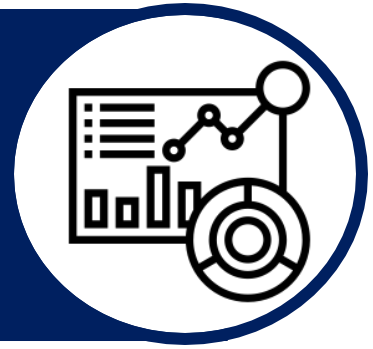
Name:_____

BROADOAK ACADEMY

Knowledge Organisers



Term 1-2

Year 9

Contents

- How to learn over time
- Revision Strategies
- Knowledge Organisers:
  - English
  - Maths
  - Science
  - Humanities
  - Languages
  - The Arts

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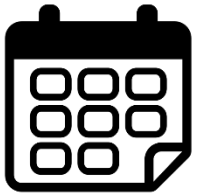
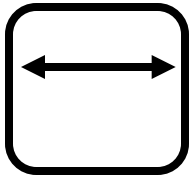
How to learn over time

Successful Learning Takes Place Over Time

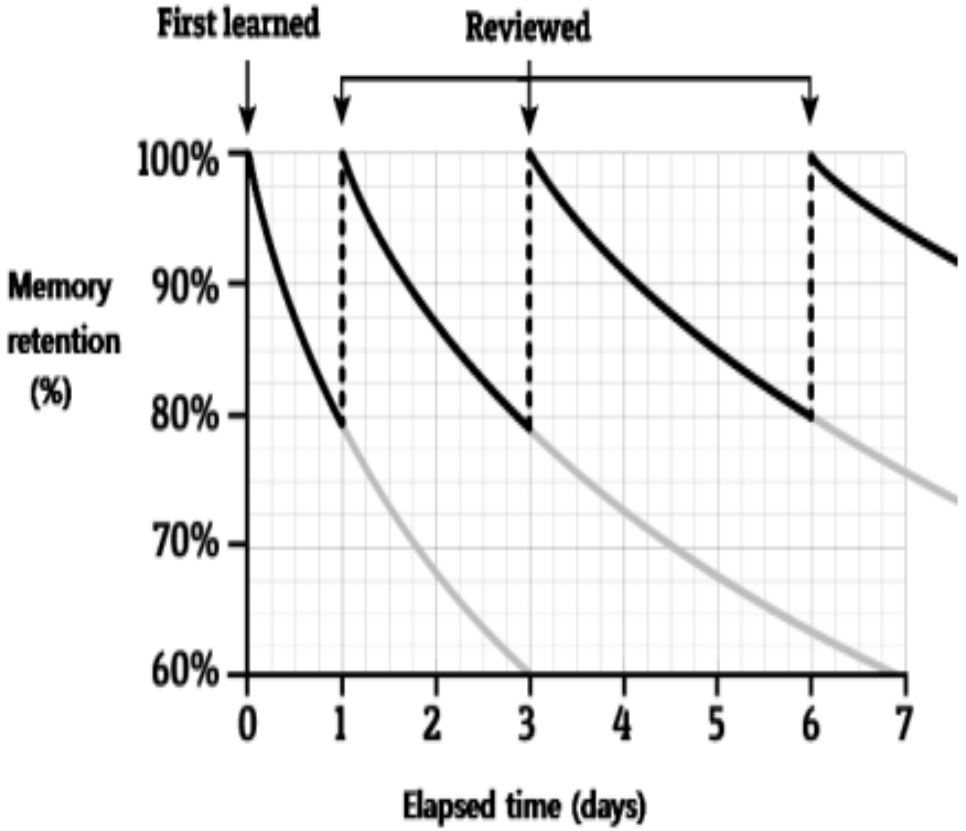


It's rare for anyone to be completely comfortable with something they learn for the first time. This could be a new piece of music, dance move, language or chemistry. We all have to practice. In most instances, the aim is to be at your optimum on the day it matters, e.g. the performance, race or exam. Everything leading up to this point is part of the process of improving. It's about the long-term rather than the short-term, which also means there are no quick fixes. During this period, it's okay to make mistakes; it's okay to feel frustrated. What matters is what you do about it.

Space out your learning on a subject



Spacing out your learning over time is far more effective than last-minute cramming. This is based on research into how we forget and how we remember. The speed at which we forget something will depend on many factors such as the difficulty of the material, how meaningful it was to us, how we learned it and how frequently we relearn or remember it. The last factor tells us that when we learn something for the first time, we need to review it quickly afterwards. The more times we force ourselves to remember something, the longer the gap between reviews, which the diagram below illustrates nicely. The Leitner system and Cornell Notes mentioned earlier provides a wonderful way of achieving this, but the principle applies to all of the learning strategies mentioned in this booklet.



Revision Strategies

List It

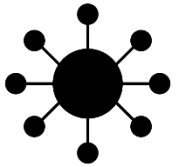
This is a simple free recall task that is very versatile. It can feel challenging, but this is a good thing, and it provides clear feedback on what you do and don't know. Choose a topic, set yourself a time limit and…

- List as many keywords as you can
- List as many facts as you can
- List as many key events/quotes/individuals as you can
- List as many causes of X as you can
- List as many consequences of Y as you can

Flashcards

Flashcards have the potential to be a powerful learning aid. However, how successful this is will depend on the thought you put into making them in the first place and then how they're used. It's very important to remember that they're for testing, not summarising.

Mapping



Mapping is a brilliant way of organising and learning information, demonstrated on various pages in this booklet. It helps you break down complex information, memorise it, and see the connections between different ideas.

Self-testing

Research has shown that every time you bring a memory to mind, you strengthen it. And the more challenging you make this retrieval, the greater the benefit. Self-testing improves the recall of information, transfer of knowledge and making inferences between information. Equally, there are many indirect effects, such as a greater appreciation of what you do and don't know, which helps you plan your next steps.

Flashcards

Flashcards are small sheets of paper or card with matching pieces of information on either side. They are a useful tool for learning facts and allow you to quickly check whether you have remembered something correctly.

When making and using flashcards:

Do:

- ✓ …make flashcards quickly.
- ✓ …put a single piece of information of each flashcard.
- ✓ …sort your flashcards according to your confidence with them (see below).
- ✓ …test yourself on the flashcards from memory.

Don't:

- X …spend more time making flashcards than actually using them.
- X …put lots of information onto each flashcard.
- X …revise the flashcards in the same order every time that you use them.
- X …only read through flashcards.

1861	groynes	osmosis	Where is the pharmacy?
Pasteur published his paper about germ theory.	A low wall on the coastline which slows longshore drift	Net movement of water from a high concentration to low concentration across a partially permeable membrane	Où est la pharmacie?

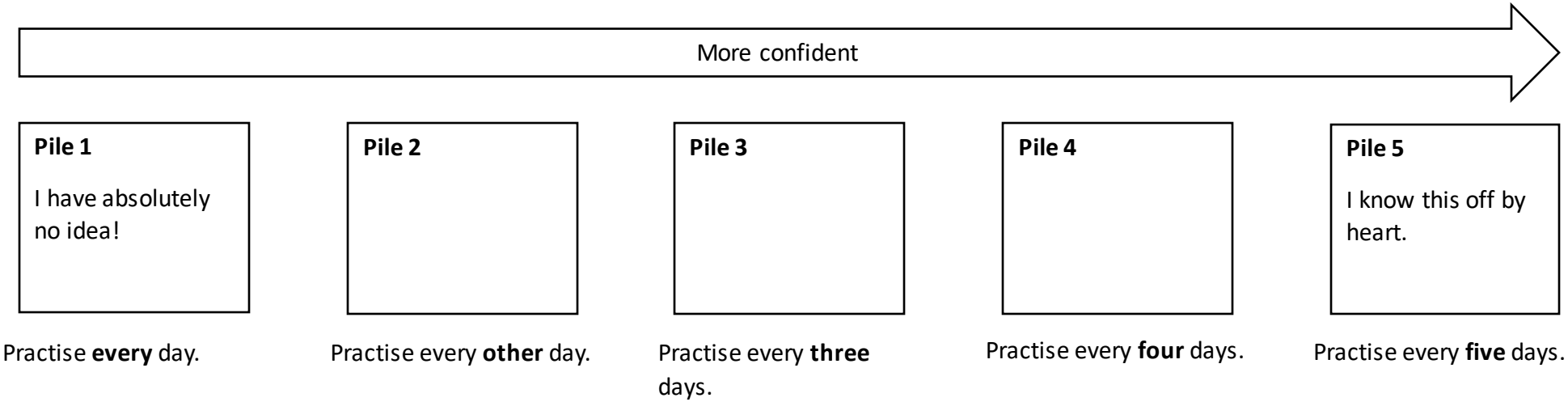
How to make flashcards:

- You can by a set of flashcards or use a free website such as Quizlet.
- Find the information you want to put onto flashcards using your existing revision resources (e.g. a knowledge organiser).
- Fold a piece of A4 paper into 10.
- Write the questions on the top half of the paper.
- Write the answers on the bottom half of the paper.
- Cut the paper along the dotted lines shown here.
- Fold the strips of paper so that the writing is on either side.

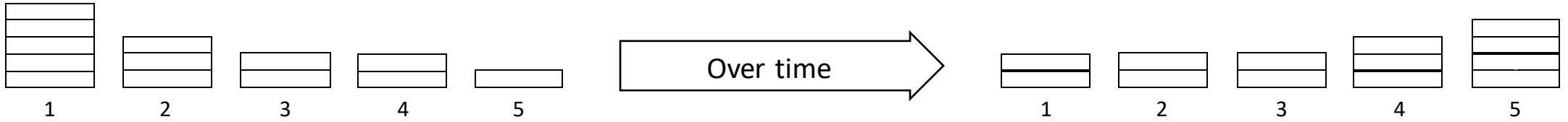
Definition 1	Definition 2	Definition 3	Definition 4	Definition 5
Answer 1	Answer 2	Answer 3	Answer 4	Answer 5

How to use flashcards:

1. Test yourself using the flashcards.
2. As you test yourself, sort the flashcards into up to five piles according to how confident you are with the content.
3. Put the piles into numbered envelopes (1-5).
4. Test yourself on the different piles on different days (see below):



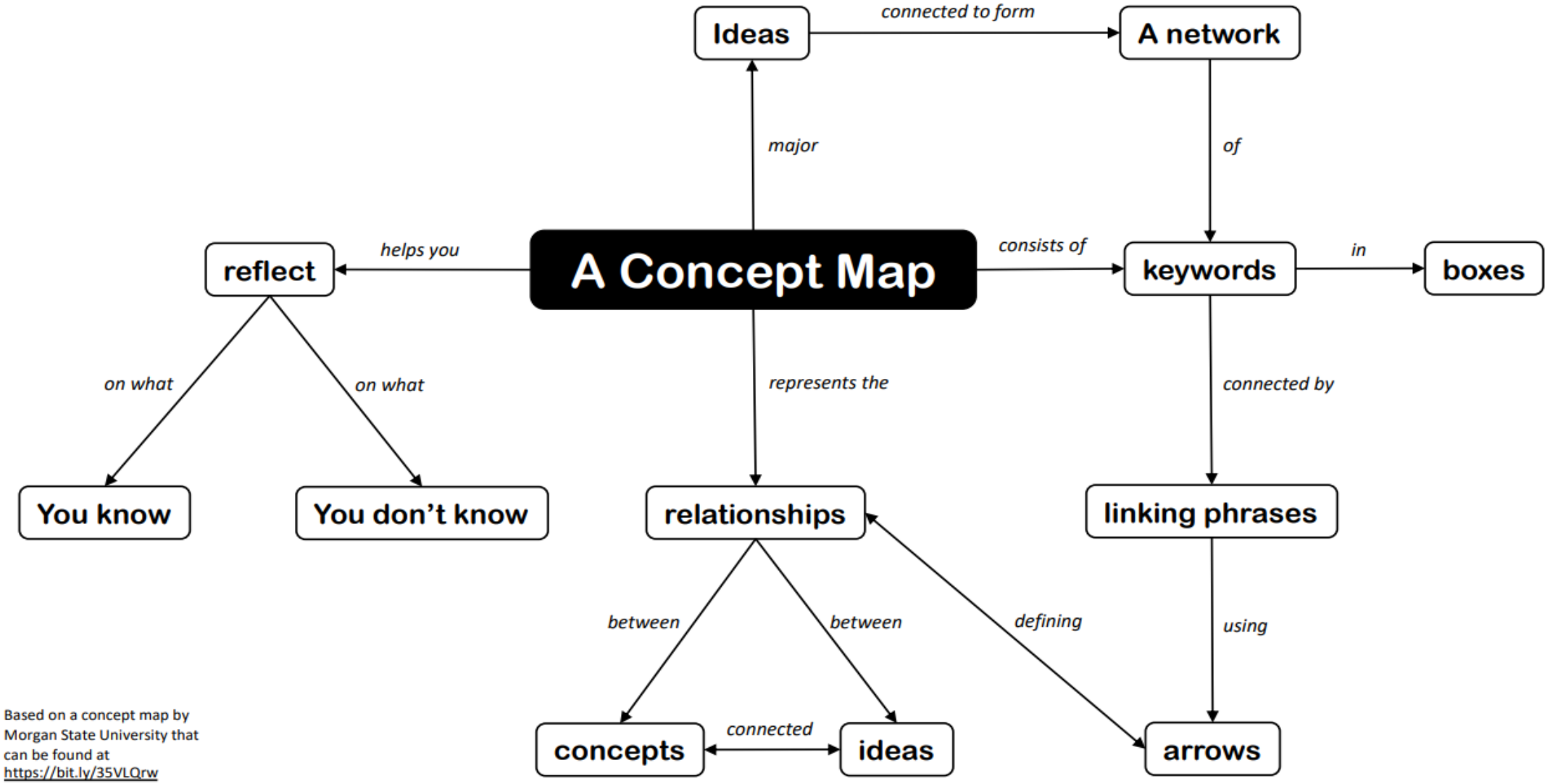
5. As you test yourself on the different piles, move the cards into different piles as you become more confident.



Useful resources:

www.quizlet.com – This free website allows you to quickly create flashcards which you can print, use on a computer, or use on your phone.

Mapping



Based on a concept map by Morgan State University that can be found at https://bit.ly/35VLQrw

ENGLISH Year 9 Unit 1: Identity and Belonging

BROADOAK ACADEMY

Class text: *A View From the Bridge* by Arthur Miller

Key vocabulary:

Masculinity – qualities associated with men and boys.
Femininity – qualities associated with girls and women.
Homosexuality – being attracted to another person of the same sex.
Xenophobia – dislike or prejudice against people from other countries.
Honour – regard with great respect
Dominance – power and influence over others.
Patriarchy – society or organisations lead by men.
Betrayal – treachery – going against something.
Immigration – the action of coming to live permanently in another country.
Justice – Making something fair.
Submissive – conforming to authority or orders
Hamartia – A fatal flaw leading to the downfall of a hero/character.
Fatal Flaw - the reason, mistake or quality that leads to a character's downfall.

Literary terminology:

Tragedy – a play with tragic events leading to an unhappy ending.
Foreshadowing – hints or clues of a future event.
Narrator – the person telling the story.
Stage directions – an instruction that tells the actor how to speak/act.
The fourth wall – the space which separates a performer with the audience.
Tragic hero – the central character that experiences a tragic downfall.
Dramatic irony – when the audience know something that the character(s) do not.
Motifs – a recurring idea or symbol in a story or play.
Prologue – an introductory section to a play
Monologue - a long speech by one actor in a play.

A View From the Bridge context:

- Immigration in 1950s America
- Italian American culture

English

Context - *A View from the Bridge* was written by Arthur Miller, and was first staged in 1955.

Arthur Miller – Arthur Asher Miller (1915-2005) was an American playwright and essayist. Amongst his most popular plays are *Death of a Salesman, (*1949) *The Crucible* (1953) *and A View from the Bridge* (1955). Miller worked in the Brooklyn shipyards for two years in young adulthood, where he befriended the Italian Americans he worked with. There, he heard stories of men coming over to work and being betrayed.

Italian Americans in New York – *Many immigrants came to America with ideas of fulfilling their own American Dream, which declares that freedoms, prosperity, success, and social mobility, can all be achieved through hard work. Despite this, many Italians who made it to America faced difficult working conditions for low pay, and lived in slum communities (such as Red Hook) in their own, small communities.*

House UnAmerican Activities Committee –The HUAC was created in 1938 to try and investigate alleged disloyalty and subversive activities by American citizens and public figures – most notably it was utilised to investigate those with supposed links to Communism. Miller was made to testify before this committee, and give up the names of those that sympathised with Communism. He refused to do this, which landed him with a contempt of court charge (this was later reversed), although he lauded by some for his resolve and integrity.

Omerta – Omerta is a code of silence amongst community members, which involves refusal to give evidence to the police. It originated in Sicily in the 16th Century, due to a distrust of the ruling parties – this coincided with the rise of the Sicilian Mafia for protection and the enforcement of community law. At the beginning of the play, Alfieri makes reference to Al Capone and Frankie Yale, who operated in the early part of the twentieth century as leaders of the mafia – who enforced strict codes of Omerta amongst their men.

Conditions in Italy – Italy in the 1950s was a very poor country. The country had suffered huge losses in the Second World War, and the economy was extremely slow to grow subsequent to the end of the war. With no jobs and very few prospects, many opted to try their luck and illegally immigrate to America. Dockyard owners made the most of this situation, getting cheap work out of immigrants until they had 'paid their fare.' They could then make their own way in 'rich America.'

The Sicilian Mafia – At the beginning of the play, Alfieri makes reference to Al Capone and Frankie Yale, who operated in the early part of the twentieth century as leaders of the Sicilian Mafia, a crime syndicate synonymous with the arrival of Italian immigrants. Largely involved in racketeering, the mafia embodied what Alfieri means by the dangers of 'acting wholly' and not 'taking half.' He suggests that communities have learnt now not to settle their feuds with violence.

BROADOAK ACADEMY

Maths

Rounding and estimation and indices

Rounding (R)

2.46192 (to 2dp) - Is this closer to 246 or 247

246 ← 247

2.46|192 ← This shows the number is closer to 246

Significant Figures

370 to 1 significant figure is 400
37 to 1 significant figure is 40
3.7 to 1 significant figure is 4
0.37 to 1 significant figure is 0.4
0.00000037 to 1 significant figure is 0.00000004

SF: Round to the first non-zero number

Estimation (R)

Round to 1 significant figure to estimate

$21.4 \times 3.1 \approx 20 \times 3 \approx 60$

The equal sign changes to show it is an estimation

This is an **underestimate** because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths – it helps you identify calculation errors.

Estimation

Estimations are useful – especially when using fractions and decimals to check if your solution is possible.

