



PUDSEY
GRAMMAR SCHOOL

EST.1905

KNOWLEDGE ORGANISER

YEAR 9

Student Name:

.....

Year and Form:

.....



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Fragmentation and Distortion

| | |
|-------------|--|
| Line | Line is the path left by a moving point. A line can be horizontal, diagonal or curved and can also change length. |
| Shape | A shape is an area enclosed by a line. It could be just an outline or it could be shaded in. |
| Form | Form is a three dimensional shape , such as a cube, sphere or cone. Sculpture and 3D design are about creating forms. |
| Tone | This refers to the lightness or darkness of something. This could be a shade or how dark or light a colour appears. The parts of the object on which the light is strongest are called highlights and the darker areas are called shadows . |
| Texture | This is to do with the surface quality of something, the way something feels or looks like it feels. Actual texture really exists, so you can feel it or touch it; Visual texture is created using marks to represent actual texture. |
| Media | The materials and methods used to produce a piece of art or design. |
| Composition | How the elements of the work are put together. |
| Annotation | Key information alongside your work. A record of your experiences, thoughts and emotions connected to an image. |
| Refinement | Developing and modifying to improve and adapt your work. Not just repeating using a different media. |

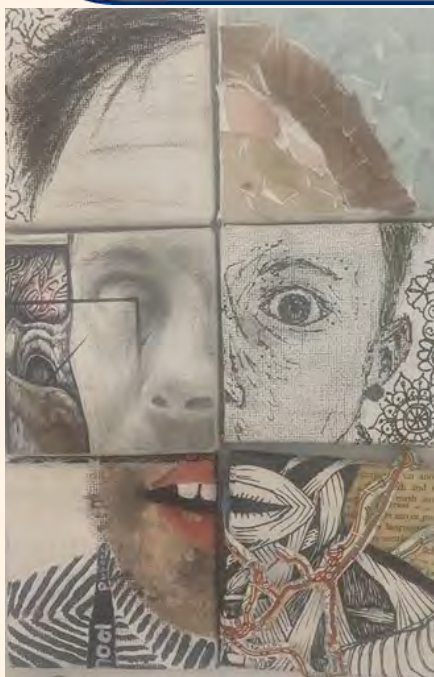
Composition

The term composition means 'putting together,' and can apply to any work of art or photography, that is arranged or put together using conscious thought. There are numerous approaches or "compositional techniques" to achieving a sense of unity within an artwork, depending on the goals of the artist.

For example, a work of art is said to be aesthetically pleasing to the eye if the elements within the work are arranged in a balanced compositional way. However, there are artists such as Salvador Dali whose sole aim is to disrupt traditional composition and challenge the viewer to rethink balance and design elements within art works.

Rule of thirds

The rule of thirds is a guideline followed by some visual artists. The objective is to stop the subject and areas of interest from bisecting the image, by placing them near one of the lines that would divide the image into three equal columns and rows, ideally near the intersection of those lines.



Brief Overview of Project Learning Intentions

During this project you will develop your skills from year 8 on how to draw facial features and portraits using detail and tone. You will look at a variety of very different techniques for making art, including pointillism (which will also improve your patience skills), expressive watercolour painting, and how cubism can create unique compositions. You will create a concertina and an A3 final piece. This must include, everyday objects, landscapes and portraits

Techniques and Processes

Manipulation

Image manipulation involves transforming or altering a image using various methods and techniques to achieve desired results.

Collage is a technique used in the visual arts, but in music too, by which art results from an assemblage of different materials such as newspaper and paint.

Tessellation

A tessellation of a flat surface is the tiling of a plane using one or more geometric shapes, called tiles, with no overlaps and no gaps.

Positive and Negative space

Positive space refers to the main focus of a picture, while negative space refers to the background. When used creatively and intelligently, positive and negative space together can tell a story using visual composition alone.

