, a painted, sculpted, or drawn portrait was the only way to record the appearance of someone.

But portraits have always been more than just a record. They have been used to show the power, importance, virtue, beauty, wealth, taste, learning or other qualities of the sitter.



**Vocabulary**  
 Proportion, detail, identity,  
 juxtaposition, assemblage,  
 composition, narrative, symbolism,  
 technique, tone, typography



**A04** OUTCOME  
**PRESENT**  
**FINAL IDEAS**  
 DEVELOPED AS PLANNED  
 CLEARLY RESPONDS TO  
 ARTISTS EXPLORED  
**CONNECTION**  
 CONCLUSION



## Year 9 War Horse

**Unison:** Dancers moving at the same time doing the same movements

**Repetition:** Repeating movement

**Improvisation:** Spontaneous unplanned and not choreographed movement

**Accumulation:** New movements are added to existing movements in a successive manner, for example, A, AB, ABC, ABCD

**Resilience:** to not give up and withdraw from something challenging

**Effective collaboration:** Working successfully with your peers to achieve positive outcomes.

**Participation:** when appropriate, voice your ideas to the class



### Physical Skills

**Alignment** Correct placement of body parts in relation to each other.

**Balance** A steady or held position achieved by an even distribution of weight.

**Control** The ability to start and stop movement, change direction and hold a shape efficiently.

**Coordination** The efficient combination of body parts.

**Extension** Lengthening one or more muscles or limbs.

**Flexibility** The range of movement in the joints (involving muscles, tendons and ligaments).

**Posture** The way the body is held.

**Stamina** Ability to maintain physical and mental energy over periods of time.

**Strength** Muscular power.

### Performance Skills

**Facial Expression** Use of the face to show mood, feeling or character.

**Musicality** The ability to make the unique qualities of the accompaniment evident in performance.

**Projection** The energy the dancer uses to connect with and draw in the audience.

**Energy** the force applied to dance to accentuate the weight, attack, strength, and flow of a dancer's movement

## Year 9 repertoire and choreography

Choreographic device tools used for the creation of dance for stage. Such as canon, motif, contrast, accumulation, repetition, reversal, retrograde, inversion, fragmentation, and embellishment.

**Accumulation** A choreographic device where new movements are added to existing movements in a successive manner

**Canon** A choreographic device in which individuals and groups perform the same movement phrase beginning at different times.

**Contrast** A choreographic device where dance elements are altered to create oppositions, thus making contrasts such as high/low, big/little

**Embellishment** A choreographic device where detail is added to the original movement sequence.

**Fragmentation** A choreographic device where only a part of the movement sequence/motif is manipulated. A movement is broken down into smaller units.

**Inversion** A choreographic device used in creating choreography that produces variations on a movement phrase. Inverting the movement phrase would mean executing it as if 'looking in a mirror'. A forward step becomes a backward step

**Levels** The altitude of a movement in relation to its distance from the floor. The height of the dance floor. • Low: close to the floor with the intention downwards. • Medium: the level of everyday walking. • High: any movement done with elevation, not necessarily a jump. It implies a lifting of the chest and an upward focus.

**Retrograde** Another of the choreographic devices used in creating dance compositions that produce variations on a movement phrase. The movement phrase is performed backwards, as if rewinding a video.

### Terminology

**Actions** What a dancer does eg travelling, turning, elevation, gesture, stillness, use of body parts, floor-work and the transference of weight.

**Choreographic approach** The way in which a choreographer makes the dance.

**Choreographic devices** Methods used to develop and vary material.

**Choreographic intention** The aim of the dance; what the choreographer aims to communicate.

**Choreographic processes** Activities involved in creating dance such as improvisation, selection and development.

**Choreography** The art of creating dance.

### **Constituent features**

Characteristics of choreography such as style, stimulus, subject matter, number/gender of dancers, action content, choreographic principles, form and structure, physical and aural settings.

### Physical Skills

**Alignment** Correct placement of body parts in relation to each other.

**Balance** A steady or held position achieved by an even distribution of weight.

**Control** The ability to start and stop movement, change direction and hold a shape efficiently.

**Coordination** The efficient combination of body parts.

**Extension** Lengthening one or more muscles or limbs.

**Flexibility** The range of movement in the joints (involving muscles, tendons and ligaments).

**Posture** The way the body is held.

**Stamina** Ability to maintain physical and mental energy over periods of time.

**Strength** Muscular power.

### Performance Skills

**Facial Expression** Use of the face to show mood, feeling or character.

**Musicality** The ability to make the unique qualities of the accompaniment evident in performance.

**Projection** The energy the dancer uses to connect with and draw in the audience.

**Energy** the force applied to dance to accentuate the weight, attack, strength, and flow of a dancer's movement

## Key Terms

NEE (Newly Emerging Economy)	A country that has experienced rapid growth in the past 20 years
Globalisation	The theory that the world is becoming more connected thanks to technological advancements
Transnational Corporation (TNC)	A company that operates in more than one country e.g. Nike
Tax	A payment which is collected by a government. Goods have taxes placed on them when they are imported / exported
Free Trade Agreement	An agreement between countries whereby imports and exports do not have taxes placed on them
Primary products	Low value resource goods. Farming and Mining are in the Primary category
Secondary products	The manufacturing of products. Making products in factories is in the secondary category
Tertiary Products	The selling of services. It covers a range of sectors including retail, teaching, finance, police – anything that provides a service
Quaternary Products	Knowledge based high tech research industries. This covers both IT jobs and Research and Development

## Globalisation

### What is Globalisation?

Globalisation is not a new theory, but it is the idea that the world is becoming more connected. We are now able to easily communicate across the world, trade items and share ideas thanks to advancements in technology. Globalisation is the reason we have access to limitless information – but some argue that it means cultures are dissolved as ideas are shared. For example, McDonalds is found all over the world selling the same items – rather than selling local food.



### Factors of Globalisation

Technology	The internet allows us to communicate and share ideas all across the world in real time!
Trading advancements	All cargo containers are the same size so products can be moved around easily
Free Trade Agreements	As countries agree to stop taxes on goods, the cost goes down so we can assess more
Transport	We can very quickly travel all over the world. Planes are now able to go further than ever with highly efficient engines and smart paint



## Trade

Trade means the movement of goods around the world. When we sell goods they are **exported** to another country. The other country then **imports** them. Taxes are put on exports and imports. Improvements in transport means we are now able to move goods around the world quickly. This affects us on a daily basis. Think about where everything you have used today has come from! Does China come to mind?  
But – it could lead to a problem with climate change. As transport increases, so does the amount of Carbon Dioxide into the atmosphere!

## Disparity in China

China has been rapidly developing throughout the past 30 years and is now seen as the 'factory for the world'. This is partly due to the amount of people living there and huge investment in factories

The cities of China (Beijing, Shanghai, Guangzhou etc) are where most of these factories are found and have developed - so more advanced businesses set up bringing in more money

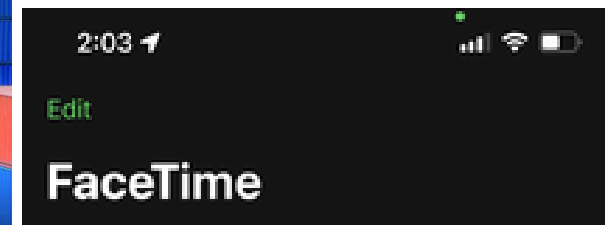
This leads to huge growth in the cities as more and more people move (migrate) from the countryside (rural) to the cities (urban). But many people are still living in the rural areas on farms. These people don't make anywhere near as much money.



## One / Two Child Policy

The one child policy was introduced in 1979 as a way to control the rapid population growth.

The rules were a woman was only allowed to have one birth (so twins etc. were ok). If they had any more the family would be punished. This was changed to the two child policy in 2016 and again to the three child policy in 2021



Allows us to communicate all over the world  
Increases pollution  
How does globalisation affect us?  
Makes products cheaper  
Gives us a huge variety of goods

## TNCs (Transnational corporations)

These are companies that operate in more than one country. They affect any country they operate in like Nigeria by providing jobs. Many poorer countries are the producers and people are paid poorly. Several organisations like 'fairtrade' are attempting to fix this problem.



## Pros of Globalisation

- Goods are cheaper
- We can communicate easily
- TNCs provide many jobs
- TNCs can help poorer countries

## Cons of Globalisation

- TNCs can exploit poorer nations
- Richer countries dominate trade and culture
- It can lead to conflict



### Box A: Key words and definitions

1. Feudal System – The social and governing system
2. Epidemic – Spreading disease
3. Miasma – Bad smells which were believed to cause disease
4. Catholic – A type of Christianity
5. Midden – Pile of rubbish
6. Conduits – Water fountain
7. Monastery/Abbey – A Religious Building
8. Humour – Liquid in the body
9. Privy – Old style loo – no, it doesn't flush
10. Purging – making yourself sick or poo

### Box D: Medieval Beliefs about disease

1. There were serious epidemics of flu and small pox
2. Life expectancy was low
3. People believed in miasma
4. People believed in the four humours – blood, yellow bile, black bile and phlegm. An idea popularised by Galen in the Ancient times

### Box E The Black Death (1250 – 1500)

1. Bubonic Plague spread by bites of fleas from rats. Led to a temperature and buboes
2. Pneumonic Plague – airborne – spread by coughs and sneezes. Attacked the lungs and made the victim cough up blood.
3. First arrived in 1348
4. People didn't know what caused it.
5. Some people tried to balance their humours by bleeding or purging
6. Some people turned to religion, some became flagellants
7. Some people blamed the planets
8. Some people turned to herbal remedies like camomile lotion.
9. Some people blamed miasma so carried sweet smelling herbs
10. Some people went to church and went on a pilgrimage
11. The disease killed between 1/3 – 2/3 of England's population
12. Priests were running away and not giving 'last rites'
13. The sick in towns were sometimes kicked out of their homes
14. The rich could move to the countryside
15. In April 1349 King Edward II wrote a letter to the Mayor of London with instructions to clean up.

### Box B: Life in Medieval England (1250 – 1500)

1. 90% of the population lived in the countryside
2. There were only a few towns e.g. London, but they were small.
3. Land was divided into estates called Manors, each was controlled by a Lord. Peasants lived on the land.
4. Political power was linked to land ownership
5. The Church owned lots of land and advised the king
6. England was divided into local communities called Parishes. Each Parish had a church and a priest. Locals paid local taxes called tithes.
7. Few people could read or write, many turned to the church to help them understand disease.

### Box C: Medieval Living Conditions - Villages (1250 – 1500)

1. There was little spare food and a poor harvest would mean disaster and famine like 1315 - 16
2. Fresh meat was hard to get
3. Peasants in the countryside ate a lot of fresh veg, berries, honey and often kept cows to make dairy products
4. Bad weather led to a poisonous fungus growing on wheat which led to illness – Ergotism.
5. Houses only had 1 or 2 rooms and were made of sticks and clay.
6. There were open fires in homes, this made them smoky.
7. Houses didn't have windows, just small openings with shutters
8. People didn't have running water or toilets.
9. Water came from streams.
10. Waste was thrown into the street, river, or midden
11. They went to the loo over a pit called a 'cesspit'
12. Animals were put into houses at night which caused illness

## Year 9: Semester 1 The People's Health 1250 - 1500



KnowIT

### Box F The importance of the Church (1250 – 1500)

1. The church had the best hygiene as it needed clean water for church services
2. It was common for Abbey's to have infirmaries, like Fountains Abbey in Yorkshire. This was the closest thing medieval people had to a hospital
3. Monasteries often had piped running water
4. The Monasteries would care for the sick with food and water, but they would not treat them as they believed it was God's plan for the sick to be ill.