Most estimations round to 1 significant figure

Estimations are useful – especially when using fractions and decimals to check if your solution is possible.

$210 + 899 < 1200$

This is true because even if both numbers were rounded up, they would reach 300 + 900.

The correct estimation would be 200 + 900 = 1100.

Limits of accuracy

A width w has been rounded to 6.4cm correct to 1dp.

< 6.35 the values would round to 6.3 | Error interval | ≥ 6.45 the values would round to 6.5

The error interval: $6.35 \leq w < 6.45$

Any value within these limits would round to 6.4 to 1dp

A width w has been truncated to 6.4cm correct to 1dp.

< 6.4 the values would truncate to 6.3 | Error interval | ≥ 6.5 the values would truncate to 6.5

$6.4 \leq w < 6.5$ Any value within these limits would **truncate** to 6.4 to 1dp

Round to powers of 10 and 1 sig figure (R)

If the number is halfway between we "round up"

5495 to the nearest 1000: 5000 ↑ 6000

5475 to the nearest 100: 5400 ↑ 5500

5475 to the nearest 10: 5470 ↑ 5480

370 to 1 significant figure is 400
37 to 1 significant figure is 40
3.7 to 1 significant figure is 4
0.37 to 1 significant figure is 0.4
0.00037 to 1 significant figure is 0.0004

Round to the first non-zero number

Round to decimal places

2.46192 ← Focus on the numbers **after** the decimal point

"To 1dp" – to one number after the decimal
"To 2dp" – to two numbers after the decimal

2.46192 (to 1dp) - Is this closer to 2.4 or 2.5

24 ↑ 25

2.4|6192 ← This shows the number is closer to 2.5

2.46192 (to 2dp) - Is this closer to 2.46 or 2.47

246 ↑ 247

2.46|192 ← This shows the number is closer to 2.46

Estimate the calculation

Round to 1 significant figure to estimate

$4.2 + 6.7 \approx 4 + 7 \approx 11$ This is an **overestimate** because the 6.7 was rounded up more

The equal sign changes to show it is an estimation

$21.4 \times 3.1 \approx 20 \times 3 \approx 60$ This is an **underestimate** because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths – it helps you identify calculation errors.

Addition/ Subtraction laws for indices

$3^5 \times 3^2 = (3 \times 3 \times 3 \times 3 \times 3) \times (3 \times 3) \rightarrow 3^7$

The base number is all the same so the terms can be simplified

Addition law for indices

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

$3^5 \div 3^2 \rightarrow 3^3$

$\frac{3 \times 3 \times 3 \times \cancel{3} \times \cancel{3}}{\cancel{3} \times \cancel{3}} \rightarrow \frac{3^3}{3^0} \rightarrow \frac{3^3}{1}$

Subtraction law for indices

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

Zero and negative indices

$$x^0 = 1$$

Any number divided by itself = 1

$$\frac{a^6}{a^6} = a^6 \div a^6$$

$$= a^{6-6} = a^0 = 1$$

Negative indices do not indicate negative solutions

$2^2 = 4$
$2^1 = 2$
$2^0 = 1$
$2^{-1} = \frac{1}{2}$
$2^{-2} = \frac{1}{4}$

Looking at the sequence can help to understand negative powers

Divide expressions with indices

$\frac{24}{36} \rightarrow \frac{\cancel{2} \times \cancel{2} \times 2 \times \cancel{3}}{\cancel{2} \times \cancel{3} \times 2 \times \cancel{3}} \rightarrow \frac{2}{3}$

$\frac{5a^3b^2}{15ab^6} \rightarrow \frac{\cancel{5} \times \cancel{a} \times a \times a \times \cancel{b} \times \cancel{b}}{3 \times \cancel{5} \times \cancel{a} \times \cancel{b} \times \cancel{b} \times b \times b \times b \times b} \rightarrow \frac{a^2}{3b^4}$

Cross cancelling factors shows cancels the expression

$\frac{23a^7y^2}{5db^6}$ This expression cannot be divided (cancelled down) because there are no common factors or similar terms

BROADOAK ACADEMY

Maths

Standard form and working with algebra

Standard form

Any number between 1 and less than 10 → $A \times 10^n$ ← Any integer

Example

3.2×10^4
$= 3.2 \times 10 \times 10 \times 10 \times 10$
$= 32000$

Non-example

0.8×10^4

$5.3 \times 10^{0.7}$

0.001
$1 \times \frac{1}{1000}$
1×10^{-3}

10^1	10^0	10^{-1}	10^{-2}	10^{-3}
10	1	0.1	0.01	0.001

Any value to the power 0 always = 1

Negative powers do not indicate negative solutions

Numbers in standard form with negative powers will be less than 1

$3.2 \times 10^{-4} = 3.2 \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} = 0.00032$

Positive powers of 10

1 billion = 1 000 000 000
$10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10 = 10^9$

Addition rule for indices $10^a \times 10^b = 10^{a+b}$

Subtraction rule for indices $10^a \div 10^b = 10^{a-b}$

Standard form with numbers > 1

Any number between 1 and less than 10 → $A \times 10^n$ ← Any integer

Example

3.2×10^4
$= 3.2 \times 10 \times 10 \times 10 \times 10$
$= 32000$

Non-example

0.8×10^4

$5.3 \times 10^{0.7}$

Negative powers of 10

0.001
$1 \times \frac{1}{1000}$
1×10^{-3}

10^1	10^0	10^{-1}	10^{-2}	10^{-3}
0	0	0	0	1

Any value to the power 0 always = 1

Negative powers do not indicate negative solutions

Numbers between 0 and 1

0.054
$= 5.4 \times 10^{-2}$

10^0	10^{-1}	10^{-2}	10^{-3}
0	0	5	4

A negative power does not mean a negative answer – it means a number closer to 0

Order numbers in standard form

10^2	10^1	10^0	10^{-1}	10^{-2}	10^{-3}	10^{-4}

6.4×10^{-2}	2.4×10^2	3.3×10^0	1.3×10^{-1}
0.064	240	1	0.13

Look at the power first will the number be = > or < than 1

Use a place value grid to compare the numbers for ordering

Mental calculations

$6.4 \times 10^2 \times 1000$ Not in Standard Form
$= 6.4 \times 10^2 \times 10^3$ Use addition for indices rule
$= 6.4 \times 10^5$

$(2 \times 10^3) \div 4$ Divide the values
$= (2 \div 4) \times 10^3$
$= 0.5 \times 10^3$

$(8 \times 10^5 \times 3)$
$= 24 \times 10^5$ Not in Standard Form
$= 2.4 \times 10^1 \times 10^5$ Use addition for indices rule
$= 2.4 \times 10^6$

Remember the layout for standard form

Any number between 1 and less than 10 → $A \times 10^n$ ← Any integer

Addition and Subtraction

Tip: Convert into ordinary numbers first and back to standard from at the end

$6 \times 10^5 + 8 \times 10^5$

Method 1
$= 600000 + 800000$
$= 1400000$
$= 1.4 \times 10^5$

More robust method
Less room for misconceptions
Easier to do calculations with negative indices
Can use for different powers

Method 2
$= (6 + 8) \times 10^5$
$= 14 \times 10^5$
$= 1.4 \times 10^1 \times 10^5$
$= 1.4 \times 10^5$

This is not the final answer

Only works if the powers are the same

Multiplication and division

$\frac{1.5 \times 10^5}{0.3 \times 10^3}$ ← Division questions can look like this

$(1.5 \times 10^5) \div (0.3 \times 10^3)$
$(1.5 \div 0.3) \times 10^5 \div 10^3$
$= 5 \times 10^2$

For multiplication and division you can look at the values for A and the powers of 10 as two separate calculations

Revisit addition and subtraction laws for indices – they are needed for the calculations

Addition law for indices: $a^m \times a^n = a^{m+n}$

Subtraction law for indices: $a^m \div a^n = a^{m-n}$

Using a calculator

$1.4 \times 10^5 \times 3.9 \times 10^3$

Use a calculator to work out this question to a suitable degree of accuracy

Input 1.4 and press [×10^x] Then press 5 (for the power)
Press [×]
Input 3.9 and press [×10^x] Then press 3 (for the power)
Press [=]
This gives you the solution

Click calculator for video tutorial

To put into standard form and a suitable degree of accuracy
Press [SHIFT] [SETUP] and then press 7 for sci mode
Choose a degree of accuracy so in most cases press 2

Answer 5.5×10^8

Algebraic constructs

Expression
A sentence with a minimum of two numbers and one maths operation

Equation
A statement that two things are equal

Term
A single number or variable

Identity
An equation where both sides have variables that cause the same answer includes ≡

Formula
A rule written with all mathematical symbols
e.g. area of a rectangle A = b x h

Collecting like terms ≡ symbol

The ≡ symbol means equivalent to
It is used to identify equivalent expressions

Collecting like terms
Only **like terms** can be combined

$4x + 5b - 2x + 10b$
$4x + 5b - 2x + 10b$
$2x + 15b$

Common misconceptions

$2x + 3x^2 + 4x \not\equiv 6x + 3x^2$

Although they both have the x variable, x2 and x terms are un-like terms so can not be collected

Like and unlike terms

Like terms are those whose variables are he same

♥ and 3♥ are **like** terms
the variable is the same

★ 3♥ are **unlike** terms
the variables are NOT the same

Examples and non-examples

Like terms	Un-like terms
y, 7y $2x^2$, x^2 ab, 10ba 5, -2	y, 7x $2x^2$, $2c^2$ ab, 10a 5, -2t

Note here ab and ba are commutative operations, so are still like terms

Substitution into expressions

4y ← 4 lots of 'y'

If y = 7 this means the expression is asking for 4 'lots of' 7

4 x 7 **OR** 7 + 7 + 7 + 7 **OR** 7 x 4 = 28

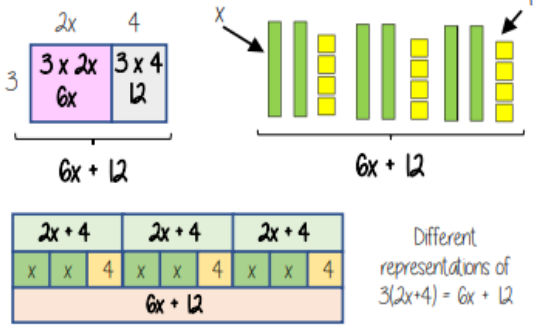
e.g. $y - 2$
$= 7 - 2 = 5$

BROADOAK ACADEMY

Expanding, factorising and rearranging

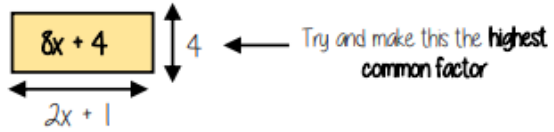
Maths

Multiply single brackets $3(2x + 4)$



Different representations of $3(2x+4) = 6x + 12$

Factorise into a single bracket $8x + 4$



Try and make this the **highest common factor**

The two values **multiply** together (also the area) of the rectangle

$8x + 4 \equiv 4(2x + 1)$

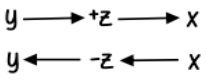
Note:
$8x + 4 \equiv 2(4x + 2)$
This is factorised but the HCF has not been used

Rearranging Formulae (one step)

$x = y + z$

Rearrange to make y the subject

$y = x - z$



Using inverse operations or fact families will guide you through rearranging formulae

Rearranging can also be checked by substitution

Language of rearranging....

Make XXX the subject

Change the subject

Rearrange

Rearranging Formulae (two step)

In an equation (find x)

$4x - 3 = 9$
$+3 \quad +3$
$4x = 12$
$\div 4 \quad \div 4$
$x = 3$

In a formula (make x the subject)

$xy - s = a$
$+s \quad +s$
$xy = a + s$
$\div y \quad \div y$
$x = \frac{a+s}{y}$

The steps are the same for solving and rearranging

Rearranging is often needed when using $y = mx + c$

e.g. Find the gradient of the line $2y - 4x = 9$

Make y the subject first $y = \frac{4x + 9}{2}$

Gradient $= \frac{4}{2} = 2$

Method 1

$(3x + 2)(5x + 3)$

$= 15x^2 + 9x + 10x + 6$

$= 15x^2 + 19x + 6$

You can use the grid method

Don't forget to simplify $9x + 10x = 19x$

You must take care with the 'signs' in front of the terms

$(4x - 7)^2$

x	4x	- 7
4x	$16x^2$	- 28x
-7	-28x	+ 49

$= 16x^2 - 28x - 28x + 49$

$= 16x^2 - 56x + 49$

Method 2

$(5x - 3)(2x + 1)$

x	5x	- 3
2x	$10x^2$	- 6x
+1	+5x	-3

$= 10x^2 - 6x + 5x - 3$

$= 10x^2 - x - 3$

Don't forget to simplify $-6x + 5x = -x$

BROADOAK ACADEMY

Science

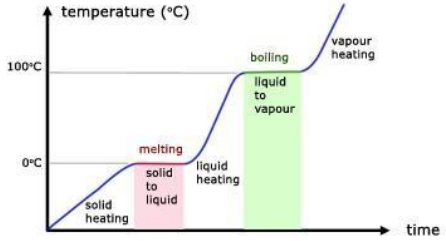
C1 & 2: States of matter and separating substances

Lesson sequence

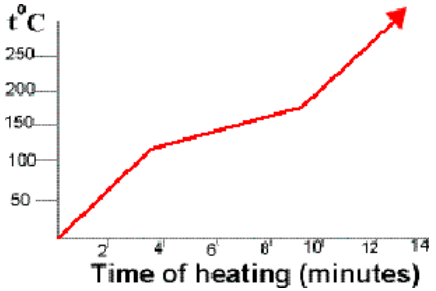
1. States of matter
2. Mixtures
3. Filtration and crystallisation
4. Paper chromatography
5. Distillation
6. Core practical – investigating inks (CP7)
7. Drinking water

1. States of matter	
***Particle**	The tiny pieces that all matter is made from.
***Atom**	The smallest independent particle. Everything is made of atoms.
***Molecule**	A particle made from two or more atoms bonded together.
***State of matter**	Whether a substance is solid, liquid or gas.
***Particle model**	A theory that uses the idea of particles to explain the differences between solids, liquids and gases.
***Solid**	**Particle arrangement:** Regular pattern, touching each other. **Particle movement:** Vibrating around a fixed point.
***Liquid**	**Particle arrangement:** Random, touching each other. **Particle movement:** Moving around
***Gas**	**Particle arrangement:** Random **Particle movement:** Moving quickly
***State changes**	Solid to liquid = melting Liquid to solid = freezing Liquid to gas = evaporating or boiling Gas to liquid = condensation Solid to gas = sublimation Gas to solid = deposition

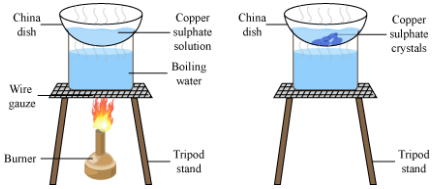
****Heating curve for a pure substance**	Temperature rises as you heat a solid, levels out as it melts, continues rising once fully liquid, levels out whilst boiling and rises again once fully gas.



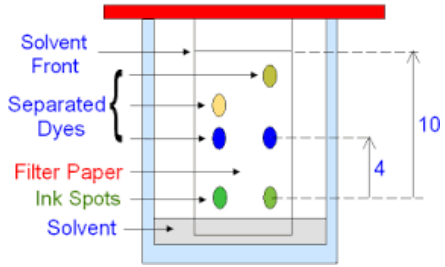
2. Mixtures	
***Element**	A substance made from only one type of atom.
***Compound**	A substance made from two of more different elements bonded together.
***Mixture**	A substance made of two of more substances (elements or compounds) mixed but not bonded together.
****Melting point of mixtures**	Mixtures do not melt at a fixed temperature but melt gradually over a range of temperatures.
****Heating curves of mixtures**	The flat sections of the heating curves of a pure substance are sloped for a mixture.



3. Filtration and crystallisation	
***Dissolve**	When a substance mixes with a liquid by breaking down into individual particles (atoms or molecules).
***Soluble**	When a substance can be dissolved by a liquid.
***Insoluble**	When a substance can't be dissolved by a liquid.
***Filtration**	A method of separating a mixture of a liquid and an insoluble solid by passing it through a filter paper.
****Residue**	The solid that gets left behind in the filter paper.
****Filtrate**	The liquid that passes through the filter paper.
****How filtration works**	The filter paper contains many tiny holes. The water molecules are small enough to pass through the holes, the solid particles are too big and get trapped.
***Solution**	A mixture of a solute dissolved in a solvent.
****Solvent**	A liquid that has dissolved a substance, for example water.
****Solute**	A solid that has been dissolved, for example salt.
***Crystallisation**	A method of collecting the dissolved solid from a solution by heating it so that the solvent evaporates away.
****Risks of crystallisation**	As the solvent boils away, the hot solution can spit, so you should wear safety goggles to protect your eyes.

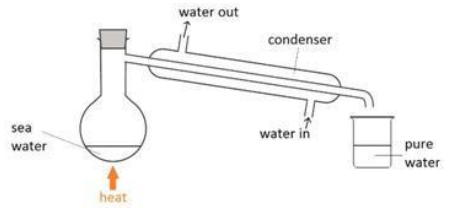


4. Paper chromatography	
***Paper chromatography**	A method of separating out mixtures of liquids to show what is in them, by letting them travel up a piece of chromatography paper.
***Chromatography method**	1. Draw pencil line on paper 2. Place sample spot on line 3.Place paper in solvent, with solvent below pencil line. 4.Allow solvent to soak up the paper 5.Stop when solvent near top, and mark how far it gets.
****Stationary phase**	The substance the solvent moves through – usually paper (Note: technically it is a thin layer of water from air that is bound to the paper molecules)
****Mobile phase**	The solvent.
****R_f (retardation factor)**	R_f = spot distance / solvent distance
****Uses of R_f**	R_f enables you to identify a substance because for a given solvent and stationary phases, it is unique to each substance.
****Uses of chromatography**	-To tell between pure and impure substances - To identify substances by comparison with known ones - To identify substances by calculating R_f.