ANNOTATIONS

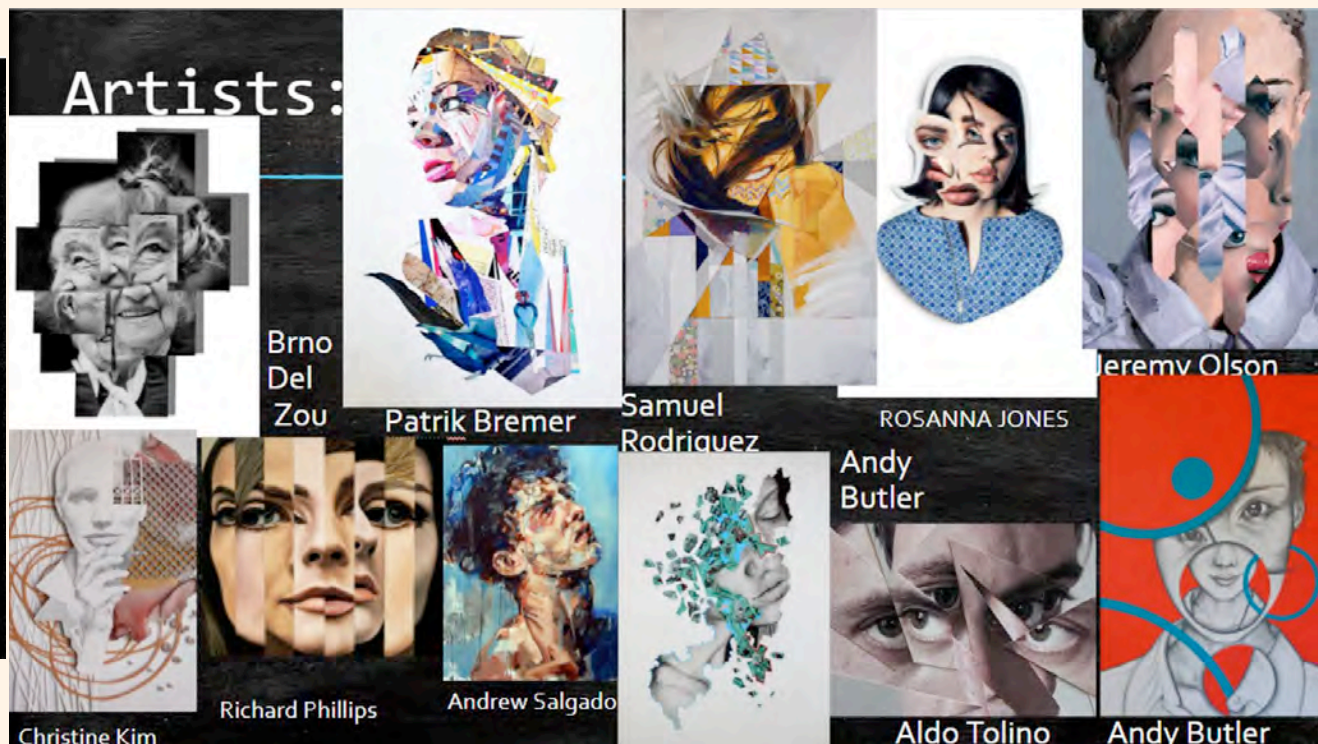
As a general rule, always try to say:

- **WHAT** you have looked at
- **WHO** made it
- **WHEN** it was made
- **WHY** it is inspiring to you
- **HOW** it will effect your own work

When talking about your own work, try to say:

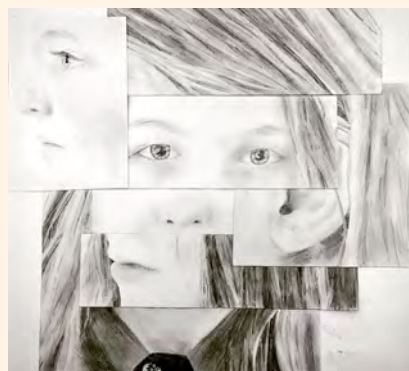
- **WHAT** you have done
- **HOW** have you done it
- **WHAT** inspired you
- **WHAT** else did you try
- **WHY** is it successful
- **IS** there anything you would change

ALWAYS TRY TO BE POSITIVE!



