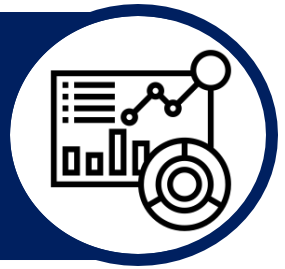
Name:_____

BROADOAK ACADEMY

Knowledge Organisers



Terms 3-4

Year 9

Contents

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

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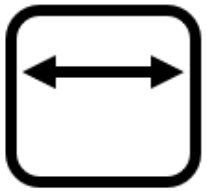
How to learn over time

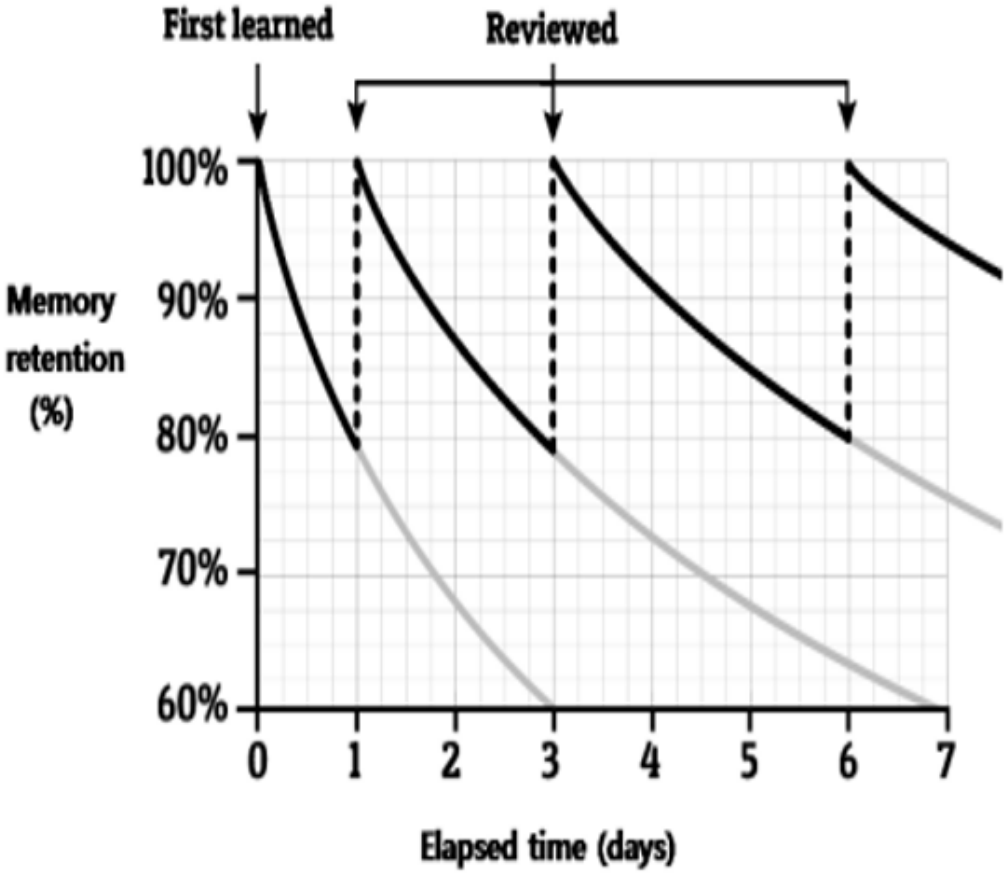
Successful Learning Takes Place Over Time

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 Cornel 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?

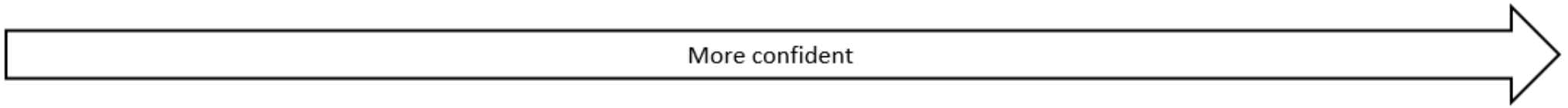
How to make flashcards:

- 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

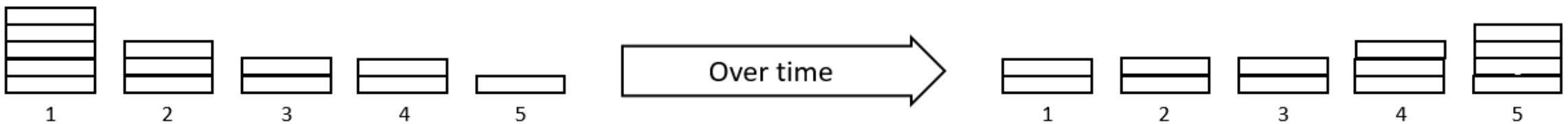
How to use flashcards:

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):



Pile 1	**Pile 2**	**Pile 3**	**Pile 4**	**Pile 5**
I have absolutely no idea!				I know this off by heart.
Practise **every** day.	Practise every **other** day.	Practise every **three** days.	Practise every **four** days.	Practise every **five** days.

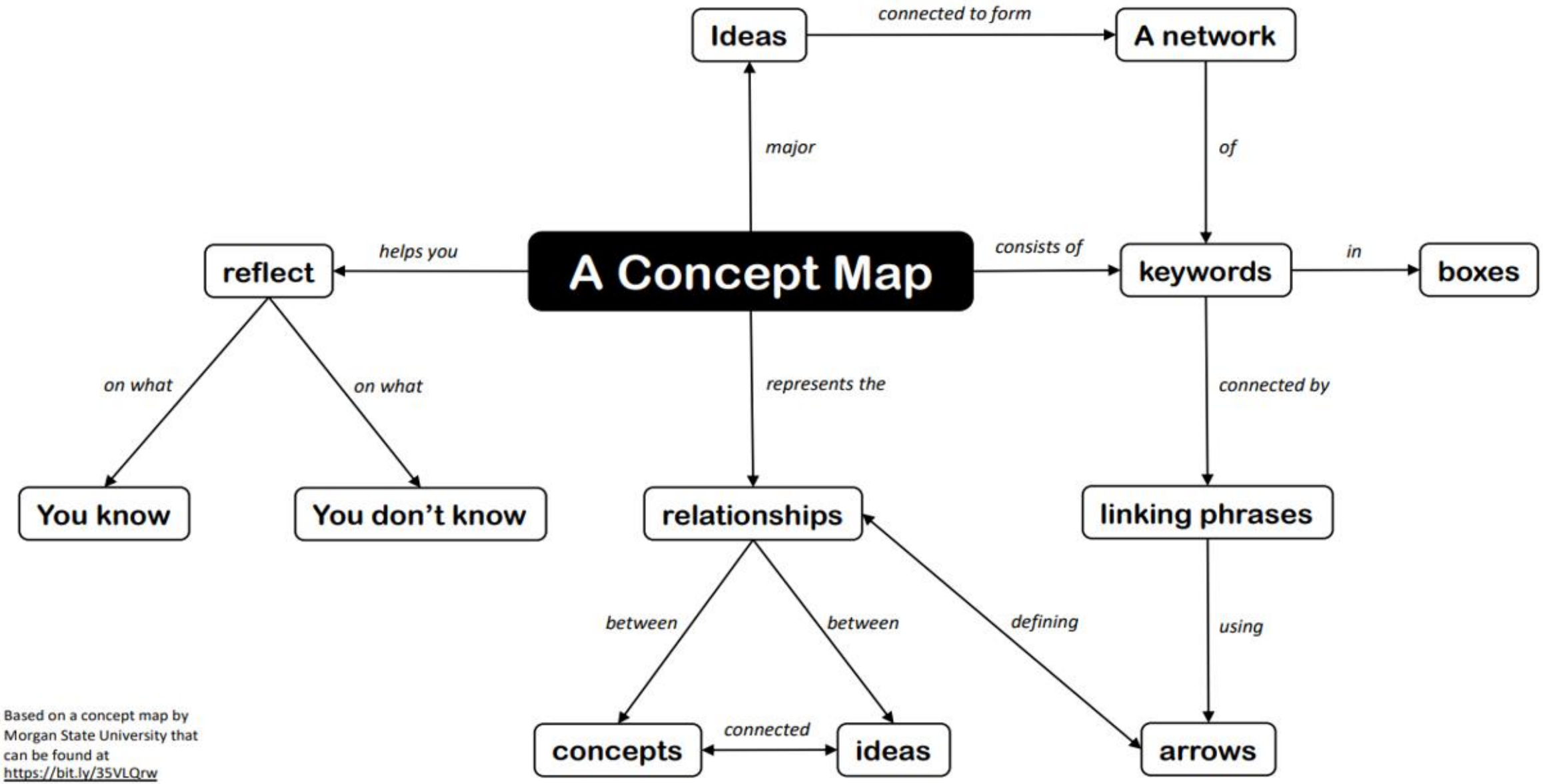
5. As you test yourself on the different piles, move the cards into different piles as you become more confident.



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

War of the Worlds

Context

At the time the novel was written (1898) the British Empire was by far the most dominant colonial power on earth. So vast was the British Empire that at the end of the 19th century the sun literally never set on it. London was (as it still is) the political capital of the United Kingdom and was the most populous city on earth throughout the last half of the 19th century, becoming the first city to have more than 5 million inhabitants by the 1880's. It is therefore natural that London was chosen as the starting point for an imagined alien invasion.

Towards the end of the 19th century there was a very real fear that it was the 'end of an age' and that an apocalypse could begin. In Britain this was partly due to this period coinciding with the ageing of Queen Victoria who was almost 80 when the novel was published. The Victorian era had seen the country become the first in the World to industrialise and build the largest Empire the world had ever seen. Queen Victoria died in January 1901.

Other fears included the fear of mass immigration from other parts of the British Empire as all citizens of British colonies were also British citizens. HG Wells used his own experiences in the novel and explored fear of the unknown, paranoia and the possibility of the world ending. He also used the novel to explore his own reservations about imperialism and explore the fragility of civilisation, showing how it can break down when faced with a seemingly unbeatable adversary.

Modern Context

What is space exploration?

Space exploration is the investigation by a crew or by machines of the reaches of the universe beyond Earth's atmosphere. The use of the information gathered should benefit all humankind.

Why is it significant?

Forty years after the first landing on the moon by two American astronauts, the significance of that historical step of human exploration is very different from what it was at that time. Then, it was a clear demonstration of the supremacy of U.S. technology over the world, and a symbol of the U.S. identity. Forty years later, it is not any more a matter of the moon and the United States, but rather of planet Earth and humankind; twenty-seven astronauts have seen planet Earth as a small and fragile golf ball floating in the universe and, as a result, helped develop the understanding that our future can only be global.

BROADOAK ACADEMY

English

War of the Worlds

The Author

H. G. Wells

English novelist, journalist, sociologist, and historian H.G. Wells was a prolific writer best known for such science-fiction novels as *The Time Machine* (1895) and *The War of the Worlds* (1898). He also wrote comic novels, histories, biographies, social commentaries, and short stories.
Wells wrote his main works during the period that preceded World War I, as the Victorian Age was coming to an end. At the time people were questioning the social class system and the predetermined roles of males and females in society. Wells encouraged revolt against Christian beliefs and accepted codes of behaviour. In both his books and his personal life, he advocated for an almost complete freedom. Wells worked toward social equality, world peace, and what he considered to be the future good of humanity.

Wells's first published book was in 1893. Two years later he published his first novel, *The Time Machine*. The book tells of a nameless Time Traveller who uses an elaborate contraption to travel to the year 802,701. Scholars consider *The Time Machine* one of the earliest works of science fiction and the first with a "time travel" theme.

The Time Machine was immediately successful, so Wells began to write a series of science-fiction novels. *The Island of Doctor Moreau* (1896), about a mad scientist's experiments on animals, addresses such issues as evolution and ethics. *The Invisible Man* (1897) follows the life and death of a scientist who has gone mad. After learning how to make himself invisible, the scientist uses that ability to commit crimes, including murder. Wells's 1898 book *The War of the Worlds* details a catastrophic conflict between humans and extraterrestrial "Martians."

Timeline of Science Fiction

1726	**Gulliver's Travel** During his voyages the title character, Lemuel Gulliver, encounters utopian and dystopian societies as well as the flying island of Laputa, populated by scientists whose experiments are of no useful benefits
1818	**Frankenstein: Modern Prometheus** Frankenstein is seen as a warning against the expansion of science without a moral context.
1870	**Twenty Thousand Leagues Under the Sea** Captain Nemo and his undersea adventures on the Nautilus inspires real scientific development. In addition to imagining diving equipment, he expands on uses for a submarine.
1895	**The Time Machine** The late 19th Century witnesses the growth of new technologies, such as the steam engine, telephone and electricity. Against this backdrop, HG Wells introduces the idea of time travel.
1932	**Brave New World** Huxley imagines a dystopian world. His vision of the future questions where technology might take us.
1979	**The Hitchhiker's Guide to the Galaxy** Douglas Adams's series, originally written for radio, introduces humour to the genre by lampooning the jaded genre of the British space opera.

BROADOAK ACADEMY

English

War of the Worlds

Key Words	
Colonialism	the policy or practice of acquiring full or partial political control over another country, occupying it with settlers, and exploiting it economically.
Imperialism	a policy of extending a country's power and influence through colonization, use of military force, or other means.
Literary heritage	Key texts that define a country's background and are seen as key texts worthy of study
Exodus	A mass departure of people
Evolution	The gradual development of something
Pulsate	To expand and contract in regular intervals
Astronomy	The branch of science that deals with objects in the sky such as planets and stars
Bulk	The mass or size of something
Steadfast	To not change or waver
Convulse	Violent movement of the muscles which causes the body to distort
Tumultuous	Making an uproar or loud, confused noise
Oppression	Prolonged cruel or unjust treatment or exercise of authority
Exploitation	To treat someone unfairly to benefit from their work

Motifs	
Red	It is a colour to warn of danger. The colour red and imagery of blood and fire appear throughout the novel to reinforce the danger coming from the red planet,
Noise and silence	Wells uses noise and silence in the book to set the tone, and the contrasts of noise and silence create an eerie mood in key parts of the book.