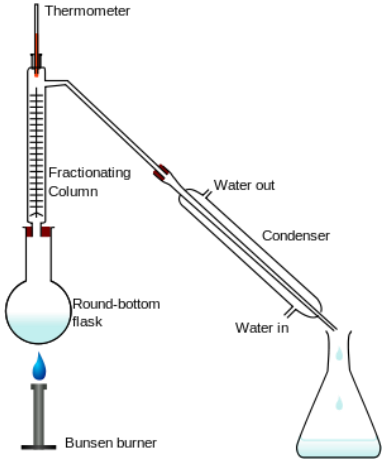


BROADOAK ACADEMY

Science

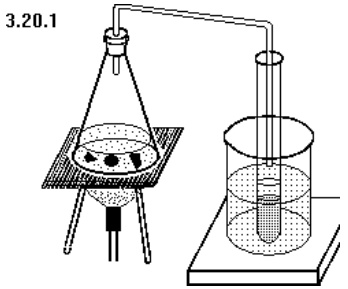


5. Distillation	
***Distillation**	A method used to collect pure liquid from a solution, such as getting pure water from seawater.
****Condenser**	A glass tube surrounded by a glass jacket containing cold tap water. Used to condense gases back to liquids.
****How distillation works**	The solution is heated until it is hot enough for the solvent to boil. The solvent is then passed through a cool condenser where it turns back to liquid. The solute does not get hot enough to evaporate and stays where it is.
****Anti-bumping granules**	Jagged grains of glass that are added during distillation to prevent violent boiling.
***Fractional distillation**	A type of distillation used to separate mixtures of two or more liquids.
****How fractional distillation works**	The liquid with the lowest boiling point boils first and can be collected, then the next boils and so on.
****Fractionating column**	A tall glass column used during fractional distillation that gives a better separation of the liquids by producing



6. Core practical – investigating inks (CP7)	
***CP7 – Aim**	To separate inks using distillation and chromatography.
***CP7 – Distillation set up**	Place some ink in a conical flask with a side arm and delivery tube attached, place the flask on a tripod above a Bunsen burner. Place a boiling tube in a beaker of ice and place the delivery tube into the boiling tube.
***CP7 – Run the distillation**	Light the Bunsen burner and allow the ink to boil, stop once a few drops of liquid have collected.
***CP7 – Distillation results**	Pure water collects in the test tube because it boils and the cold ice condenses the vapours back to liquid. The ink gets darker because there is less water to dilute it.
***CP7 – Chromatography setup**	1. Draw pencil line on paper 2. Place ink spot on line 3. Place paper in solvent, with solvent below pencil line. 4. Allow solvent to soak up the paper 5. Stop when solvent near top, and mark how far it gets.

***CP7 – Chromatography - calculate Rf**	Measure how far each of your spots has moved from the line and how far the solvent has moved. Rf = spot distance / sample distance.
***CP7 – Chromatography results**	The ink separates into multiple different spots. The one that moves furthest is most soluble in the water.



7. Drinking water	
***Potable water**	Water that is safe to drink.
***Desalination**	Producing pure water from seawater.
****Purifying seawater**	The seawater is distilled: heating the water to produce water vapour and condensing it back to liquid. Uses lots of energy.
****Uses of pure water**	Pure water has to be used when chemists analyse substances to fins out what they contain. Tap water contains many dissolved substances that could interfere with this.
****Water treatment in the UK**	Water is passed through a sedimentation tank, to allow sediment to settle out, it is passed through a filtration tower to remove floating particles, chlorine is added to kill bacteria.

BROADOAK ACADEMY

Science

C3 & 4: Atoms and the periodic table

Lesson sequence

1. Structure of atoms
2. Detailed structure of atoms
3. Isotopes
4. Mendeleev's periodic table
5. The modern periodic table
6. Electron configuration

1. Structure of atoms	
***Particle**	The tiny pieces that all matter is made from.
***Atom**	The smallest independent particle. Everything is made of atoms.
****Size of atoms**	About 1 x 10^{-10} m in diameter.
****Dalton's model of atoms**	- Tiny hard spheres - Can't be broken down - Can't be created or destroyed - Atoms of an element are identical - Different elements have different atoms
***Subatomic particles**	Smaller particles that atoms are made from.
***Proton**	Mass = 1 Charge = +1 Location = nucleus
***Neutron**	Mass = 1 Charge = 0 Location = nucleus
***Electron**	Mass = 1/1835 (negligible) Charge = -1 Location = shells orbiting nucleus
***Nucleus**	Central part of an atom, 100,000 times smaller than the overall atom

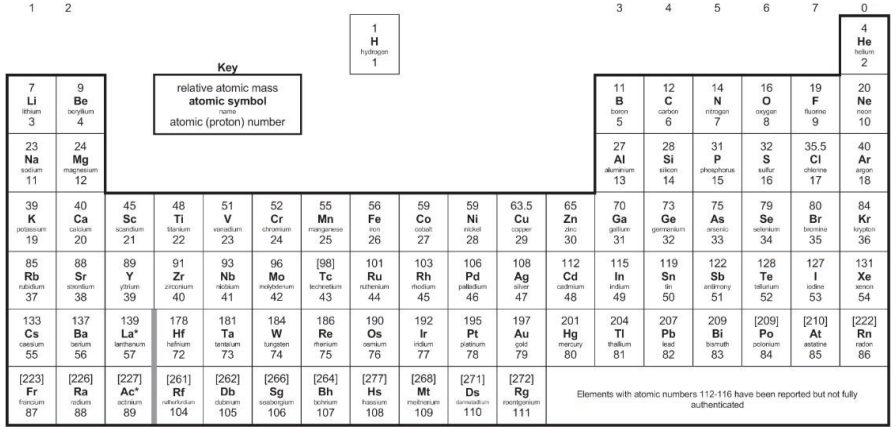
2. Detailed structure of atoms	
****Alpha particle**	Small positively charged particle made of two protons and two neutrons.
****Scattering**	When particles bounce back or change direction.
****Rutherford's experiment**	Fired alpha particles at gold leaf, used a phosphor-coated screen to track where they went.
****Rutherford's results**	Most alpha particles went through, some scattered (changed direction).
****Rutherford's explanation**	Scattered particles hit a solid nucleus. Most did not hit it, therefore nucleus is small
***Atomic number**	The bottom number on the periodic table, gives the number of protons and electrons.
***Atomic mass**	The top number on the periodic table, gives the total protons and neutrons together.
***Number of protons**	The atomic number.
***Number of electrons**	The atomic number.
***Number of neutrons**	Atomic mass minus atomic number.
***Number of protons and electrons**	Equal, because each negative electron is attracted to a positive proton in the nucleus.

3. Isotopes	
****Isotopes**	Atoms with the same number of protons but different number of neutrons.
****Describing isotopes**	Mass after the name (e.g. boron-10) or superscript mass before the symbol (^{10}B).
***Nuclear fission**	Large unstable atoms break into two smaller stable ones.
****Uses of fission**	Nuclear power, nuclear weapons.
****Relative atomic mass, A_r**	The weighted average of the masses of all of the isotopes of an element.
*****Isotopic abundance**	The percentage of an element that is made of a particular isotope.
*****Calculating A_r**	- Multiply each mass by the decimal % - Add these up **Note:** (decimal % = %/100)

4. Mendeleev's periodic table	
***Dmitri Mendeleev**	Russian chemist, developed the periodic table.
***Mendeleev's periodic table**	Ordered by increasing A_r, some elements switched according to their properties.
***Chemical properties**	Includes reaction with acid and formula of oxide.
***Physical properties**	Includes melting point and density.
****Gaps in Mendeleev's periodic table**	Mendeleev left gaps where no known element fitted and predicted these would be filled with newly discovered elements.
****Eka-aluminium**	An element that Mendeleev thought would fill a gap. He predicted its properties, which matched gallium when discovered.

5. The modern periodic table	
***Noble gases**	Gases that do not react: He, Ne, Ar, Kr.
****Moseley's experiment**	Fired electrons at samples of elements and measured X-rays produced.
****Moseley's results**	Energy of x-rays produced proportional to the positive charge of the element.
****Conc. from Moseley's work**	The atomic number must be the number of protons in the atoms.
****Pair reversals**	Elements (like Ar and K) that are not in order of increasing mass.
****Explaining pair reversals**	It means elements should be order elements by increasing atomic number instead.

6. Electron configuration	
***Shells**	Electrons orbit atoms in shells.
***First shell**	Holds up to two electrons.
***Second shell**	Holds up to eight electrons.
***Third shell**	Holds up to eight electrons.
***Number of electrons**	Given by the atomic number.
***Filling shells**	Fill shells from the first shell out. Move up a shell when current one is full.
***Electron configuration**	The number of electrons in each shell (e.g. Al is 2.8.3).
***Outer shell**	The last shell with any electrons in it.
****Groups**	Columns in the periodic table, tell you the number of electrons in the outer shell.
****Periods**	Rows in the periodic table, tell you the number of electron shells.



BROADOAK ACADEMY **Science**

Working Scientifically

Types of Variable

Independent – the variable that is **changed**

Dependent – the variable that is **measured**

Control – the variable that stays the **same**

Qualitative – Worded data.

Continuous – Numbered data, can be any value.

Discrete – Numbered data, only certain values.

Tables

Units **only** go in headings

Time (s)	Vol. gas (cm^3)

Types of Error

Systematic – a problem with the method or equipment used. E.g. using a beaker to measure the volume of a liquid instead of a measuring cylinder.

The effect cannot be reduced by taking repeat readings.

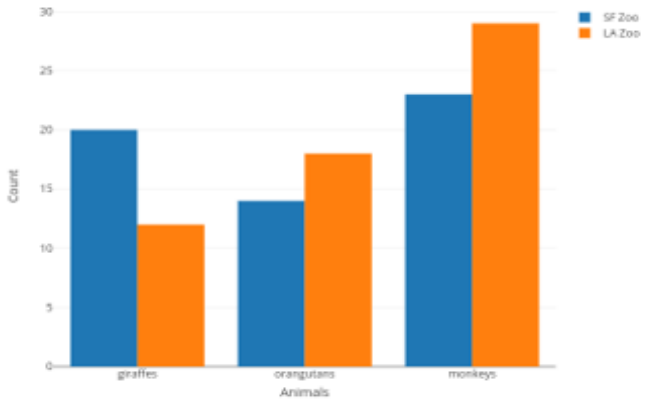
Random – whenever something is measured a random error is made. E.g measuring with a ruler.

The effect can be reduced by taking repeat readings.

Zero – caused by a piece of equipment not reading zero when it should. E.g. a balance. Either reset the piece of equipment or deduct the false reading from all measurements.

Type of graph plotted for one qualitative variable and one continuous variable.

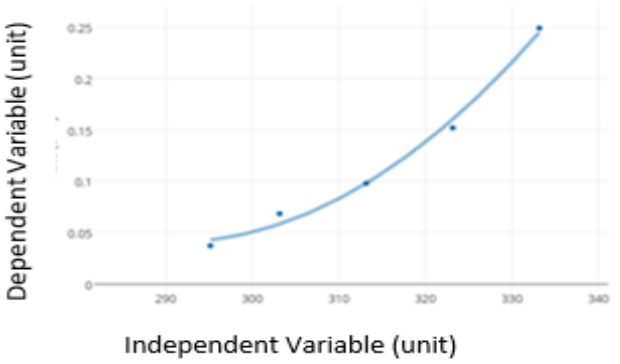
data



Line Graph

Type of graph plotted for two pieces of **continuous** data

Has a **line of best fit**. This may be a **straight line** or a **curve** (not join the dots)



Key words

Accurate – close to the true value

Anomalous – a result that doesn't fit the pattern

Precise – small amount of spread around the mean

Resolution – the smallest reading on a piece of measuring equipment

Reproducible – if the same results are obtained by different people for the same investigation

Range – the biggest and smallest values of the independent or dependent variable e.g. 0-10 N

Volume – amount of a liquid

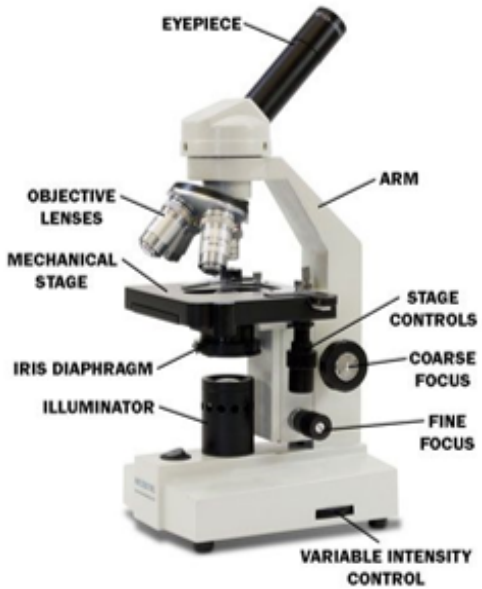
Hypothesis – a prediction of what will happen in an experiment.

B1: Biology key concepts

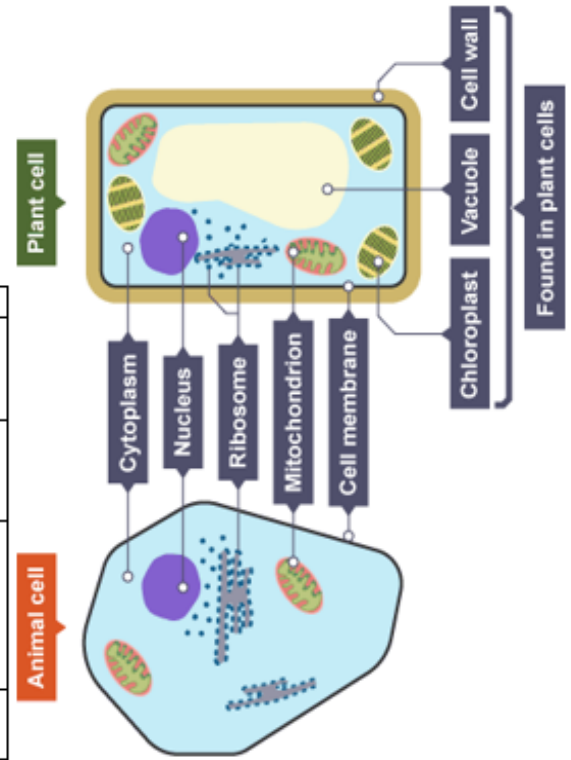
Lesson sequence

1. Microscopes
2. Plant and animal cells
3. Measuring cells
4. Core practical: using microscopes
5. Specialised cells
6. Bacterial cells
7. Digestive enzymes
8. How enzymes work
9. Factors affecting enzymes
10. Core practical: enzymes and pH
11. Cell transport
12. Core practical: osmosis in potatoes

1. Microscopes	
Magnification	The number of times bigger something appears under a microscope.
Eyepiece lens	The lens on a microscope that you look through.
Objective lens	The lens at the bottom of a microscope. There are normally three you can choose from.
Total magnification	Eyepiece lens x objective lens.
Resolution	The smallest distance between two points so that they can still be seen as two separate points.
Stains	Dyes added to microscope slides to show the details more clearly.
Milli	Thousandth, $1x10^{-3}$ (a millimetre is a thousandth of a metre).
Micro	Millionth, $1x10^{-6}$ (a micrometre is a millionth of a metre).
Nano	Billionth, $1x10^{-9}$ (a nanometre is a billionth of a metre).
Pico	Trillionth, $1x10^{-12}$ (a picometre is a trillionth of a metre).



2. Plant and animal cells	
Cell	The basic structural unit of all living things (the building blocks of life).
Parts of an animal cell	Cell membrane, cytoplasm, nucleus, ribosomes, mitochondria.
Parts of a plant cell	Cell membrane, cytoplasm, nucleus, ribosomes, mitochondria, cell wall, permanent vacuole, chloroplasts.
Cell membrane	Controls what enters and leaves the cell.
Cytoplasm	A jelly-like substance where chemical reactions take place.
Nucleus	Contains DNA and controls the cell.
Ribosome	Produces proteins.
Mitochondria	Releases energy by aerobic respiration.
Cell wall	Protects and supports the cell, made of cellulose.
Permanent vacuole	Stores sap and helps to support the cell.
Chloroplast	Where photosynthesis happens, contains chlorophyll.



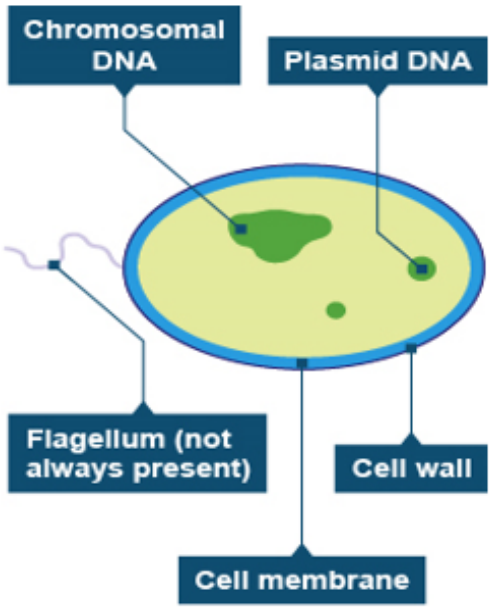
3. Measuring cells	
Micrograph	A picture produced by a microscope.
Light microscope	A microscope that uses light, can magnify up to 1500 times.
Electron microscope	A microscope that uses electrons to produce an image, can magnify up to 1,000,000 times.
Actual size of a cell	Actual size = measured size / magnification
Convert mm to µm	Micrometres (µm) = millimetres (mm) x 1000

4. Core practical – using microscopes	
key question	What do cells look like under a light microscope?
Prepare the slide	Collect the cells you are studying and place them on the slide. Add a drop of stain and cover with a cover slip.
Select lens	Choose between the 4x, 10x and 40x objective lenses.
Place slide in microscope	Place slide on microscope stage, adjust the coarse focus until the lens is just touching the slide.
Rough focus	Looking through the eyepiece, slowly adjust the coarse focus until you see a rough image.
Fine focus	Looking through the eyepiece, slowly adjust the fine focus until you see a sharply focussed image.
Record the image	Draw what you see, label any cell parts you can recognise and repeat with different objective lenses.
Results	As you increase the magnification of the objective lens, the cells appear larger and more detailed.

5. Specialised cells	
Small intestine cell	**Job:** To absorb small food molecules produced during digestion. **Adaptations:** Tiny folds called microvilli that increase their surface area.
Sperm cell	**Job:** Fertilise an egg and deliver male DNA. **Adaptations:** A tail to swim, mitochondria to give energy for swimming, an acrosome to break through the egg's jelly coat, haploid nucleus with only half the total DNA.
Egg cell	**Job:** To be fertilised by a sperm and then develop into an embryo. **Adaptations:** Jelly coat to protect the cell, many mitochondria, and nutrients to provide energy for growth, haploid nucleus with only half the total DNA.
Ciliated epithelial cell	**Job:** To clear mucus out of your lungs (and other internal surfaces). **Adaptations:** Small hairs on the surface – called cilia – which wave to sweep mucus along.

6. Bacterial cells	
Parts of a bacterial cell	**All bacteria:** Cell membrane, cell wall, cytoplasm, ribosomes, chromosomal DNA, plasmid DNA **Some bacteria:** flagellum.
Chromosomal DNA	Large piece of DNA containing most genes.
Plasmid DNA	Small loops of DNA containing a few genes.
Flagellum	A tail used for movement.