Artist Research

- Artist analysis of work
- Images of artists work
- Artist copy
- Primary Photographs
- Artist response



Fragmented

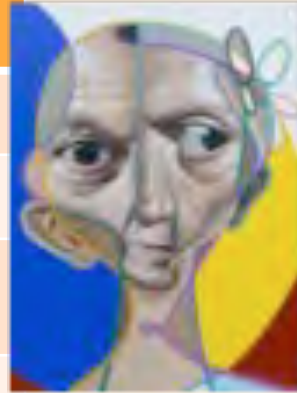
A portion of a whole, a fragment is often what remains of a damaged or ruined object. A fragment of pottery is called a shard.

Distorted

In the art world, a distortion is any change made by an artist to the size, shape or visual character of a form to express an idea, convey a feeling or enhance visual impact

Art & Design Key Words and Definitions

| Key Words | Definitions |
|-------------|---|
| Pointillism | A style of art that is built up using dots. |
| Tone | How light or dark something is. |
| Cubism | An art movement that happened in the early 1900's. Cubist paintings show objects from many angles at once. Artists believed painters should not just present realistic views of the subject. |
| Portrait | A piece of artwork that depicts a face. |
| Composition | Where you place the objects on the page. |
| Proportion | How the sizes of different parts of an object relate to each other. |
| Contrast | Contrast is the arrangement of opposite elements (ie- light v dark). |
| Emotive Art | A piece of artwork that is able to express an emotion. |
| Abstract | Abstract Art is a style of art that does not represent anything but instead uses shapes, colour and mark-making to create a piece of artwork. |
| Grid Method | A technique for copying an image. You draw a grid over the image you want to copy, then draw the same grid on a blank piece of paper. You can then draw the shapes each square at a time. This is often easier than trying to draw the entire subject all at the same time. |
| Content | The subject matter of the artwork (what the image is of). |
| Form | How the work has been arranged. |
| Process | How a piece of artwork has been made. |
| Mood | The mood (feeling) that is created by the artwork. |



INTERNATIONAL TRADE

Drawbacks of globalisation

- Whilst globalisation has brought many global benefits such as increasing standards of living and increased innovation, it also has created many global challenges. Below is a list of problems caused by globalisation.
- **Environmental damage-** Irreversible damage to ecosystems, land degradation, deforestation, loss of bio-diversity and fears of permanent water shortage.
- **Inequality-** Globalisation has been linked to rising inequalities in income and wealth.
- **Inflation-** Strong demand for food and energy has caused a steep rise in commodity prices.
- **Labour exploitation-** Nations desperate to attract foreign investment may be tempted to lower corporate taxes, allow lax health and safety laws and limit basic welfare safety nets with damaging social consequences

Trading Blocs

- **EU-** European Union
- **NAFTA-** North American Free Trade Association
- **ASEAN-** Association of Southeast Asian Nations
- **MERCOSUR-** Southern Common Market
- **SADC-** Southern African Development Community

Enterprise skills

- Leadership
- Team work
- Problem solving,
- Decision making
- Initiative
- Risk taking
- Planning

Globalisation

In the past countries relied heavily on their domestic markets to buy and sell their products. However, improving infrastructure has meant now we have a global economy and countries rely on each other for businesses to be successful. To encourage international trade, there are a number of trading blocs. These blocs allow countries to trade with each other freely without having to pay tariffs or quotas. The aim of all countries is to increase their GDP. With increasing GDP, countries see increasing standards of living for their citizens

Ways to compete

A business must be able to compete against its competition in order to succeed. If a business does not have a competitive advantage then customers will choose to use competitors instead. The main ways a business can compete include:

- Quality eg Emirates
- Price eg Aldi
- Having a unique selling point eg GHD's
- Branding eg Nike