### Box G The importance of the Church (1250 – 1500)

1301 – King Edward I ordered authorities to clear the streets in York  
1329 – in Winchester the butchers guild appointed people to check the quality of meat being sold  
1300s – Bristol moved dunghills, lepers and prostitutes out of the town centre.

### Box H: Medieval Living Conditions – Towns (1250 – 1500)

1. Peasants would take food to towns in the same cart they used to empty their midden
2. Live animals walked the streets of towns and were butchered in the streets.
3. The streets were often just mud, some were cobbled
4. Markets were central to life in towns.
5. Towns had conduits
6. Water sellers in towns collected the water and sold it door to door.
7. There were no laws on selling rancid meat
8. At the end of market days the streets were full of waste. From 1293 London paid rakers to clear the streets.
9. By 1500 some towns paid carters to remove waste from butchers and fishmongers
10. Town houses were tall and close together.
11. They had thatched roofs with mice and insects in
12. Homeowners were expected to clear waste and gutters, but people rarely did.
13. Some people had brick lined cesspits
14. Some had no lining and leaked into neighbour's cellars!
15. Gongfarmers cleared the cesspits.



#### Box I: Key words and definitions

1. Reformation – religious change under Henry VIII in the 1500s
2. Jake – a hole over a river which was like a loo
3. Animalcules – What Leeuwenhoek called microbes. He didn't know germs could make you sick.
4. Isolation – Keeping people away from the main population
5. New World – Places like America
6. Transportation – A form of enslavement, often led to be taken to Australia to work in a prison colony.
7. Gin Distiller – Someone who makes gin
8. Syphilis – Sexually transmitted infection, common with prostitutes in the Early Modern.

#### Box L: Life in Towns

1. Streets were crowded and animals were in the street still.
2. Streets were mostly mud. Even the cobbled ones were covered in dung.
3. They were smoky due to the use of coal.
4. Houses started to be replaced with ones built of brick.

#### Box M: Water and Waste (1500 – 1750)

1. If you lived near a river you could use it for a bath
2. If you were rich you might have a tub inside, but this probably didn't have taps, just buckets to fill it.
3. Soap which was made from leftover animal fat could be used to wash clothes by hand.
4. The rich had soap made from olive oil
5. People didn't want to bath as they thought the water would get into their skin and make them ill.
6. Some people paid for piped water into their homes.
7. Hugh Middleton built a 'river' to take water to London in 1609.
8. Some people collected water from conduits
9. Some people bought water from water sellers.
10. Scavengers collected waste and sold what they could.
11. 1596 John Harrington invented the flushing toilet. Few had them.
12. People used jakes
13. Most people used privies over cess pits

#### Box J: Life in Early Modern England (1500 – 1750)

1. Few people died from starvation
2. The population was increasing, in 1550 it was 3 million. By 1750 it was 6 million.
3. The main work was in the wool industry, spinning wool.
4. People started to use coal and Thomas Newcomen invented the steam engine in 1712 which led to mining
5. There was more trading with foreign lands for goods like sugar and tobacco
6. Towns were growing, and 20% of people lived in them
7. Monasteries were no longer offering health care because of the reformation
8. Robert Hooke developed a high power microscope
9. 1683 – Leeuwenhoek sees 'animalcules' (germs) in microscope
10. Printing press spread new ideas and it was quicker to get books.

Year 9: Semester 1  
The People's Health 1500 - 1750



#### Box N: Plague

1. The plague was terrifying due to its frequency, there was an outbreak about once every 20 years
2. The symptoms were scary e.g. blisters which went black and gangrenous, a temperature of 40 degrees, vomiting, terrible pain, swollen lymph nodes, buboes, black patches under the skin, organ failure.
3. Only 1 in 5 people survived. Death came in 5 days.
4. Nobody knew what caused it. They believed in the same causes as they had in 1348.
5. Some also thought it was cats and dogs, so they killed them.
6. The plague came back to England in 1665.

#### Box K: Early Modern England Food and Famine-Villages (1500 – 1750)

1. Little change in food since the medieval times
2. The rich ate a lot of meat e.g. rabbit, beef and pigeon
3. The rich ate white bread, salad leaves, vegetables and fruit
4. New foods were brought from America e.g. Chillies, pumpkins and tomatoes as well as chocolate and tea.
5. The diet of the poor was mostly bread, vegetables, eggs, cheese and pottage.

#### Box M: Responses to the Plague

1. 1558 – Henry VIII used isolation. Infected houses in London should be identified for 40 days. If anyone left the house they should carry a white stick so they could be avoided.
2. 1550s York – watchmen employed to stop the movement of the infected, and searchers were employed to collect and bury the dead.
3. 1578 – Elizabeth I printed the Plague orders which included rules that towns would appoint searchers and report on the development of the disease, that an alderman (councillors) would collect money to support the sick, that prayers would be said for the ill, barrels of tar would be burnt to stop miasma, funerals would take place at dusk, infected houses would be shut off for 6 weeks with the victims inside.
4. 1604 – Parliament passed a law to enforce the Plague orders. It introduced harsh punishments for those breaking the Plague Orders.

#### Box O: GIN

1. Known as the 'demon drink'
2. In 1689 Gin was very cheap and the poor were drinking it a lot!
3. In 1720 shops advertised 'get drunk for a penny'
4. Crime went up
5. 1729 – Gin Act – Gin distillers had to pay a tax of 5 shillings on each gallon of gin they made and had to buy a license which cost £20 per year.
6. 1751 Gin Act was harsher – Anyone caught selling Gin illegally was imprisoned, then if they were caught again they were whipped. If caught again they were transported to Australia!



#### Box A: Key words and definitions

1. Laissez-Faire - Leave Alone, the attitude of the government.
2. Back to Back - Houses built back to back
3. Tuberculosis - a lung disease
4. Cholera - A disease spread by dirty water.
5. Malnutrition - Lack of fresh nutrients
6. Adulteration - Changing food by adding other products

#### Box D: Water Companies were not controlled

1. Water companies got their water from ponds rivers and streams
2. The water was off and dirty and unhealthy
3. Most of the cheap industrial housing had sewers which could not cope with the amount of human waste
4. Privies collected waste which built up until it was empty or overflowed. often 10 families would share 1 privy
5. When sewers were built they were emptied into the rivers which was where some of the water companies got their fresh water

#### Box E Poor Diet

1. The diet of the industrial working class was very basic. They would eat potatoes, bread, butter beer and tea.
2. In the towns and cities it was difficult to get fresh fruit and vegetables. This caused malnutrition
3. The diet with high in carbohydrates which gave them energy needed for their long working hours
4. Until the end of the 1800s there were no laws around mixing food with other products. This meant the food which the working class ate had been altered, this was called adulteration. For example, milk could be watered down and then have chalk added to make it look white.
5. Cheap meat was sometimes available but it often came from diseased animals

#### Box B: Britain by 1900

1. There had been a fast movement of people into towns
2. these people came from the British Empire or the countryside
3. railways provided cheap transport for everyone
4. People stopped working from home and work from factories instead
5. there was more machinery in the countryside which helped with farming and food supplies
6. religion had declined
7. scientists discovered germs
8. members of the middle class has gained power
9. the working class were ignored
10. men were given the right to vote in 1867 and 1884 this meant the government had to take notice of them
11. Living and working conditions were terrible. People lived in poorly built slum houses and there was lots of disease. There was little access to clean water it took a long time for the government to help the poor

### Year 9: Semester 2

## The People's Health 1750 - 1900



#### Box F Cholera

1. Cholera was brought to Britain in 1831 by sailors who arrived in British Ports from India
2. Water became infected by the excrement of people who carried the disease. This was made worse because there were no proper sewage systems.
3. There are cholera epidemics in 1831 to 32, 1848, 1854 and 1865.
4. Cholera killed 100,000 people

#### Box C: Terrible Living Conditions

1. The cheapest accommodation was a rented cellar which was damp and not well ventilated, this led to all kinds of lung problems
2. back-to-back housing was cheap and poorly built. Families often had just one room downstairs and one other room upstairs. This also led to chest problems
3. Migration meant that lots of people move to towns, often families lived in just one room. The effect of this was that there weren't enough privies so human waste flowed into the streets. Diseases like tuberculosis were common because of the damp walls and poorly built houses
4. There wasn't any help for the poor people. The rich people who ran town councils did not want to see their taxes increase to pay for the water and waste facilities of the Poor.
5. The government believed in an idea called laissez-faire which said they should not interfere in people's lives.
6. There was no free healthcare. Drs and medicines had to be paid for, which the poor could often not afford.
7. Diseases were so common as people didn't know about germs until 1861. Many people drank dirty water, as they didn't know it could make them sick.
8. The 6 biggest diseases were tuberculosis, influenza, diphtheria, typhoid, typhus, and cholera. these were spread easily as people live so close together.
9. Infant mortality was high, which means many children died.

#### Box G New Developments

1. Knowledge about how disease spread improved to the work of John Snow and Louis Pasteur, this meant the government had to abandon its idea of laissez-faire and help the poor.
2. The miasma Theory was replaced with the germ theory
3. The 1848 public Health Act only had a limited impact. By 1853 there were only 163 places with a local board of health. There were still no government minister for public health. The government could only force councils to make improvements of their death rate is higher than 23 per 1,000
4. By 1875 new public Health Act was put in place to replace the 1848 act. This was compulsory and forced councils to take responsibility for cleaning up their towns and appointing health inspectors



#### Box H: Government Responses to Cholera

1. 1830 - People still believed in miasma. The church said that cholera came from God to punish sinners. Some connections were made between dirt and disease. The national government set up the central board of health to study disease in other countries, the government also told the people they should fast and pray on the 2nd of March 1832 to try and stop cholera. Local government's did things like burnt are in the street to purify the air. They also cleared rubbish from the streets. Some quarantines were set up to stop people from entering towns. They also set up separate graveyards like the one in Plympton. Local healthboards gave advice to monitor the spread of cholera
2. 1848 - Edwin Chadwick produced his report called the sanitary conditions of the labouring population. This report contained details about how dirt caused disease. This led to the public Health Act of 1848, which set up a general board of health and encouraged local councils to set up health boards and clean towns. However, this act was not compulsory, so there is Limited change. Local towns thought it would be too expensive, and local taxpayers didn't want to pay for supporting the poor.
3. 1854 - Dr John Snow proved that cholera was spread by infected water. He found evidence that a water pump near his surgery was the cause of disease in the area. However, the national government did not pay much attention as at this point there was no proof that germs even existed. Things got worse as they abolished the general board of health. However, Dr Snow did change things at a local level by removing the handle to the water pump which was causing cholera.
4. 1866 - By this point the ideas of snow were becoming more accepted. In 1861 Louis Pasteur had proved that germs caused disease, this meant there was scientific backing for Dr John Snow's ideas. At a national level this led to the Sanitary Act of 1866, which made Council is responsible for sewers, water supplies and street cleaning. This meant that the cholera outbreak in 1866 only had a limited impact. In London Joseph Bazalgette built a new sewer system in 1865 which made a huge change to public health.