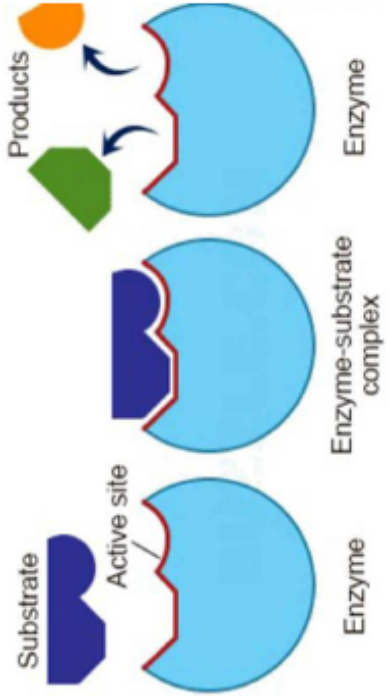
Eukaryotic cells	Cells with a nucleus.
Prokaryotic cells	Cells without a nucleus.
Standard form	A way of writing numbers in terms of powers of ten. E.g. $0.015 = 1.5 \times 10^{-2}$ $0.000458 = 4.56 \times 10^{-4}$ The index of ten (the 'minus' number) tell you which decimal point to start on.



7. Digestive enzymes	
Digestion	Breaking large food molecules down into ones small enough to absorbed by the small intestine.
Catalyst	A substance that speeds up a chemical reaction without being used up.

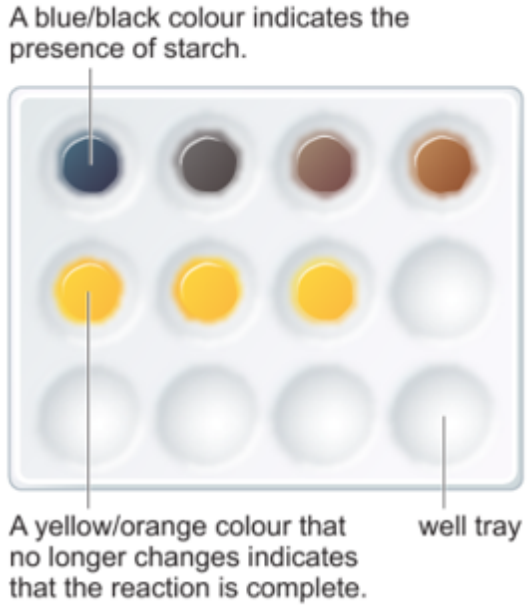
Enzyme	A protein that works as a catalyst to speed up the reactions in our cells.
Digestive enzymes	Enzymes that break large food molecules down into smaller ones.
Amylase	**Where found:** saliva, small intestine **What it does:** breaks down starch into simple sugars such as maltose
Lipase	**Where found:** small intestine **What it does:** breaks down fats into fatty acids and glycerol
Protease	**Where found:** stomach (pepsin), small intestine (trypsin) **What it does:** breaks down proteins into amino acids

8. How enzymes work	
Substrate	The chemical(s) that an enzyme works on.
Active site	An area of an enzyme with the same shape as the substrate.
Lock and key mechanism	The substrate moves into the active site and reacts to form the products. The products leave the active site so another substrate can then enter and so on.
Specificity	Each enzyme can only work on one substrate because the shape of the active site has to match.
Denature	When the shape of the active site changes shape so the enzyme stops working.



9. Factor affecting enzymes	
Optimum temperature	The temperature when an enzyme works fastest (about 37^{O} for human enzymes).
Changing the temperature	**Increasing to optimum**: rate increases because particles move faster **Increasing past optimum:** rate decreases as enzyme denatures
Optimum pH	The pH when enzymes work fastest (around pH 6-8 for most human enzymes)
Changing pH	Rate decreases as you move away from the optimum because the enzyme denatures.
Increasing substrate concentration	At first the rate increases, but then it levels out as the enzyme is working as fast as possible.

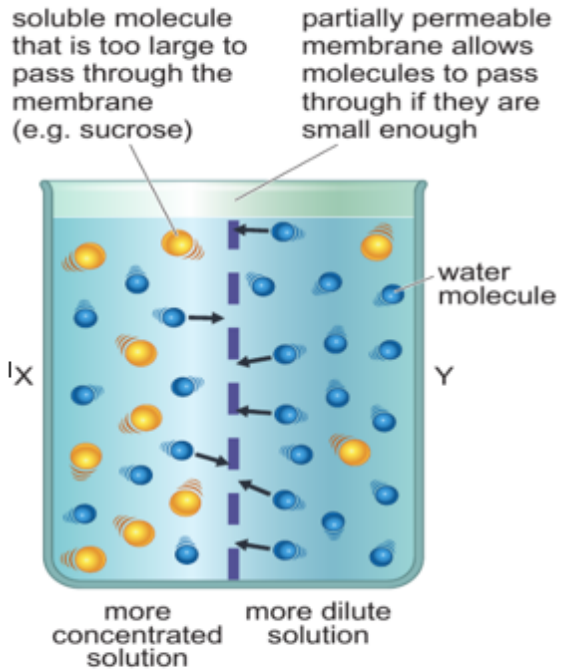
10. Core practical – enzymes and pH	
key question	How does the rate that amylase works change as you change the pH?
Prepare your reactants	Place starch solution, amylase solution and pH 7 buffer into separate test tubes and warm them in a water bath at 40°C
Prepare your dropping tile	Place a few drops of iodine solution into each well of a spotting tile.
Start the reaction	Mix reactants together, start the stop watch and keep the mixture warm in the water bath.
Test for starch	Remove a small amount of mixture and place in a well on the spotting tile.
Record your results	Repeat the test until the mixture does not go black (no starch). Record the time.
Vary the pH	Repeat with different pH buffers from pH 3 to pH 10
Results	The amylase works fastest around pH 7 and more slowly at pH high or lower than this.



B iodine solution is used to indicate the presence of starch

11. Cell transport	
Concentration	The number of particles in a given volume (the strength of a solution).
Concentration gradient	The difference in concentration between two neighbouring areas.
Diffusion	The movement of particles from high to low concentration (down a concentration gradient).
Diffusion examples	**Lungs:** oxygen into blood, carbon dioxide out of blood **Leaf:** carbon dioxide into leaf, oxygen out of leaf.

Partially permeable membrane	A membrane that allows some molecules but not others to pass through it (like a cell membrane).
Osmosis	The movement of water across a partially permeable membrane from high water/low solute conc to low water/high solute conc.
Osmosis examples	Water into plant roots, water in/out of any cells.
Active transport	Using energy to move substances from low to high concentration (up a concentration gradient).
Active transport examples	Minerals being absorbed into plant roots.



C In osmosis, a solvent flows from a dilute solution of a solute to a more concentrated one.

12. Core practical – osmosis in potatoes	
Prepare potatoes	Cut six similar pieces of potato, blot them dry and weigh them.
Run the experiment	Place each potato piece in a test tube with sucrose (sugar) solutions with concentrations from 0% to 50%
Record results	Blot each potato piece dry and re-weigh it.
Calculate percentage mass change	% change = (final value – starting value) / starting value x 100
Results	Potato in weaker sucrose solutions gain mass because water enters potatoes by osmosis, those in stronger solutions lose mass as water leaves by osmosis.

History

Countdown to war

June

28th June Assassination of Franz Ferdinand

July

5th July Germany give their support to Austria-Hungary. The blank cheque

23rd July Austria-Hungary issues Serbia with a list of demands

28th July Austria- Hungary declares war on Serbia.

31st July Russia mobilised for war

Aug

1st August Germany declares war on Russia

3rd August Germany declares war on France

4th August Britain declares war on Germany

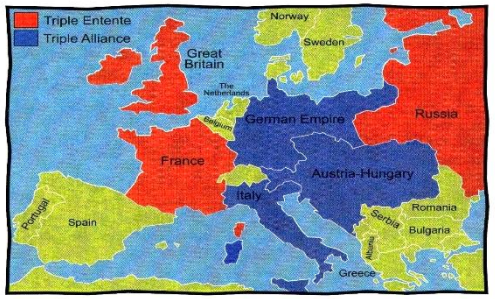
What were the causes of WW1?

Alliances

Europe's six major powers were split into two alliances:

The Triple Entente – Britain, France and Russia.
The Triple Alliance- Germany, Austria-Hungary, and Italy.

In addition, Great Britain has promised to support Belgian neutrality and Russia has promised to support Serbia.



MAIN Causes of WW1

M: Militarism: A country wanting to have a strong army and navy.

A: Alliances: A group of countries that promise to protect and support each other.

I: Imperialism: A act of growing an empire. This brought conflict with other countries keen to expand their empires.

N: Nationalism: The belief that your country is stronger and better than others.

Key Dates

1879 – Dual Alliance between Germany and Austria-Hungary signed.
1882 – **Triple Alliance** formed when Italy joined the Dual Alliance.
1904 – Entente Cordiale signed between Britain and France.
1905 – Germany creates the **Schlieffen Plan** to avoid facing a war on two fronts.
1906 – Britain launces HMS Dreadnought, starting the **Naval Arms Race.**
1907 – Russia joins the alliance with Britain and France, becoming the **Triple Entente.**

Key Terms

Long term cause	Factors or causes which happen a long time before an event takes place.
Short term cause	Factors or causes which happen just before an event takes place. Usually a catalyst.
The Triple Alliance	The Triple Alliance was the treaty by which Germany, Austria-Hungary and Italy agreed to support each other militarily in the event of an attack against any of them.
The Triple Entente	The Triple Entente was a diplomatic and military agreement between France, Great Britain, and Russia, formed in part as a response to the formation of the Triple Alliance.
Black Hand Gang	Serbian Nationalist group aimed to unite all Serbian people in a Greater Serbia.
Naval arms race	The race between Germany and Great Britain between from 1906 to 1914 following Britain launched the first dreadnought a ship that meant all others were redundant before its awesome fire power.
Schlieffen plan	The German idea to avoid a war on two fronts. It would quickly defeat France. It assumed the Russian's would be slow to mobilise. The plan did not work.

Key People

Franz Ferdinand	Heir to the throne of Austro-Hungarian Empire. Assassinated by Gavrilo Princip.
Gavrillo Princip	A Bosnian Serb from a peasant family, who succeeded to kill Franz Ferdinand, the trigger event for World War One.
Kaiser Wilhelm II	The Kaiser was the official head (Emperor) of Germany before and during World War 1.

History

What were the causes of WW1?

Militarism

Germany

Germany concerned about fighting a war against Russia and France. The Army Bill (1912 and 1913) increased the German army by 20% to 800,000 men in 1914.

Schlieffen Plan, focused on defeating France first. It relied on defeating them quickly.

Passed a new Naval Law in 1906 started building SMS Rheinland battleship.

Britain Fea
red Germany because they had a very small army (about 100,000) but protected herself with the Royal Navy. Built more dreadnoughts.

By 1914 Britain had 32 Battleships, Germany had 19.

France Fr
ance had hated Germany after the Franco – Prussian War. Increased her army from 715,000 to 910,000 between 1900 and 1914, in 1913 military service increased 2-3 years.

Russia Russ
ia was humiliated by Japan in a short war in 1905 and by Germany in the Bosnian crisis of 1908. As a result, in 1913 Russia increased the size of her land army to 1.3 million by 1914, 500,000 were added in 1913.

Imperialism

Great Britain

- Largest empire in the world.
- Merchant ships sailed to the colonies and the Royal Navy kept the sea routes open.
- Any challenge to the navy put the empire at risk.

France

- Second largest empire in the world.
- France was keen to keep colonies
- Lost Alsace & Lorraine to Germany in 1871,
- Wanted to preserve international reputation.

Russia

- Russia had no overseas empire.
- Wanted to expand into:
  - Manchuria - to have ports that didn't freeze in the winter,
  - the Balkans so that its navy would have access into the Mediterranean Sea.

Austria-Hungary

- Was a large empire in central Europe, co
  people of many differen
  some of whom wanted i

Germany

- Wanted to become a strong world power.
- Due to Weltpolitik, after 1871 Germany gained land in South West Africa and East Africa.
- First and Second Moroccan Crisis in 1905 and 1911 caused tension with France and Britain.
- By 1914, had the third largest empire.

Nationalism

The Balkans were part of the Ottoman Empire. Turkey was losing control over the Balkan states. They demanded independence and local wars broke out. Austro-Hungary was afraid that the different people, particularly the Serbs, would also demand independence.

The Balkan Wars (1912-1913)

The Balkan states fought Turkey and then each other, this led to an increase in nationalism in the area.

- In 1912, Bulgaria, Greece, Montenegro and Serbia joined together to form the Balkan League.
- Serbia grew in size and strength as a result of the Balkan wars, there was a rise in Serbian nationalism.

In 1908, Austria annexed Bosnia and Herzegovina which contained thousands of Serbs, making them part of their empire. In 1911, a group of Serbian army officers formed the Black Hand. They planted bombs, blew up bridges, cut telephone wires and murdered officials. Austria-Hungary suspected the government of Serbia were behind the Black Hand.

Franco Prussia War (1870)

Germany a new country. Bismark and King Wilhem of Prussia wanted Germany to be unified together. Bismark edited a telegram which caused France to declare war on Germany, this unified the southern German states behind Prussia.

France was humiliated and lost Alsace & Loraine and had to pay Germany. It's army was shown as weak.

Germany confirmed its position in Europe and now had to invest in an army and navy to maintain its status.

BROADOAK ACADEMY History – Year 9

Who do we remember in WWI?

WWI Key Events

1914 4 August	Britain declares war on Germany
19 October – 22 November	First Battle of Ypres – trenches built to protect men from machine guns and artillery. Trench warfare begins
1915 31 January	First use of chemical weapons (gas) by Germans against Russians on the Eastern Front at Bolimov.
25 Sep – 8 October	Battle of Loos – Artillery develops the 'creeping barrage'. Infantry are able to advance under heavy shelling
1916 1 July-18 Nov	Battle of the Somme – Huge loss of life trying to capture German trenches. Around 60,000 killed on first day
1917 March – April	Following the Russian Revolution, Russia sign a treaty with Germany to leave the war. USA joins in April.
31 July – 10 November	Battle of Third Ypres – accuracy and use of weapons have improved but it takes 3 months to advance 5 miles
1918 21 Mar-18 Jul	German Spring Offensive - Germany almost breaks through to Paris and defeats France ending the war
8-12 August	Battle of Amiens – warfare becomes more mobile. Technology and weapons used well in combination
11 November	Armistice ends the war at 11 am. WWI is over

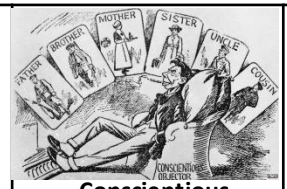
Key Skills

Significance Use the 5Rs	**Remarkable** – an event/person commented on at the time **Remembered** – has not been forgotten **Resulted in change** – led to other events **Revealing** – tells us a lot about that time **Resonant** – has an effect on future generations
Source Analysis Use NOP Content	**Nature**: What is the type of source? **Origin**: Who wrote it? When? Where? **Purpose**: Why was the source made? **Content**: What does it tell us?

Key Terms

Absolutists	Conscientious objectors who wanted nothing at all to do with the war. These men were usually imprisoned.
BWIR	British West India Regiment – formed in October 1915 to allow Caribbean troops to volunteer to fight in WWI.
Conscription	Government law that made it compulsory for men aged 18-40 to join the armed forces and fight in the war.
Enlistment	The process by which men enrolled or 'joined up' to serve in the armed forces
'Going over the top'	When troops left their trenches to launch a frontal attack and cross 'no man's land' to attach the enemy.
Non-combatants	Those who served in the armed forces but in a non-fighting role such as ambulance drivers
Royal Flying Corps	RFC – name of the section of the army that flew and developed aeroplanes during WWI.
Reconnaissance	Gaining information about enemy troop numbers and positions using spying, observation and photographs
Trench warfare	Defensive style of fighting whereby both sides dig trenches to protect themselves from weapon fire.
War of attrition	Method of fighting that involved sending huge numbers of men to wear down the enemy and gain land.

Key Groups/People

 **Kaiser Wilhelm**	 **Conscientious Objectors**	 **William H Coltman**	 **BWIR**	 **Walter Tull**	 **Queen Alexandria Nurses**	 **VADs**	 **WAAC**	 **Major 'Mick' Mannock**
Leader of Germany during WW1 until 1918	Men who refused to fight due to their beliefs and conscience	Non-Combatant awarded medal for bravery as a stretcher bearer	British West Indies Regiment – not allowed to fight on Western Front	First Black British officer in the British Army	Professional nurses who treated soldiers on Western Front	Volunteer nurses who provided care to troops on the Western Front	Female non-combatant unit who freed up men to fight	Britain's most successful pilot. Shot down 61 enemy planes and developed tactics

History

Year 9
Who do we remember in WW1?

Women

Conscientious Objectors

Soldiers

Women took on a variety of jobs on the Western Front. The three main organisations were:

1. Queen Alexandra's Nurses
Who: Professional nurses
Roles: Medical support for British Army.
This meant: Survival and recovery of sick and injured soldiers to return to front.

2. VADs (Voluntary Aid Detachments)
Who: Red Cross volunteer nurses
Roles: Nursing, transport duties, organisation of auxiliary hospitals.
This meant: Men could be rehabilitated and sent back to the front.

3. WAAC (Women's Auxiliary Army Corps)
Who: Uniformed Non-combatant
Roles: Mechanical, clerical, cookery.
This meant it could free up men to fight.

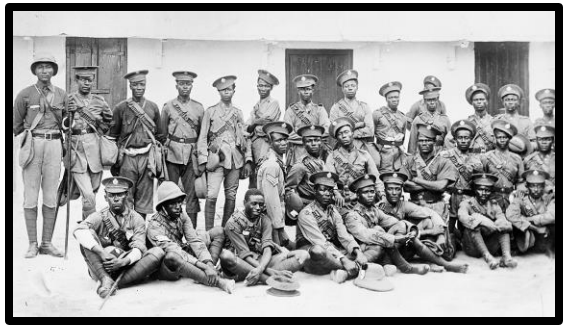
This was significant because it helped to treat men so that they could continue to fight.

Recruitment

Many recruitment posters were created to encourage Britain's to enlist in World War One. From 1916 conscription was introduced which made fighting compulsory for men between 18- 40 unless they were except.

At the time of World War One (1914-1918), Britain had a large empire of countries and territories which it controlled.

During WWI, the British called upon over 3 million soldiers from all over their empire to fight. Troops from the empire played a significant role in the war effort and often faced dangerous conditions and discrimination. One example is the British West Indies regiment.



The British West Indies regiment

Many of these men have not been remembered in the same way as their British fellow soldiers despite making many sacrifices to help Britain win the war.