BROADOAK ACADEMY

English

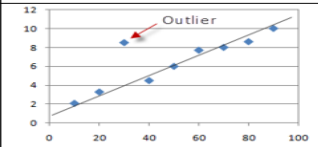
War of the Worlds

Themes	
The Arrogance of Humans	Every human character in The War of the Worlds displays a level of arrogance that leads to problems for them. It never occurs to Ogilvy that the flaming gas is cause for alarm because he cannot fathom the intelligence of anything that is not human. This same belief in human superiority leads people to ignore the initial news items and eyewitness accounts and to think that the authorities can resolve the problem quickly and easily. Despite clear evidence that the Martians are technologically advanced, highly evolved, and very intelligent, the government and people have faith in the strength of their military's weapons.
Evolution and Natural Selection	The book is an homage to Darwin's theories of evolution and natural selection. At the time this book was written, Darwin's *On the Origin of Species* was almost forty years old, but his theories were not widely accepted yet. It becomes clear to the Narrator that the Martians are further along the evolutionary process than humans. Their brains are more sophisticated and they wield more advanced levels of technology. It is ironic, then, that something as small as bacteria takes them out.

Key Quotes
This was the deputation. There had been a hasty consultation, and since the Martians were evidently, in spite of their repulsive forms, intelligent creatures, it had been resolved to show them, by approaching them with signals, that we too were intelligent.
And before we judge them too harshly we must remember what ruthless and utter destruction our own species has wrought, not only upon animals, such as the vanished bison or dodo, but upon its inferior races. The Tasmanians, in spite of their human likeness, were entirely swept out of existence… in the space of fifty years.
In the end the red weed succumbed almost as quickly as it had spread. A cankering disease, due, it is believed, to the action of certain bacteria, presently seized upon it.
no writer… expressed any idea that intelligent life might have developed there far, or indeed at all, beyond its earthly level…. since Mars is older than our earth… it necessarily follows that it is not only more distant from time's beginning but nearer its end…. The immediate pressure of necessity has brightened their intellects, enlarged their powers, and hardened their hearts.
Never before in the history of the world had such a mass of human beings moved and suffered together…. it was a stampede… without order and without a goal, six million people unarmed and unprovisioned, driving headlong. It was the beginning of the rout of civilization, of the massacre of mankind.

BROADOAK ACADEMY **Maths**

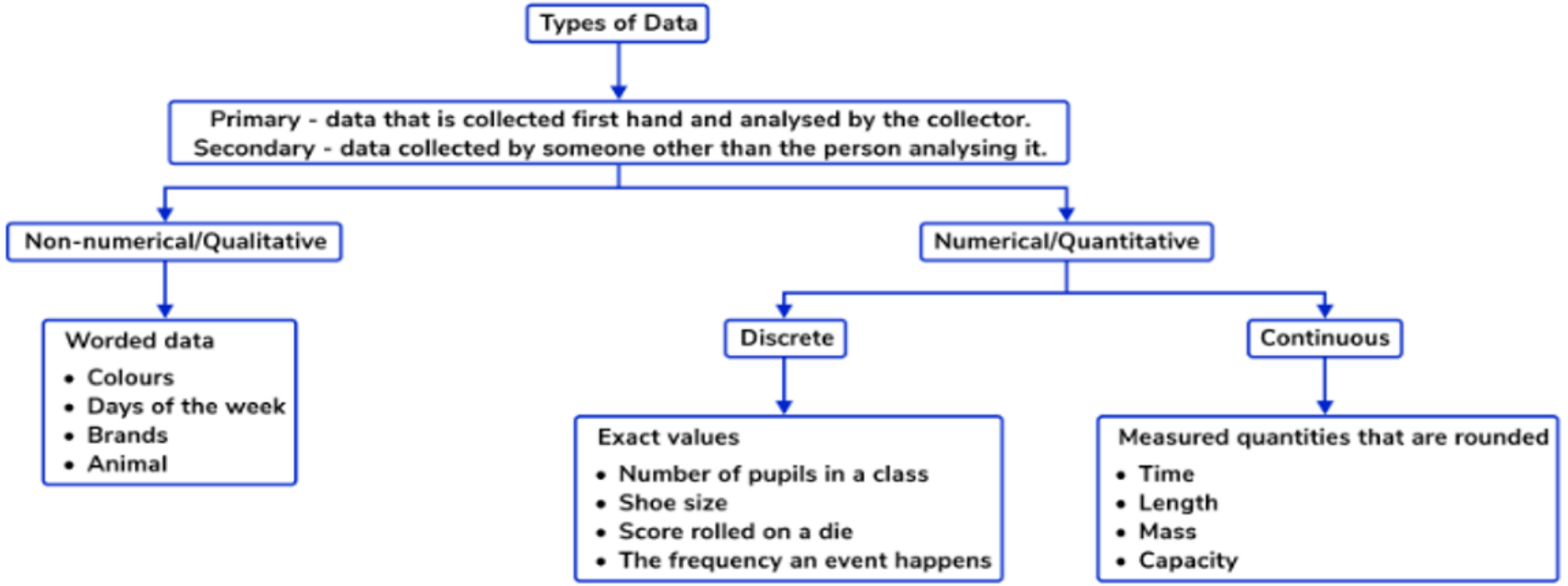
Statistical Measures

Outlier	A value that '**lies outside**' most of the other values in a set of data. An outlier is **much smaller or much larger** than the other values in a set of data.	

Sources of secondary data include websites, newspapers, research article, census etc

AVERAGE	PROS	CONS
Mean	Includes every value in the calculation	Affected by 'extreme' values
Median	Isn't affected by 'extreme' values	Doesn't include all the data
Mode	Isn't affected by 'extreme' values Only average that can be used with words	No use if all the data is different

	Advantages	Disadvantages
Primary data	Collection method known Accuracy is known Can find answers to very specific questions	Time-consuming to collect Expensive to collect
Secondary data	Easy to obtain Cheap to obtain Data from some organisations (such as the Office for National Statistics in the UK) can be more reliable than data you collect yourself	Method of collection unknown Data might be out of date May contain mistakes May come from an unreliable source May be difficult to find answers to specific questions



BROADOAK ACADEMY **Maths**

Averages from Frequency Tables

Average: a measure of central tendency – or the typical value of all the data together

Grouped Data

If we have a large spread of data it is better to group it. This is so it is easier to look for a trend. Form groups of equal size to make comparison more valid and spread the groups out from the smallest to the largest value.

Discrete Data – The groups do not overlap

Cost of TV (£)	Tally	Frequency
101 – 150	𝍸 II	7
151 – 200	𝍸 𝍸 I	11
201 – 250	𝍸	5
251 - 300	III	3

We do not know the exact value of each item in a group – so an estimate would be bused to calculate the overall total (Midpoint)

Continuous Data – To make sure all values are included inequalities represent the subgroups

x Weight(g)	Frequency
$40 < x \leq 50$	1
$50 < x \leq 60$	3
$60 < x \leq 70$	5

e.g this group includes every weight bigger that 60kg, up to and including 70kg

Averages from a table

R

Non-grouped data

Number of Siblings	0	1	2
Frequency	6	8	6
Subtotal	0	8	12

Overall Frequency: 20

Total number of siblings: 20

The data in a list: 0,0,0,0,0,0, 1, 1, 1, 1, 1, 1, 1, 1,2,2,2,2,2,2

Mean: $\frac{\text{total number of siblings}}{\text{Total frequency}} = 1$

Grouped data

x Weight(g)	Frequency	Mid Point	MP x Freq
$40 < x \leq 50$	1	45	45
$50 < x \leq 60$	3	65	195
$60 < x \leq 70$	5	65	325

Overall Frequency: 9

Overall Total : 565

Mean: 62.8g

The data in a list: 45, 55, 55, 55, 65, 65, 65, 65, 65

Quantitative: numerical data
Qualitative: descriptive information, colours, genders, names, emotions etc.
Continuous: quantitative data that has an infinite number of possible values within its range.
Discrete: quantitative or qualitative data that only takes certain values.

BROADOAK ACADEMY **Maths**

Box Plots

Box Plots	The minimum, lower quartile, median, upper quartile and maximum are shown on a box plot. A box plot can be drawn independently or from a cumulative frequency diagram.	Students sit a maths test. The highest score is 19, the lowest score is 8, the median is 14, the lower quartile is 10 and the upper quartile is 17. Draw a box plot to represent this information. 
Comparing Box Plots	Write two sentences. 1. Compare the **averages** using the **medians** for two sets of data. 2. Compare the **spread** of the data using the **range or IQR** for two sets of data. The <u>smaller</u> the range/IQR, the <u>more consistent</u> the data. You must compare box plots **in the context of the problem**.	'On average, students in class A were more successful on the test than class B because their median score was higher.' 'Students in class B were more consistent than class A in their test scores as their IQR was smaller.'

BROADOAK ACADEMY **Maths**

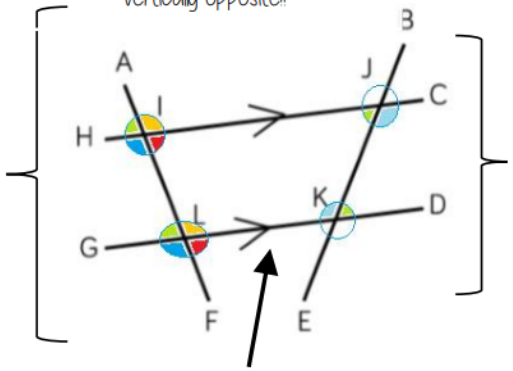
Angles and Parallel lines

Parallel lines

Still remember to look for angles on straight lines, around a point and vertically opposite!!

Lines QF and BE are **transversals** (lines that bisect the parallel lines)

Corresponding angles often identified by their **"F shape"** in position



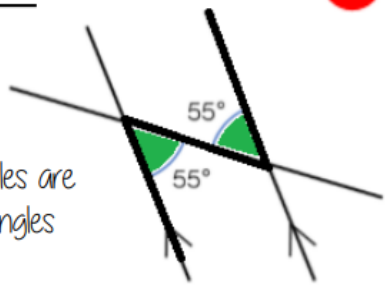
Alternate angles often identified by their **"Z shape"** in position

This notation identifies parallel lines

Parallel: Straight lines that never meet
Angle: The figure formed by two straight lines meeting (measured in degrees)
Transversal: A line that cuts across two or more other (normally parallel) lines
Isosceles: Two equal size lines and equal size angles (in a triangle or trapezium)
Polygon: A 2D shape made with straight lines
Sum: Addition (total of all the interior angles added together)
Regular polygon: All the sides have equal length; all the interior angles have equal size.

Alternate angles

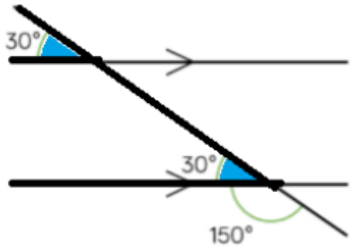
R



Because alternate angles are equal the highlighted angles are the same size

Corresponding angles

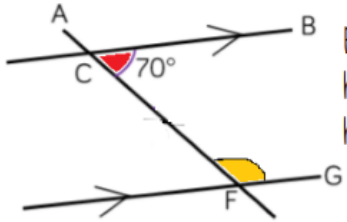
R



Because corresponding angles are equal the highlighted angles are the same size

Co-interior angles

R



Because co-interior angles have a sum of 180° the highlighted angle is 110°

As angles on a line add up to 180° co-interior angles can also be calculated from applying alternate/ corresponding rules first

BROADOAK ACADEMY

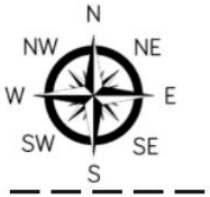
Maths

Bearings

Directions


Clockwise


Anti-Clockwise

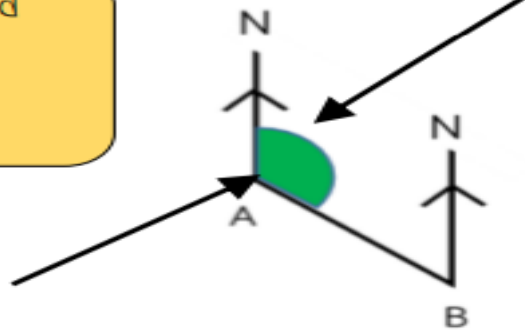


Understand and represent bearings

- A bearing is always measured from **NORTH**
- It is always given as three figures

The angle indicated starts from the North line at A and joins the path connecting A to B.

This angle shows the bearing of **B from A**



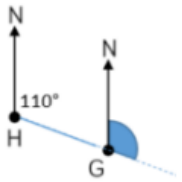
The bearing of B from A is calculated by measuring the highlighted angle

Using **estimation** it is clear this angle is between 090° and 180°

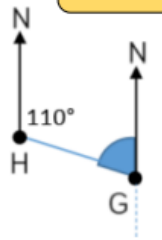
The sentence... "Bearing of ____ from _____" is really important in identifying the bearing being represented

Bearings with angle rules

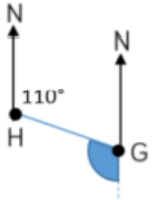
Because two North lines are **PARALLEL**....