### Year 9: Semester 2 The People's Health 1750 - 1900



KnowIT



#### Box I: Government Acts to Improve Health

1. 1860 - Food adulteration act - There were no laws to protect people from eating unhealthy food, for example red flower was often mixed with alum, which made it unhealthy. → this led to progress like the first law to try and prevent the contamination of food, it provided for the appointment of food analysts, and it helped to get rid of laissez-faire. However, there were only 7 food analysts appointed across the country. There were no compulsory inspections of food and so the act was ignored until it was replaced in 1875 by the sale of food and Drugs act
2. 1865 - Bazalgette's New London sewerage system. London sewers flowed into the central part of the River Thames which had caused the Great Stink in 1858. The new sewer system led to massive progress, with 1300 miles of sewers been created in London, waste being taken to treatment plants, and the spread of waterborne diseases like cholera was reduced
3. 1866 - Sanitary Act - A Cholera outbreak made a need to make local councils responsible for public health which led to this development. → There was some progress as a result as it forced local councils to take action to provide fresh water sewage and waste disposal. All houses had to be connected to a main sewer. Local council's who did not carry out the work was fined by central government who would then do it for them. This also helped to get rid of laissez-faire. However, the act wasn't perfect, it was poorly worded which meant that people were often slow to respond to it
4. 1875 - Sale of Food and Drugs Act - There was still some basic food quality problems which needed solving and harsher punishments were needed for those who continue to break the law → This created some progress as it improved the quality of basic food and increased punishments for food adulteration, it also gave local councils the power to take unhealthy food.
5. 1875 - Public Health Act - In 1867 working class men got the vote which meant that the government needed to listen to them, this meant the original public Health Act needed to be replaced with a stronger one so that it's supported working class men, → this led to progress as councils were forced to clean account and provide clean water and proper drains, and medical officer had to be appointed by local councils, sanitary inspectors had to be appointed
6. 1894 - Opening of Thirlmere Dam, Manchester. Cities like Manchester found providing freshwater difficult. Developments in engineering health projects like this to happen. → It led to progress as freshwater was carried from a new Reservoir to Manchester, it also encouraged other cities to run similar schemes. However, they took a long time to build



#### Box J: Food in the 1900s

1. War - During the Second World War it wasn't possible to get imports of food from other countries this meant that food had to be rationed. People were encouraged to grow their own vegetables and keep their own animals. This actually improved people's health as they were eating more fresh vegetables and the lower fat diet.
2. Technology - refrigeration and the canning of food improved the supply of food and helped to make it cheaper. Fridges allowed people to keep food for longer and microwave meant that convenience foods were more widely available.
3. Fears - A disease called BSE, or mad cow disease, affected cattle and spread into the human food chain. This created a fear about modern farming methods. It led to a demand for fresh local produce.

#### Box K: Britain since 1900

1. By 1900 lots of work was taking place in heavy industry. There was no welfare state which meant there were no benefits. Most of the people in England were working class. Most people went to church. Women could not vote. Life expectancy was about 50.
2. By 1900, there were very few cars, no aeroplanes, but we did have radio and electricity were starting to become popular.
3. By 2000 lots of people worked in the service industry like banking. There was a supportive welfare state which means there are lots of benefits for the poor or needy. Most people in England were middle class. Less than 10% of people went to church. Everyone over the age of 18 could vote. Life expectancy was about 77.
4. By 2000 cars were a normal feature of everyday life as was air travel. Telephones and the internet led to instant communication and the spread of ideas. Electricity exists in almost all homes.

#### Box L Spanish Flu

1. Between 1918 and 1919 Spanish flu killed almost 3 times as many people world wide as the First World War.
2. The symptoms of Spanish we were terrifying with a high temperature aches pains cough and sneezing. The symptoms led into pneumonia. The skin went blue and there is bleeding from the nose ears or stomach.
3. Some people started to wear face masks to prevent contamination.
4. Newspaper, films and posters gave advice about how to prevent contamination.
5. Because so many soldiers were returning from the first world war and there were big parties it meant that the disease spread quickly.
6. Dr Niven of Manchester tried to prevent the spread of disease in Manchester. He said that people should close the cinemas, Sunday schools, regular schools and he sent leaflets door-to-door telling people how to prevent the spread of disease. However, not everyone would listen to him, with cinemas not wanting to close because it would affect their profits and Sunday schools not wanting to close because of their religious duties.

## Year 9: Semester 2

### The People's Health 1900 +

#### Box M Changing Living Conditions

1. Smog - Became a problem in cities. It was a combination of smoke and fog, it caused diseases like pneumonia.
2. The clean air act of 1956 made people burn smokeless fuel such as charcoal which helped to create smoke-free zones which help solve the problem of the killer smog.
3. Since 1980, the huge increase in car ownership and other forms of transport has created air pollution.
4. During the second world war people became healthier and did more physical activity as fuel supplies were rationed.
5. Labour saving devices like cars, televisions and computers have led to people becoming less active and obesity is becoming a problem.
6. Since the 1980s Britain has faced a series of health scares about food, the amount of sugar consumed by children is causing health problems.

#### Box N: Housing in the 1900s

1. The First World War - This had a positive impact on housing as the government took responsibility for building new homes. They built about 50% of the houses they promised building 500,000 new homes. 1930 Housing Act led to the final clearance of slums.
2. Second World War - this led to new high rise accommodation with gas and electricity. However, it was felt that the high rises destroyed community spirit.
3. Thatcher - Margaret Thatcher made it so that people who lived in a council house could buy their home, this was called the right to buy. However, local councils could not afford to replace the houses that they sold which meant that there was less accommodation available for the most needing and has increased the housing crisis today.

#### Box O HIV and Aids

1. AIDS Stands for acquired immune deficiency syndrome. It is caused by a virus called HIV, which stands for human immunodeficiency virus. The virus is spread through blood or bodily fluids, for example through sex, sharing needles, or from mothers to babies in the womb.
2. The way in which people responded to HIV and AIDS changed as it first we didn't understand it or caused it as understanding increased more was done to help prevent the spread.
3. 1970 - 1993 - Raised awareness of the disease for a negative reaction. People with the disease was stigmatised it was seen as shameful. Some people called it The gay plague, as it mostly affected homosexual men but could be spread to anyone.
4. 1984 - 1985 - People were scared that AIDS could be spread through even the slightest contact with the victim, the police and fire departments stopped giving mouth to mouth for fear of catching the disease, people would wear gloves when dealing with people with HIV and AIDS.
5. 1986 - 87 - we began to get better understanding of AIDS. Princess Diana went to an AIDS hospital and shook hands and hugged aid victims showing the disease was not spread by touch. There were also publicity campaigns to help educate the public with campaigns such as don't die of ignorance by the government.
6. 1988 - 1995 - there was an understanding and acceptance of HIV and AIDS. TV programmes like Eastenders even had stories about AIDS victims.
7. 1996 onwards - there is less of an awareness of HIV and AIDS now as the government is no longer funding mass campaigns. Cases of HIV and AIDS have begun to rise.



#### Box P Growing Government Involvement in Public Health 1900+

1. 1902 - The Midwives act. This meant Midwives had to have special training and a certificate. The central Midwives board with setup and lasted until 1951
2. 1906 - Free school meals. This providing a hot meal for some for children as it was the responsibility of local councils to choose whether to fund then or not. The principle of giving poor children a free meal was made compulsory in 1914 the school milk scheme began in 1934
3. 1907 - Medical Inspections in schools. It had an immediate impact as it examined all children but it did not treat the problems it found. School clinics were set up in 1912 to treat the children, medical inspections continued and by 1930 most councils have provisions to treat minor illnesses in school children.
4. 1908 - Old age pensions - It saved many of the old poor from going to a workhouse which is where they would end up if they were poor homeless and penniless. It provided money through taxation to give the elderly a set amount of money which they could live on and therefore it meant that they no longer had to work. This is still used today
5. 1911 - National Insurance - It protected against unemployment and sickness by providing money for people to live on. However, it only helped working men not women. This has been changed but still exist today.
6. 1919 - The Housing Act - the act promised 500000 homes which were fit for Heroes. But only half of them were built. A series of Housing Act meant that slum clearances took place and councils began to replace housing, with the recognition that housing was the responsibility of the government.
7. 1929 - The Local Government Act - The workhouse system was ended. Local council's take responsibility for running local hospitals. The old workhouses were sometimes changed into the new hospitals.
8. 1940 - Immunisations - A mass immunisation programme against diphtheria was started in 1940 and then one against tuberculosis in 1948. Vaccinations Have become routine under the National Health Service.
9. 1948 - The NHS - This was a massive step forward and provided free medical care for all UK citizens something which it never happened before. It even the poor to get free healthcare. However, today the NHS is under great strain as it has become more expensive. Ordinary people are encouraged to take more responsibility for their own health by trying to choose healthy lifestyle rather than one of junk food and no exercise.
10. 1956 - Clean Air Act - this introduced areas of smokeless fuel burning to help combat the smog. It was the first in a series of laws designed to protect the environment.
11. 1974 - Health and Safety at work - regulations were put in place to ensure that health and safety of workers was protected these are still in place today



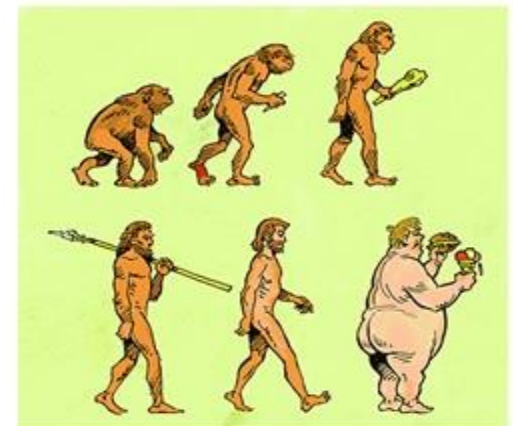
#### Box Q Government - Smoking and Obesity

1. In 1962 the link between smoking and cancer was accepted so the government began to introduce measures to encourage people to stop smoking
2. Between 1964 and 2016 the government has taken a range of steps to tackle smoking. This includes banning cigarette advertising, Promoting nicotine replacement products, and banning smoking in public places like pubs (2007). Finally, they made cigarette packaging blank in 2016.
3. The government is also trying to tackle obesity which is a major cause of heart disease, campaigns to eat less and move more helping to combat this problem
4. The government has been criticised for being too slow to act possibly because of the loss in tax if they ban cigarettes completely and the loss of donations from tobacco companies if they ban cigarettes completely.
5. Some criticise the government for getting too involved and see that people should be free to do whatever they want even if it harms them

### Year 9: Semester 2 The People's Health 1900+



KnowIT





# Knowledge Organiser – Food and Catering

## Cycle 1 year 9

In this cycle we will be learning about the various aspects of Health and Safety within the Hospitality and Catering industry. Cross Contamination means one bacteria is transferred to another food item by using dirty utensils, unwashed hands, cloths or using the same chopping board.