Pals Battalions

The government thought that fighting alongside friends and neighbours, rather than strangers, might encourage more men to join up. However, the negative impact of men joining from the same street and factories was huge. There were tragic consequences Many men were injured or killed. This robbed entire communities of many of their men, and no new pals battalions were created after 1916.

Conscientious Objectors

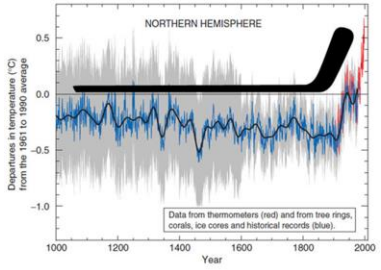
Ordinary people would stop men who weren't in uniform as they walked down the street and ask why they were not in the services (army, navy and air force). Sometimes they even handed them white feathers, a sign of cowardice.

Year 9 – term 1 - Geography Knowledge Organiser

BROADOAK ACADEMY

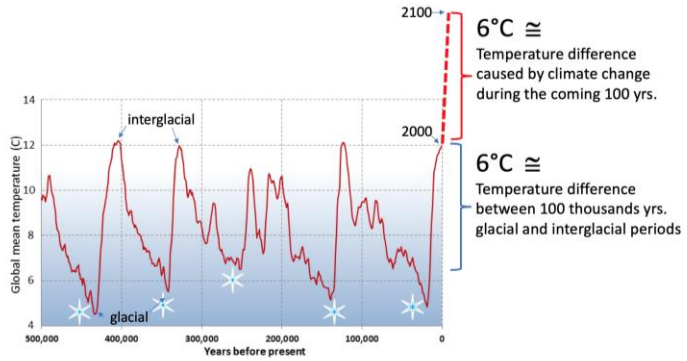
1. What is climate change?

Climate change is a **long-term** change in the climate (usual weather conditions). We are usually talking about **the increase in temperature** the earth has experienced over the last 100 years.



The Hockey Stick graph shows the sudden increase in global temperatures

2. How has the climate changed over time?

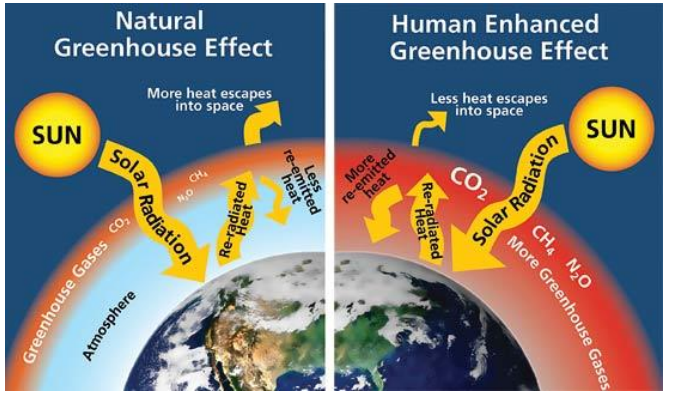


Global temperatures have always fluctuated (changed). The graph shows temperatures over the last 500,000 years.

Glacial periods: cold periods of time when glaciers (frozen rivers) can advance. Last around 10,000 years.

Interglacial periods: warmer periods of time between glacial periods, were glaciers melt and sea levels rise.

3. How is the enhanced greenhouse effect causing climate change?



Greenhouse gases occur naturally in the atmosphere:

CO2 – Carbon Dioxide

CH4 – Methane

N20 – Nitrous Oxide

The greenhouse effect is when these greenhouse gases absorb solar radiation (energy from the sun)

The enhanced greenhouse effect.

Humans are emitting (putting out) **extra** greenhouse gases through their activities:

Carbon dioxide is emitted through burning fossil fuels (coal, oil and gas)

Nitrous Oxide is emitted through transport such as planes and cars

Methane is emitted through agriculture e.g. cattle farming

All these extra greenhouse gases absorb more solar radiation (energy from the sun). This causes more heat to become trapped in the atmosphere, causing global temperatures to rise.

4. What are the impacts of climate change?

Impact	Explanation
Sea level rise	As temperatures rise, water trapped in ice caps melts. This releases liquid water into the sea, and the level of the sea rises
Extreme weather	As temperatures rise, we are more likely to experience heatwaves, floods and drought (long periods without rain)

5. How can we mitigate and adapt to climate change?

Mitigation	Adaptation
Mitigation is attempting to stop climate change through reducing emissions of greenhouse gases. For example: • Renewable energy e.g. solar, which does not emit carbon dioxide • Planting trees – trees absorb carbon dioxide so prevent it being emitted into the atmosphere.	Adaptation means coping with climate change by dealing with the effects. For example: • Helping people farm in areas that have been flooded e.g. pumpkins in Bangladesh • Building houses on stilts so they don't get damaged by floods

6. How can activism by young people help?

Young people such as Greta Thunberg are using protest to show world leaders that they need to do more to mitigate climate change.

What can you do to mitigate climate change?

Year 9 – term 1 - Geography Knowledge Organiser

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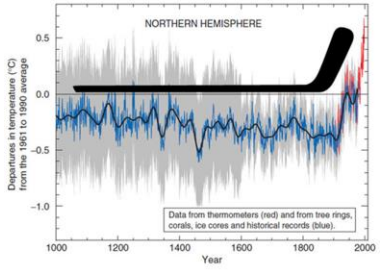

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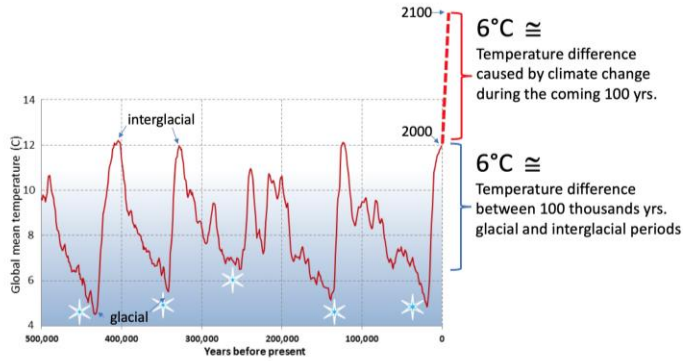

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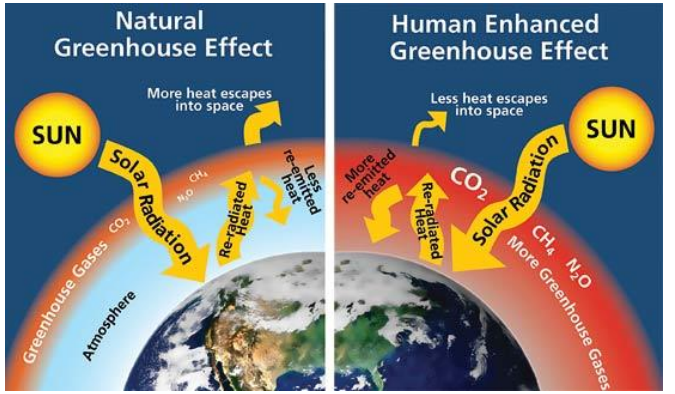

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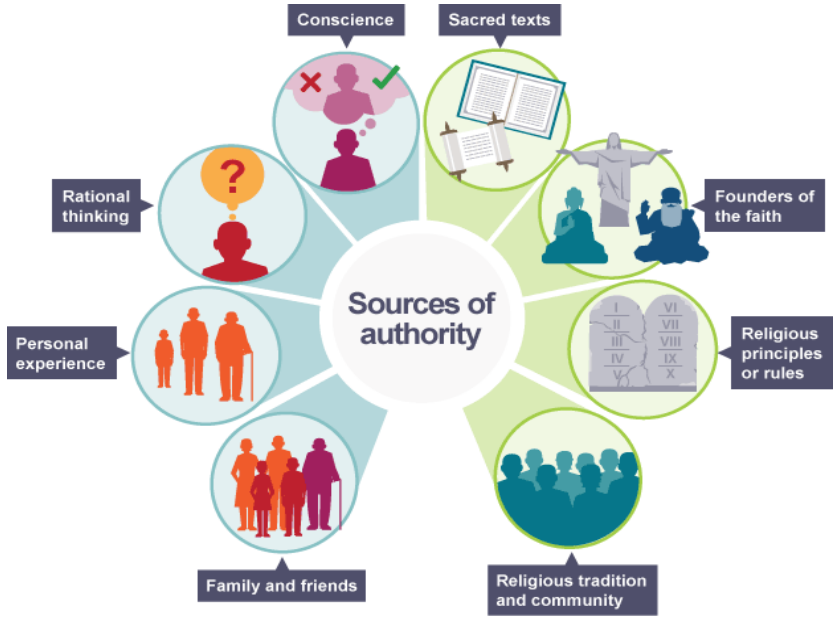
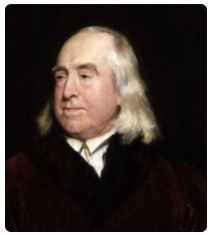
Religion and World Views

How can we make an ethical decision?



Utilitarianism	Situation Ethics
 A theory developed by British philosopher Jeremy Bentham; **do what creates.. 'the greatest happiness for the greatest number'.** This is a consequentialist theory as it believes the greatest happiness for greatest amount of people will produce the best consequences/ outcomes.	 A theory developed by American Professor Joseph Fletcher. Inspired by his Christian faith, Fletcher believed that Agape (unconditional love) was the best tool for moral decision making. Fletcher taught that 'the morality of an action, depends on the situation'. This means that, rather than a blanket rule for everyone, such as do what creates 'the greatest happiness for the greatest number**', you should look at each situation individually** and do what is the most loving thing. This is an intentionalist theory as it requires you to look at a situation individually and intentionally do what you believe will be the most loving thing.

Euthanasia	
Active euthanasia	Something is done to a person to make them die more quickly.
Passive euthanasia	Any form of treatment that might extend a person's life is withdrawn. This is legally allowed in the UK, and so would not be called euthanasia.
Non-voluntary euthanasia	A person cannot decide about eut hanasia or cannot make their wishes known, and so someone else.
Voluntary euthanasia	A person asks for their own life to be ended.

Keyword:	Definition:
Autonomy	The ability to make your own decisions
Morality	What societies sanction as right and acceptable
Ethical	Being 'ethical' is about having standards of behaviour and 'doing the **right** thing'. Relating to beliefs about what is morally right and wrong
Conscience	A **person's moral** sense of right and wrong
Abortion	The termination (ending) of a pregnancy
Euthanasia	The act of deliberately ending a person's life to relieve suffering
Death Penalty	Capital punishment, also known as the death penalty, is a state-sanctioned practice of killing a person as a punishment for a crime.
Quality of life	"How good someone's life is" - The standard of health, comfort, and happiness experienced by an individual or group
Sanctity of life	The idea that all life is special and belongs to God.

Y8 & 9 French

1. The Present Tense

Normalement	*normally*
D'habitude	*usually*
Quelquefois	*sometimes*

Step 1: Take the infinitive of the verb (ER/IR/RE)

Step 2: Chop off the ending (ER/IR/RE)

Step 3: Add the correct ending:

Pronouns	ER verbs	IR verbs	RE verbs
Je	e	is	s
Tu	es	is	s
Il/Elle/On	e	it	-
Nous	ons	issons	ons
Vous	ez	issez	ez
Ils/Elles	ent	issent	ent

Super Five Irregular Verbs:

There are verbs that don't follow this pattern. The 4 most important irregular verbs are on this sheet (ÊTRE, AVOIR, ALLER, and FAIRE).

2. The (Near) Future Tense

La semaine prochaine	*next week*
Le weekend prochain	*next weekend*
Demain	*tomorrow*
L'année prochaine	*next year*

Step 1: Take the present tense of the verb 'ALLER' (to go)

ALLER: to go

Je vais	*I go/am going*
Tu vas	*You go/are going (s.)*
Il/Elle/On va	*He/she/one goes/is going*
Nous allons	*We go/are going*
Vous allez	You *go/are going (p.)*
Ils/Elles vont	*They go/are going*

Step 2: Add an infinitive (the thing you're going to do).

e.g. I'm going to play
Je vais jouer

3. The Preterite (Past) Tense

La semaine dernière	*next week*
Le weekend dernier	*next weekend*
L'année dernière	*next year*

Perfect Tense verbs with 'AVOIR':

Step 1: Take the present tense of the verb avoir

For some verbs you need to use the verb être (MRS VANDERTRAMP)

AVOIR: to have

J'**ai**	*I have*
Tu **as**	*You have*
Il/elle/on **a**	*He/she/one has*
Nous **avons**	*We have*
Vous **avez**	You *have*
Ils/elles **ont**	*They have*

Step 2: Add the past participle (see rules below)

Take the infinitive – chop off the ER + add é
Take the infinitive – chop off the IR + add i
Take the infinitive – chop off the RE + add u

ÊTRE – to be

Je **suis**	*I am*
tu **es**	*You are (s)*
il/elle/on **est**	*He/she/one is*
nous **sommes**	*we are*
vous **êtes**	*you are*
ils/elles **sont**	*they are (m)*

FAIRE – to do/make

Je **fais**	I do
tu **fais**	You do (s)
il/elle/on **fait**	He/she/one does
nous **faisons**	*we do*
vous **faites**	*you do (pl)*
ils/elles **font**	*they do (m)*

Common Past Tense Verbs with ÊTRE

Je suis allé (e)	I went
Nous sommes allé(e)s	We went
Je suis resté (e)	I stayed
Nous sommes resté(e)s	We stayed

Opinions

C'est – it's
C'était – it was
Ce sera – it will be

Awesome French Things to Say

j'en ai hâte!	*I can't wait for it*!
Que je sache	*As far as I know*
les derniers/dernières…	*the latest…*
C'est mon truc	*It's my (kind of) thing*
Ce n'est pas mon truc	*It's not my (kind of) thing*
en regardant la télé	*while watching TV*
en écoutant de la musique	*while listening to music*
en faisant des devoirs	*while doing homework*

9 Technology and Media FRENCH

Cabot Learning Federation

BROADOAK ACADEMY

TECHNOLOGY VERBS

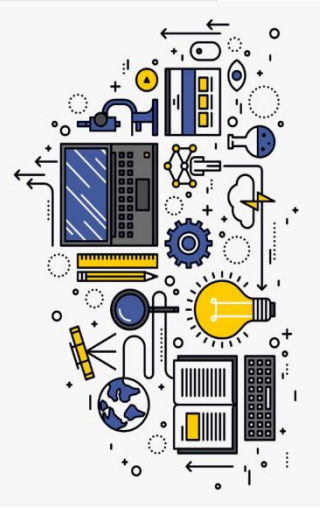
supprimer	to delete, erase
charger	to load
tchatter	to chat online
poster des photos	to post photos
communiquer	to communicate
répondre	to answer
créer	to create
donner	to give
télécharger	to download
envoyer	to send
functionner	to work, to function
enregistrer	to save
parler	to speak, to talk
surfer sur Internet	to surf the internet
pouvoir	to be able to
recevoir	to receive
prendre des photos	to take photos
regarder en streaming	to stream
partager	to share
utiliser	to use

TECHNOLOGY NOUNS

Un dossier	file
Un courrier indésirable	spam, junk mail
Un courrier électronique	email
Un disc dur	hard drive
Un jeu	game
Un texto/un SMS	text message
Un téléphone portable	mobile/smartphone
Un ordinateur	computer
Un ordinateur portable	laptop
Des jeux-vidéo	video games
Une chanson	song
Un écran	screen
Internet	internet
Un réseau social	social network
Une magazine (digitale)	(digital) magazine
Un salon de discussion	chat room
Une tablette	tablet
La technologie	technology

TECHNOLOGY ADJECTIVES

ennuyeux/se	boring
vieux/vieille	old
animé(e)	exciting
confus	confusing
court(e)	short
à la mode	fashionable
lent(e)	slow
divertissant(e)	entertaining
effrayant(e)	scary
estimulant(e)	stimulating
informatif/ve	informative
interéssant(e)	interesting
inutile	useless
long(ue)	long
dangereux/se	dangerous
pratique	practical
rapide	fast
ridicule	ridiculous
cassé(e)	broken
utile	useful

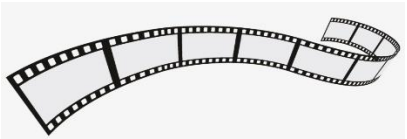


TV GENRES

les comédies	comedies
les dessins animés	cartoons
les jeux télévisés	game shows
les documentaires	documentaries
les infos	the news
les émissions de sport	sports programmes
les séries policières	police shows
les feuilletons	soap operas
Les émissions de musique	music programmes
La télé-réalité	reality TV
La série policière	police series
La météo	weather
La publicité	advert

FILM GENRES

Les films d'action	action films
Les films d'amour	romantic films
Les films de science fiction	sci-fi films
Les films dramatique	dramatic films
Les films à suspense	Suspense/thriller films
Les films de guerre	War films
Les films d'horreur	horror films



Y8 & 9 Spanish

1. The Present Tense

normalmente	*normally*
generalmente	*usually*
a veces	*sometimes*

Step 1: Take the infinitive of the verb (AR/ER/IR)

Step 2: Chop off the ending (AR/ER/IR)

Step 3: Add the correct ending:

Pronouns	AR verbs	ER verbs	IR verbs
Yo	o	o	o
Tú	as	es	es
El/Ella	a	e	e
Nosotros	amos	emos	imos
Vosotros	**á**is	**é**is	**í**s
Ellos/Ellas	an	en	en

Super Five Irregular Verbs:

There are some verbs that don't follow this pattern. The 4 most important irregular verbs are on this sheet (TENER, IR, SER, and HACER).