They form **corresponding** angles and therefore are the same size

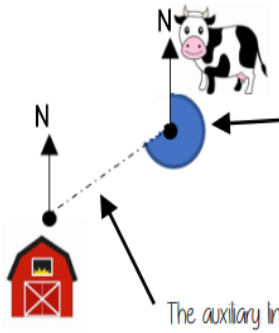


They form **co-interior** angles and add up to 180°



They form **alternate** angles and therefore are the same size

Measure and read bearings



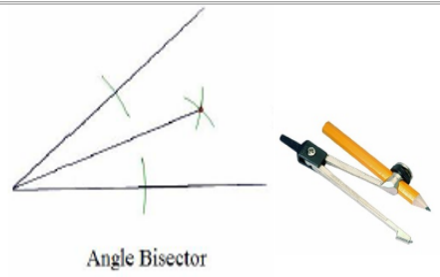
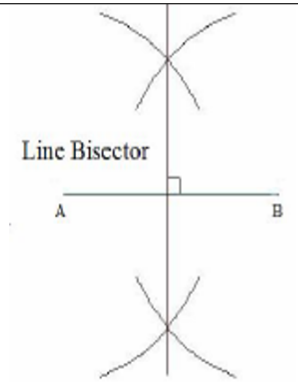
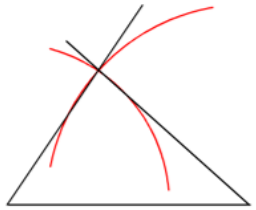
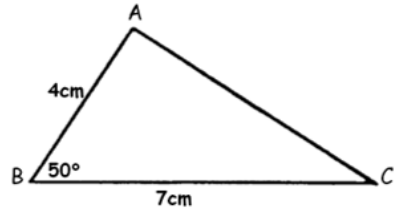
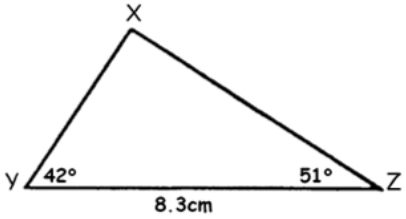
The bearing of the cow to the barn

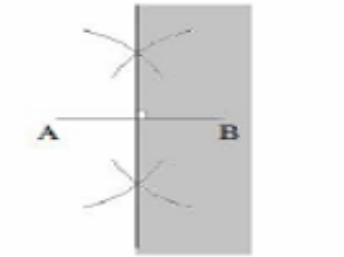
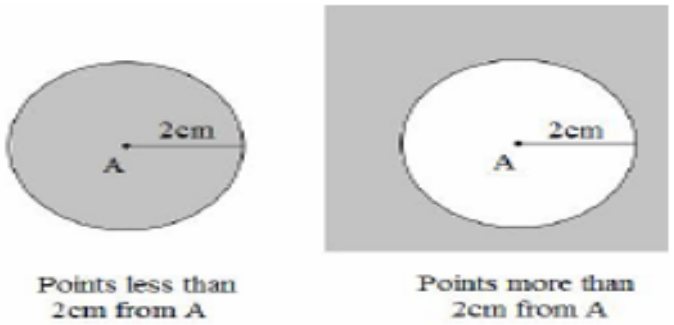
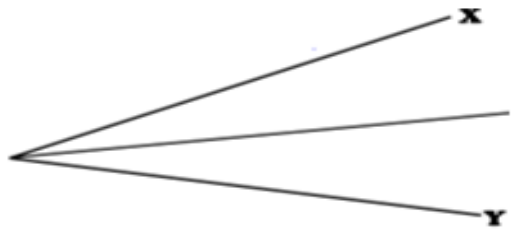
This angle is measured from **NORTH**
It is measured in a clockwise direction
Estimation indicates this angle is between 180° and 270°
Use a protractor to measure accurately
Remember bearings are written as three figures

The auxiliary line is drawn to help you measure and draw the angle that is measured to represent the bearing

BROADOAK ACADEMY **Maths**

Constructions

Angle Bisector	**Angle Bisector: Cuts the angle in half**. 1. Place the sharp end of a pair of compasses on the vertex. 2. Draw an arc, marking a point on each line. 3. Without changing the compass put the compass on each point and mark a centre point where two arcs cross over. 4. Use a ruler to draw a line through the vertex and centre point.	
Perpendicular Bisector	**Perpendicular Bisector: Cuts a line in half and at right angles**. 1. Put the sharp point of a pair of compasses on A. 2. Open the compass over half way on the line. 3. Draw an arc above and below the line. 4. Without changing the compass, repeat from point B. 5. Draw a straight line through the two intersecting arcs.	
Constructing Triangles (Side, Side, Side)	1. Draw the base of the triangle using a ruler. 2. Open a pair of compasses to the width of one side of the triangle. 3. Place the point on one end of the line and draw an arc. 4. Repeat for the other side of the triangle at the other end of the line. 5. Using a ruler, draw lines connecting the ends of the base of the triangle to the point where the arcs intersect.	
Constructing Triangles (Side, Angle, Side)	1. Draw the base of the triangle using a ruler. 2. Measure the angle required using a protractor and mark this angle. 3. Remove the protractor and draw a line of the exact length required in line with the angle mark drawn. 4. Connect the end of this line to the other end of the base of the triangle.	
Constructing Triangles (Angle, Side, Angle)	1. Draw the base of the triangle using a ruler. 2. Measure one of the angles required using a protractor and mark this angle. 3. Draw a straight line through this point from the same point on the base of the triangle. 4. Repeat this for the other angle on the other end of the base of the triangle.	

Loci and Regions	A **locus** is a **path of points that follow a rule**. For the locus of points **closer to B than A**, create a **perpendicular bisector** between A and B and shade the side closer to B. For the locus of points **equidistant from A**, use a compass to draw a **circle**, centre A. For the locus of points **equidistant to line X and line Y**, create an **angle bisector**. For the locus of points a set **distance from a line**, create **two semi-circles** at either end joined by **two parallel lines**.	 Points Closer to B than A  Points less than 2cm from A Points more than 2cm from A  

BROADOAK ACADEMY **Maths**

Substitution and Solving

Substitution into an expression

$2(x + 3)$

Add 3 to the input then times 2

Put the expression into a function machine

INPUT → +3 → x2 → OUTPUT

If x = 10

10 + 3 = 13.... 13 x 2 = 26

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

eg : $y - 2$

$= 7 - 2 = 5$

Solve one step equations (+/-)

There is more to this than just spotting the answer

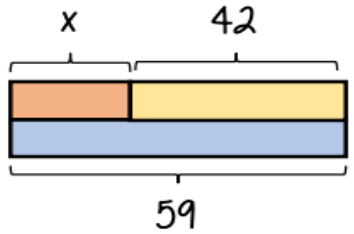
$x + 42 = 59$

$x + 42 = 59$

$42 + x = 59$

$59 - x = 42$

$59 - 42 = x$



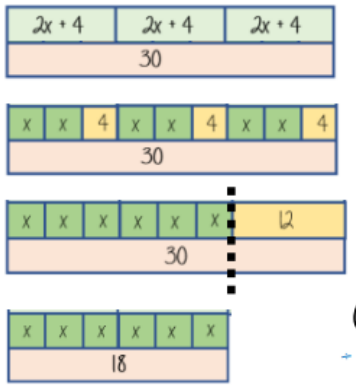
Don't forget you know how to use function machines

x → +42 → 59

-42

Solve equations with brackets

R



$3(2x + 4) = 30$

Expand the brackets

$6x + 12 = 30$

$-12 \quad -12$

$6x = 18$

$\div 6 \quad \div 6$

$x = 3$

x | 3

Solve one step equations (x/÷)

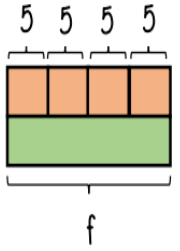
$\frac{f}{4} = 5$

$f \div 4 = 5$

$f \div 5 = 4$

$5 \times 4 = f$

$4 \times 5 = f$



Don't forget you know how to use function machines

5 → x4 → f

÷4

Equations with unknown on both sides

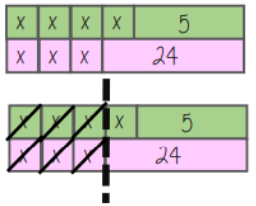
$4x + 5 = 3x + 24$

$-3x \quad -3x$

$x + 5 = 24$

$-5 \quad -5$

$x = 19$



Solving Simultaneous Equations (by Elimination)	1. **Balance** the **coefficients** of one of the variables. 2. **Eliminate** this variable by adding or subtracting the equations (**Same Sign Subtract, Different Sign Add**) 3. **Solve** the linear equation you get using the other variable. 4. **Substitute** the value you found back into one of the previous equations. 5. **Solve** the equation you get. 6. **Check** that the two values you get satisfy both of the original equations.	$5x + 2y = 9$ $10x + 3y = 16$ Multiply the first equation by 2. $10x + 4y = 18$ $10x + 3y = 16$ Same Sign Subtract (+10x on both) $y = 2$ Substitute $y = 2$ in to equation. $5x + 2 \times 2 = 9$ $5x + 4 = 9$ $5x = 5$ $x = 1$ Solution: $x = 1, y = 2$

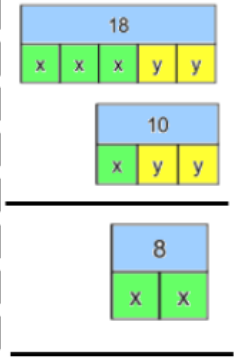
Solving Simultaneous Equations (by Substitution)	1. **Rearrange** one of the equations into the form $y = \ldots$ or $x = \ldots$ 2. **Substitute** the right-hand side of the rearranged equation into the other equation. 3. Expand and **solve** this equation. 4. **Substitute** the value into the $y = \ldots$ or $x = \ldots$ equation. 5. **Check** that the two values you get satisfy both of the original equations.	$y - 2x = 3$ $3x + 4y = 1$ Rearrange: $y - 2x = 3 \rightarrow y = 2x + 3$ Substitute: $3x + 4(2x + 3) = 1$ Solve: $3x + 8x + 12 = 1$ $11x = -11$ $x = -1$ Substitute: $y = 2 \times -1 + 3$ $y = 1$ Solution: $x = -1, y = 1$

BROADOAK ACADEMY

Maths

Simultaneous Equations

Solve by subtraction



$x = 4$

$y = 3$

$$\begin{array}{r} 3x + 2y = 18 \\ -\quad x + 2y = 10 \\ \hline 2x = 8 \end{array}$$

$\div 2 \qquad \div 2$

$x = 4$

$x + 2y = 10$

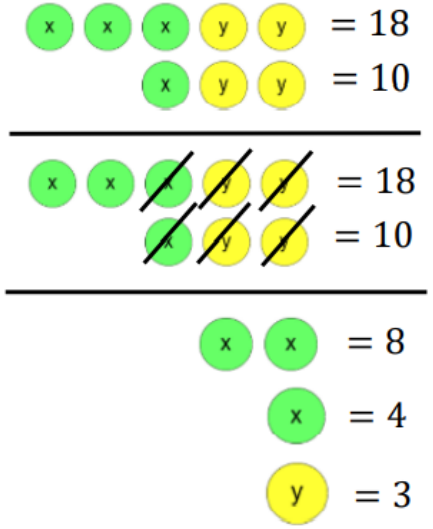
$(4) + 2y = 10$

$-4 \qquad -4$

$2y = 6$

$\div 2 \qquad \div 2$

$y = 3$



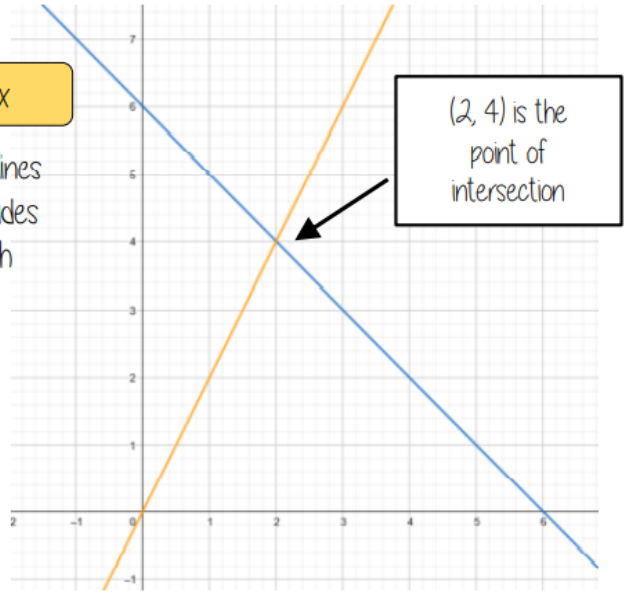
Solve graphically

$x + y = 6$ $\qquad$ $y = 2x$

Linear equations are straight lines
The point of intersection provides the x and y solution for both equations

The solution that satisfies both equations is

$x = 2$ and $y = 4$



Solve by addition

$$\begin{array}{r} 3x + 2y = 16 \\ +\ 6x - 2y = 2 \\ \hline 9x = 18 \end{array}$$

$\div 9 \qquad \div 9$

$x = 2$

$3x + 2y = 16$

$3(2) + 2(y) = 16$

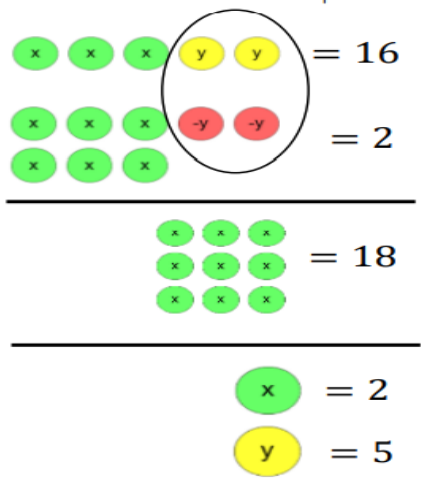
$6 + 2y = 16$

$-6 \qquad -6$

$2y = 10$

$y = 5$

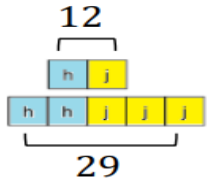
Addition makes zero pairs



Solve by adjusting one

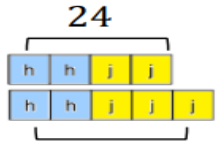
$h + j = 12$
$2h + 2j = 29$

No equivalent values



29

$2h + 2j = 24$
$2h + 2j = 29$



29

By proportionally adjusting one of the equations – now solve the simultaneous equations choosing an addition or subtraction method

Solve by adjusting both

$2x + 3y = 39$
$5x - 2y = -7$

Use LCM to make equivalent x OR y values.
Because of the negative values using zero pairs and y values is chosen choice

$4x + 6y = 78$
$15x - 6y = -21$

Now solve by addition

Addition makes zero pairs

BROADOAK ACADEMY

Maths

Linear nth terms

Linear and Non Linear Sequences

Linear Sequences – increase by addition or subtraction and the same amount each time

Non-linear Sequences – do not increase by a constant amount – quadratic, geometric and Fibonacci

- Do not plot as straight lines when modelled graphically
- The differences between terms can be found by addition, subtraction, multiplication or division

Fibonacci Sequence – look out for this type of sequence

0 1 1 2 3 5 8 ...

Each term is the sum of the previous two terms

Sequences from algebraic rules

This is substitution!