### Preparing yourself for cooking

Remove Blazer	Remove your blazer to prevent sleeves from coming into contact with food being prepared or cooked. The fabrics used to make the blazer are often flammable meaning they can catch fire (live flame) They can also melt (electric hob)— additionally bacteria gained from the outside world should not be transferred into the hygiene area.
Hair	If you have long hair it must be tied up to prevent it from becoming burnt or falling into food—contaminating food. This would be classed as a physical contaminant and if found in a food product, the environmental health may be informed. There are many bacteria that live on our scalp so hair must be tied up.
Nails	Make sure not to wear false nails or nail varnish. If they fall into food they will become a physical contaminant. Acrylic nails should not be worn in school but if they are present gloves should be worn. Ensure your nails are short and clean to prevent cross contamination.
Aprons	Ensure you wear an apron to prevent cross contamination and prevent splashes onto clothing. The real point of an apron is to prevent bacteria on clothing being transferred to the food.
Remove jewellery	Remove any rings, necklaces or bracelets. Stones in rings harbour bacteria as they are not smooth—only a plain wedding band is acceptable because there are no crevices for bacteria to hide. These health and safety rules are the same nationwide.
wash hands	Make sure you wash hands to prevent cross contamination. Most bacteria's are passed on by infrequent hand washing— especially since the coronavirus pandemic—please be vigilant especially when preparing food. Hand Gel would be classed as a chemical contaminant and only warm water and soap are enough to remove bacteria for cooking purposes. Sneezing, coughing and touching our faces are the most usual way bacteria is transferred.

Preparing your environment	
Trip hazards	Remove any articles that may cause a trip hazard, for example bags, coats or books.
Slip hazards	Check the floors to ensure they are free from potential slip hazards such as water or oil on the floor. Even a discarded pen can cause a slip which, if you're carrying boiling water will be a problem!
Clear surfaces	Make sure any unneeded equipment or ingredients are removed from the surface prior to commencing food preparation—this is especially important as there is not much surface space and plastic bags, flour containers etc should be moved once used. Sink areas are the worst problem—if there are pans filling up the sink they must be washed, dried and put away! Mouldy pans and bowls are not acceptable and they will lead to contamination. Wash the surfaces down with either an anti-bacterial spray or a clean cloth with washing up liquid to remove any debris and reduce any bacterial contamination risk. This is especially important after bread/pastry making—it sticks to the surface and can be left for the next person to remove! A mouldy pan is classed as a biological contamination and can lead to vomiting, diarrhoea and stomach cramps. If equipment is not clean, the kitchen or work place can be closed down.

### Week 3 & 4 -Food Poisoning; Bacteria main sources of contamination—pathogenic bacteria. Large colonies are usually needed to lead to illness but E.Coli 0157 and Campylobacter are an exception.

Salmonella-Incubation period; 12-36 hours.	Always talked about but it is not the only bacteria— usually passed on from raw meats, poultry, eggs and farm animals, it can be found in human and animal intestines. <b>This is why we cook meat to 75c as it can give nasty food poisoning.</b>
Staphylococcus Aureus Incubation period; 1-6 hours—a very fast incubation time—but people make the mistake of eating fast food salad but blaming their bad tummy on a chicken from the night before—chances are it wasn't the chicken!	This is actually the most common form of food poisoning and usually comes from fast food as it's passed on via the staff through skin, nose, throat, cuts poor hygiene from staff is the main cause. <b>Also milk as it is a high risk food. Most foods kept in the fridge are 'high risk'—they contain protein and moisture therefore they will develop mould/bacteria within a few days.</b>
Campylobacter: Incubation period 48-60 hours.	<b>Sources of pathogenic bacteria; Humans, animal protein, pests (rats, mice, flies), dirty bins, waste food. Contaminated water.</b>
Escherichia Coli; Incubation period 12-24 hours.	This is often confused with Salmonella—this can be from red meat, poultry, soil and sewage. <b>The onset time is so slow that it often goes unnoticed and it is blamed on something else.</b>
	E Coli can be found in water, especially untreated water. It comes from human and animal excreta, urine and muddy vegetables (water).

Week 5&6 Three main types of food related ill health. Risk assessment	
1. Microbes/bacteria/ mould/yeast.	Cause of food spoilage and contamination; Plant based chemicals
2. Toxins	Bacteria produce toxins which are waste material. They can be a problem when re-heated food especially rice and pasta.
3. Allergies/intolerances. Anaerobic	Person react to a food/ingredient they are unable to eat. Bacteria do not need oxygen to reproduce.
Risk//hazard	The likelihood of something causing harm. Something that has potential to cause harm.
Binary Fission	The reproduction of bacteria—multiplying 2x2x4x8 very rapidly (protein based foods)
Bacteria development	Bacteria need 4 ideal conditions; warmth, food, time, moisture.
Risk assessment Controlling risk	Assessing the level of risk and the potential for harm. Identifying ways in which to reduce the likelihood of harm, or ways in which to minimise the risk. Temp between 5c—75c where foods are either chilled or cooked. Core temp to 75c for 3 secs.
Danger Zone	

### Four Rules of Food Handling

**Personal Hygiene**; to include washing hands, Cover cuts, nails short and clean, shower daily, do not cough or sneeze near food, do not handle food if unwell, tie back long hair, no jewellery, wear clean clothes and clean apron.

**Correct food safety**; keep all chilled foods in the fridge until needed, check fridge is at 2c-5c, foods in fridge should be separate with raw meats at the bottom of fridge, use cling film to prevent cross contamination, freezer temp—18, defrost all foods properly before cooking, ambient temperature foods ( 5c—63c) to be kept in cupboards.

**Correct use of equipment**; use colour coded boards, raw food usage MUST be washed before re-using, clean and sanitise surfaces, use a temperature probe to check meat, use a clean spoon for tasting, clean fridges and cupboards, put lids on bins.

**Pest control**; Flies and other insects, mice and rats mark territory with urine, birds and ants—often finding sugary drinks and cakes.

**Chemical Contamination**: cleaning product, pesticide, bleach or undiluted washing up liquid is present in the food. If ingested (eaten) it can be very harmful.

**Biological Contamination**; bacteria, Virus's, moulds, fungi which can lead to death if ingested.

**Physical Contamination**: an actual piece of nail, hair, fly, plaster, grit has fallen into the food or entered the food chain in some way.

# Knowledge Organiser – Food and Catering

**Cycle 2** In this cycle, we will take a close look at Food Contaminants, Food safety and Bacteria's especially when dealing with raw meats. You will learn about different bacteria's and how to prevent cross contamination and food poisoning. Cross Contamination means one bacteria is transferred to another food item by using dirty utensils, unwashed hands, cloths or using the same chopping board.

Week1 and 2

Food Storage	
Different types of Food Safety	Food Safety; foods need to be stored correctly in the fridge. There should be a system in your fridge at home where dairy is on the top shelf, cooked foods i.e .meat/quiche is in the middle and RAW meat should always be at the bottom to prevent cross contamination by blood drip loss. Foods kept in the fridge are called Perishable foods. They are chilled foods and need to be kept at low temperatures. In a commercial kitchen and all supermarkets the fridge temperatures are checked every 4-6 hours and logged in a book. You can buy a small fridge thermometer to place in the top of your fridge.
Storing food at the correct temperature	Frozen or chilled goods must be transferred immediately. Your fridge temperature should be between 2C and 5C— freezer should be --18c. Some foods should only be frozen for up to a month—some foods can be frozen for 3 months but you should check.
RIDDOR COSHH HASAWA PPER MHOR	Reporting of injuries, illness and disease regulations. Control of substances hazardous to health. Health and Safety at Work Act. Personal Protective Equipment Regulations Manual Handling Operations Regulations ---all of these regulations need to be known to you and in place at every work place.
Use by dates. Best before date.	Difference between Use by dates, Best before dates and Sell By date. Use by are perishable foods (chilled) Best before are advisory (often biscuits, cake, coffee, pot noodle as they are dry foods. Sell by is often raw meat and is usually a few days.

Weeks 3 &4

Health and safety activities	
Temperature checks	Checking and recording freezer and fridge temperatures. Checking hot food temperature and food being held. New food probes—75C for cooked through.
Equipment safety checks	Food Spoilage—prevention. Dirty hands/utensils/equipment are the main source of cross contamination.
HACCP	Hazard Analysis Critical Control Point is a control which is used in food industry factories and food production. It identifies where a hazard is likely to be; where a mouse may have got in or a piece of metal or something physical may have somehow entered the food product. There are stages at which every point of entry is monitored to ensure the public's safety.
Waste	Ensure the correct storage and disposal of waste. There are strict rules on cooking oil disposal—it must NOT be put down a sink or drain.
Risk Assessment	Conduct regular risk assessment to identify hazards and methods to reduce risk. Control measures; put in place to reduce the risk of hazard causing injury or harm.
Cooking methods.	
Cooking food	Cooking food within the kitchen, including, steaming, roasting, boiling, grilling.—using the 5 senses to plan and prepare a really pleasing dish.
Plating up	Consistently plating food up, considering portion control and quality. Colour, style, cutting techniques are all very important.
Finishing food	Ensuring the presentation of food is consistent and always aesthetically pleasing -5 senses.

Week 5&6

Working with raw foods	
Keeping customers safe—a food establishment should have all the different boards available for use with different foods to prevent cross contamination.	Red board—to use ONLY with raw meat. Green Board—for use with fruit. Brown board—for use with vegetables. White board--for use with dairy and bread. Yellow board-to use with cooked meat. Blue board for use ONLY with Fish.
RED meat;	Different knives should also be available BUT if this is not possible, knives should be washed with hot, soapy water between each usage.  This has been sourced from a cow (beef), deer (venison) pig (pork, bacon) Sheep/lamb (lamb). Has been sourced and also known as POULTRY—chicken, duck, goose, turkey, capon, spatch-cock, quail. There are also gamebirds-Pheasant, Partridge, wild duck.
White meat	
food preparation—Organoleptic	
	The word organoleptic means the qualities that people experience with their senses whilst eating good, tasty food. Five senses; sight, smell, taste, touch and sound.
	To enable people to enjoy their food, the food and plate must look and smell appetising. We ‘eat’ with our eyes—in other words we see something and want to eat it. Colour, size, smell all contribute to us enjoying our food.
When you try out recipes you are encouraged to ‘taste’ the food.	This would involve using a tea spoon at taste a tiny bit on the end of the spoon—then washing the spoon. You can then assess if you need more salt, pepper, chilli etc to improve your dish.
Textures/touch	Textures mean crunch, crispy, smooth, creamy and its assessed by the ‘mouthfeel’—that’s the feel once the food is in your mouth. Over cooking vegetables and meat can ruin a dish—veg should have a slight ‘bite’ to them.
5 basic flavours;	Salty, sweet, bitter, sour and umami (savoury).

# Knowledge Organiser – Food and Catering

## Cycle 1 year 9

In this cycle we will be learning about the various aspects of Health and Safety within the Hospitality and Catering industry. Cross Contamination means one bacteria is transferred to another food item by using dirty utensils, unwashed hands, cloths or using the same chopping board.

Weeks 1 & 2

### Preparing yourself for cooking

Remove Blazer	Remove your blazer to prevent sleeves from coming into contact with food being prepared or cooked. The fabrics used to make the blazer are often flammable meaning they can catch fire (live flame) They can also melt (electric hob)— additionally bacteria gained from the outside world should not be transferred into the hygiene area.
Hair	If you have long hair it must be tied up to prevent it from becoming burnt or falling into food—contaminating food. This would be classed as a physical contaminant and if found in a food product, the environmental health may be informed. There are many bacteria that live on our scalp so hair must be tied up.
Nails	Make sure not to wear false nails or nail varnish. If they fall into food they will become a physical contaminant. Acrylic nails should not be worn in school but if they are present gloves should be worn. Ensure your nails are short and clean to prevent cross contamination.
Aprons	Ensure you wear an apron to prevent cross contamination and prevent splashes onto clothing. The real point of an apron is to prevent bacteria on clothing being transferred to the food.
Remove jewellery	Remove any rings, necklaces or bracelets. Stones in rings harbour bacteria as they are not smooth—only a plain wedding band is acceptable because there are no crevices for bacteria to hide. These health and safety rules are the same nationwide.
wash hands	Make sure you wash hands to prevent cross contamination. Most bacteria's are passed on by infrequent hand washing— especially since the corona virus pandemic—please be vigilant especially when preparing food. Hand Gel would be classed as a chemical contaminant and only warm water and soap are enough to remove bacteria for cooking purposes. Sneezing, coughing and touching our faces are the most usual way bacteria is transferred.