2. The (Near) Future Tense

la semana próxima	*next week*
el fin de semana próximo	*next weekend*
mañana	*tomorrow*
el año próximo	*next year*

Step 1: Take the present tense of the verb 'ir' (to go)

ir: to go

(yo) **Voy**	*I go/am going*
(tú) **Vas**	*You go/are going (s.)*
(el/ella) **Va**	*He/she/one goes/is going*
(nosotros) **Vamos**	*We go/are going*
(vosotros) **Vais**	You *go/are going (p.)*
(ellos/ellas) **Van**	*They go/are going*

Step 2: Add the presposition 'a'

Step 3: Add an infinitive (the thing you're going to do).

e.g. I'm going to play
Voy a jugar

3. The Preterite (Past) Tense

la semana pasada	*last week*
el fin de semana pasado	*last weekend*
ayer	*yesterday*
el año pasado	last year

Regular Verbs:

Step 1: Take the infinitive of the verb (AR/ER/IR)

Step 2: Chop off the ending (AR/ER/IR)

Step 3: Add the correct ending:

Pronouns	AR verbs	ER/IR verbs
Yo (I)	**é**	**í**
Tú (You s.)	aste	iste
El/Ella (He/She)	**ó**	**ió**
Nosotros (We)	amos	imos
Vosotros (You pl.)	asteis	isteis
Ellos/Ellas (They)	aron	ieron

Ser – to be

(yo) **Soy**	*I am*
(tu) **Eres**	*You are (s.)*
(él/ella) **Es**	*He/she/ is*
(nosotros) **Somos**	*We are*
(vosotros) **Sois**	You are (p.)
(ellos/ellas) **Son**	*They are*

Hacer – to do/make

(yo) **Hago**	*I do/make*
(tu) **Haces**	*You do/make (s.)*
(él/ella) **Hace**	*He/she/ does/makes*
(nosotros) **Hacemos**	*We do/make*
(vosotros) **Hacéis**	You *do/make (p.)*
(ellos/ellas) **Hacen**	*They do/make*

Tener: to have

(yo) **Tengo**	*I have*
(tu) **Tienes**	*You have (s.)*
(él/ella) **Tiene**	*He/she/one has*
(nosotros) **Tenemos**	*We have*
(vosotros) **Tenéis**	*You have (p.)*
(ellos/ellas) **Tienen**	*They have*

6. Awesome Spanish Things to Say

¡No puedo esperar!	*I can't wait for it*!
Por lo que sé	***As far as I know***
Que yo sepa	***As far as I know***
el último / la última…	*the last/latest…*
Es mi (tipo de) cosa…	*It's my (kind of) thing*
No es mi (tipo de) cosa…	*It's not my (kind of) thing*
Mientras estaba viendo	*while I am watching TV*
Mientras estaba escuchando / escucho la música	*while I am listening/I listen to music*
Mientras estaba haciendo / hago los deberes	*while I am doing / I do homework*

BROADOAK ACADEMY

9.10 Leisure and Healthy Living
French Key Vocabulary

(1) Places

chez moi / à la maison	at home
chez mon ami	at my friend's house
chez mon père	at my dad's house
chez ma mère	at my mum's house
chez mes grand-parents	at my grand-parents'
dans ma chambre	in my room
dans le salon	in the living room
dans le jardin	in the garden
dans mon quartier	in my neighbourhood
en Angleterre	in England
à l'étranger	abroad
en ville	in town
à la campagne	in the countryside
à la montagne	in the mountains
au bord de la mer	by the seaside

(2) People

avec...	**with...**
mon collège	my school
mon équipe (de rugby)	my (rugby) team
mes ami(e)s	my friends
mon/ma meilleur(e) ami(e)	my best friend
mon frère	my brother
ma sœur	my sister
mes parents	my parents
mon beau père/ma belle mère	my stepdad/stepmum
ma famille	my family
seul(e)	alone

(3) Superlatives

le/la plus	the most	**le/la moins**	the least
le/la meilleur(e)	the best	**le/la pire**	the worst

(4) New time phrases

après	after(wards)
l'été dernier	last summer
avant la pandémie	before the pandemic
pendant la quarantaine	during lockdown
la semaine qui vient	next week
l'hiver prochain	next winter

(5) Adjectives

gentil(le)	kind
agréable	pleasant
content(e)	happy
bavard(e)	chatty
beau/belle	beautiful
amusant(e)	fun
mignon(ne)	cute
joli(e)	pretty
propre	clean
rapide	fast
riche	rich
timide	shy
travailleur/euse	hard working
triste	sad
ennuyeux/euse	boring
agaçant(e)	annoying
sérieux/euse	serious
facile	easy
difficile	difficult
stricte	strict
moche	ugly
bruyant(e)	noisy
impoli(e)	rude
horrible	horrible/awful
paresseux/euse	lazy
gourmand(e)	greedy
sportif/ive	sporty
enrichissant(e)	enriching
intéressant(e)	interesting
vieux/vieille	old
reposant(e)	relaxing

(6) Intensifiers

très	very	**trop**	too
vraiment	truly	**réellement**	really
assez	quite	**extrêmement**	extremely
un peu	a bit	**pas du tout**	not at all
tellement	so	**particulièrement**	particularly

BROADOAK ACADEMY

(7) Tenses

a) To form the present tense in French: For regular verbs, take the infinitive of the verb, chop of the last 2 letters (**ER/RE/IR**) and add the correct ending for the pronoun:

	ER verbs	RE verbs	IR verbs
je (I)	-e	-s	-is
tu (you)	-es	-s	-is
il/elle (he/she)	-e	-	-it
nous (we)	-ons	-ons	-issons
vous (you pl)	-ez	-ez	-issez
ils/elles (they)	-ent	-ent	-issent

b) To form the near future tense in French:
Take the present tense of the verb aller + the infinitive.
e.g. Je vais jouer au tennis = **I'm going** to play tennis

c) To form the perfect tense in French:
The perfect is a past tense that describes a completed action at a specific time in the past (e.g hier = yesterday).
For regular verbs, use the verb avoir, then add the correct past participle for the infinitive (**ER/RE/IR**) (see rules below)

j'ai	I (have)
tu as	you (have)
il/elle a	he/she (has)
nous avons	we (have)
vous avez	you (pl) (have)
ils/elles ont	they (have)

Past Participle
ER verbs → é (mangé)
RE verbs → u (vendu
IR verbs → i (fini)

eg. manger (to eat) > mangé > j'ai mangé (I ate)
vendre (to sell) > vendu > il a vendu (he sold)
finir (to finish) > fini > nous avons fini (we finished)

(8) Healthy Living - infinitives

se coucher	to go to bed
avoir envie de	to fancy/feel like
trouver (un travail)	to get (a job)
courir	to run
se droguer	to take drugs
se soûler	to get drunk
(ne pas) se sentir bien	to feel (un)well
suivre un régime	to be on a diet
être en forme	to be fit
éviter	to avoid
fumer	to smoke
essayer de (+infinitive)	to try to
se lever	to get up
rester en forme	to keep fit
s'inquiéter	to worry
goûter	to try/taste
sentir	to feel
surmonter	to overcome
avoir mal (au/à la/à l'/aux)	to have a pain (in)
avoir sommeil	to feel sleepy
arrêter	to give up (bad habit)
faire la grasse matinée	to have a lie-in
veiller tard	to stay up late

(9) Phrases that can use an infinitive

avoir l'intention de + infinitive	I plan to/I intend to
je voudrais + infinitive	I would like to
j'aime **bien** + infinitive	I **really** like …ing
je n'aime pas **bien** + infinitive	I don't **really** like …ing
tu préfères + infinitive… ou…?	do you prefer…ing…or..
il déteste + infinitive	he hates …ing
ils ne supportent pas + infinitive	they can't stand …ing

(10) Activities – infinitives

aller	to go
jouer	to play
manger	to eat
visiter	to visit (place)
faire	to do
danser	to dance
boire	to drink
voir	to see
écouter	to listen
lire	to read
acheter	to buy
finir	to finish
regarder	to watch
écrire	to write
dormir	to sleep
nager	to swim
rester	to stay
voyager	to travel
chanter	to sing
contacter	to contact
appeler	to call
cuisiner	to cook
télécharger	to download
travailler	to work
aider	to help
méditer	to meditate
se détendre	to relax
se reposer	to rest
apprécier	to enjoy
bronzer	to sunbathe
envoyer des SMS	to text

9 Technology and Media SPANISH

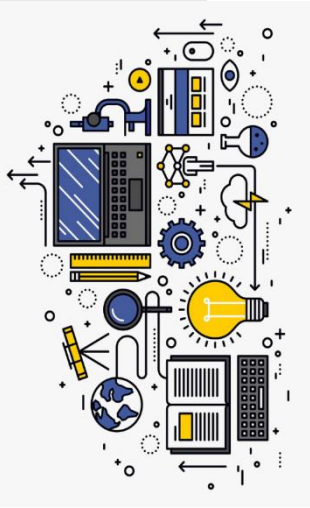
Cabot Learning Federation

BROADOAK ACADEMY

TECHNOLOGY VERBS	
borrar	to delete, erase
cargar	to load
chatear	to chat online
colgar fotos	to post photos
comunicarse	to communicate
contestar	to answer
crear	to create
dar	to give
descargar	to download
enviar	to send
funcionar	to work, to function
guardar	to save
hablar	to speak, to talk
mandar	to send
navegar la red	to surf the internet
poder	to be able to
recibir	to receive
sacar fotos	to take photos
transmitir	to stream
usar	to use
utilizar	to use

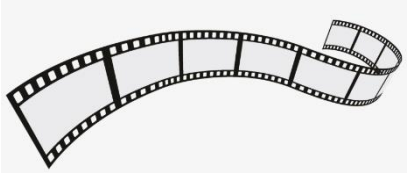
TECHNOLOGY NOUNS	
el archivo	file
el correo basura	spam, junk mail
el correo electrónico	email
el disco duro	hard drive
el juego	game
el mensaje de texto	text message
el móvil	mobile/smartphone
el ordenador	computer
el ordenador portátil	laptop
el videojuego	video game
la canción	song
la pantalla	screen
la red	internet
la red social	social network
la revista (digital)	(digital) magazine
la sala de chat	chat room
la tableta	tablet
la tecnología	technology

TECHNOLOGY ADJECTIVES	
aburrido/a	boring
antiguo/a	old
animado/a	exciting
confuso/a	confusing
corto/a	short
de moda	fashionable
despacio/a	slow
entretenido/a	entertaining
escalofriante	scary
estimulante	stimulating
informativo/a	informative
interesante	interesting
inútil	useless
largo/a	long
lento/a	slow
peligroso/a	dangerous
práctico/a	practical
rápido/a	fast
ridículo/a	ridiculous
roto/a	broken
útil	useful



TV GENRES	
las comedias	comedies
los concursos	game shows
los dibujos animados	cartoons
los documentales	documentaries
las noticias	the news
los programas de deporte	sports programmes
las series policiacas	crime series
las telenovelas	soap operas

FILM GENRES	
las películas de acción	action films
las películas de amor	romantic films
las películas de ciencia ficción	sci-fi films
las películas de drama	dramatic films
las películas de suspense	suspense films
las películas de terror	horror films



THE PERFECT TENSE

HABER
he (I have)
has (you have)
ha (he/she have)
hemos (we have)
habéis (you have)
han (they have)

INFINITIVE		
COMUNICAR	→ -ADO	*Hemos comunicado*
TENER	→ -IDO	*He tenido*
ELEGIR	→ -IDO	*Han elegido*

BROADOAK ACADEMY

9.10 Leisure and Healthy Living
Spanish Key Vocabulary

(1) Places

en casa	at home
en la casa de mi amigo	at my friend's house
en la casa de mi padre	at my dad's house
en la casa de mi madre	at my mum's house
en la casa de mis abuelos	at my grand-parents'
en mi dormitorio	in my room
en el salón	in the living room
en el jardín	in the garden
en mi barrio	in my neighbourhood
en Inglaterra	in England
en el extranjero	abroad
en el pueblo	in town
en el campo	in the countryside
en las montañas	in the mountains
en la costa	by the seaside

(2) People

con...	with...
mi colegio	my school
mi equipo (de rugby)	my (rugby) team
mis amigos	my friends
mi mejor amigo/a	my best friend
mi hermano	my brother
mi hermana	my sister
mis padres	my parents
mi padrastro/madrastra	my stepdad/stepmum
mi familia	my family
sola/a	alone

(3) Superlatives

el/la más	the most	**el/la menos**	the least
el/la major	the best	**el/la peor**	the worst

(4) New time phrases

luego	afterwards
el verano pasado	last summer
antes de la pandemia	before the pandemic
durante la cuarentena	during lockdown
la semana que viene	next week
el invierno próximo	next winter

(5) Adjectives

amable	kind
agradable	pleasant
contento/a	happy
hablador/a	chatty
bonito/a	beautiful
divertido/a	fun
mono/a	cute
guapo/a	pretty
limpio/a	clean
rápido/a	fast
rico/a	rich
tímido/a	shy
trabajador/a	hard working
triste	sad
aburrido/a	boring
molesto/a	annoying
serio/a	serious
fácil	easy
difícil	difficult
estricto/a	strict
feo/a	ugly
ruidoso/a	noisy
maleducado/a	rude
horrible	horrible/awful
perezoso/a	lazy
glotón	greedy
deportivo/a	sporty
enriquecedor/a	enriching
interesante	interesting
viejo/a	old
relajante	relaxing

(6) Intensifiers

muy	very	**demasiado**	too
de verdad	truly	**realmente**	really
bastante	quite	**extremadamente**	extremely
un poco	a bit	**nada**	not at all
tan	so	**particularmente**	particularly

BROADOAK ACADEMY

(7) Tenses

a) To form the present tense in Spanish: For regular verbs, take the infinitive, chop off the last 2 letters of the infinitive (**AR/ER/IR**) and add the correct ending for the pronoun:

	AR verbs	ER verbs	IR verbs
yo (I)	-o	-o	-o
tú (you)	-as	-es	-es
él/ella (he/she)	-a	-e	-e
nosotros/as (we)	-amos	-emos	-imos
vosotros/as (you pl)	-áis	-éis	-ís
ellos/ellas (they)	-an	-en	-en

b) To form the near future tense in Spanish:
Take the present tense of the verb ir + a + the infinitive.
e.g. voy a jugar al tenis = **I'm going** to play tennis

c) To form the preterite tense in Spanish:
The preterite is a past tense that describes a completed action at a specific time in the past (e.g ayer = yesterday).For regular verbs, take the infinitive, chop off the last 2 letters of the infinitive (**AR/ER/IR**) and add the correct ending:

	AR verbs	ER verbs	IR verbs
yo (I)	-é	-í	-í
tú (you)	-aste	-iste	-iste
él/ella (he/she)	-ó	-ió	-ió
nosotros/as (we)	-amos	-imos	-imos
vosotros/as (you pl)	-asteis	-isteis	-isteis
ellos/ellas (they)	-aron	-ieron	-ieron

e.g. tomar (to take) > toma~~r~~ > **tomé** (I took)
comer (to eat) > com~~er~~ > **comió** (he/she ate)

(8) Healthy Living - infinitives

acostarse	to go to bed
apetecer	to fancy/feel like
conseguir (un trabajo)	to get (a job)
correr	to run
drogarse	to take drugs
emborracharse	to get drunk
encontrase bien/mal	to feel well/ill
estar a dieta	to be on a diet
estar en forma	to be fit
evitar	to avoid
fumar	to smoke
intentar (+infinitive)	to try to
levantarse	to get up
mantenerse en forma	to keep fit
preocupar	to worry
probar	to try/taste
sentirse	to feel
superar	to overcome
tener dolor (de)	to have a pain (in)
tener sueño	to feel sleepy
abandonar	to give up (bad habit)
quedarse en la cama	to have a lie-in
trasnochar	to stay up late/all night

(9) Phrases that can use an infinitive

tengo la intención de + infinitive	I plan to/I intend to
me gustaría + infinitive	I would like to
me gusta(n) **mucho** + infinitive	I **really** like …ing
no me gusta(n) **mucho** + infinitive	I don't **really** like …ing
¿prefieres + infinitive… o…?	do you prefer…ing…or…
odia + infinitive	he/she hates …ing
no suportan + infinitive	they can't stand …ing

(10) Activities – infinitives

ir	to go
jugar	to play
comer	to eat
visitar	to visit
hacer	to do
bailar	to dance
beber	to drink
ver	to see
escuchar	to listen
leer	to read
comprar	to buy
terminar	to finish
mirar	to watch
escribir	to write
dormir	to sleep
nadar	to swim
quedar	to stay/to meet
viajar	to travel
cantar	to sing
contactar	to contact
llamar	to call
cocinar	to cook
descargar	to download
trabajar	to work
ayudar	to help
mediar	to meditate
relajar	to relax
descansar	to rest
disfrutar	to enjoy
tomar el sol	to sunbathe
mandar SMS	to text

Languages

Spanish -Leisure and Healthy Living

3 time frames
opinions
Infinitives
justifications
Time phrases

1.Expressing FUTURE intentions :
Tengo la intención de + infinitive (I plan to/ I intend to ...)
Me gustaría + infinitive (I would like to...)

2.Using infinitives after me gusta/no me gusta/odiar/preferir :
You can also use an infinitive after opinion verbs such as aimer, odiar and preferir. They are usually translated with a **gerund** (a verb ending with -ing) in English:
Me gusta *vivir* à Newcastle - I like living in Newcastle.
Prefieres *jugar* al fútbol o al tenis? - Do you prefer playing football or tennis?
Odio *beber* café porque es asqueroso – She hates drinking coffee because it's disgusting.

3.Opinions
Me gusta(n) - I like
Me gusta(n) **mucho** - I like **a lot**
No me gusta(n) **mucho** - I don't like **much**
Prefiero – I prefer
Odio - I hate
No suporto - I can't stand

4.Justification
Porque - because
Por lo tanto – therefore/so
Por consiguiente- consequently

5.Comparisons
Más…..que –more…than
Menos…que - less…than
Tan…como – as…as

6.Superlative
El/la más – the most
El/la menos – the least
El/la major – the best
El/la peor – the worse

7.Time phrases
Normalmente - normally
Usualmente - usually
Generalmente - generally
De vez en cuando/a veces – sometimes

Luego – next
Raramente - rarely
El fin de semana que viene– next weekend
La semana que viene- next week

El fin de semana pasado - last weekend
El mes pasado - last month
El verano pasado- last summer
Durante la cuarentena- during lockdown

Year 9 Art

The Past

BROADOAK ACADEMY

Content: In this project you will develop knowledge of the past and how it influenced the mass consumption of mainstream art and culture, which lead to the cultural changes in art over time.

Develop skills- drawing, shading, gridding, appropriation, using materials to create 3 dimensional shapes and showing the influence of other artists in your own work and presentation

Outcome- A pop art social commentary personal response on how you view events and cultures of the past, and celebrities of present day.

Andy Warhol

was an American visual artist, film director, producer, and leading figure in the pop art movement. His works explore the relationship between artistic expression, advertising, and celebrity culture that flourished by the 1960s

ARTISTS

Roy Lichtenstein

Jim Dine

Peter Blake

Research

We will be developing independent research skills that will allow you to apply skills and techniques from artists you like to your personal responses.

The techniques are also very useful in other subjects, and will help you to prepare for higher levels of schooling as many subjects at A-Level and Undergraduate are reliant on being able to produce high quality research.

Keywords:

Mass Consumerism –It is the drive to buy and own more stuff, and to define one's identity through what they own

Pop Art- Pop art is an art movement that emerged in the 1950s and flourished in the 1960s in America and Britain, drawing inspiration from sources in popular and commercial culture.

Screen Printing- the technique of creating a picture or pattern by forcing ink or metal on to a surface through a screen of fine material.