$3n + 7$

This will be linear - note the single power of n. The values increase at a constant rate

$3n^2 + 7$

This is not linear as there is a power for n

$2n - 5$ → Substitute the number of the term you are looking for in place of 'n'

e.g

1st term = $2(1) - 5 = -3$

2nd term = $2(2) - 5 = -1$

100th term = $2(100) - 5 = 195$

Checking for a term in a sequence

Form an equation

Is 201 in the sequence $3n - 4$?

$3n - 4 = 201$ ← Term to check

Algebraic rule

Solving this will find the position of the term in the sequence. ONLY an integer solution can be in the sequence.

Complex algebraic rules

Misconceptions and comparisons

$2n^2$

2 times whatever n squared is

e.g

1st term = $2 \times 1^2 = 2$

2nd term = $2 \times 2^2 = 8$

100th term = $2 \times 100^2 = 2000$

$(2n)^2$

2 times n then square the answer

e.g

1st term = $(2 \times 1)^2 = 4$

2nd term = $(2 \times 2)^2 = 16$

100th term = $(2 \times 100)^2 = 40000$

$n(n + 5)$ ←

e.g

1st term = $1(1 + 5) = 6$

2nd term = $2(2 + 5) = 14$

100th term = $100(100 + 5) = 10500$

You don't need to expand the expression

H Finding the algebraic rule

This is the 4 times table → 4, 8, 12, 16, 20....

$4n$

7, 11, 15, 19, 22 ←

This has the same constant difference – but is 3 more than the original sequence

$4n + 3$

$4n + 3$

This is the constant difference between the terms in the sequence

This is the comparison (difference) between the original and new sequence

BROADOAK ACADEMY **Maths**

Inequalities

Inequalities with negatives

Method 1 Make x positive first

$2 - 3x > 17$

$+3x \quad +3x$

$2 > 17 + 3x$

$-17 \quad -17$

$-15 > 3x$

$\div 3 \quad \div 3$

$-5 > x$

x is true for any value smaller than -5

Smaller ← -7 -5 -3 → Bigger

✓ CHECK IT!
$2 - 3(-6) = 20$
TRUE/ CORRECT

Method 2 Keep the negative x

$2 - 3x > 17$

$-2 \quad -2$

$-3x > 15$

$\div -3 \quad \div -3$

$x > -5$

x is true for any value bigger than -5

This cannot be true...

$x < -5$

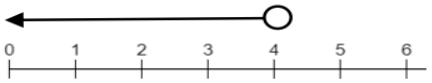
When you multiply or divide x by a negative you need to reverse the inequality

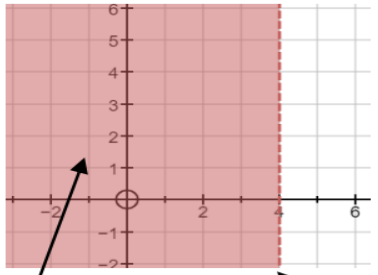
Represent Inequalities

Multiple methods of representing inequalities

$x < 4$

All values are less than 4



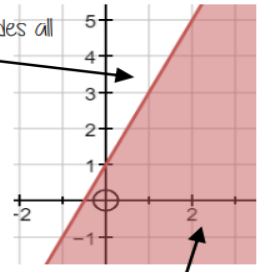


The shaded area indicates all possible values of x

The dotted line shows that the inequality does not include these points

The solid line shows that the inequality includes all the points on this line

$y \geq 2x + 1$



The shaded area indicates all possible solutions to this inequality

Form and solve inequalities R

Two more than treble my number is greater than 11

Find the possible range of values

$3x + 2 > 11$

Solve

x ← -3 ← -2 ← 11

$x > 3$

Inequalities with unknown on both sides

Solving inequalities has the same method as equations

$5(x + 4) < 3(x + 2)$

$5x + 20 < 3x + 6$

$2x + 20 < 6$

$2x < -14$

$x < -7$

Check it!

$5(-8 + 4) < 3(-8 + 2)$

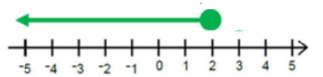
$5(-4) < 3(-6)$

$-20 < -18$

✓ -20 IS smaller than -18

Inequalities: unknown on both sides

$8x + 5 \leq 4x + 13$ → $x \leq 2$



Any value 2 or less will satisfy this inequality

Solutions on a number line

$x < 1$ $\quad x \leq 1$

Both represent values less than 1

Includes the value 1

$x > 1$ $\quad x \geq 1$

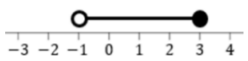
Both represent values more than 1

Includes the value 1

● Includes the value it sits above

○ Does NOT include the value it sits above

Values less than or equal to 3 but also more than -1



$-1 < x \leq 3$

This includes the integer values 0,1,2,3

Science

P1: Motion

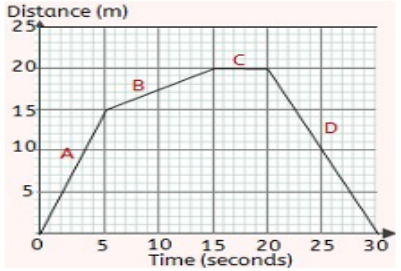
Lesson sequence

1. Vectors and scalars
2. Speed-time graphs
3. Distance-time graphs
4. Acceleration
5. Velocity-time graphs

1. Vectors and scalars	
Magnitude	A scientific word for size.
Scalar quantity	A quantity with magnitude (but no direction).
Scalar examples	Distance – 10 m Speed – 25 m/s Mass – e.g. 50 kg
Vector quantity	A quantity with magnitude and direction.
Vector examples	Displacement – 10 m north Velocity – 25 m/s east Force – 30 N left Acceleration – 3 m/s^2 south Momentum – 400 N m/s right
Vector arrows	Vectors can be represented by arrows, with the length of the arrow representing the magnitude.
Displacement	The distance and direction travelled in a straight line.
Velocity	Your speed in a certain direction.

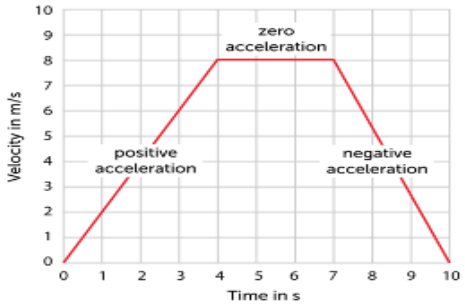
2. Speed	
Units of speed	Metres per second, m/s.
Speed – word equation	Speed = distance / time Speed = m/s Distance = m Time = s
Speed – symbol equation	v = x/t v = speed x = distance t = time
Instantaneous speed	Speed at a particular point in time.
Average speed	The average speed across the whole of a journey, calculate from v = x/t.
Calculating distance travelled – word equation	Distance = average speed x time x = v x t Distance = m Average speed = m/s Time = s
Measuring speed	Measure the distance between two points and time how long an object takes to pass, then calculate using v = x/t.
Light gates	Equipment that can be used for measuring time accurately with fast-moving objects to help find their speed.
Some typical speeds	Walking – 1-2 m/s Running – 3-8 m/s Cycling – 5-20 m/s Driving – 10-40 m/s Flying – 250 m/s

3. Distance-time graphs	
Distance-time graph	A graph describing how your distance from the start changes over the course of a journey. Time is on the x-axis and distance on the y-axis.
Distance-time graphs – stationary	Horizontal line
Distance-time graphs – constant speed	Forwards – line sloping up Backwards – line sloping down
Distance-time graphs – line gradient	Steeper line = faster
Calculating speed from a distance-time graph	Speed = change in distance / change in time Speed = change in y / change in x



4. Acceleration	
Acceleration	Changing velocity
You accelerate when…	- You change speed - You change direction
Units of acceleration	Metres per second squared, m/s^2
Positive and negative acceleration	Positive acceleration = speeding up Negative acceleration = slowing down
Deceleration	Slowing down, negative acceleration.
Acceleration – word equation	Acceleration = change in speed / time Acceleration = m/s^2 Change in speed = m/s Time = s
Acceleration – symbol equation	a = (v – u)/ t a = acceleration v = final speed u = initial speed t = time
Linking acceleration and Velocity travelled	Use the equation: x = (v^2 – u^2) / 2a x = Velocity travelled a = acceleration v = final speed u = initial speed
Acceleration during free fall	10 m/s^2

5. Velocity-time graphs	
Velocity-time graph	A graph showing how your velocity (speed) changes over time. Time is on the x-axis, velocity is on the y-axis.
Velocity-time graphs – constant speed	Horizontal line
Velocity-time graphs – acceleration	Speeding up – line sloping up Slowing down – line sloping down
Velocity-time graphs – Stationary	Horizontal line on the x-axis
Velocity-time graphs – line gradient	Steeper line = greater acceleration
Calculating acceleration on a velocity-time graph	Acceleration = change in velocity/ change in time Acceleration = change in y / change in x
Calculating distance travelled from a velocity-time graph	Distance = area under the graph. Divide the graph into rectangles and triangles, find the area of each and add them together.



BROADOAK ACADEMY Science

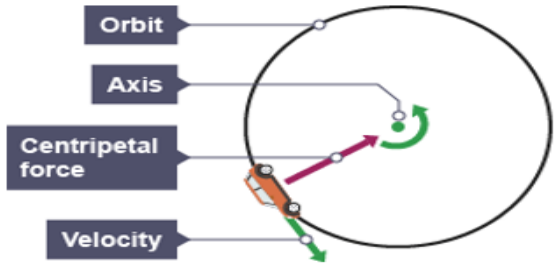
P2: Forces and motion

Lesson sequence

6. Resultant forces
7. Newton's first law
8. Mass and weight
9. Newton's second law
10. Core practical – investigating acceleration (CP12)
11. Newton's third law
12. Momentum (HT)
13. Stopping distances
14. Car safety

1. Resultant forces	
***Scalar quantity**	A quantity with magnitude (but no direction).
***Vector quantity**	A quantity with magnitude and direction.
***Force arrows**	Arrows can be used to represent forces: - Direction = direction of force - Length = size of force
****Resultant force**	The force left over when forces acting in opposite directions are cancelled out.
****Calculating resultant force**	Subtract the total force in one direction from the total force in the other direction.
***Balanced forces**	When the resultant force is zero (because forces acting in opposite directions are the same size).
***Unbalanced forces**	When the resultant force is non-zero (because there is more force in one direction than another).

2. Newton's first law	
***Newton's first law of motion**	An object will move at the same speed and direction unless it experiences a resultant force.
****The effect of resultant forces**	Resultant forces cause acceleration: speeding up, slowing down or changing direction
****Effect of forces on motion**	Forces make you start moving, stop moving or change direction, they are not needed to keep you moving!
*****Circular motion**	Moving in a circle is a type of acceleration because you are changing velocity (your direction changes even if your speed does not).
*****Centripetal force**	A force acting towards the centre of a circle that enables objects to move in a circle.
*****Sources of centripetal force**	Gravity – keeps the Earth orbiting the sun Tension – lets a bucket swing in circles on a rope Friction – keeps cars turn round a roundabout



3. Mass and weight	
***Mass**	The quantity of matter in an object is made of. Units = kilograms, kg.
***Weight**	A force caused by gravity pulling downward on an object. Units = newtons, N.
***Force meter**	An instrument for measuring forces. They usually involve a spring that stretched more the more the force.
****Gravitational field strength**	The strength of gravity, which is different on different planets. Units = newtons per g=kilogram, N/kg.
****Gravitational field strength on Earth**	10 N/kg
****Calculating weight**	Weight = mass x gravitational field strength W = m x g Weight = N Mass = kg Gravitational field strength = N/kg
****Air resistance**	A force greater by the air pushing against you as you move. Faster movement → greater air resistance.
*****Motion whilst falling**	Accelerate until the air resistance is equal to the weight; now there is no resultant force so speed stays constant.

4. Newton's second law	
***Newton's second law of motion**	Force = mass x acceleration
****Acceleration is greater when…**	- The force is greater - The mass is smaller
***Calculating forces**	Force = mass x acceleration F = m x a Force = N Mass = kg Acceleration = m/s^2
***Calculating acceleration**	Acceleration = mass / force a = F / m Force = N Mass = kg Acceleration = m/s^2
*****Inertial mass**	The mass calculated by measuring the acceleration produced by force, using the equation 'm = F / a'
*****The point of inertial mass**	Inertial mass is the same as mass measured with a mass balance, but it gives us a way to measure mass where there is no gravity, such as in space.

5. Core practical – investigating acceleration (CP12)	
***CP12 - Aim**	To investigate how changing force changes acceleration.
***CP12 - Setup**	A trolley on a ramp with 90 g masses. 10 g mass hanger attached to trolley via a string over a pulley.
***CP12 – Data collection**	Release the trolley, use light gates to measure the acceleration.
***CP12 – Variations**	Move 10 g of mass from the trolley to the mass hanger each time.
***CP12 – Independent variable**	The force: each 10 g mass = 0.1 N force
***CP12 - Results**	Ore mass → more force → greater acceleration.

6. Newton's third law	
***Newton's third law**	For every action force there is an equal but opposite reaction force.
***Action force**	The force you push or pull with.
***Reaction force**	A force of the same size but opposite direction to an action force.
***Action-reaction forces**	If, A applies an action force to B, B applies a reaction force of same size and opposite direction to A.
****Action-reaction vs balanced forces**	Similarities: same sizes, opposite directions Differences: balanced forces act on same object, action-reaction act on different objects
*****Action-reaction forces - collisions**	E.g. kicking a ball: the foot pushes the ball, the ball pushes back on the foot.

7. Momentum (HT)	
***Momentum**	The tendency of an object to keep moving.

BROADOAK ACADEMY **Science**

***Calculating momentum**	Momentum = mass x velocity field strength p = m x v Momentum = kg m/s Mass = kg velocity = N/kg
Momentum and force calculations	Force = change in momentum / time F = (mv – mu)/t Force = N Mass = kg Velocity = m/s Time = s
***Conservation of momentum**	Total momentum before and after a collision is the same.

8. Stopping distances	
***Stopping distance**	The distance travelled from when a hazard is seen to when you fully stop.
***Thinking distance**	The distance travelled from when a hazard is seen to when you brake.
***Braking distance**	The distance travelled from when you brake to when you fully stop.
****Calculating stopping distance**	Stopping distance = thinking distance + braking distance
****Thinking distance and reaction time**	Slower reactions = greater thinking distance
****Thinking distance increased by…**	Higher speed, tiredness, illness, drugs, distractions, old age
****Braking distance increased by**	Higher speed, poor brakes, poor tyres, wet/icy/gravelly road, downhill, heavier load

9. Crash hazards	
****Crash danger**	Crashes involve large decelerations, creating large forces which can injure you.
****Car safety features**	Increase the time a collision takes, reducing deceleration and forces.