### Preparing your environment

Trip hazards	Remove any articles that may cause a trip hazard, for example bags, coats or books.
Slip hazards	Check the floors to ensure they are free from potential slip hazards such as water or oil on the floor. Even a discarded pen can cause a slip which, if you're carrying boiling water will be a problem!
Clear surfaces	Make sure any unneeded equipment or ingredients are removed from the surface prior to commencing food preparation—this is especially important as there is not much surface space and plastic bags, flour containers etc should be moved once used. Sink areas are the worst problem—if there are pans filling up the sink they must be washed, dried and put away! Mouldy pans and bowls are not acceptable and they will lead to contamination. Wash the surfaces down with either an anti-bacterial spray or a clean cloth with washing up liquid to remove any debris and reduce any bacterial contamination risk. This is especially important after bread/pastry making—it sticks to the surface and can be left for the next person to remove! A mouldy pan is classed as a biological contamination and can lead to vomiting, diarrhoea and stomach cramps. If equipment is not clean, the kitchen or work place can be closed down.

### Week 3 & 4 -Food Poisoning; Bacteria main sources of contamination—pathogenic bacteria. Large colonies are usually needed to lead to illness but E.Coli 0157 and Campylobacter are an exception.

Salmonella-Incubation period; 12-36 hours.	Always talked about but it is not the only bacteria—usually passed on from raw meats, poultry, eggs and farm animals, it can be found in human and animal intestines. <b>This is why we cook meat to 75c as it can give nasty food poisoning.</b>
Staphylococcus Aureus Incubation period; 1-6 hours—a very fast incubation time—but people make the mistake of eating fast food salad but blaming their bad tummy on a chicken from the night before—chances are it wasn't the chicken!	This is actually the most common form of food poisoning and usually comes from fast food as it's passed on via the staff through skin, nose, throat, cuts poor hygiene from staff is the main cause. <b>Also milk as it is a high risk food. Most foods kept in the fridge are 'high risk'—they contain protein and moisture therefore they will develop mould/bacteria within a few days.</b>
Campylobacter: Incubation period 48-60 hours.	<b>Sources of pathogenic bacteria; Humans, animal protein, pests (rats, mice, flies), dirty bins, waste food. Contaminated water.</b>
Escherichia Coli; Incubation period 12-24 hours.	This is often confused with Salmonella—this can be from red meat, poultry, soil and sewage. <b>The onset time is so slow that it often goes unnoticed and it is blamed on something else.</b>
	E Coli can be found in water, especially untreated water. It comes from human and animal excreta, urine and muddy vegetables (water).

### Week 5&6 Three main types of food related ill health.

#### Risk assessment

1. Microbes/bacteria/ mould/yeast.	Cause of food spoilage and contamination; Plant based chemicals Bacteria produce toxins which are waste material. They can be a problem when re-heated food especially rice and pasta.
2. Toxins	Person react to a food/ingredient they are unable to eat.
3. Allergies/intolerances. Anaerobic	Bacteria do not need oxygen to reproduce.
Risk/hazard	The likelihood of something causing harm. Something that has potential to cause harm.
Binary Fission	The reproduction of bacteria—multiplying 2x2x4x8 very rapidly (protein based foods)
Bacteria development	Bacteria need 4 ideal conditions; warmth, food, time, moisture.
Risk assessment Controlling risk	Assessing the level of risk and the potential for harm. Identifying ways in which to reduce the likelihood of harm, or ways in which to minimise the risk.
Danger Zone	Temp between 5c—75c where foods are either chilled or cooked. Core temp to 75c for 3 secs.

### Four Rules of Food Handling

**Personal Hygiene**; to include washing hands, Cover cuts, nails short and clean, shower daily, do not cough or sneeze near food, do not handle food if unwell, tie back long hair, no jewellery, wear clean clothes and clean apron.

**Correct food safety**; keep all chilled foods in the fridge until needed, check fridge is at 2c-5c, foods in fridge should be separate with raw meats at the bottom of fridge, use cling film to prevent cross contamination, freezer temp -18, defrost all foods properly before cooking, ambient temperature foods (5c—63c) to be kept in cupboards.

**Correct use of equipment**; use colour coded boards, raw food usage MUST be washed before re-using, clean and sanitise surfaces, use a temperature probe to check meat, use a clean spoon for tasting, clean fridges and cupboards, put lids on bins.

**Pest control**; Flies and other insects, mice and rats mark territory with urine, birds and ants—often finding sugary drinks and cakes.

**Chemical Contamination**: cleaning product, pesticide, bleach or undiluted washing up liquid is present in the food. If ingested (eaten) it can be very harmful.

**Biological Contamination**; bacteria, Virus's, moulds, fungi which can lead to death if ingested.

**Physical Contamination**: an actual piece of nail, hair, fly, plaster, grit has fallen into the food or entered the food chain in some way.



# Knowledge Organiser – Food and Catering

## Cycle 4 year 9

In this cycle, we will take a close look at cooking techniques and presentation skills. These are an essential technique needed for your y11 practical assessment so we need to make them outstanding.

### Week1 and 2

Types of knife skills.	
Different types of knife skills.	There are many different types of knives and skills using the knives and we always use a 'bridge' and 'claw' hold. The bridge is where your knife goes UNDER the hand protecting fingers whilst cutting. The claw is where you grip with your fingers the food whilst you make your cut, holding the food still. We use these skills when also cutting carrots and courgette into 'French' shapes—Julienne, Batons, Brunoise for our presentation skills. You should never put a knife into the washing up bowl—another person can easily cut themselves; when carrying a knife hold the blade downwards. Health and safety is always paramount—therefore every knife is counted.
Segmenting an orange and apple swans	Using a serrated knife to segment an orange and design a swan from an apple is a good way to improve knife skills—these are listed as techniques which all chefs should be able to do. This allows greater control of your knife and allows you to become more confident. In a high end restaurant the veg chef would be known as the Entremetier—he would ensure all veg were perfectly exact—known as uniform, by measuring with a ruler or measure on the side of the table.
Peeling/zesting	Peeling a potato, carrot and an apple is also a technique needed which is important to the H&C award. Zest a citrus fruit to use the skin to intensify the flavour.
Melting	Melting butter or chocolate in a Bain Marie (water bath) is an essential skill—this makes use of a saucepan, glass bowl and heated water. It is a skill because chocolate burns easily, it is also the way to melt butter and syrup when making flapjack. Melting is a recognised cake making method—there are four; creaming, whisking, melting, rubbing in.

### Weeks 3 &4

Food processing	
Whisking and sieving	Using an electric whisk (high speed)—make sure the beaters are in correctly, to whisk up eggs for a Swiss roll (p189) Sieve the flour to add air—whisking is a recognised cake making method. Cream is also whisked using a whisk and the 'creaming method' for a sponge cake. A sieve is essential when making a sponge cake—flour is sifted onto the batter and folded in (8)—the sieve breaks down the lumps of flour to make it fine and as you fold the flour in it traps air. Icing sugar is also better when sieved as the lumps are broken down.
Rubbing in shortcrust pastry/rich shortcrust	Pastry is an outer casing used to contain many foods such as pies, pasties and quiche. 'Rubbing in' is a recognised cake making method used in most cookery—used for pastry, scones and crumble mix.  Lemon tarts (using zest)
Sugars	How much sugar should we consume? Intrinsic sugar—occur naturally in the food sources—glucose, fructose, lactose, sucrose. Extrinsic sugar is added to foods—the main one is sucrose (white sugar) which comes from sugar cane/beet. Other types are honey and artificial sweeteners added to fizzy drinks—these should be avoided. Dairy free milks—very popular; oat milk, almond milk, rice milk, soya milk, --soya yogurt, soya chilled deserts. Dairy free ice-cream and sorbet. Lactose is the sugar naturally found in milk; people can be 'lactose intolerant' meaning they cannot digest the sugar.
Shaping	Bread rolls into plaits/pasta into ribbons.  Making a carrot soup with the julienne cuts of carrot. Using a blender to mix up fruits for a smoothie, blend for babies food. Food processor to mix pastry, pasta dough, breadcrumbs, creaming for sponge cake, adding eggs, mixing up coriander, oil, honey for the start of a curry or a tomato based bolognese/pizza base. Make ravioli with spinach and ricotta—roll out pasta in two thin lines and using a pastry cutter divide mixture at 2 cm apart—put other line of pasta on top and use cutter to make a perfect fluted edge. Pasta is then placed into BOILING water for approx. 3 mins.—a tomato sauce will compliment this dish and as an extra extension serve with a side salad and homemade vinaigrette.
Blending / food processor both electrical, both contain very sharp blades, both dishwasher safe except the MOTOR and electric plug.	
Pasta—make sure this is achieved during lesson time.	
time.	

### Week 5&6

Other cooking methods	
Braising/Stewing/Poaching/simmering/steaming.	Sealing meat in hot oil, then cook slowly in little moisture. Cook slowly in oven or on hob with gravy. Cook an egg or fish in little water just below boiling point. Cook vegetables or fish over water in a pan with holes in so the steam cooks the veg—helps retain vitamins. Braising; steak, cheap cuts of meat, kidney. Stewing; steak and vegetables. Simmering; when a food has boiled and you turn it down—rice, potatoes, pasta. Steaming; Vegetables, fish, chicken.
Dry frying	Means cooking foods that naturally contain oil in a pan without adding any more oil. Bacon and sausages are good examples. Protein coagulates, starch dextrinises, flavour intensifies. Hot frying pans are dangerous because hot fat spits. It can reach your skin and burn you. Hot frying pans should never be left unattended—they can easily catch fire. Hot frying pans should never be placed in the bowl or sink area and water added—a reaction to the hot fat means it can erupt into your face.
Baking	Means cooking foods in a hot oven—cakes, bread, flapjack, roasting meats, pizza and biscuits. Caramelises sugars to give a lovely taste, yeast is killed by heat, risen foods set and develops a crust.
Caramelisation	This is what happens when sugar is cooked and heated—flapjack, in cakes, toffee sauce—the sugar changes taste, colour and flavour through caramelisation.
Toasting and sautéing	
Toasting	Cooking starch based foods with a dry heat from a grill or flame—called dextrinization as the colour changes, flavour changes and aroma changes.
sautéing	Means frying foods in a little oil to cook gently, soften food and change flavour.
Shallow fry	Means to cook foods in a little oil in a frying pan. Fat will melt, red meat turns brown, juices are squeezed from meat, fat oil will add fat soluble vitamins A,D,E,K.

# Film Music Keywords

## **Diegetic music**

Music which has a source on the screen. E.g. the scene takes place during an opera and you can hear the singers and orchestra.

## **Non-diegetic music**

Music that doesn't have a source within the current scene. E.g. you can hear an orchestra but can't see it.

## **Foley**

This is the sound effects that are added to a film which make the film seem like it's in the real world. For example, if someone on the screen is reading a book, the sound of a page turning might be added to the sound track afterwards for extra realism.

## **Stinger/Bumper**

A stinger or bumper is a short clip of music that can be used to move between scenes of a film. Sometimes they are also called sounders and can often have voice-over and sound effects incorporated with them.