- **Branding-** Creating a unique image in a customers mind for a product
- **Entrepreneur-** Someone who takes a risk to start a business
- **Enterprise skills-** Skills commonly shared by successful entrepreneurs
- **Competitive advantage-** Something a business can do than allows it to compete with others
- **Private sector businesses-** Those that exist to make a profit
- **Public sector businesses-** Those owned and operated by the government that exist to provide a service to citizens
- **Globalisation-** A process in which economies have become increasingly integrated and interdependent
- **Tariff-** A tax on goods bought abroad
- **Quota-** A limit on the number of goods that can be bought in from abroad
- **GDP-** Gross domestic product. This is the amount of money in a countries economy
- **Ethics-** Doing what is morally right or wrong in a business situation
- **Domestic market-** The home market of a business ie the country it operates in
- **Infrastructure-** the basic physical and organisational structures and facilities (eg buildings, roads, power supplies)
- **Product-** Something tangible. This means it can be touched
- **Service-** Something intangible like a bus ride
- **Primary sector-** Remove raw materials such as coal and potatoes
- **Secondary sector-** Turn products from the primary sector into goods. Examples include manufacturing and construction
- **Tertiary sector-** Provides services such as hotels



CHINA

Chinese business practices

Always introduce yourself using your full name and your job role

Wait to be introduced and shake hands

Always have a business card available

The place of honour at a meeting is at the host right hand side.

If it is a large meeting the person will be sat opposite the host

During meetings Chinese people will nod and appear to indicate their agreement. This is a sign of acknowledging what has been said but not a sign that the person agrees.

Government intervention in economies

Subsidies- Make manufacturing cheaper

Trade agreements- Help firms to sell abroad

Grants- Money from the Government which is not repaid to encourage innovation

The stock market

Public limited companies are listed on the stock market. This means anyone can buy shares in those companies. Shareholders are paid a dividend payment usually every six months

Shares are an investment. Their owners hope the value of their shares will increase.

ASEAN

China is part of the trading bloc ASEAN. This is made up of Asian countries that share mutual trade. China is the main manufacturing country and many of the other ASEAN countries provide China with the raw materials to do this. These products are then exported to Europe, the USA and Japan.

The impact of Chinese industrialisation

Movement of people from rural to urban areas

Huge growth in manufacturing industry

Increase in the number of skilled workers

Increase in capital intensive production

Increasing standards of living

Higher levels of innovation

Price- The pricing strategy a company uses to promote its brand image. Examples include psychological pricing, destroyer pricing and penetration pricing

Promotion- The mixture of advertising, public relations, sales promotion and personal selling a business uses to gain brand recognition

Place- Where the product is distributed to customers either through a physical location or online.

Product- The design and usability of the product itself

Global superpowers

1. United states
2. China
3. European Union
4. India
5. Russia

The impact of technology on marketing

The internet has had a huge impact on how goods are marketed to customers. Advertising through social media and tracking through cookies has allowed businesses to collect data on customers which lets them target customer needs on a much more individual basis.

Global

superpower- A state with a dominant position characterised by its extensive ability to exert influence or project power on a global scale.

Manufacturing

industry- The industry that makes products. **Skilled**

workers- Workers that hold qualifications

Standards of living- How well a person is able to live often related to their disposable income and access to education and healthcare

Innovation- Inventing new products or processes and developing them so they are ready for market

Business cards- Contain details of how to contact a business

Export- A good made (manufactured) in one country and sold to a different one

Trading bloc- A group of countries who choose to trade freely with one another

Shareholder- A part owner in a business

Dividend payment- A shareholders share of the profits

Public limited company- A business owned by shareholders which is traded on the stock exchange

The marketing mix- Price, product, promotion, place

Brand recognition- the ability of a consumer to recognise one brand over other brands

Social influencers- a user on social media who has established credibility in a specific industry. They have access to a large audience and can persuade others by virtue of their authenticity and reach.

Global brand- One that operates around the world. One example is McDonalds.

Developed economy- are the economies of countries that enjoy certain high standards. Such countries generally have a good infrastructure, stable economy with very high per capita income.

Developing economies- Economies where the average income is much lower than in industrial nations. The economy often relies on exporting crops and other natural resources

Personal finance and avoiding unmanageable debt

Personal finance is about managing your money to make sure that you can pay for all of your outgoings. If a person cannot repay what they owe, they are said to have unmanageable debt. This could lead to their items being repossessed or could lead to them being forced into declaring bankruptcy.

Budgeting

Budgeting is about planning the money you have coming in and the money that you think you will pay out. It is essential to budget so that you avoid getting into unmanageable debt. Budgets also help us to save for large items, like a car, that we might want to buy.