****Three car safety features**	Crumple zones, (stretchy) seat belts, air bags
****Collision forces**	Greater momentum change → greater force
****Calculating collision forces**	Force = change in momentum / time F = (mv – mu)/t Force = N Mass = kg Velocity = m/s Time = s

BROADOAK ACADEMY Science

B2: Cells and control

Lesson sequence

15. Mitosis
16. Animal growth
17. Plant growth
18. Stem cells
19. Nervous system
20. Neurotransmission
21. Controlling movement

1. Mitosis	
*Cell cycle	The life of a cell comprising interphase and mitosis.
*Interphase	Preparation for mitosis in which extra cell parts are made and DNA chromosomes are replicated (copied).
*Mitosis	When one cell divides into two genetically identical daughter cells.
*(I)PMATC	The stages of mitosis: interphase (not mitosis), prophase, metaphase, anaphase, telophase, cytokinesis.
**Prophase	The membrane of the nucleus breaks down and spindle fibres start to form.
**Metaphase	Spindle fibres fully form and chromosomes line up across the middle of the cell.
**Anaphase	Chromosome copies separate and move to each end of the cell.
**Telophase	A new membrane forms around each set of chromosomes to form two nuclei.
**Cytokinesis	The two new cells fully separate.
*Cancer	When mitosis happens out of control forming large lumps of cells called tumours.

2. Animal growth	
*Growth	Increase in size due to increased numbers of cells.
*Percentile	A measure of the growth of a child that compares them to other children of the same age.
*90th percentile	A child is taller than 90% of children of the same age.
*50th percentile	Average for height/mass for the age.
*Percentile graphs	Graphs showing how height/mass change with age with different lines for each percentile.
*Cell differentiation	When a cell divides by mitosis to produce two different types of cell (not two identical ones).
*Specialised cell	A cell special features designed for a specific job.
**Importance of differentiation in animals	To produce all the different types of cell the body needs such as red blood cells, fat cells, nerve cells and muscle cells.

3. Plant growth	
*Plant growth	Cell division creates more cells, elongation makes these cells get bigger.
**Meristems	Areas just behind the tips of roots and shoots where cell division and differentiation happens.
**Importance of differentiation in plants	To produce all the different types of cell a plant needs such as root hair cells and xylem cells.
**Calculating percentage changes	% change = (final value – starting value) / starting value x 100

4. Stem cells	
*Stem cell	A cell that can differentiate when it divides, to produce two different cells.
**Embryonic stem cell	A stem cell that can become any kind of cell. Found in developing embryos.
**Adult stem cell	A stem cell that can only become a few types of cell. Found in animals after birth.
*Stem cells in medicine	It is hoped they can be used to replace damaged cells in diseases like type 1 diabetes or leukaemia, or to grow new organs for transplant.
**Problems with stem cells	They may potentially cause cancer, stem cells can only be used in the person they have come from.

5. Nervous system	
*Nervous system	All the nerves in your body working together to gather information, make decisions and control responses.
*Central nervous system	The brain and spinal cord – makes decisions (aka CNS).
**Peripheral nervous system	All your other nerves – gathers information from your sense and carries messages from the CNS to your muscles.
*Neurone	A nerve cell
*Impulse	Electrical message carried by a neuron.
**Cell body	The central part of a nerve cell containing its nucleus.
**Dendron and axon	The long parts of a nerve cell carrying impulses towards the cell body (dendron) and away from it (axon)
**Myelin sheath	A fatty layer around the axon and dendron that insulates it to prevent the impulse from escaping and speeds the impulse up.

6. Neurotransmission	
** Neurotransmission	The travelling of an impulse along a neuron and into another.
**Dendrites	Branches at the beginning of a dendron that connect to receptor cells or another neuron.
**Axon terminals	Branches at the end of an axon that connect to a muscle or another neuron.
**Synapse	Small gap between two neurons where the axon terminals of one meet the dendrites of another.
** Neurotransmitter	Chemicals released by axon terminals that diffuse across the synapse to trigger a new impulse the dendrite of another neuron.
**Sensory neuron	Nerve cell that carries impulses from sense organs to the CNS. Has a long dendron and a long axon.
**Relay neuron	Nerve cell in the CNS that makes decisions. Dendrites join onto cell body, short axon.
**Motor neuron	Nerve cell that carries impulses from the CNS to muscles. Dendrites join onto cell body, long axon.

7. Controlling movement	
*Stimulus	A piece of information detected by the nervous system.
*Receptor	Cells that detect a stimulus.
*Response	The action that the nervous system makes happen.
*Effector	The body part that produces the response, often a muscle.
**Voluntary movement	A stimulus is detected by a receptor, causing an impulse to be carried by a sensory neuron to the brain. Relay neurones in the brain decide what to do and send another impulse down a motor neuron to the effector (muscle) to cause a response.
*Reflexes	Automatic responses that happen very quickly without conscious thought to keep the body safe.
**Reflex arc	Movement is caused in the same way as for voluntary movement, except the spinal cord makes the decision without needing the brain to think.

BROADOAK ACADEMY Science

B3: Genetics

Lesson sequence

1. Meiosis
2. DNA
3. DNA extraction
4. Alleles
5. Inheritance
6. Gene mutation
7. Variation

1. Meiosis	
*Gametes	Egg cell and sperm cell
*Fertilisation	Sperm cell fuses with egg cell and nuclei combine
*Zygote	Single cell formed by fertilisation
*Gene	Length of DNA coding for a protein. Controls your characteristics
*Genome	All the DNA and genes in an organism
*Protein	Polymer made from amino acids
**Polymer	Long molecule made by chaining together many shorter ones
*Diploid	A cell with 23 pairs of chromosomes (46 in total)
*Haploid	A cell with 23 single chromosomes
*Meiosis	Cell division that makes gametes
**Meiosis stages	DNA replicates, cell divides into 2 diploid cells, these divide into 4 haploid daughters.
**Why gametes are different	Chromosomes in a pair are slightly different. Different gametes get different combinations of chromosomes.

2. DNA	
*Chromosome	Large DNA molecule made into a small package by tightly coiling DNA around a protein.
*DNA structure	Two strands, double helix, complementary base pairs, sugar-phosphate backbone
*DNA bases	Adenine, A; thymine, T; cytosine, C; guanine, G
*Complementary base pairs	A pairs with T C pairs with G
**Hydrogen bonds	Weak force holding the two strands of DNA together.
**DNA analysis	Uses small differences in DNA to determine family relationships or link people to crimes.

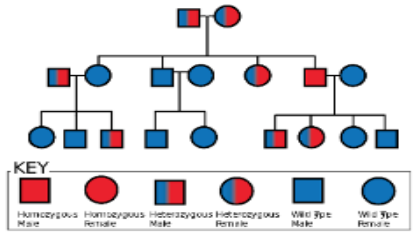
3. DNA extraction	
*DNA extraction: Mix water, salt and detergent.	Salt makes DNA clump together, detergent breaks down cell membranes to release DNA
*DNA extraction: Mash fruit/veg and add the solution	Increases the surface area
*DNA extraction: Leave in water bath at 60°C	Heat makes it react quicker
*DNA extraction: Filter the mixture and collect filtrate	To remove unwanted lumps
*DNA extraction: Measure out 10 cm^3 of filtrate	It's easier to work with a small amount
*DNA extraction: Add two drops of protease solution	Protease breaks down proteins around the DNA
*DNA extraction: Gently add ice-cold ethanol	DNA is insoluble in ethanol so precipitates
*DNA extraction: Leave for several minutes	So white DNA layer forms

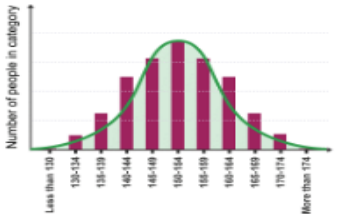
4. Alleles	
*Allele	Different version of the same gene. We have two alleles of each gene.
**Homozygous	We have two copies of the same allele
**Heterozygous	We have two different copies of an allele
*Dominant allele	One copy needed for characteristic to show. Written as a capital.
*Recessive allele	Two copies for the characteristic to show. Written as lowercase.
*Genotype	The combination of alleles in an organism.
*Phenotype	The characteristics produced by the alleles.
**Genetic diagram	Shows the likelihood of offspring produced by parents with certain genotypes

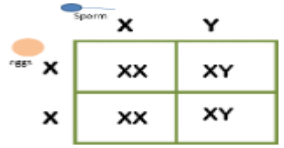
5. Inheritance	
*Sex chromosomes	Female: XX Males: XY
*Inheriting sex	All eggs are X, 50% of sperm are X and 50% are Y, so 50% of zygotes are XX and 50% are XY
*Punnett squares	Uses the genotypes of male and female gametes to predict the genotypes of the offspring.
**Probability and Punnett squares	Punnett squares tell you the likelihood of certain offspring, not what will actually happen.
**Cystic fibrosis	Illness caused by a inheriting two copies of a faulty recessive allele.
**Family pedigree chart	Chart showing how genotypes are inherited down through a family.

6. Gene mutation	
*Mutation	A change to the bases in a gene.
**Effect of mutations	Change the structure of a protein and how it works. Sometimes harmless, normally harmful, very rarely beneficial
*Cause of mutations	Mistakes copying DNA during cell division, DNA damage from chemicals or radiation
*Inheriting mutations	Only if they occur in gametes (egg and sperm)
*Human Genome Project	(HGP) Project involving many scientists from many countries to find the order of bases in human DNA
**How is the HGP useful?	To tailor drugs to genes, to design better drugs
**Genetic differences	HGP found 99% of DNA in all people is identical.

7. Variation	
*Variation	Natural differences between members of a species that affect the chance of survival.
*Genetic variation	Variation caused by genes
*Environmental variation	Caused by interaction with the surroundings – such as food, climate etc.
*Causes of most variation	A combination of genes and the environment.
**Acquired characteristics	Changes caused by the environment during your lifetime, such as losing a leg
**Continuous variation	Can be anywhere within a range, such as height, following a normal distribution.
**Discontinuous variation	Can be only one of a few possibilities, such as blood type: A, B, AB, O
**Normal distribution	Bell-shaped curve with more in the middle and fewer either side.







History

Year 9
What was it like to live in Nazi Germany?

Establishment of the dictatorship

27th February - Reichstag Fire

Communists were arrested by the police. Hitler was granted emergency powers and police could arrest people without trial. Political meetings were banned and newspapers closed down.

5th March - New Elections

The Nazis used the police and SA to pressure on political opponents. The Nazis achieved their best election result with 44% of the vote.

24th March - The Enabling Law

Hitler could now pass laws without the Reichstag or President. He needed 2/3 of the Reichstag to support it.

2nd May - Trade Unions taken over

Trade union offices taken over and leaders arrested. All trade unions merged into one organisation (German Labour Front) controlled by the Nazis.

July - All political parties banned

This law banned people from forming new political parties. There was now only one party in Germany.

29- 30th June - Night of the Long Knives

Hitler was concerned that the SA had too much power. He needed to reassure the army. SA leaders were dragged from their beds, taken to Nazi headquarters and shot dead.

2nd August - Death of Hindenburg

When Hindenburg died. Hitler made himself President and Chancellor. Hitler was now in total control of government.

August - Army Oath

The army took an oath of loyalty to Hitler. They swore to obey him and risk their life for him at any time.

Key Terms

Indoctrination	The process by which a person or group are taught to accept and believe ideas without question.
Propaganda	Information that can be misleading designed to show one point of view.
Censorship	Control or suppression of information which is considered unacceptable.
Dictatorship	A form of government in which one person or group have absolute power without effective limitations.
Ideology	A system of ideas and beliefs, often linked to politics and economics
Police state	A state controlled by a police force who secretly supervises peoples activities.
Totalitarian	A state centrally controlled by a dictator who requires total obedience from people.
SS	The secret police lead by Heinrich Himmler.
SA	Contained many ex army members lead by Ernst Röhm
Aryan	A racial group viewed by the Nazis as the ideal race or master race.

Opposition

The White Rose

Hans and Sophie Scholl distributed anti Nazi leaflets at Munich university. Both were executed.

The July Bomb Plot

Colonel Stauffenburg planned to assassinate Hitler using a time bomb in a briefcase. The bomb was moved and so didn't kill Hitler, Stauffenburg was executed.

The Swing Youth

Made up from young people who wanted to dance and listen to jazz music which had been banned by the Nazis.

Edelweiss Pirates

They went on their own camping trips, drank, partied and made fun of Hitler and the Hitler Youth.

Problems in Germany

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History

Year 9
What was it like to live in Nazi Germany?

The Police State

Gestapo

The Gestapo was Hitler's non-uniformed secret police force. The Gestapo spied on people, tapped their phones and used informants to identify suspects. They also had permission to torture suspects.

The main weapon of the Gestapo was fear. They were impossible to tell apart from ordinary Germans.

Concentration Camps

Prisoners were underfed, housed in wooden huts and treated harshly. Many died.

Prisoners included political enemies like communists, those who criticised Hitler like church ministers and other people who were seen as a threat to Nazi society like homosexuals, Jews and criminals.

Law Courts

Lawyers had to swear an oath of loyalty to Hitler and judges had to join the Nazi organisation for judges. Hitler abolished trial by jury so judges decided if the suspect was guilty. Hitler could also intervene in serious cases if he was not happy with the verdict.

Key People

Heinrich Himmler	Leader of the SS
Josef Goebbels	Propaganda Minister
Adolf Hitler	Leader of Germany between 1933 and 1945

Propaganda

Propaganda was used by the Nazis to communicate a clear message that the masses could easily understand.

- Posters like this one promoted the 'Hitler myth.'
- Rallies were used to show the power of the Nazis.
- Key messages e.g. physical strength were showcased at the 1936 Berlin Olympics.
- Books warned children about the dangers of other non Aryan groups.