## **Mickey Mousing**

A compositional technique where the music is made to copy the action on the screen. For example, the music rises in pitch as a spaceship climbs higher and higher.

## **Spotting**

This is when you watch the final film and identify where there should be music and what sort of music it should be. Often, the director and composer will work this out together.

## **Theme**

The main tune of a piece of film music. For example, I'm sure you could hum the main theme from Star Wars or Harry Potter.

## **Underscore**

music that stays in the background, often behind dialogue, not over-stating anything, but effectively providing atmosphere. It usually enhances a mood.

# Film Music Keywords

## Chords

When you play three notes together at the same time. Major chords sound happier whereas minor chords sound sad. Diminished chords sound evil

## Dynamics

The loudness or quietness of the music. Going from quiet to loud can be very dramatic and is called a crescendo.

## Tempo

The speed of the music. Fast music tends to be used for an action scene e.g. a car chase. Whereas slow music might be good for a tense or romantic scene.

## Leitmotif

A short tune written to represent a character, place, event or emotion.

## Trimming

BandLab will let you shorten an audio clip so that you can use just a short piece of it.

## Copy and Paste

You can copy audio clips to memory in BandLab and then paste a new copy anywhere you like in your piece

## Instrumentation

The instruments you choose to play your music. This can make a big difference to the impact of the music.

## Ostinato

A repeating melody or rhythm. Rhythmic ostinati are used a lot in action scenes often in the form of intense drum beats. Ostinati are good for building tension.

## Loops

Short, pre-made pieces of music which you can use (in combination with your own ideas or other loops) to create a new piece of music.

## Effects

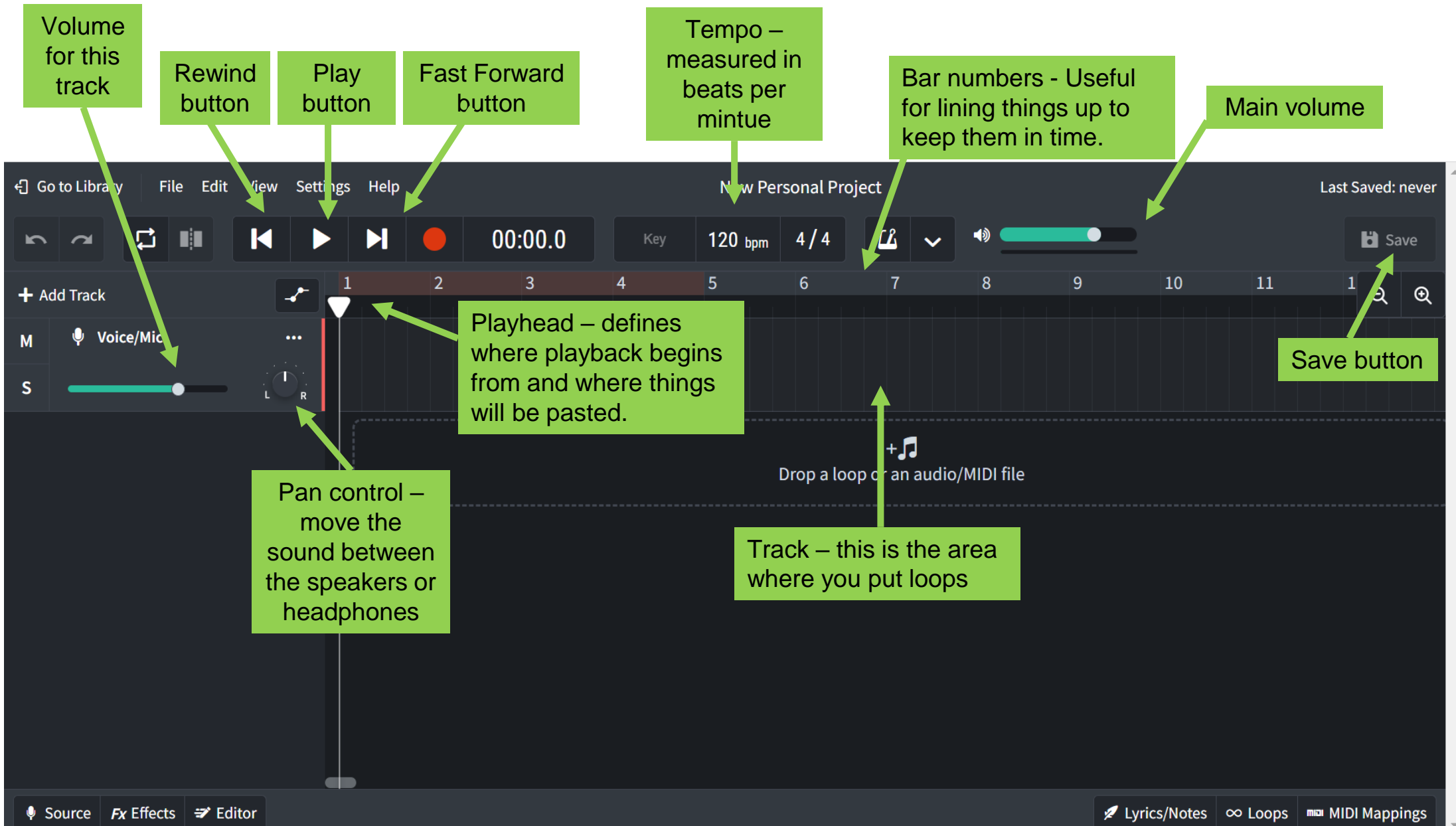
BandLab gives you access to many effects such as distortion, echo, etc to give your music more character and atmosphere.

## Playhead

This is the white bar which defines where your piece will start playing from. It moves when the music is playing. You can also move the playhead to where you want to copy and paste.



# BandLab Essentials – The Main Screen



# BandLab Essentials – The Effects Screen

The screenshot shows the BandLab interface with the Effects screen open. The top bar includes a menu (Go to Library, File, Edit, View, Settings, Help), project name (New Personal Project), and status (Last Saved: never). The main area displays a timeline with tracks and a list of effects modules. A green box labeled "Effects button – opens the Effects screen." points to the "Fx: Slight Saturation" button. Another green box labeled "Effects modules currently being used" points to the "Graphic EQ" and "Space Maker" modules. A third green box labeled "Add effect button" points to the "+" button in the "Add Effect" section. The bottom bar shows tabs for Source, Fx Effects (selected), and Editor, along with buttons for Lyrics/Notes, Loops, and MIDI Mappings.

Go to Library File Edit View Settings Help New Personal Project Last Saved: never

00:00.0 Eb maj 200 bpm 4 / 4 Save

+ Add Track

1 2 3 4 5 6 7 8 9 10 11 1

Effects button – opens the Effects screen.

Effects modules currently being used

Add effect button

Drop a loop or

Graphic EQ Equalizer

100 200 400 800 1.6k 3.2k 6.4k Level

+15 0 -15

Space Maker Reverb

MIX WIDTH ROOM SIZE DAMPENING

Medium Ambience

+ Add Effect

PAN REVERB

Source Fx Effects Editor Lyrics/Notes Loops MIDI Mappings

# BandLab Essentials – The Loop Browser

Play the loop to hear what it sounds like

Search Bar – type a word or phrase here to find loops e.g. vocals, drums, hiphop, etc

The screenshot displays the BandLab software interface. At the top, a menu bar includes 'Go to Library', 'File', 'Edit', 'View', 'Settings', and 'Help'. Below this is a project header area with 'New Personal Project' and 'Last Saved: never'. The main workspace features a timeline with measures 1 through 8. On the left, there's a track control panel for 'Voice/Mic' with a microphone icon, 'Fx: Slight Saturation', and volume/solo buttons. A large dashed box in the center of the workspace contains the text 'Drop a loop or an audio/MIDI file here'. On the right, the 'Loop Browser' panel is open, showing a search bar with 'vocal' entered. Below the search bar are tabs for 'Instruments' and 'Genres'. A list of loops is displayed, each with a play button, a loop icon, a name, and metadata (type, duration, key). The bottom of the interface has a tab bar with 'Source', 'FX Effects', and 'Editor' tabs. On the far right of this bar, there are buttons for 'Lyrics/Notes', 'Loops' (which is highlighted in green), and 'MIDI Mappings'.

Go to Library File Edit View Settings Help

New Personal Project

Last Saved: never

00:00.0 Eb maj 200 bpm 4 / 4

+ Add Track

M Voice/Mic  
Fx: Slight Saturation

S

Drop a loop or an audio/MIDI file here

Search Bar – type a word or phrase here to find loops e.g. vocals, drums, hiphop, etc

Q vocal

Instruments Genres

Play	Loop Icon	Loop Name	Type	Duration	Key
▶	🔁	Contemplation Vocals	Voice	1:11	D maj
▶	🔁	Snowdancer Vocals	Synth	1:28	G min
▶	🔁	Ritual Vocals 04	Synth	0:90	C min
▶	🔁	Kawaii Vocals 02	Voice	2:00	Eb maj
▶	🔁	Kawaii Vocals 04	Voice	2:00	Eb maj
▶	🔁	Ritual Vocals 02	Voice	0:90	C min
▶	🔁	Kawaii Vocals 03	Voice	2:00	Eb maj
▶	🔁	Kawaii Vocals 01	Voice	2:00	Eb maj

Loop Browser button – used to open the loop browser

Source FX Effects Editor

Lyrics/Notes Loops MIDI Mappings





Born in 1932, **John Williams** has more than 100 motion pictures to his credit and some 50 Academy Award nominations. He is one of the most successful film composers of all time and has often worked on films by director Steven Spielberg.

He has composed music for some very famous films including *E.T.: The Extra-Terrestrial* (1982) and *Schindler's List* (1993), *Close Encounters of the Third Kind* (1977), *Raiders of the Lost Ark* (1981) and its sequels (1984, 1989, and 2008), *Jurassic Park* (1993) and the sequel *The Lost World* (1997), *War Horse* (2011), and the entire series of *Star Wars* films.



Born 1934, **Quincy Jones** studied Jazz at the prestigious Berkeley School of Music before working with some world class jazz bands in the 1950s. He then became the vice president of Mercury Record in 1961 thereby becoming one of the first African Americans to hold a top executive position at a major American record label..

He has written over 2,000 musical compositions in a variety of genres including pop, jazz and film scores.

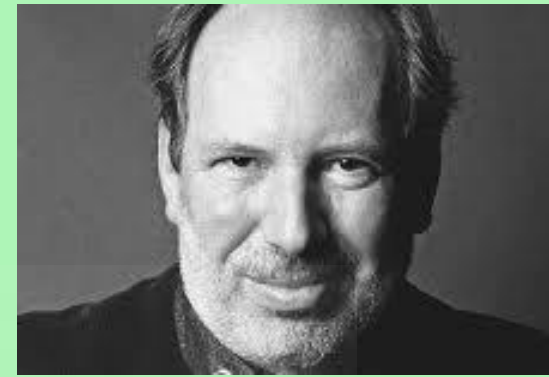
His film credits include music for *The Colour Purple* (1985), *The Heist* (1971) and *The Italian Job* (1969).



Born 1960, **Rachel Portman** is one of the most prolific female film composers of all time. She has worked on over 100 soundtracks for films and television shows spanning from 1982 to the present.

She was the first female composer to win an Academy Award in the category of Best Musical or Comedy Score for *Emma* and she also holds the most nominations for a female composer at the Academy Awards with two for Best Original Score.