Assessment:

(D) Demonstrate a deepening- knowledge, understanding and skills

(O+)On Track- Demonstrate some- knowledge, understanding and skills

(O-)On Track- Demonstrate some- knowledge, understanding and skills

(Y)Yet to be on Track- developing some- knowledge, understanding and skills

(A)Earlier Stage-minimal knowledge, understanding and skills

Analysis

All artist research pages should be annotated Artwork-

Artist name

- Describe the work-what does it look like? Use the formal elements i.e. colour, line etc.
- What techniques/materials were used?
- What is your opinion of the work? How is it relevant to your own idea?

Sentence starters

I like/dislike the way the artist has used…because

I think the colour scheme used is effective because…

I think the artist has been inspired by…because

Evaluation of Your Artwork-

What inspired you to create the piece?

What techniques did you use and why?

What does it mean to you?

How is it relevant to your idea?

Sentence starters

The technique I have used is…

The skill/technique I found most difficult was…because…

I think my work is successful because…

Year 9 Art

The Present

Content: In this project you will develop knowledge of current affairs, culture, community and inclusive art to show how art is leading the way for cultural change.

Develop skills- drawing, shading, painting, 3D Design and sculpture using materials to create 3 dimensional shapes and showing the influence of other artists in your own work and presentation

Outcome- A personal sculptural response which reflects a personal belief or cultural change in the community around you.

Jaume Plensa

Jaume is a Spanish visual artist, sculptor, designer and engraver. He is a versatile artist who has created opera sets, video projections and acoustic installations. However, He is better known for his large sculptures made up of letters and numbers from across all known languages

A R T I S T

Research

We will be developing independent research skills that will allow you to apply skills and techniques from artists you like to your personal responses.

The techniques are also very useful in other subjects, and will help you to prepare for higher levels of schooling as many subjects at A-Level and Undergraduate are reliant on being able to produce high quality research.

Keywords:

Diversity- The range of human differences, including but not limited to race, ethnicity, gender, gender identity, sexual orientation, age, and political beliefs.

Inclusion - the act of including someone or something as part of a group, list, etc

Appropriation- The use of pre-existing objects or artworks in the creation of art, with subtle changes that make it a new original piece.

Assessment:

(D) Demonstrate a deepening- knowledge, understanding and skills

(O+)On Track- Demonstrate some- knowledge, understanding and skills

(O-)On Track- Demonstrate some- knowledge, understanding and skills

(Y)Yet to be on Track- developing some- knowledge, understanding and skills

(A)Earlier Stage-minimal knowledge, understanding and skills

Analysis

All artist research pages should be annotated Artwork-

Artist name

- Describe the work-what does it look like? Use the formal elements i.e. colour, line etc.
- What techniques/materials were used?
- What is your opinion of the work? How is it relevant to your own idea?

Sentence starters

I like/dislike the way the artist has used...because

I think the colour scheme used is effective because...

I think the artist has been inspired by...because

Evaluation of Your Artwork-

What inspired you to create the piece?

What techniques did you use and why?

What does it mean to you?

How is it relevant to your idea?

Sentence starters

The technique I have used is...

The skill/technique I found most difficult was...because...

I think my work is successful because...

Year 9 Drama - Exploring Practitioners

Developing your knowledge, skills and understanding of a variety of theatrical conventions as used by key practitioner e.g. Brecht, Artaud, Stanislavski & Frantic Assembly

Styles & Theatrical Conventions		
1	Bertolt Brecht	A German practitioner concerned with Epic and Political theatre
2	Konastatin Stanislavski	Russian practitioner who created naturalism from realism. Stanislavski believed that theatre should be 'a slice of life.'
3	Antonin Artaud	A French practitioner who developed the Theatre of Cruelty. His performances were mainly abstract and used lots of physicality.
4	Frantic Assembly	A British physical theatre company. Focusing on paired or grouped choreographed performances.
5	Epic	An over exaggerated performance using set conventions which break the fourth wall.
6	Naturalism	A form of realism where acting and actions are presented as they would be in real life.
7	Theatre of Cruelty	A genre of theatre used by Artaud. This theatrical form uses animalistic and sensory overloading techniques to shock the audience.
8	Physical Theatre	A combination of dance and drama to create a choreographed performance.
9	Subtext	The deeper meaning behind a character's action or dialogue.
10	Emotion Memory	This is a technique which requires performances to recall past experiences to extract emotions and use them in performances to make their characters as realistic as possible.
11	Placards	Signs display key information, narration, facts and questions for the audience.
12	Narration	A storytelling technique to help inform the audience.
13	Body Tension	How relaxed or tense an actor's muscles are.
14	Verfrumdungseffekt	Also known as the V effect. This is a combination of techniques used to alienate/distance the audience from the action.
15	Direct Address	Characters speaking directly to the audience in role, as performers or narrators.
16	Spass	This translates into 'fun'. This techniques is used to add comedy to a performance in order to break up the seriousness of the issues explored in the play. This is often very over the top and allows the audience to reflect more deeply on the content of the performance.
17	Sense Memory	This is when an actor recalls their senses to allow their actions to be more realistic.
18	Choreography	This is a structure dance or movement sequence.
19	Canon	This is where performs start and different points and repeat the actions of the previous person.
20	Unison	When performs use choreography at the same time in the same way.

Posture

How an actor stands or sits

BROADOAK ACADEMY

Proxemics

The space and awareness of space between actors and sometimes objects. Where an actor is on stage

Interaction

The physical communication between characters and sometimes objects

How does an actor use **vocal** and **physical** skills to communicate their character?

Movement

The way an actor moves and where they move to on stage

Facial Expression

Facial movements to show mood or emotion

Gesture

Body movements, usually using hands, arms or shoulders

Speech

Pitch (high/low), Volume and Projection, Pace, Diction, Emphasis, Accent

VOCAL SKILLS

PITCH
How HIGH or LOW a voice sounds

ACCENT
A way of talking associated with a geographical location or social class

PACE
The speed in which someone speaks or responds

TONE
The emotional sound of the voice e.g. Angry, Sad, Excited

DICTION
How clear an actor pronounces their words

PROJECTION
The direction and distance an actor sends their voice

Volume
How LOUD or QUIET an actor speaks to express their emotion

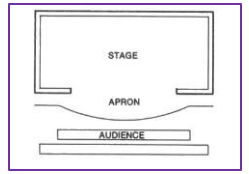
EMPHASIS
Where an actor stresses a word to indicate its importance

PAUSE
Stopping for a moment for dramatic impact

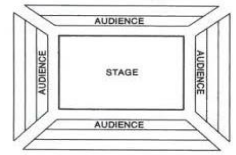
Drama Techniques Toolkit	Definition
Freeze Frame	When everyone on stage at one moment freezes or stands still
Narration	Where there is someone or a voice telling parts of the story not shared by the acting that the audience need to know
Mime	Performing/acting with no speaking
Role-Play	Performing/acting as if you are a specific character or in a specific situation
Split-Stage	Where there are two different things taking place on stage at the same time often to show different places or periods of time
Stage Configuration	The type, layout or design of a stage
Stage Positioning	Specific areas on a stage where actors or set are positioned
Step Out	When an actor steps away or looks up from a freeze frame to address/speak to the audience
Stock Characters	Stereo-typical characters found in a play

Practitioner	Theatre Techniques, Conventions and Practices
Stanislavski	**Realism**. What you see on stage is a realistic representation of real life. Understanding the 'Given Circumstances' (the context) and the 'Magic If' (what would I do and how would I feel if I was in that situation)
Brecht	**Not realism**. You should not believe what you see on stage is real. Use of mime, freeze frame, step out, placards, narration, music, movement and gesture – Physical Theatre
Artaud	**Heightening the senses**. An intense theatrical experience that combined elaborate props, magic tricks, special lighting, movement, primitive gestures and articulations – Physical Theatre. Theatre of Cruelty
Shared Experience	**Exploring both sides.** Communicating one feeling/emotion whilst visibly displaying another. Understanding two sides of a story. Use of Physical theatre.
Frantic Assembly	**Physical Theatre.** Communication of a story/mood/emotion through movement and gesture**.**

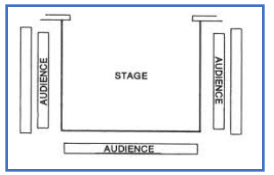
Proscenium Arch



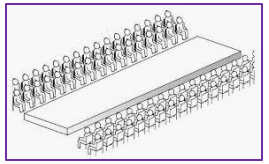
In The Round



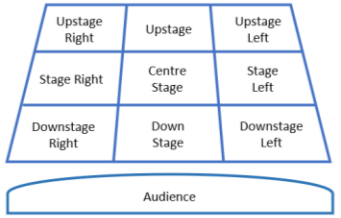
Thrust



Traverse



Stage Positioning



Year 9 Drama Theatre Practitioners

BROADOAK ACADEMY

Design Technology Year 9
Light project

CLIENT
TARGET MARKET

Knowing your Client and Target market enables the designer to make better design decisions by focusing on what the requirements are and who the product would be for identifying their needs are: Examples

Children (3-5yrs) – Bright colours, small to fit into their hands, safe smooth edges…..

IKEA as a client will priorities price and sustainability

Ergonomics and Anthropometrics

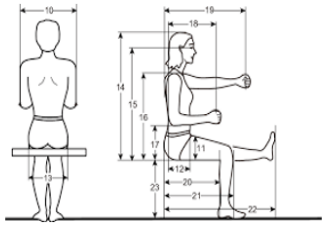
Ergonomics: an applied science concerned with designing and arranging things people use so that the people and things interact most **efficiently and safely**. Making use and maintenance easier causing less strain or damage to the user.

Anthropometrics: is the comparative study of the measurements and capabilities of the human body. Anthropometry is the measurement of body sizes at rest and when using devices such as chairs, tables, beds, mobility devices, and so on.

Question:
How do you consider these in everyday products?

Anthropometric:
Hand grip area, bottom space, leg to floor, arm reach……

Ergonomics:
Easy to…Clean, weight of products, the comfort that helps your posture …..



Analysing Products:

To compare means: To estimate, measure, or note the similarity or dissimilarity between. "individual schools **compared** their facilities **with** those of others in the area"

You identify differences between products and compare the good and the bad in products all the time, this is often how you decide if your going to replace your phone for example; is it worth the upgrade, should you have android or apple what's the difference? Using descriptive **Simile** language is the key:

Simile - a descriptive technique that compares one thing with another, usually using 'as' or 'like'.
Example: The base of the lamp is rounded like a pear.

The then extend by explain **why** this is **better or worse** than the other: This could make it more balances and stable that the fine lever parts of the other light.

A is for **Aesthetics**
Aesthetics means **what does the product look like?**
What is the: Colour? Shape? Texture? Pattern? Appearance? Feel? Weight? Style?

C is for **Cost**
Cost means **how much does the product cost to buy?**
How much does it: Cost to buy? Cost to make?
How much do the different materials cost? Is it good value?

C is for **Customer**
Customer means **who will buy or use your product?**
Who will buy your product? Who will use your product?
What is their: Age? Gender?
What are their: Likes? Dislikes? Needs? Preferences?

E is for **Environment**
Environment means **will the product affect the environment?**
Is the product: Recyclable? Reuseable? Repairable? Sustainable? Environmentally friendly? Bad for the environment?
6R's of Design: Recycle / Reuse / Repair / Rethink / Reduce / Refuse

S is for **Size**
Size means **how big or small is the product?**
What is the size of the product in millimeters (mm)? Is this the same size as similar products? Is it comfortable to use? Does it fit? Would it be improved if it was bigger or smaller?

S is for **Safety**
Safety means **how safe is the product when it is used?**
Will it be safe for the customer to use? Could they hurt themselves? What's the correct and safest way to use the product? What are the risks?

F is for **Function**
Function means **how does the product work?**
What is the products job and role? What is it needed for? How well does it work? How could it be improved? Why is it used this way?

M is for **Material**
Material means **what is the product made out of?**
What materials is the product made from? Why were these materials used? Would a different material be better? How was the product made? What manufacturing techniques were used?

Design Technology Year 9 IKEA light

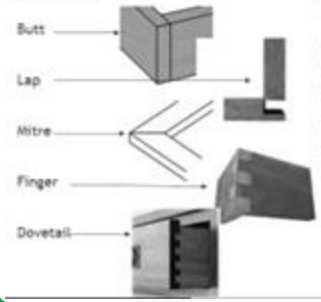
Who is a client?

A person or organisation using the services of a lawyer or other professional person or company.

Methods of Joining wood

Joints:

Methods of cutting wood to increase the strength of the structure



Adhesives:

For nearly Everything **PVA** (Poly Vinyl Acetate) is excellent as it is very strong and inexpensive but it is water based

Cascamite is a very strong waterproof adhesive for wood

Screws:

Woodscrews provide a strong and simple method of joining wood

Systems and Contol

A system is a set of components arranged to carry out a particular function. They may include **mechanical, electrical** or **electronic** components. Almost every process can be divided into INPUT, PROCESS and OUTPUT.

Kettle example:

INPUT	PROCESS	OUTPUT
How it activates	What happens	What the result?
Fill with water	Element heats	Boiling water
Switch on	Water heats up	Steam

USING PROTOTYPES:

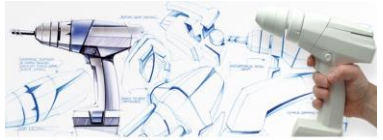
A prototype enables the designer to test the product:

Test how it fits the purpose, interaction with the user.

Scale and size

Functions

Moving parts.



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Name	Picture	Symbol	Function	System section
LDR			Light, Dependent, Resistor. Sensor for changes in light, if the light in the room is reduced the resistor will release power and turns on the light.	Input
Switch			**Switches** are a break in the circuit that works like a gate to turn the power on or electricity on/off.	Input
Wire			**Wires** are necessary to make a complete electrical circuit. Connecting all the components together.	Process
LED			**LEDs** are a **L**ight **E**mitting **D**iode which means it lights up the *Diode part controls back EMF so* an LED is a +/- components = polorised.	Output
USB			**USB** stands for **Universal Serial Bus.** USB's are used as a low current power supply and to transfer digital information.	Input/ process
Buzzer			**Buzzer** is a sound component that created sound through electrical impulses which vibrate to make a buzzer nose.	Output

TOOL AND COMPONENTS TYPES

We use tools to make the product. Components are the parts that become part of the final product, often referred to as 'off the shelf parts' as they are manufactured in their 1000's

Pillar Drill

Try Square

Screwdriver

Bench hook

TOOLS

COMPONENTS

Wing nut

Bolts

Wood screws

Nuts

Sustainable Design:

Sustainable design is the approach to creating products and services that have considered the environmental, social, and economic impacts from the initial phase through to the end of life.

Key ways of doing this:

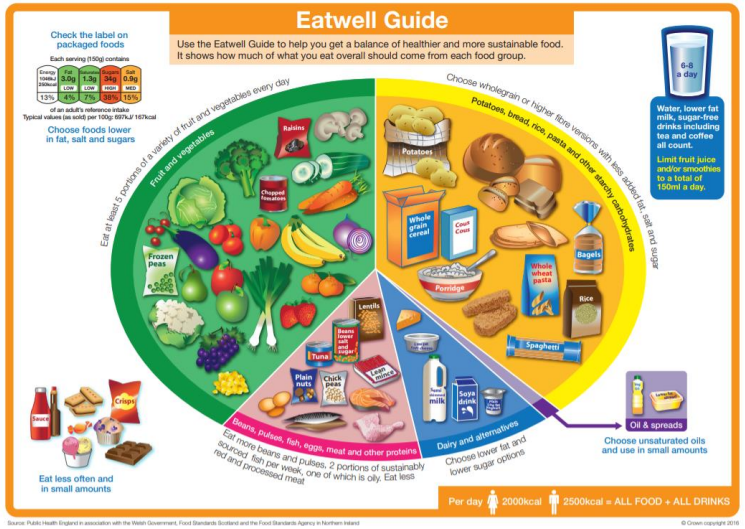
Sourcing materials, recycling, reusing means these materials don't end up in landfill, destroying landscapes.

Using woods that are FSC certificated, means they grow quickly; like pine will help to stop deforestation.

Minimising waste; making sure that all the materiel is used to minimise waste, means that we are not wasting the planets resources and not adding to landfill.

BROADOAK ACADEMY

Food Technology Year 9



Cleaning

Environmental
Surfaces
Equipment
Appliances
Washing up
Drying
Chemicals

Personal hygiene
Clothes
Hands
Hair
Face
Illness

Cooking

63ºC is the temperature hot food needs to be served at.

Bacteria is killed off in temperatures above 60ºC

Processed meats like Burgers, sausages should be cooked to **75°C** Pork and chicken, should have no pink meat, The juices should run clear when cooked.

Chilling

The temperature between 5ºC– 63ºC is sometimes called the 'danger-zone'.

The bacteria that cause food to deteriorate and food poisoning rapidly reproduces around the temperature of 37ºC (body temperature).

4 C's

Cross contamination

The process by which bacteria are transferred from one area to another.

The main carriers of bacteria and causes of cross contamination are:
Humans, Rubbish
Pets and other animals
Food, e.g. raw meat or poultry

Macronutrients Fat, Protein, Carbohydrate

required in **large** amounts in the diet and have a larger impact on your body.

Nutrient	Role in the body	Food Example
Carbo hydrate	The main source of energy for the body	Bread, rice, pasta, potatoes
Protei n	Provides the body with growth and repair.	Meat, poultry, beans, eggs, lentils, tofu, fish
Fat	Provides the body with insulation and protects vital organs. Provides essential fatty acids for the body.	Butter, oil, cheese, cream, nuts, oily fish, crisps

Nutrient	Role in the body	Food Example
Vitamin A	The skin and body lining. Also normal vision and immune system	Dairy, dark green veg and orange fruit.
Vitamin D	For absorbing calcium and phosphorus for health bones.	Sun, oil fish, eggs and meat.
Vitamin E	Its an antioxidant that protects cells against damage and stress	All Vegetables, vegetable oil, seeds
Vitamin C	Its an antioxidant that also helps with body tissue and healing.	Fruits especially citrus. Green veg and tomatoes.
Vitamin K	Essential to blood clotting (making scabs)	Green veg, meat, oils and cereals
Iron	Red blood cell transporting oxygen around the body .	Meat, beans, nuts, fish, whole grains and dark green veg
Calcium	Bones, teeth, nerves and muscles. Also helps clotting	Dairy, green veg, soya beans and bread.

Micronutrients A substance required in SMALL amounts. vitamins and minerals.

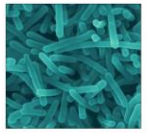
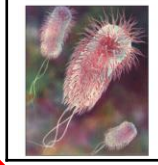
they have a more specific impact on your body.