Women

Nazi policy towards women told them to focus on the 3Ks

- Kinder (Children)
- Küche (Kitchen)
- Kirche (Church)

- The Law for the Encouragement of Marriage, 1933
- In 1938, the Nazis changed the divorce laws to encourage childbirth
- Lebensborn encouraged single women to breed with SS men.
- The Mother's cross
- Reduced employment opportunities

Workers

The aim of **'Strength through Joy'** (KdF) was to improve the standard of living for workers.

The KdF promoted and funded a range of activities and trips such as sports events, theatre shows, holidays and cruises.

The **'Beauty of Labour'** (SdA) was a department of 'Strength through Joy' and focused on improving conditions in the workplace. e.g. better lighting and facilities.

Youth

Hitler Youth (compulsory from 1936) - Boys 14-18.

German League of Maidens (BDM) - Girls 14-21 years

Both groups went on hiking expeditions and promoted physical fitness. Both taught loyalty to the Führer.
They were also indoctrinated with ideas on the Aryan race.

Girls were taught skills to prepare them for their future role e.g. how to iron and cook.

Boys were taught map reading and skills needed for a military role.

At school the subjects were changed to indoctrinate children. History focused on the glories of the past and race studied taught the superiority of the Aryan race.

The Holocaust - Key Events

1933 30 January	Hitler appointed Chancellor of Germany.
1933 1 April	**Official national boycott** of Jewish shops and businesses. Lasted one day but was poorly supported.
1935 September	**Nuremburg Laws** - Jews lost their citizenship and were no longer allowed to marry Germans.
1936 August	**Berlin Olympics** led to temporary suspension of the persecution of Jewish people in Germany.
1938 9-10 Nov	**Kristallnacht** - the 'night of broken glass', thousands of Jewish business and shops were attacked and synagogues burnt by Nazi Stormtroopers.
1939 September	**Jewish ghettos built** in around 200 cities in Poland following German invasion of the East.
1941 June	**Einsatzgruppen killing squads** – following the German invasion of the Soviet Union thousands of Jewish people were rounded up and murdered.
1942 January	**Wannsee Conference** – leading Nazi officials meet to discuss the 'Final Solution' and formal agreement given to speed up the use of death camps.
1945 May	**End of WWII in Europe** and end of the Holocaust.

BROADOAK ACADEMY History – Year 9

How and why was the Holocaust possible?

Key Skills

Interpretation	Analyse and evaluate different historian's views about the same topic.
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 People

Heinrich Himmler – Head of the SS which oversaw the death camps. Key figure behind the Holocaust.

Reinhard Heydrich – Chaired the infamous Wannsee Conference which led to the 'Final Solution'.

Key Terms

Antisemitism	Prejudice, discrimination and/or persecution against Jewish people.
Collaborator	Someone who cooperates or works together on a project to help those in charge achieve a certain aim.
Discrimination	Different treatment of people because of their ethnicity, gender, political or religious beliefs, sexuality.
SS Einsatzgruppen	'operational groups' of German SS mobile units which swept through Russia behind the German army rounding up and murdering Jewish people.
Final Solution	Nazi government term to describe the decision made to murder Jewish people using the gas chambers.
Genocide	Deliberate and planned attempt to exterminate people from a certain ethnic group in order to destroy that group.
Ghetto	Segregated area of a city where Jews were forced to live in overcrowded and unhygienic conditions.
Holocaust	Systematic mass murder of Jewish people by the Nazi government and collaborators during WWII.
Persecution	Unfair and cruel treatment of individuals or groups based on ethnicity, gender, political or religious beliefs, sexuality.

Why was the Holocaust possible?

There was a long history of **antisemitism** that the Nazis were able to build upon

Mass murder of Jews was **state driven** - The Nazi government passed laws, used money and resources in order to achieve their priority

The Nazi government used **propaganda** to indoctrinate citizens to justify mass murder

Complicity of others – ordinary people carried out orders or were willing to take part

The **Second World War** provided the context and the opportunity for mass murder

The Holocaust **evolved over time** – and allowed for more radical action to occur

Two key interpretations about the role of Germans in the Holocaust

Daniel Goldhagen

Goldhagen argues that most German soldiers involved in the Holocaust were **'willing executioners'.**

Christopher Browning

Browing challenges Goldhagen's view and states that many of the German soldiers were **'ordinary men'** who did not necessarily agree to the killings nor want to be involved.

Goldhagen argues that the vast majority of people in Germany had come to believe it was necessary to eliminate Jewish people long before Hitler came to power. Goldhagen studied a group of men in the SS Einsatzgruppen and found they participated enthusiastically in the killings. According to Goldhagen, **because these men were ordinary Germans, this shows that the majority of Germans would have agreed with the murder of the Jewish people.**

Browning studied the same group of men in the SS Einsatzgruppen and did not dispute they were involved in the killings. However, he points out that although some of the men may have been motivated by extreme racist beliefs, many had other reasons for acting the way they did. **The fact that they took part in the killings, however wrong, does not necessarily mean that they took part willingly.** This means it is not correct for Goldhagen to draw conclusions about the German people as a whole from how these men acted.

Geography

What can we do about Climate Change?

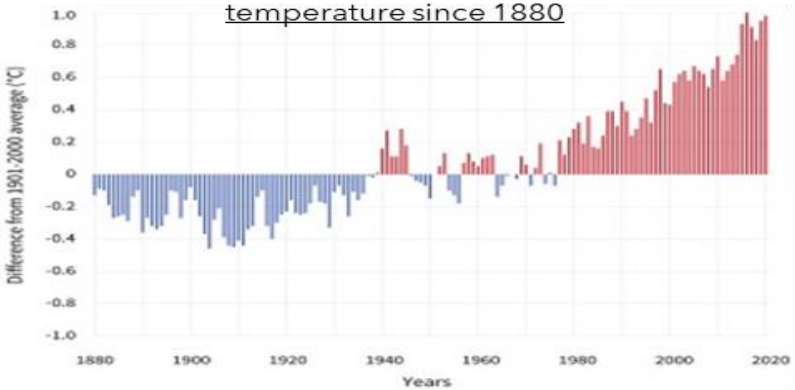
Keyword	Definition
Adaptation	The process of change in order to deal with a situation. In this instance, changing behaviours to deal with changes in our climate. Learning to live in a warmer world
Climate Change	A long-term change in the Earth's climate, especially a change due to an increase in the average atmospheric temperatures
Climate Crisis	A situation characterised by the threat of highly dangerous, irreversible changes to the global climate
Development	The progress of a country and the linked improvement to quality of life
Economy	The wealth of a country
Enhanced Greenhouse Effect	Increased global warming due to human activity
Extreme Weather	A weather event is significantly different from the average or usual weather pattern. This may take place over one day or over a period of time e.g. a flash flood or heat wave.
Fossil Fuels	Non-renewable energy sources – coal, oil and gas
Greenhouse Effect	Warming of the lower atmosphere by heat released from earth
Greenhouse Gases	Gases such as Carbon Dioxide and Methane, which absorb heat from earth
Mitigation	The action of reducing something. In this instance, actions to reduce greenhouse emissions
Policy	A policy is a set of principles to guide actions in order to achieve a goal
Sustainability	When materials and resources are used in a way that will balance the needs of the present without compromising the future, the ability to maintain something such as economic growth
Glacial Period	A period of global lower temperatures
Inter-glacial Period	A period of increasing global temperatures

Activism is the policy or action of using vigorous campaigning to bring about political or social change.

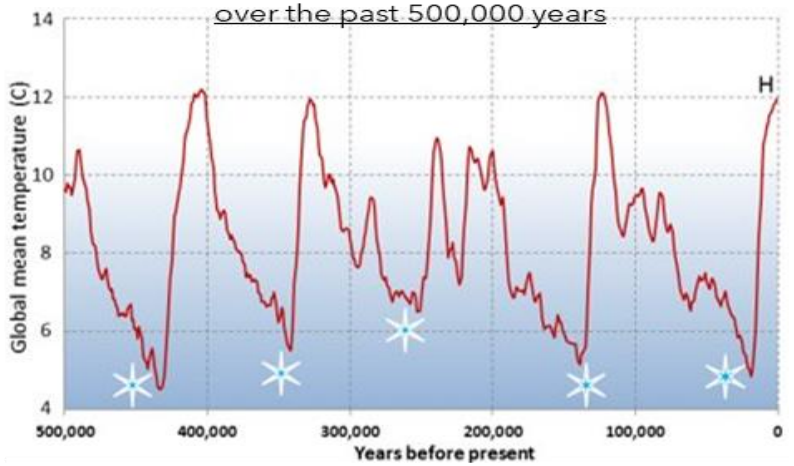
Campaigning is working in an organised and active way towards a particular goal.

Protesting -
A protest is a public expression of objection, disapproval or dissent towards an idea or action, typically a political one.

A graph showing the changes in global temperature since 1880

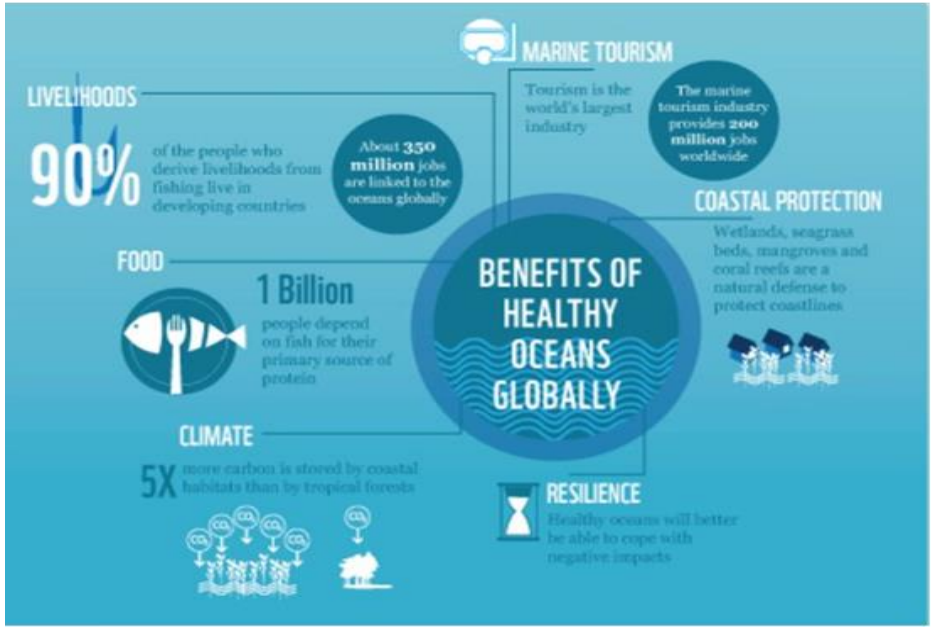


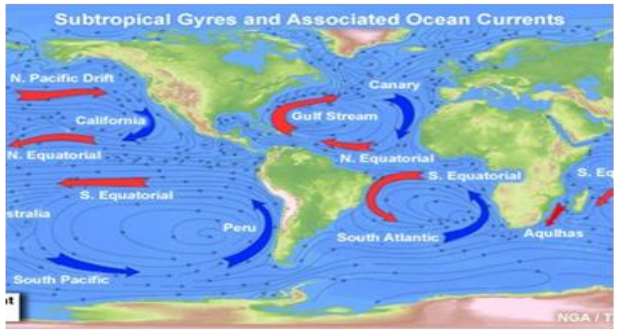
Graph showing warm and cold periods over the past 500,000 years

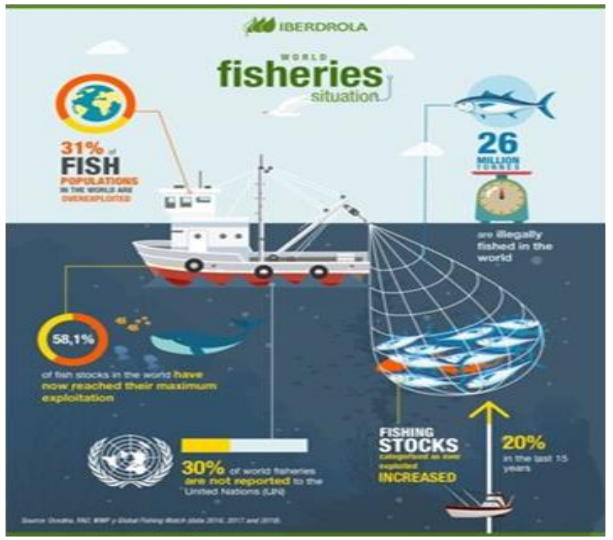


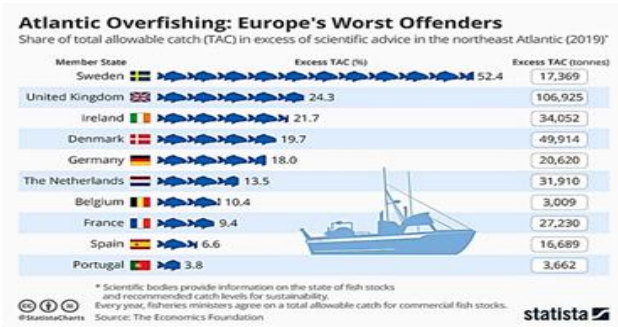
Geography

Why should we care about the ocean?









Keyword	Definition
Biodiversity	The variety of plant and animal life in a particular habitat
Great Pacific Garbage Patch	Largest of five offshore plastic accumulation zones containing plastic pollution. It is located between California and Hawaii.
Microplastics	When larger bits of plastic break down into tiny particles
Gyre	A large circular ocean current
Deep ocean currents	Currents driven by density
Surface ocean currents	Currents driven by surface winds
Overfishing	Catching more fish than the natural system can replace leading to a reduction in fish number
TAC – Total Allowable Catch	The number of fish you are allowed to catch in a particular area
Food Security	Having enough food to supply demand
Sustainable Fishing	Respecting habitats and leaving enough fish in the ocean so that fish numbers can be regulated

Religion and World Views

YR9 – Does religion cause conflict?

Keyword	Definition
Persecution	Cruel or unfair treatment, especially because of race or religious or political beliefs.
Schism	A tear or split. In religion it is when the religion splits into opposing groups.
Denomination or Sect	A branch or group within a religion. For example, Sunni and Shia in Islam, or Catholic and Protestant in Christianity.
Islamophobia	The fear of, hatred of, or prejudice against the religion of Islam or Muslims in general.
Greater Jihad	The internal struggle to be a good Muslim
Lesser Jihad	To defend Islam from threat.
Homophobia	The dislike of or prejudice against gay people

1984 Massacre in India

Mahatma Gandhi was an Indian lawyer, politician, social activist, and writer who became the leader of the nationalist movement against the British rule of India. As such, he came to be considered the father of his country.