Her music typically uses solo instruments and has a 'less is more' approach. You need only listen to her score for the romantic-drama *Chocolat* to see how powerful her music can be,



Born in 1952, **Hans Zimmer** was originally the keyboard player in a pop band called Buggles.

Zimmer pioneered the use of combining old and new musical technologies. Today, this work has earned him the reputation of being the father of integrating the electronic musical world of synthesisers and electric guitars with more traditional orchestral arrangements

Zimmer's work has been nominated for 7 Golden Globes, 7 Grammys and seven Oscars for *Rain Man* (1988), *Gladiator* (2000), *The Lion King* (1994), *As Good as It Gets* (1997), *The Preacher's Wife* (1996), *The Thin Red Line* (1998), *The Prince of Egypt* (1998), and *The Last Samurai* (2003).

### 1. Key Terms:

**ADULTERY** A married person having sexual intercourse with someone they are not married to.

**DIVORCE** Legally ending a marriage.

**COHABITATION** To live together, with a sexual relationship without being married.

**COMMITMENT** A sense of dedication and obligation to someone or something

**CONTRACEPTION** Methods used to stop a woman from becoming pregnant during or after sexual intercourse; can also be used to stop sexually transmitted infections.

**GENDER EQUALITY** People of all genders enjoying the same rights and opportunities in all aspects of their lives

**RESPONSIBILITIES** Actions / duties you are expected to carry out.

**ROLES** Position, status or function of a person in society, as well as the characteristics and social behaviour expected of them.

### 7. Jewish attitudes to sex/ contraception

Sex should take place in marriage; one of the 3 stages of marriage.; a gift from God; a duty to have children- mainly Orthodox disagree with artificial methods of contraception.but Reform Jews mainly accept it within marriage as part of family planning.;Most Jews disagree with using a condom- an artificial barrier.

### 2. Types of Family:

**NUCLEAR** - the most common type of family in modern Britain - 2 parents & 1 (or more) children living in the same house.

**EXTENDED** - A number of adults & children who are related to each other living in the same home e.g. cousins, aunts, uncles & grandparents

**RECONSTITUTED** - A mixture of step-parents & step-children

**SINGLE PARENT** - Where one parent raises a child(ren) on their one. This type of family is increasing rapidly.

**CHILDLESS** - Where a married or cohabiting couple do not have children, either through choice or naturally.

### 6.. The Christian Marriage Services

-Bride wears white to symbolise purity.

-Wedding bells are used to drive away evil spirits.

-The vicar / priest welcomes everyone and explains the purpose of marriage

-The couple exchange vows which reflect the main - Christian beliefs about marriage:- *To have and to hold; from this day forward*'. Shows that the marriage is a lifelong & serious commitment, should last through both good and bad times. These are said in front of friends, family and God, to demonstrate their commitment.

-The couple exchange rings which are a symbol of never ending love.

-The vicar / priest declares the couple married.

-Prayers and Bible readings are said; hymns are sung and the priest might give a sermon. These all reflect God blessing the marriage.

### 3. Christian attitudes to marriage:

Marriage is a gift from God given to humanity. It is a **sacrament** and so it gives it special importance. Jesus teaches about the importance of marriage. Marriage is part of God's creation He made a man and a woman to be together. Marriage is the complete joining together of two people in a special way. What God has put together, let no man put asunder'.

### 4. Jewish attitudes to marriage

A blessing from God & it is an important spiritual ceremony. Both must enter into the marriage with the right intentions. Both partners are expected to respect & be faithful. Marriage is seen as the basis of family life. Weddings can take place in a synagogue or any suitable place- made up of two parts: the kiddushin and the nisuin.

### 5. Religious views on cohabitation

Traditionally, **Christianity** has taught against cohabitation. Some Christians now accept it, if it is part of a committed relationship, although marriage is the ideal.

For many **Jews** it is important to get married rather than cohabit. The Torah says for two people to live as husband & wife, they must have the blessing of God.

### 8. Christian attitudes to sex & contraception

Sex should take place in marriage. It is viewed as a gift from God; it is holy & sacred. Casual sex devalues people & the act itself. Contraception is accepted by most Christians within marriage for family planning purposes. Most Roman Catholic Christians disagree with artificial methods of contraception due to Natural Law, which says that every time sexual intercourse takes place there should be possibility of new life.



### 9. Religious views on adultery

-Adultery is wrong for several reasons. Marriage is sexually exclusive & should not be shared with anyone else; It goes against the Ten Commandments; -Marriage is a sacrament - a gift from God - and marriage goes against this; -Adultery destroys trust in a relationship.

-Adultery is wrong for several reasons. It goes against the Ten -Commandments; sex only acceptable within marriage; the **Halakah** (code of conduct) emphasises that a husband should be sexually considerate & respectful to his wife.

### 11. Jewish attitudes towards divorce

- Judaism recognises that some marriages fail & therefore accepts divorce.
- As well as a civil divorce, Orthodox Jews apply for a religious divorce called a 'get'
- without it they cannot remarry. It is the husband who starts this process.
- Divorce= last resort, but it is better to divorce than be unhappily married.
- A woman has to wait 90 days after a divorce to remarry, to ensure she isn't pregnant with her previous husband's baby.
- If a husband refuses to give a woman a divorce= a 'chained woman'.

### 12. Christianity- divorce

There are different Christian attitudes to divorce. The Roman Catholic church does not recognise divorce: marriage is a lifelong commitment. Some get marriage annulled but only in special circumstances. The Anglican Church accepts divorce as it is UK law. Remarriage in a church is discouraged. Non-Conformist Christians (Methodist etc) accept divorce although see it as best avoided; remarriage is permitted if suitable for all concerned.

### 13. Religious attitudes to same-sex marriage

**Christianity:** Some use quotes from Old & New Testaments showing that marriage should be between a man & woman. Others say that quotes reflect the time they were written & not modern day society. Quakers allow same-sex marriage within their tradition, as all are equal in the eyes of God. In 2010, Pope Francis (Roman Catholic Church) wrote that a marriage is not the same as a union of two people of the same sex; this is not discriminating but respecting difference. A marriage is the best relationship in which to have a family. **Judaism:** Orthodox Judaism maintains traditional view that marriage is between a man & woman-quotes from Leviticus in the Torah (thou shalt not lie with mankind). Not all Orthodox Jews accept this view, and with the majority of Reform Jews, they accept same-sex relationships.

### 10. The Jewish Marriage Service

- The **ketubah** is the formal marriage contract that states how the husband will care for his wife. She keeps this throughout the marriage.
- A wedding will be taken by a rabbi and will be held under a **chuppah**. This is a canopy open at the sides which symbolises the couple's new house, open to friends, family and God.
- The groom makes a declaration and reads the ketubah aloud.
- After the blessings, the groom stamps on a wine glass. This symbolises both the fragility of marriage and a reminder of the destruction of the Temple in Jerusalem.
- The groom places a ring on the bride's index finger which is believed to be connected to the heart. Rings are a symbol of everlasting or never ending love.
- Seven blessings or **the nisuin** are said. These praise God for creating the human race and bringing happiness to the couple.
- The bride circles the groom seven times to break down the barriers between them. This represents when Joshua circled the city of Jericho seven times after God commanded him to. After he did this, the walls of the city fell down.

### 14. Role of Women

All disciples were men. Jesus' actions showed that he respected women. **Christians** believe all humans are created in the image of God, therefore equal and sacred. Galatians 3: 'there is neither male nor female'. Roman Catholic Church: women can become nuns but not priests/bishops as Jesus only had male disciples. Women have important roles though. Anglican church ordained women priests in 1994-bishop in 2014. Women now equal. Other Christian groups, women have equal roles. In early **Judaism**, men had authority over women. All people are made by God & are all equal. Jewish texts describe equal but different roles for men & women. Some religious duties e.g. bringing in the Shabbat are carried out by women. Some mitzvot do not apply to women. Reform Judaism, women can become rabbis, lead worship and men & women sit together.

# ¿A cuál fiesta vas? (What festival do you go to?)

1

<u>TIME</u>	<u>VERB</u>	<u>FESTIVAL</u>	<u>CONNECTIVE</u>	<u>VERB</u>	<u>OPINION</u>	<u>CONNECTIVE</u>	<u>REASON</u>
<b>Cada agosto</b> (Every August)	<b>voy a</b> (I go to)	<b>San Fermín</b>	<b>donde todo el mundo</b> (where everyone)	<b>baila.</b> (dances)	<b>Me gusta</b> (I like it)		<b>agradable.</b> (pleasant)
	<b>vamos a</b> (we go to)			<b>canta.</b> (sings)	<b>Me encanta</b> (I love it)	<b>ya que es</b> (since it is)	<b>divertido.</b> (fun)
<b>En junio</b> (In June)		<b>La Tomatina</b>		<b>corre de los toros.</b> (runs from bulls)			<b>divertidísimo.</b> (really fun)
	<b>se celebra</b> (they celebrate)		<b>donde la gente</b> (where people)	<b>lucha con tomates.</b> (fights with tomatoes)	<b>No me gusta mucho</b> (I don't like it much)	<b>porque es</b> (because it is)	<b>emocionante.</b> (exciting)
<b>En el verano</b> (In the summer)				<b>se viste lo mismo.</b> (wears the same things)	<b>No soporto</b> (I can't stand it)		<b>entretenido.</b> (entertaining)
				<b>se divierte.</b> (has fun)	<b>Me chifla</b> (I'm crazy about it)		<b>fascinante.</b> (fascinating)
							<b>impresionante.</b> (impressive)
							<b>peligroso.</b> (dangerous)

# ¿Qué pasó a San Fermín? (What happened at San Fermín?)

<u>TIME</u>	<u>VERB</u>	<u>NOUN</u>	<u>TIME</u>	<u>VERB</u>	<u>NOUN</u>	
<b>El julio pasado</b> <i>(Last July)</i>	<b>fui a Pamplona</b> <i>(I went to Pamplona)</i>	<b>solo.</b> <i>(on my own)</i>	<b>Durante la fiesta,</b> <i>(and during the festival)</i>	<b>había</b> <i>(there was)</i>	<b>un torero.</b> <i>(a bullfighter)</i> <b>el encierro.</b> <i>(the bull run)</i> <b>el chupinazo.</b> <i>(the opening party)</i> <b>el fuenting.</b> <i>(the jumping off the fountain)</i> <b>la corrida.</b> <i>(the bull fight)</i> <b>la estatua de San Fermín.</b> <i>(the San Fermín statue)</i>	
<b>El mes pasado</b> <i>(Last month)</i>				<b>vi</b> <i>(I saw)</i>		
		<b>fui a ver</b> <i>(I went to see)</i>				
<b>La semana pasada</b> <i>(Last week)</i>	<b>fuimos a Pamplona</b> <i>(we went to Pamplona)</i>	<b>con mi mejor amigo/a.</b> <i>(with my best friend)</i>				
			<b>con todos mis amigos.</b> <i>(with all my friends)</i>	<u>NOUN</u>	<u>VERB</u>	<u>NOUN</u>
				<b>las personas</b> <i>(people)</i>	<b>corren</b> <i>(run)</i>	<b>en las calles.</b> <i>(in the streets)</i>
				<b>los niños</b> <i>(children)</i>	<b>cantan</b> <i>(sing)</i>	<b>en las plazas.</b> <i>(in the squares)</i>
				<b>los australianos</b> <i>(the jumpers)</i>	<b>van</b> <i>(go)</i>	<b>de las fuentes.</b> <i>(from the fountains)</i>
					<b>saltan</b> <i>(jump)</i>	<b>el pañuelo rojo.</b> <i>(the red scarf)</i>
					<b>llevan</b> <i>(wear)</i>	<b>el pobre de mí.</b> <i>(the Poor Me song)</i>