Interview do's and don'ts

Do make eye contact, nod to show that you are listening, lean forward to show active listening, research the company before you arrive, and ask thoughtful questions. **Don't** arrive late, dress inappropriately with clothes that are too casual or too revealing, play on your mobile phone, use jargon, chew chewing gum or appear disinterested.

Top tips for filling in an application form

Check your punctuation and grammar
Always write in a formal manner
Include a covering letter that compliments your application for
Where possible type the application form, if not possible use black pen
Sell yourself and give examples of when you have used important qualities

Tax

Tax is paid on earnings or the profits of the self employed to the Government. This tax is then used to fund public spending. In the UK you can earn £12,570 before you pay any tax. You will pay 20% tax on earnings between this and £37,500. If you earn over this you will pay tax at 40% up to £150,000 and 45% on any amount above that.

Tax and business

Self employed people pay income tax on their profits at the same rate as employees however they have tax deductibles, e.g. vehicle mileage. Limited companies such as Costa pay corporation tax at a rate of 17% however these global businesses are often criticised for not paying any UK tax. Methods of reducing tax bills include:

Making less profit one year so paying less the next year

Paying huge franchise fees to parent companies in offshore tax havens which wipes out UK profit
Getting high interest loans from parents companies and having the huge repayments wipe out profits

Interest rates- The Bank of England sets the interest rate in this country.

Low interest rates encourage people to spend because savings rate are low and people can borrow money cheaply. The Government does this to stimulate economic growth.

High interest rates encourage people to save their money rather than spend it. It also means that people pay more for finance such as mortgages and credit cards and therefore have less disposable income to spend.

Debt- Money owed to other people

Mortgage- Money borrowed to buy a property with the property being used as security

Debit card- A card which you can use to spend money in your bank account

Credit card- A card used to spend money that you have borrowed

Current account- An everyday bank account that allows you pay money in and out of your bank

Overdraft- An agreed sum that the bank will allow you to spend over the money in your account. The bank charges high rates of interest for this

Loan- Money borrowed from the bank over a fixed period of time that is paid back in equal monthly instalments

Interest- Money paid to banks for lending or to customers for saving

Bankruptcy- A legal event where it is acknowledged that you have more debts than assets to pay them back

Repossession- When assets are seized to repay a debt

Psychometric testing- Tests done by an employer to see if you have the correct skills for the role

Application form- Given to you by the employer, a form that provides a set way to apply for a job

Curriculum Vitae (CV)- A document you create to apply for a job

Income tax- Money paid out of your wages to the Government. It is used to fund public services like the NHS.

National insurance- Money paid from your wages that is used for some state benefits such as pensions

Corporation tax- Tax on the profits of limited companies

Tax havens- Countries where businesses or citizens are not required to pay tax to the Government

Key Vocab

| | |
|-----------------------------|---|
| Python | A programming language used to write programs. |
| Shell | The place where code is run. |
| Code Editor | The instructions that a program uses. The place where code is written. |
| Programming | The process of writing computer programs. |
| Algorithm | A set of rules/instructions to be followed by a computer system. |
| Flowchart Pseudocode | A visual method of planning an algorithm using symbols. A language similar to English which is used to plan algorithms. |
| Sequence | Parts of the code that run in order and the pathway of the program reads and runs very line in order. |
| Selection | Selects a pathways through the code based on whether a condition is true. |
| Iteration | Code is repeated (looped), either while something is true or for a number of times. |
| Variable | A value that will change whilst the program is executed. (eg. temperature, speed) |
| Function | A collection of code that works outside the main program. These are created to speed up programming. They can be called from a single line of code at any time. |
| Syntax | The punctuation/way that code has to be written so that the computer can understand it. Each programming language has its own syntax. |
| Syntax Error | An error produced when the computer cannot understand the code which has been written. |
| Logic Error | An error produced when a program is understood by the computer but does not perform as the programmer expects. |