In October 1984, a Sikh man called Beant Singh shot and killed the Indian Prime Minister, Indira Gandhi.

On November 1st 1984, when news broke that the person who had killed the prime minister was a Sikh, angry mobs across India started to attack Sikhs across India.

Sikhs were identified by their turbans, and dragged off trains, some mobs would shave Sikhs heads and beards, knowing these are holy symbols to them. Mobs went to Sikh villages and set them on fire killing many people.

In the capital city Delhi, Sikhs were burned to death, beaten, raped and shot. Many of these Sikhs had nothing to do with Bhindranwale and did not support his violent campaigns, they were targeted purely for being Sikh. Victims included women and children. 3000 Sikhs were killed in just Delhi and 50,000 had to flee the city and move to refugee camps.

Between 8000 and 17000 were murdered in the anti-Sikh riots across 40 cities in India.


INDIAN EXPRESS

INDIRA GANDHI SHOT DEAD

Attack by security men at 1, Safdarjang Road

One assailant killed, another held

Christian Missionaries in Japan

A missionary is someone who travels out into the world & preaches their religion. They hope to convert people to their religion & to bring their religion into a new area.

A timeline of Christians in Japan

1549 The first wave of Christian missionaries came with Portuguese traders in 1543, opening the way for Jesuit (Catholic) priests to follow. Their work saw dramatic early growth. By 1582 there are said to have been nearly 250 churches and 150,000 members.

1639 The sudden growth of the church threatened the Shogun's authority. The Shogun was the military leader of Japan. Christianity was banned. This became a time of horrific persecution described in Shusako Endo's book "Silence". Many Christians were martyred. The remaining church who were not killed for their faith went underground.

1853 The second wave began when Japan's isolation was broken by American desire to open up trade with Japan. Japan's ports opened to trade and protestant missionaries soon followed. Christianity officially remained a banned faith until 1871.

1945 The third wave came after World War II with the American occupation of Japan. They called for ten thousand missionaries and a million Bibles to heal Japan's hurts. Missionaries flooded in. The church grew dramatically for nearly two decades.

Religion and World Views

YR9 – Does religion cause conflict?

What is Jihad & how might it lead to Islamophobia?

The literal meaning of Jihad is struggle or effort. Muslims use the word Jihad to **describe three different kinds of struggle:**

- A believer's internal struggle to live out the Muslim faith as well as possible
- The struggle to build a good Muslim society
- Holy war: the struggle to defend Islam, with force if necessary

When can Muslims wage a Holy War (military jihad)?

There are several reasons, but the Qur'an (Muslim holy book) is clear that self-defense is always the underlying cause. Other reasons are:

- Strengthening Islam
- Protecting the freedom of Muslims to practice their faith
- Protecting Muslims against oppression, which could include overthrowing a tyrannical ruler

What a Jihad is not:

A war is not a Lesser Jihad if the intention is to:

- Force people to convert to Islam
- Conquer other nations to colonise them
- Take territory for economic gain
- Demonstrate a leader's power

How has this view of jihad led to Islamophobia?

In the late 20th and early 21st century, the Western media has focused on military (lesser) jihad as being the way that 'Muslims' operate. The media shows news clips and images of Muslims as terrorists, as suicide-bombers, paramilitaries and as extremists.

There **are** people who kill and terrorise in the name of Islam. There are people who kill in the name of many religions. It does not mean that all people who follow that religion are like that. Many of the groups that kill in the name of Islam are not even following the rules of lesser jihad that are laid down in Islam.

To brand all Muslims in this way is a form of persecution. It is the unfair treatment of a group of people who follow Islam. It is called Islamophobia. That word literally means 'the fear of Islam'.

The media image that is shown of Islam and Muslims can be frightening. It creates fear and suspicion. That is how persecution works.

The Holocaust

During the second world war, the Nazi party, under the leadership of Adolf Hitler, tried to kill all Jewish people in Europe. The Nazis and their collaborators murdered six million Jewish people, including 1.5 million children. This terrible period in history is known as **the Holocaust.**

During the late 1920s and early 1930s, Germany was experiencing great economic and social hardship. The Germans had been defeated in the First World War and has been forced to pay huge reparations to the Allies. As a result, Germany suffered inflation and mass unemployment. Hitler blamed the Jews for this hardship and his anti-sematic views eventually became policy. This then led to a plan to exterminate all Jewish people.

Jews throughout Nazi-occupied Europe were forced to wear a badge in the form of a Yellow Star as a means of identification. This was not a new idea; since medieval times many other societies had forced their Jewish citizens to wear badges to identify themselves. The star was intended to **humiliate** Jews and to mark them out for **segregation and discrimination**. The policy also made it easier to identify Jews for deportation to camps.

Being LGBTQ+ in Russia

In 2013, the Russian government passed a bill which imposes fines for anyone who normalises or discusses 'non-traditional' sexual relationships.
The intent of this bill is to discourage open discussion of homosexuality or any LGBTQ identities in public places or in the media.

"This is a step backward from the progress of civilisation in my country," Vitus Media, a spokesman for the Russian LGBT Network, said in a telephone interview. "Obviously this law will elicit aggression and violence, and responsibility rests with the lawmakers who voted in its favor."

To date, there have been a number of legal actions taken under the regional anti-LGBT propaganda laws. In St. Petersburg in particular, activists and performers, including international superstars like Madonna and Lady Gaga, have faced fines and legal proceedings for expressing support for the local LGBT community. One individual was arrested and fined in St. Petersburg for holding a sign supporting LGBT rights that sated simply "Gay is Normal." Six LGBT activists were also detained in front of the State Children's Library in Moscow in July with another "Gay is Normal" banner.

Y8 & 9 Spanish Cheat Sheet

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
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

BROADOAK ACADEMY

Languages

Spanish -Leisure and Healthy Living

3 time frames
Infinitives
Time phrases

opinions
justifications

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

Y8 & 9 French Cheat Sheet

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*

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

BROADOAK ACADEMY

Languages

French – my school

9.11 My School Life – Vocabulary List

Cabot Learning Federation

Quelle est ta matière préférée?	What is your favourite subject?
L'anglais	English
L'espagnol	Spanish
Le français	French
Le théâtre	Drama
Le dessin	Art
Le sport (L'EPS)	P.E.
L'informatique	I.C.T. (Computer Studies)
La musique	Music
La technologie	D.T.
La géographie	Geography
L'histoire	History
La religion	R.S. (Religious Studies)
L'éducation civique	P.S.H.E (Health and Wellbeing)
Les mathématiques	Maths
Les sciences	Science

Quelles sont les règles?	What are the rules?
On ne doit pas	You must not
On ne peut pas	You can not
Il faut	You must
Il est interdit de/d'	It is forbidden to
Écouter en classe	(to) listen in class
Utiliser son portable en classe	(to) use your phone in class
Porter les bijoux	(to) wear jewellery
Porter le maquillage	(to) wear make-up
Porter les baskets	(to) wear trainers
Manquer les cours	(to) miss lessons
Être à l'heure	(to) be on time
Mâcher du chewing-gum	(to) chew chewing-gum
Faire ses devoirs	(to) do homework

Qu'est-ce que tu en penses?	What do you think of it?
C'est/Ce n'est pas	It is/It is not
Intéressant (e)	Interesting
Pratique	Practical
Utile/inutile	Useful/not useful
Facile/Difficile	Easy/difficult
Ennuyeux (se)	Boring
Passionnant (e)	Exciting
Créatif (ve)	Creative
Important (e)	Important
Trop	Too
Très	Very
Assez	Quite
Un peu	A bit (a little)
du tout	At all

Qu'est-ce que tu voudrais faire dans le futur?	What would you like to do in the future?
Je vais	I am going
Je voudrais/J'aimerais	I would like
Réussir mes examens	To pass my exams
Recevoir des bonnes notes	To get good results
Faire un apprentissage	To do an apprenticeship
Chercher du travail	To search for a job
Faire du bénévolat	To do voluntary work
Voyager le monde	To travel the world
Avoir des enfants	To have children
me marier	To marry
Apprendre à conduire	To learn to drive
Devenir	To become
Médecin/Veterinaire	A doctor/a vet
Professeur/Avocat(e)	A teacher/a lawyer
Mécanicien(ne)/Plombier(ière)	A mechanic/a plumber
Pompier (ière)	A firefighter
Coiffeur(euse)	A hairdresser

Comment est ton uniforme scolaire?	What is your school uniform like?
Je porte	I wear
Il faut porter	You must wear
Une veste/ un blazer	A blazer/jacket
Un pull	A jumper
Une chemise	A shirt
Un t-shirt	A t-shirt
Une cravate	A tie
Une jupe	A skirt
Des chaussettes	Socks
Un pantalon	Trousers
Des chaussures	Shoes
Un collant	Tights
Moche	Ugly
Beau/belle	Beautiful
(In)confortable	(un)comfortable
Cher	Expensive
Pas cher/bon marché	Not expensive/cheap
À la mode	Fashionable
Démodé(e)	Old-fashioned

La journée scolaire	The school day
Je quitte la maison	I leave the house
Je vais au collège	I go to school
Les cours commencent à	Lessons start at
Les cours terminent à	Lessons end at
Ça dure	It lasts
La récréation	Breaktime
L'heure du déjeuner	Lunchtime
Le matin	The morning
L'après-midi	The afternoon
Le soir	The evening

BROADOAK ACADEMY

Languages

French – my school

School – Subjects, uniform and time
Future plans & jobs

The present tense	ER verb	IR verb	RE verb
Je (I)	-e	-is	-s
tu (you)	-es	-is	-s
Il/Elle/On (he/she/one)	e	-it	-
Nous (we)	-ons	-issons	-ons
Vous (you all)	-ez	-issez	- ez
Ils /Elles (they)	-ent	-issent	-ent

The future tense in French

You can talk about the future by using the **near future** tense.
Use part of the verb ALLER and the infinitive to say what you are **going** to do.

Ce soir, je vais jouer au tennis. This evening I am going to play tennis.
Demain, Paul va faire un gâteau. Tomorrow Paul is going to make a cake.

You can also use the following phrases with an infinitive to refer to the future.
Je veux= I want
Je voudrais = I would like
J'aimerais = I would like
J'espère = I hope

Adjectives describe nouns e.g., a **black** blazer.

In French, adjectives normally go after the words they are describing e.g., une chemise bleue (a blue shirt) and they must agree with the noun they are describing.

Adjectives must agree with the noun (or pronoun) they describe in gender and in number.

This means that if the noun an adjective describes is feminine, the adjective must be feminine e.g., une veste noire (a black blazer).

If that same noun is also plural, the adjective will be feminine **AND** plural as well e.g., les chaussettes noires (black socks).

Comparatives – to express more or less than
… est plus + adjective + que - is more…adjective…than
… est moins + adjective + que - is less…adjective… than
… est aussi + adjective + que – is as…adjective…as
For example:
L'anglais est plus intéressant que la géographie. (English is more interesting than Geography)
L'histoire est moins active que l'E.P.S. (History is less active than PE)
Le français est aussi difficile que les maths. (French is as difficult as maths).

BROADOAK ACADEMY

Languages

French -Leisure and Healthy Living

3 time frames opinions
Infinitives
justifications
Time phrases

1.Expressing FUTURE intentions :
J'ai l'intention de + infinitive (I plan to/ I intend to ...)
Je voudrais + infinitive (I would like to...)

2.Using infinitives after j'aime/je m'aime pas/je déteste/je préfère :
You can also use an infinitive after opinion verbs such as aimer, détester and préférer. They are usually translated with a **gerund** (a verb ending with -ing) in English:
J'aime *habiter* à Newcastle - I like living in Newcastle.
Tu préfères *jouer* au foot ou au tennis? - Do you prefer playing football or tennis?
Je déteste *boire* du café parce que c'est dégoûtant – She hates drinking coffee because it's disgusting.

3.Opinions
J'aime - I like
J'aime beaucoup- I like **a lot**
Je n'aime pas beaucoup- I don't like **much**
Je préfère – I prefer
Je déteste - I hate
Je ne peux pas supporter - I can't stand

4.Justification
Parce que - because
Ainsi– therefore/so
Par conséquent - consequently

5.Comparisons
Plus.....que –more...than
Moins...que - less...than
Aussi...que – as...as

6.Superlative
Le/la plus – the most
Le/la moins – the least
Le/la mieux – the best
Le/la pire – the worse

7.Time phrases
Normalement - normally
D'habitude - usually
Géneralement - generally
Quelquefois – sometimes
Ensuite – next
Rarement - rarely
Le weekend prochain– next weekend
La semaine prochaine - next week
Pendant le confinement - during lockdown
Le weekend dernier - last weekend
Le mois dernier - last month
L'été dernière - last summer

BROADOAK ACADEMY

Art

YEAR 9 ART – The Present

YEAR 9 ART – THE PRESENT

Content: In this project you learn to recognise that Art helps us to understand and negotiate our emotions and place within the world. Art can influence the way we think and act as individuals, and as a society. Artwork can encourage debate & thought around current world issues and encourage you to look outside of ourselves.

Develop skills- drawing, shading, painting, appropriation, using materials to demonstrate the influence of other artists in your own work and presentation

Outcome- Create a personal response related to the themes & artists.

ARTISTS

THE ENVIRONMENT

Ravi Koranga: Plastic Pollution

IDENTITY

Above: A painting by Basquiat, who died aged 27, is most expensive at auction of any US artist, also breaking record for a black artist.

Marc Quinn

EQUALITY

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:

Culture
Connectivity
Identity
Activism
Inequality
Ethnicity
Values
Consumerism
Globalisation
Protest
Rebellion

Analysis

All artist research pages should be aannotated and include:

A Title = The aartist's 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? What ideas do you have your own that come to mind?

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-

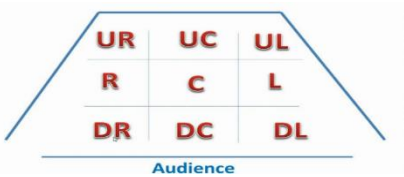
What inspired you to create the piece?
What techniques did you use and why?
What does it mean to you?
How is it relevant to your idea?