Food Technology
Year 9

What is a the 'Bacteria'?

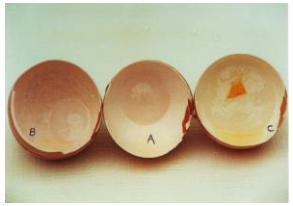
Bacteria are tiny living cells that are found everywhere, they are: Microscopic and the most common cause of food poisoning.

BACTERIA

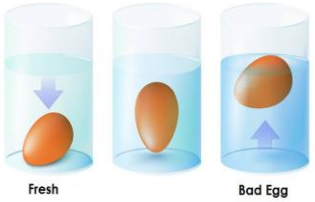
Bacteria	Symptoms
Salmonella  **Source:** Waste of man and animals (esp. **poultry**) Salmonella is infectious and can be spread to other people **Foods found in:** Contaminated meat and meat products- especially **poultry** Custard, cream, milk and **egg** products Salads	**Symptoms:** **Fever,** headache, aching limbs, abdominal pain, nausea, **diarrhoea**, sometimes **vomiting**
Listeria  **Source:** Soil, water, vegetation, domestic animals, man **Foods found in:** Raw milk, seafood, vegetables, pate, soft cheeses, meat products	**Symptoms:** Normal host- mild **fever**, influenza type symptoms At risk host- Fever, intense headache, nausea, **vomiting**, infection of feutus, septicemia, meningitis, still birth
Bacillus cereus  Source: Outer casing of rice, environment, animals Foods found in: Milk, meats, vegetables, **rice**, sauces, puddings, soups **There are 2 types of B. cereus;** **Diarrhoeal** – causing diarrhoea and **Emetic**- causing vomiting The emetic toxin type grows well in rice dises	**Symptoms:** Abdominal pain, severe **vomiting**, **diarrhoea**, abdominal cramps- sometimes collapse
Escherichia coli  **Source:** Large intestine- faeces **Foods found in:** Unwashed vegetables, undercooked meat, contaminated water, raw milk	**Symptoms:** Severe abdominal cramps, watery diarrhoea, bloody **diarrhoea**, nausea, **vomiting**

Testing Eggs:

An egg start to produce gas inside the shell as it starts to turn stale.



Stale eggs have large air sacs.



Stale eggs Float.

It is important to check eggs and be careful not to use stale eggs as they are one of the main causes of Salmonella poisoning.

Meat Commodities:

There are a wide range of meats fresh meat is preserved in the fridge between 4-5°C. Bottom glass shelf so juices don't drip onto other foods.

Red	White	Preserved
Beef	Chicken	Chilled
Lamb	Turkey	Frozen
Pork?	Goose	Salted
Venison	Duck	Canned
Game	(Poultry)	Dried
Goat		Smoked

EQUIPMENT

Special Dietary needs:

Special Diet:	Needs to avoid:
Vegan	Will not eat meat or animal products; eggs, dairy, honey. This is an ethical choice.
Vegetarian	Will not eat meats or fish. This is an ethical choice.
Pescatarian	Will not eat meats will eat fish. This is an ethical choice.
Nut Allergy	Avoid nuts, nut oils and anything that may have come into contact with nuts. **This is fatal**, Epi-pen to stop the reaction.
Lactose intolerance	Will avoid dairy products, particularly cheese and milk. Can not digest Lactose, cause stomach problems.
Gluten intolerance	Avoid wheat products, particularly with flour. Can not digest Gluten, cause stomach problems.

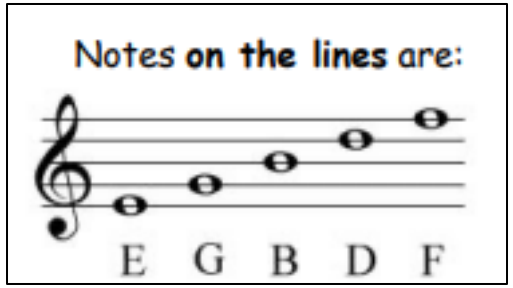
Hip-Hop and Reggae

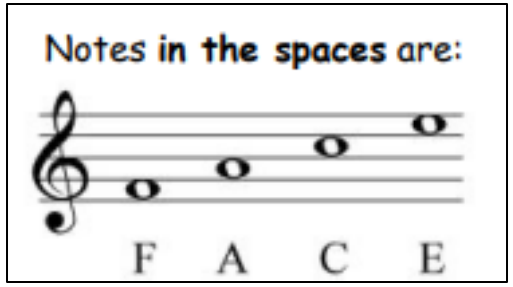
Pulse – constant, steady beat
Rhythm – The combination of long and short notes
Syncopation – playing on the off-beat
Skank – the characteristic off-beat feel of Reggae music
Lyrics – the words of the song
MC (Mater of Ceremonies) – another name for a rapper
Rap – pop music where words are recited rapidly and rhythmically over an instrumental backing
Slang – informal words/phrases
Synthesiser – computer-generated sound
Samples – pre-recorded sounds
Loops – the continuous use of a musical phrase in electronically produced music
Rhyme – correspondence of sound between words or endings of words
Structure – the order of the sections in a piece of music
Depressed – Sad feelings
Oppressed – dominated by other people

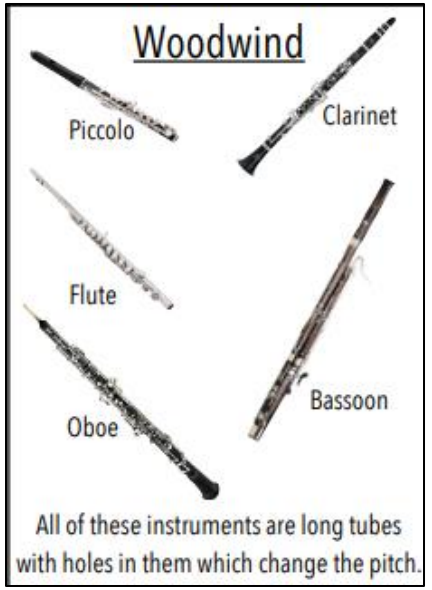
Y9 Music

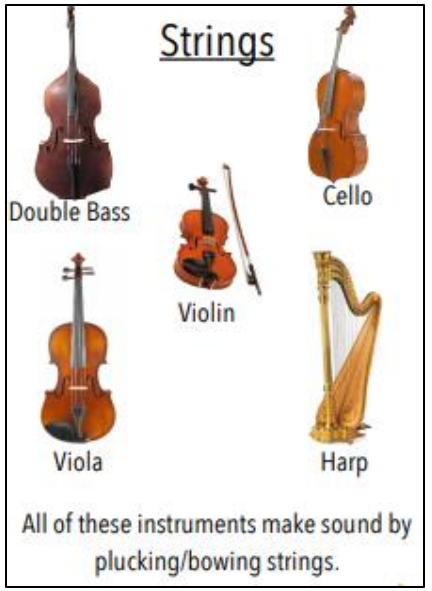
How can Music tell my story?

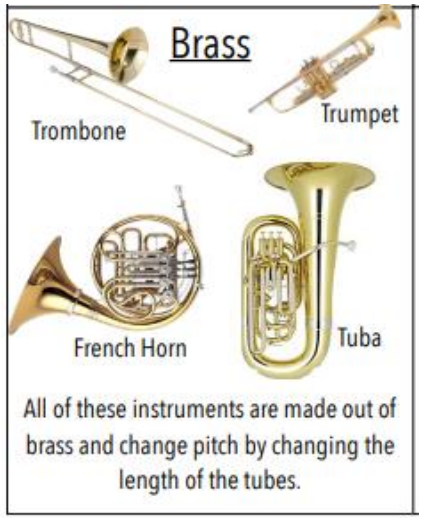
Note Pyramid			
Name	Symbol	Rest Symbol	Value of each
Semibreve	𝅝	𝄻	4
Minim	𝅗𝅥 𝅗𝅥	𝄼	2
Crotchet	♩ ♩ ♩ ♩	𝄽	1
Quaver	♫ ♫ ♫ ♫	𝄾	½
Semiquaver	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝄿	¼

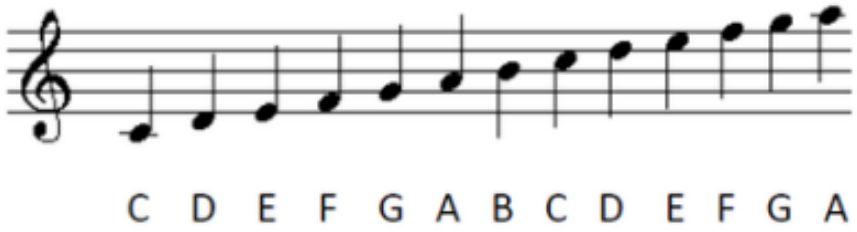












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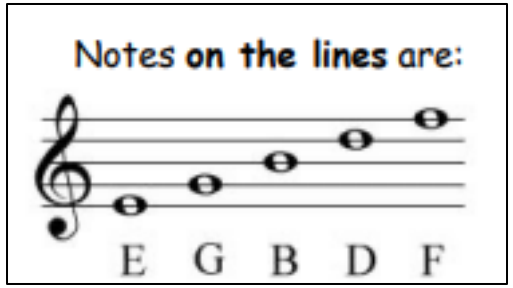
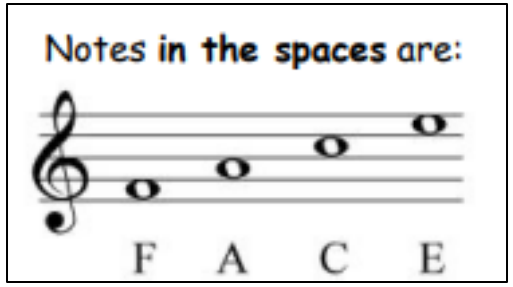
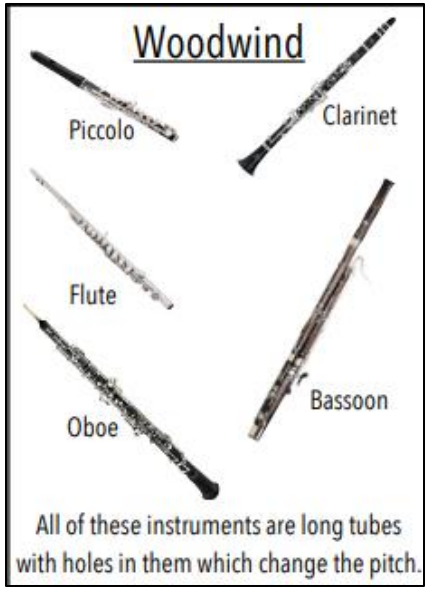
Y9 Music

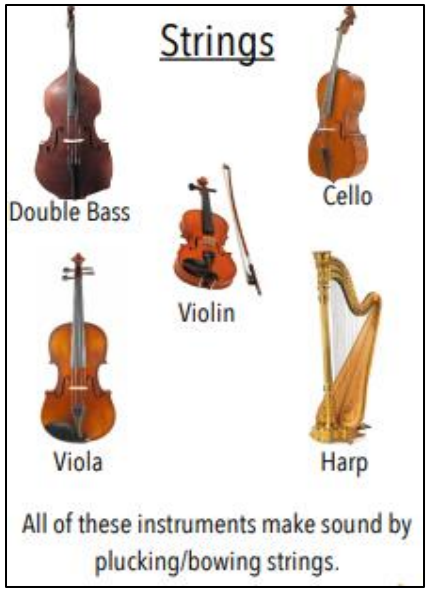
How has Music narrated the struggle for equality?

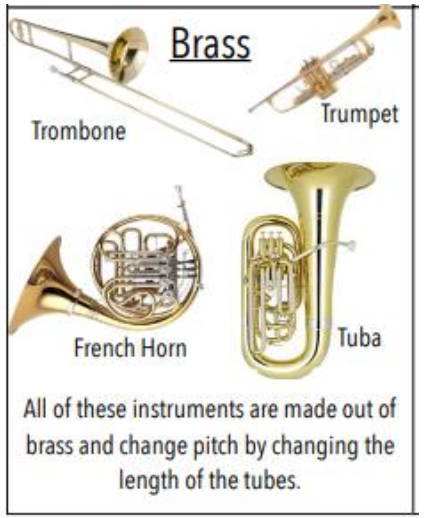
Note Pyramid			
Name	Symbol	Rest Symbol	Value of each
Semibreve	𝅝	𝄻	4
Minim	𝅗𝅥 𝅗𝅥	𝄼	2
Crotchet	♩ ♩ ♩ ♩	𝄽	1
Quaver	♫ ♫ ♫ ♫	𝄾	½
Semiquaver	𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	𝄿	¼

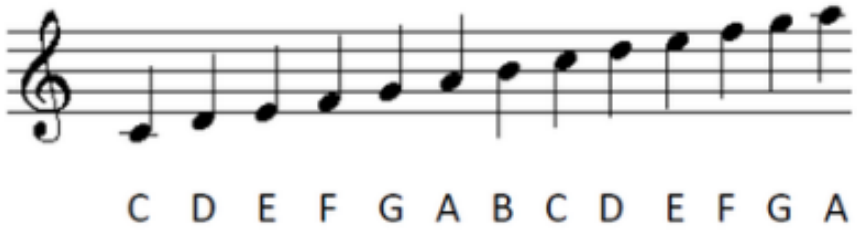








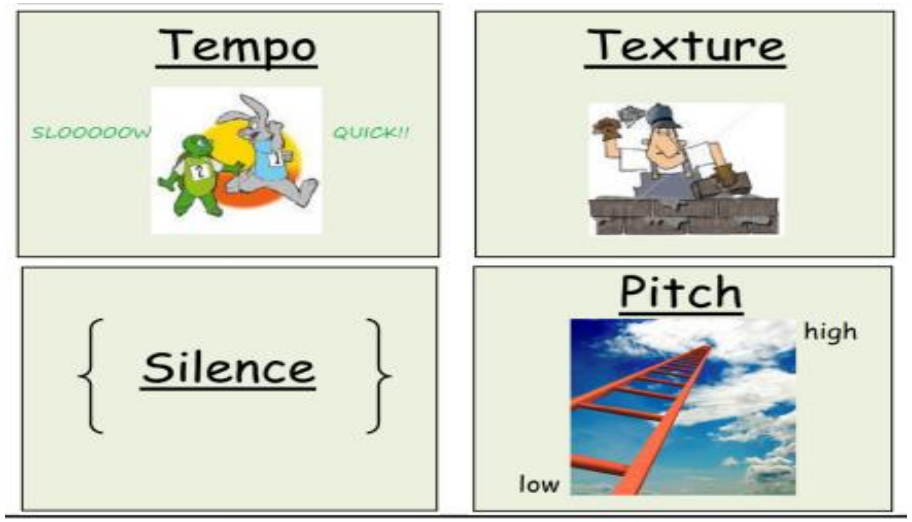


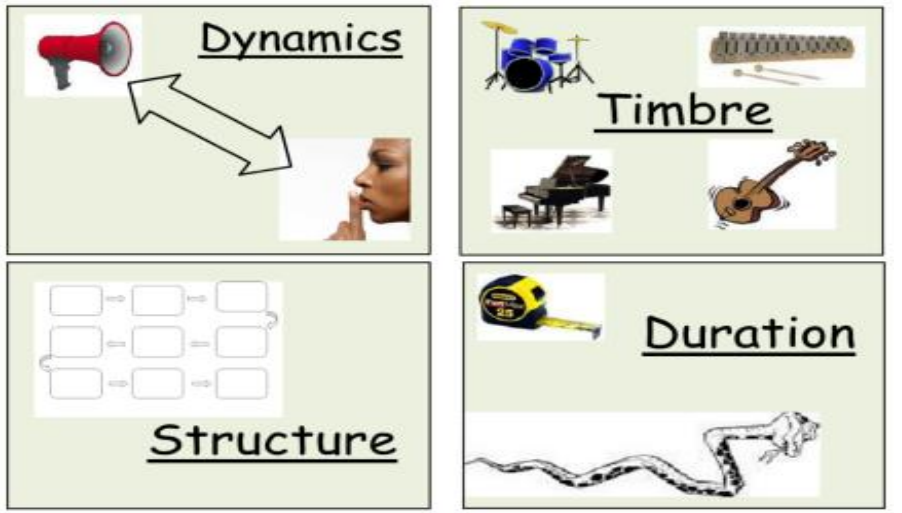


BROADOAK ACADEMY

Rhythm	The pattern of beats in a piece of music
Melody	The main tune
Chord	Three notes played together at the same time
Crotchet	Lasts 1 beat of a pulse
Minim	Lasts 2 beats of a pulse
Quaver	Lasts ½ beat of a pulse
Semibreve	Lasts 4 beats of the pulse
Pulse	A constant steady beat which keeps all the music together
Rest	Silence in music
Elements	The building blocks of music
Pitch	Whether the sound is high or low
Duration	The length of a sound
Tempo	The speed of the music
Timbre	The instruments used
Texture	How many layers of sound there are
Dynamics	The volume of the music
Structure	The order of the sections
Silence	No sound, the gaps in the music
Accompaniment	Sounds going on under the main tune
Introduction	Music heard at the start of a piece – before the main tune comes in

Sharp #	Played with the black note to the RIGHT (F# / G# / C#)
Flat b	Played with the black note to the LEFT (Bb / Eb / Ab)
Duet	A tune shared between parts equally
Fluency	No hesitations in a performance
Keyboard	An electric piano
Ukulele	A guitar-like instrument with four strings
Lyrics	Words
Conductor	Leader of the music – links between the singing and the instrumentalists
Audience	The people who watch and listen to a performance
Ensemble	A group of performers
Compose	Making up your own music
Perform	Playing music in front of an audience
Improvisation	Making up music on the spot
Bass line	A repeating pattern played at a low pitch
Verse	The section of a song that tells the story and has different words each time
Chorus	The catchy section of a song that is repeated lots
Round	One person starts singing then the next person starts 4 or 8 beats later
Balance	How well the different parts are mixed together
Contrast	Big changes between sections
Multitrack	Layering different parts one at a time by recording them





Photography Year 9 – Understanding the Camera

We need photographers. They are the ones who sort all the chaos of the world into images that bring clarity to the free-for-all of life. They are the witnesses and artists who can distil the mayhem and beauty that surrounds us.

They call our attention to the things we miss in our everyday lives and they call our attention to events and people at a great distance from our own patch of the universe.

Key Words:

Aperture: Aperture is the first common photography term you should learn. Simply put, aperture is the size of the opening in the lens.

Depth of Field: Depth of field is a photography term that refers to how much of the image is in focus.

Exposure: Exposure is how light or dark an image is. An image is created when the camera sensor (or film strip) is exposed to light

Shutter Speed: The shutter is the part of the camera that opens and closes to let light in. Shutter speed is how long that shutter stays open