# ¿Qué pasó a la Tomatina? (What happened at the Tomatina?)

<u>TIME</u>	<u>VERB</u>	<u>NOUN</u>	<u>VERB</u>	<u>PAST WEATHER</u>	<u>TIME</u>	<u>VERB</u>
<b>El agosto pasado</b> (Last August)	<b>fui a Buñol</b> (I went to Buñol)	<b>solo</b> (on my own)	<b>y me desperté temprano.</b> (and I woke up early)	<b>Hizo sol</b> (It was sunny)	<b>y durante la batalla de tomates,</b> (and during the tomato fight)	<b>conocí a gente divertida</b> (I met fun people)
<b>El miércoles pasado</b> (Last Wednesday)	<b>fuimos a Buñol</b> (we went to Buñol)	<b>con mi mejor amigo/a</b> (with my best friend)	<b>y viajé en tren</b> (and I travelled by train)	<b>Hizo calor</b> (It was hot)		<b>tiré un montón de tomates</b> (I threw loads of tomatoes)
<b>La semana pasada</b> (Last week)		<b>con todos mis amigos</b> (with all my friends)	<b>y alquilé un coche</b> (and I hired a car)	<b>Hizo buen tiempo</b> (It was good weather)		<b>me puse perdido/a</b> (I got really dirty)
			<b>y llegué allí temprano</b> (and I arrived there early)	<b>Estuvo nublado</b> (It was cloudy)		<b>me reí mucho</b> (I laughed a lot)
				<b>Llovió un poco</b> (It rained a bit)		<b><u>RULE</u></b>
				<b>Hubo tormentas</b> (It was stormy)		<b>no se deben tirar botellas</b> (you mustn't throw bottles)
						<b>se recomienda llevar zapatillas</b> (it's recommended to wear trainers)
						<b>se recomienda llevar camisetas viejas</b> (it's recommended to wear old t-shirts)

# ¿Cómo fue? (How was it?)

<u>PAST OPINION</u>	<u>CONN'VE</u>	<u>REASON</u>	<u>VERB</u>	<u>TIME</u>
<b>Me gustó</b> <i>(I liked it)</i>	<b>ya que fue</b> <i>(since it was)</i>	<b>cruel.</b> <i>(cruel)</i>	<b>y quiero volver</b> <i>(and I want to go back)</i>	<b>en el futuro.</b> <i>(in the future)</i>
<b>Me encantó</b> <i>(I loved it)</i>		<b>divertidísimo.</b> <i>(really fun)</i>	<b>y me gustaría volver</b> <i>(and I would like to go back)</i>	<b>otra vez.</b> <i>(again)</i>
<b>No me gustó mucho</b> <i>(I didn't like it much)</i>	<b>porque fue</b> <i>(because it was)</i>	<b>emocionante.</b> <i>(exciting)</i>	<b>y voy a volver</b> <i>(and I'm going to go back)</i>	<b>cuando sea mayor.</b> <i>(when I'm older)</i>
<b>Me divertí</b> <i>(I had fun)</i>		<b>fascinante.</b> <i>(fascinating)</i>	<b>y espero volver</b> <i>(and I hope to go back)</i>	<b>cuando tenga el dinero.</b> <i>(when I have the money)</i>
<b>Lo pasé bien</b> <i>(I had a good time)</i>		<b>fatal.</b> <i>(awful)</i>	<b>y nunca volveré</b> <i>(and I will never go back)</i>	<b>lo antes posible.</b> <i>(as soon as possible)</i>
		<b>flipante.</b> <i>(awesome)</i>		
		<b>guay.</b> <i>(cool)</i>		
		<b>peligroso.</b> <i>(dangerous)</i>		<b>si pudiera.</b> <i>(if I could)</i>
		<b>raro.</b> <i>(weird)</i>	<b>y volvería</b> <i>(and I would go back)</i>	<b>si fuera rico/a.</b> <i>(if I were rich)</i>

# ¿Qué es la mejor fiesta? (Which is the best fiesta?)

<u>OPINION</u>	<u>FESTIVAL</u>	<u>COMPARATIVE</u>	<u>CONN'VE</u>	<u>COMPARATIVE</u>	<u>REASON</u>	<u>COMPARATIVE</u>	<u>REASON</u>
<b>Desde mi punto de vista</b> <i>(From my point of view)</i>	<b>San Fermín</b>	<b>es la mejor</b> <i>(is the best)</i>	<b>porque</b> <i>(because)</i>	<b>es más</b> <i>(it's more)</i>	<b>cruel</b> <i>(cruel)</i>	<b>y más</b> <i>(and more)</i>	<b>cruel.</b> <i>(cruel)</i>
<b>Diría que</b> <i>(I would say that)</i>					<b>divertido</b> <i>(fun)</i>		<b>divertido.</b> <i>(fun)</i>
					<b>emocionante</b> <i>(exciting)</i>		<b>emocionante.</b> <i>(exciting)</i>
					<b>fascinante</b> <i>(fascinating)</i>		<b>fascinante.</b> <i>(fascinating)</i>
<b>Pienso que</b> <i>(I think that)</i>	<b>La Tomatina</b>		<b>ya que</b> <i>(since)</i>	<b>es menos</b> <i>(it's less)</i>	<b>fatal</b> <i>(awful)</i>	<b>y menos</b> <i>(and less)</i>	<b>fatal.</b> <i>(awful)</i>
				<b>flipante</b> <i>(awesome)</i>	<b>flipante.</b> <i>(awesome)</i>		
				<b>guay</b> <i>(cool)</i>	<b>guay.</b> <i>(cool)</i>		
<b>Creo que</b> <i>(I believe that)</i>		<b>dado que</b> <i>(given that)</i>	<b>es ni</b> <i>(it's neither)</i>	<b>peligroso</b> <i>(dangerous)</i>	<b>ni</b> <i>(nor)</i>		<b>peligroso.</b> <i>(dangerous)</i>
				<b>raro</b> <i>(weird)</i>			<b>raro.</b> <i>(weird)</i>



# PHYSICAL EDUCATION - A HEALTHY BALANCED DIET

**A balanced diet** – eating the right foods in the correct proportions. Taking in the right amount of calories for the expenditure of energy.

In order to perform well in sport, an athlete needs to have a healthy balanced diet.

There are 7 components of a balanced diet, these are:

- 1• **Carbohydrates** – Main energy source. i.e. pasta & potatoes
- 2• **Fats** – Secondary energy source & provides insulation. i.e. butter
- 3• **Proteins** – Help growth and repair of muscles. i.e. eggs, white meat & fish
- 4• **Minerals** – Maintains a healthy bodily functioning. i.e. iron and calcium
- 5• **Vitamins** - Maintains a healthy immune system. i.e. vitamin C/D
- 6• **Fibre** – Aids digestion of food in the gut. i.e. *cereals & nuts*
- 7• **Water** – Maintains hydration of an athlete.

1



2



3



4



5.



6.



7.



## Hydration and physical activity

**Water** is necessary for:

- Transportation of nutrients
- Removes waste products through urine
- Regulates body temperature

A lack of water can cause **dehydration**. Symptoms are tiredness, lack of concentration and headaches.

**After the event** - An athlete will continue to drink fluids to replace the water and carbohydrate levels that are depleted.



In order to have a healthy balanced diet, you should eat a variety of different food groups. The **eatwell plate** shows you the approximate portions.



# PHYSICAL EDUCATION - THE COMPONENTS OF FITNESS

**Fitness** can be broken down into different parts, these can be called the Components of Fitness.

Components of Fitness	Definition	How does it link to Sport?	How can I test the components of fitness?
<b>Agility</b>	The ability to change the position of the body quickly and control the movement.	Football - A footballer will need to dribble with speed, control and will need to change direction in order to beat the defenders.	Illinois Agility Test
<b>Balance</b>	The ability to maintain the body's center of mass above the base of support.	Athletics - A sprinter holds a perfectly still sprint start position and is ready to go into action as soon as the gun sounds.	Standing Stork Balance Test.
<b>Coordination</b>	The ability to use two or more body parts together.	Table Tennis - A player will need good hand-eye coordination in order to successfully hit the ball over the net.	Tennis Ball Wall Toss.
<b>Flexibility</b>	The range of motion (ROM) at a joint.	Gymnastics - A gymnast will need to show great flexibility when performing the splits.	Sit and Reach Test.
<b>Muscular Endurance</b>	The ability to use voluntary muscles repeatedly without tiring.	Netball - A netball player will need to repeatedly use their muscles when performing skills such as: passing, shooting and marking in a competitive game.	Sit Up Test. Press Up Test.
<b>Muscular Strength</b>	The amount of force a muscle can exert against a resistance.	Rugby - A rugby player will need to exert a large amount of force when making a tackle in Rugby.	Wall Sit.
<b>Power</b>	The ability to perform strength performances quickly.	Athletics - A javelin thrower applies great force to the spear while moving their arm rapidly forward.	Broad Jump. Sargent Jump.
<b>Reaction Time</b>	The time taken to respond to a stimulus.	Running - Track events start with a pistol fire; therefore all runners must react quickly to give them an advantage to race.	Ruler Drop.
<b>Speed</b>	The ability to put body parts into motion quickly.	Basketball - A basketball player will need to sprint down the court in order to get away from a defender/opponent.	30M Sprint.





# REVISE@PA

## ***FLASH CARDS***

***USE*** Memorising key words/facts/short pieces of information.

### ***WHAT ARE THEY?***

A set of cards with a question/ key word on one side and an answer/ definition on the other. You learn as you make the cards and then have an excellent tool to test yourself over and over until you know the answers.

### ***HOW DO I USE THEM?***

#### **MAKING THE CARDS:**

1. Buy or make some cards (A6 size) - Not paper.
2. Write the topic/subject in the corner of the card.
3. Write a key word/ question on the same side of the card.
4. On the other side of the card write the answer (if you have written a question) or definition/ explanation (if it is a key word).
5. Make a set of cards - You can use different colour cards for different topics or for easier and harder questions.

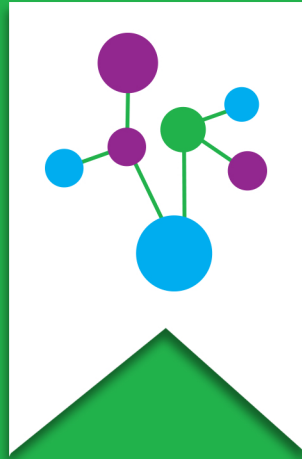
#### **USING THE CARDS:**

1. Read through cards (both sides) one at a time.
2. Test yourself- go through the cards one at a time. If you have asked a question, try to answer it out loud or in your mind; if you have written a key word try to recall as much information as you can.
3. After each card, turn it over and look at the answer/definition. If you are happy with the way you have answered it put it on the RIGHT pile. If you got the information wrong or your answer was incomplete , put it on the WRONG pile.
4. When you have gone through all the cards, repeat the process with the WRONG pile. Keep repeating until you have no cards in the WRONG pile.
5. You can also use your cards to test your friends.

***Put your cards in a safe place - You can come back to them in future.***



**PLYMPTON ACADEMY**



**TERM FIVE & SIX**

---

**HANDBOOK**

---

**YEAR 9**