Sentence starters

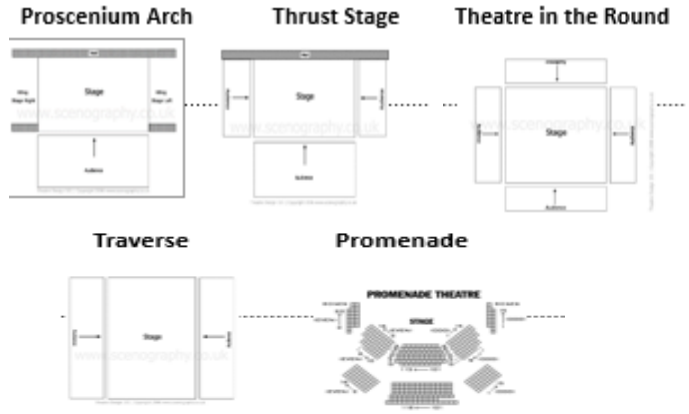
The technique I have used is...
The skill/technique I found most difficult was...because...
I think my work is successful because...

Year 9: Devising from Stimulus

How can we respond to **stimuli** to create a piece of **devised** theatre?



Devising Drama Responding to Stimulus			
1	What ideas initially come to mind?	7	What research will you undertake?
2	What does this make you think of?	8	What did you find out?
3	How does the stimulus make you feel?	9	What do you want to show through your character?
4	What themes do you associate with your stimulus?	10	What was the initial purpose of your piece? What messages do you want to show?
5	What characters do you associate with your stimulus?	11	How do you want the audience to respond to your performance?
6	What settings do you associate with your stimulus?	12	How do you want your audience to respond to your characters?



Performance Skills								
13	Gait	The way you walk	17	Interaction	How you use eye contact and proxemics to show relationships	22	Tone	The way in which you use your voice to show mood
14	Posture	The position you hold your body when standing or sitting		Voice		23	Emphasis	Changing your voice by adding focus
15	Stance	The way you stand	18	Pitch	How high or low you voice is to show age or emotion	24	Intonation	The rise and fall of your voice
16	Body Language	How you express you emotions through your body	19	Pace	How fast or slow you speak	25	Accent	To show which country you are from
17	Facial Expression	Showing your character's emotions through the way in which your contort the muscles in your face	20	Pause	How you show emotion through gaps in your dialogue	26	Enunciation	How clearly you speak
16	Gesture	A small hand or head movement to communicate meaning	21	Volume	How high or low your voice is	27	Dialect	To show which region you are from

Y9 Music
Music For Moving Image

Music For Moving Image Key Terms

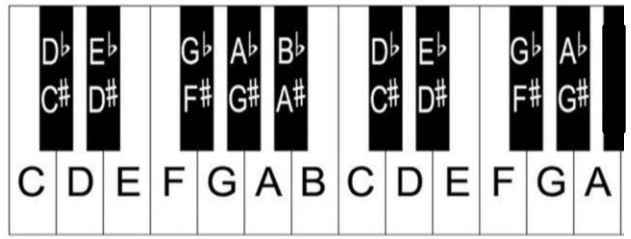
Sforzando – A sudden increase in volume
Cluster Chord – A chord made of pitches close together
Diatonic – Only using pitches from the key
Dissonance – Music that uses clashing sounds
Chromatic – Using notes from outside the key
Conjunct Melody – Melody that uses steps
Disjunct Melody – Melody that uses leaps
Pedal notes – Repeating bass notes
Leitmotif – A short melody linked to a character/theme/place
Ostinato – A short repeating pattern
Crescendo – A gradual increase in volume
Dimminuendo – A gradual decrease in volume
Mickey Mousing - Syncronising action on screen with music and sounds
Tonality – If the music is Major, minor or Atonal
Texture – the layers of sound
Tempo – the speed of the music set by the pulse
Dynamics – the volume of the music

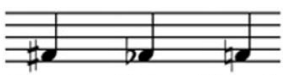
Film Genres:

Action	Horror
Adventure	Musical
Animation	Period
Comedy	Romance
Drama	Science Fiction
Fantasy	Thriller
	Western

Note Pyramid

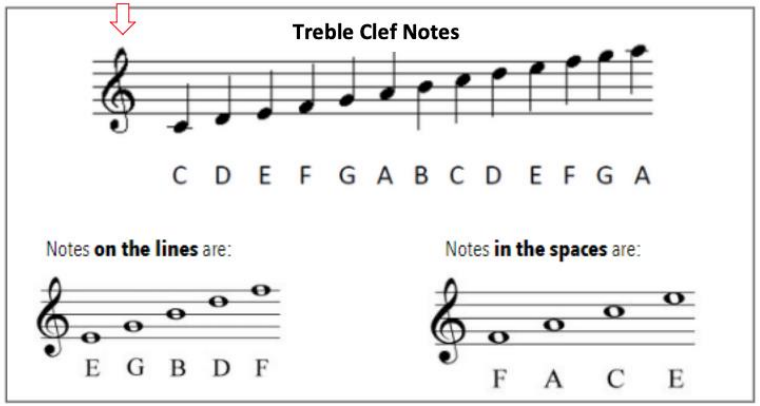
Name	Symbol	Rest Symbol	Value of each
Semibreve	𝅝	𝄻	4
Minim	𝅗𝅥 𝅗𝅥	𝄼	2
Crotchet	♩ ♩ ♩ ♩	𝄽	1
Quaver	♪ ♪ ♪ ♪	𝄾	½
Semiquaver	𝅘𝅥𝅯 𝅘𝅥𝅯 𝅘𝅥𝅯 𝅘𝅥𝅯	𝄿	¼

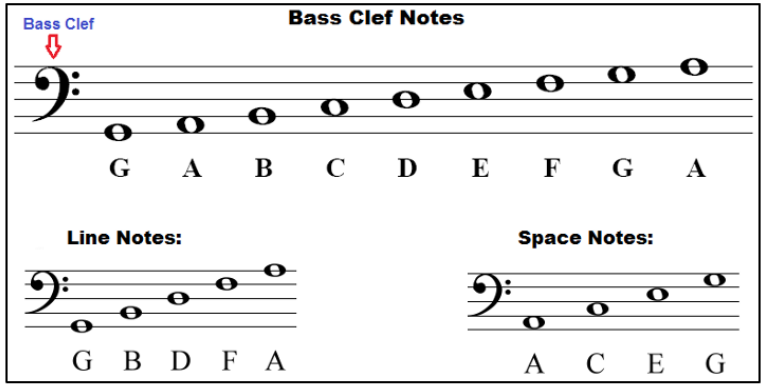




Sharp raises the note by one **semitone**.
Flat lowers the note by one **semitone**.
Natural restores a note to its original pitch.

Treble Clef





STRINGS

WOODWIND

BRASS

PERCUSSION

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

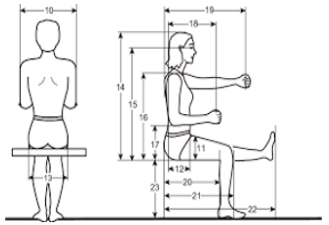
Ergonomics: an applied science concerned with designing and arranging things people use so that the people and things interact most **efficiently and safely**. Making use and maintenance easier causing less strain or damage to the user.

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

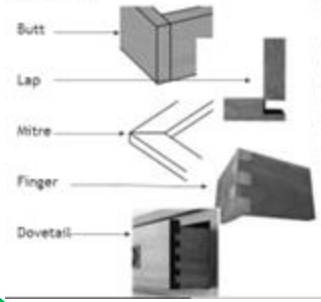
Who is a client?

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.

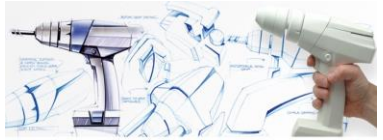
Kettle example:

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

Nuts

Wood screws

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.

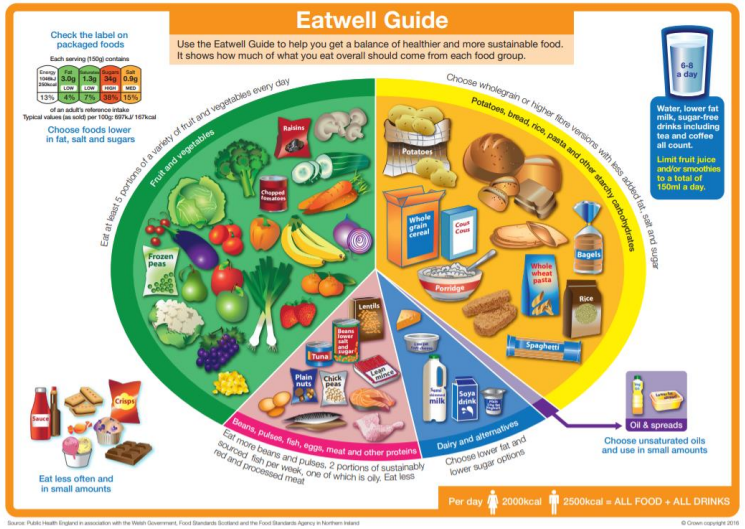
Key ways of doing this:

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.

Food Technology
Year 9



Cleaning

Environmental
Surfaces
Equipment
Appliances
Washing up
Drying
Chemicals

Personal hygiene
Clothes
Hands
Hair
Face
Illness

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

4 C's

Cooking

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.

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

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).

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.**

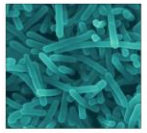
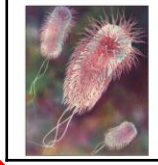
they have a more impact on

Food Technology
Year 9

What is a the 'Bacteria'?

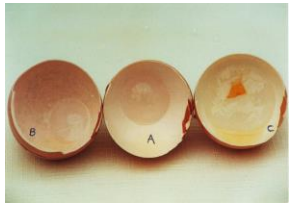
Bacteria are tiny living cells that are found everywhere, they are: Microscopic and the most common cause of food poisoning.

BACTERIA

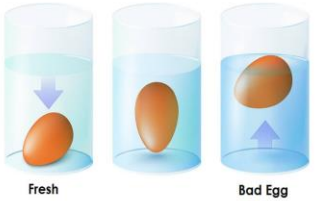
Bacteria	Symptoms
Salmonella  **Source:** Waste of man and animals (esp. **poultry**) Salmonella is infectious and can be spread to other people **Foods found in:** Contaminated meat and meat products- especially **poultry** Custard, cream, milk and **egg** products Salads	**Symptoms:** **Fever,** headache, 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.

EQUIPMENT


Vegetable/brown Chopping Board


Mixing Bowl


Vegetable knife


Measuring jug


Raw meat/Red Chopping Board


Sauce Pan


Container


Food probe


Spatular

Flat knife Spatular

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

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.

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.

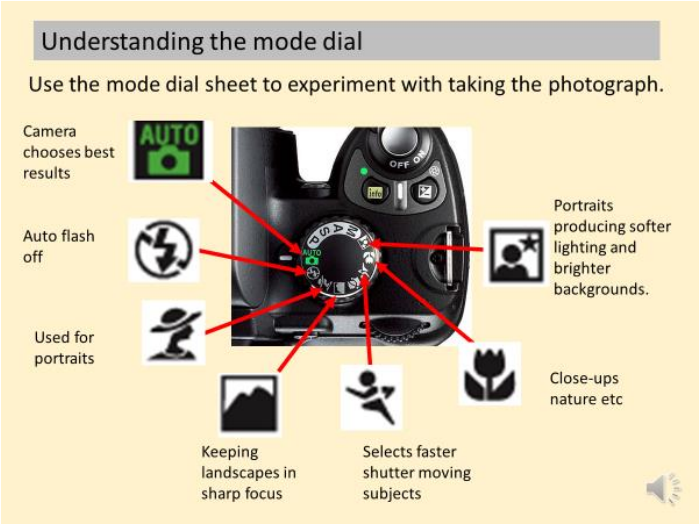
Key Words:

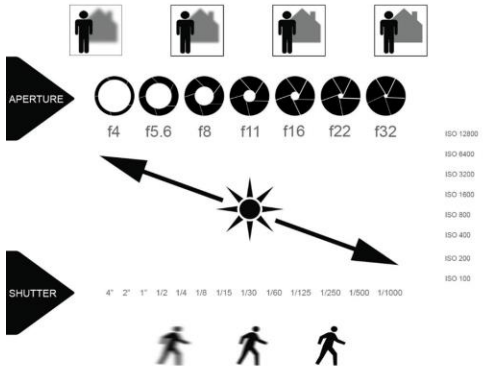
Aperture: Aperture is the first common photography term you should learn. Simply put, aperture is the size of the opening in the lens.

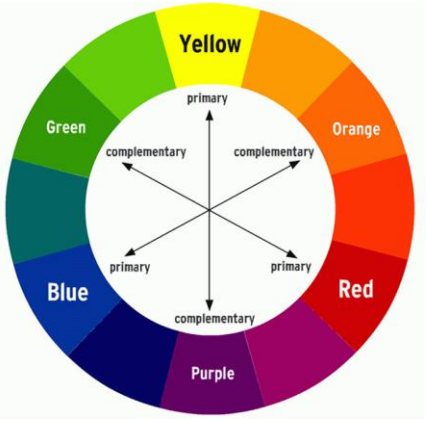
Depth of Field: Depth of field is a photography term that refers to how much of the image is in focus.

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







Broadoak Above and Beyond Challenges

Curriculum Area	How to develop your curiousity
English	Read a book of your choosing and write a book review.
Maths	Write a colourful set of instructions/flow diagram for solving questions/equations you have been working on this term.
Science	Research a scientist of the past create a fact-file of their background and achievements and impacts.
Humanities	Create a film reporting on a historical, geographical or religious event you have looked at.
MFL	Make a booklet for the year below you about how to be a successful linguist.
The Arts	Research and make a fact-file on an artist, chef or inventor of your choosing.
Performing (Music and Drama)	Watch live or online a performance of your choosing and write a review for a magazine, rating and evaluating it.
PE	Try a new sport and make a video diary about how you felt before and after.

Due: First week after Spring break, by 21st April 2023
Where: Give to your subject class teacher first lesson back.

BROADOAK ACADEMY