Python > English

| | |
|---|---|
| <code>print("hello!")</code> | Prints a value on screen (in this case, hello!) |
| <code>x = input("")</code> | Inputs a value and stores it into the variable x. |
| <code>answer = x + y</code> | Saves the result of x and y added together in a variable named answer. |
| <code>age = 12</code> <code>print("Age: " + str(age))</code> | The + joins together two variables when printing. Str has to be used to cast age to be a string. This code will output "Age: 12". |
| <code>if name == "Fred":</code> | Decides whether the variable 'name' has a value which is equal to 'Fred'. |
| <code>else:</code> | The other option if the conditions for an if statement are not met (eg. name = 'Bob' when it should be Fred) |
| <code>elif name == "Tim":</code> | elif (short for else if) is for when the first if condition is not met, but you want to specify another option. |

Roles of an operating system

| |
|--|
| Managing hardware & peripherals |
| Managing programs installed and being run |
| Managing data transfer between memory locations, the CPU and secondary storage |
| Providing the interface between the hardware and the applications |
| Providing an interface between the computer and user, managing display to the screen |
| Managing security and organising data so that it is not overwritten |
| Providing a file system for the storage and retrieval of files |



Ethical Hacking & Cybersecurity

| Malware Key Vocab | | Hacking Key Vocab | |
|-------------------|---|--------------------------|--|
| Malware | Software that can harm devices, which is installed on someone's device without their knowledge or consent. | Phishing | To obtain people's information illegally online by pretending to be someone else. |
| Virus | Viruses attach (by copying themselves) to certain files. Viruses are self-replicating meaning that they can copy themselves across files or other computers without consent. | Hacking | To gain unauthorized access to data in a system or computer. |
| Worm | Similar to a virus but targets large networks. They will spread amongst devices connected to that network. | Digital forensics | The process of uncovering and interpreting electronic data for the purpose of reconstructing past events. |
| Trojan | Trojans are malware disguised as legitimate software. Unlike viruses and worms, Trojans don't replicate themselves – users install them not realising they have a hidden purpose. | Pen testing | A method of trying to infiltrate a network to check for flaws in security methods. |
| Spyware | Secretly monitors user actions (eg. key presses) and sends info to a hacker. They can discover passwords, credit card details, and other personal information | Ethical Hacker | A hacker who claims to practice hacking to highlight security concerns. |
| Ransomware | A type of malware which hijacks files and encrypts them. It will demand money from a victim in exchange for the password to decrypt files. | Network Policies | Guidelines set in place by a company or organisation, which all members agree to, so that the network is as protected as possible. |
| Adware | A type of malware which floods a victim with unwanted adverts and pop-ups on their device. | Username | Identification used by a person with access to a computer, network, or online service. (eg. 17B1...) |
| Hacker | A person who unlawfully gains access to a computer system. | Password | A secret word, phrase, or string of characters that allows access to a computer, interface, or system. |

Caesar Cipher Example

A translation of the Caesar cipher using the rule +3 is shown below

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plaintext | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| Ciphertext | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | A | B | C |

Using this encryption, the message "Computing is fun"

Would be encoded as

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|--|---|---|--|---|---|---|
| C | O | M | P | U | T | I | N | G | | I | S | | F | U | N |
| F | R | P | S | X | W | L | Q | J | | L | V | | I | X | Q |

Spreadsheet Key Terms



| Key Vocab | |
|--------------------------------|---|
| Absolute Cell Reference | An absolute cell reference is one that does not change when it is copied. To make a cell reference absolute, you must include a \$ before the reference (ex: \$C\$4). The other type of reference is a Relative Reference.. |
| Active Cell: | The active cell is the cell in the spreadsheet that is currently selected for data entry. The current active cell can be identified as being the one that has a darker black border around it. |
| Bar / Column Chart: | A bar or column chart is a style of chart that is used to summarize and compare categorical data.. Bars run horizontally and columns run vertically. |
| Cell: | A cell is a rectangular area formed by the intersection of a column and a row. Cells are identified by the Cell Name (or Reference, For example the cell in Column "C" in Row "3" would be cell C3 |
| Columns and Rows | Columns and Rows refer to how your cells are aligned. Columns are aligned vertically while rows are aligned horizontally. |
| Merged Cell | When two or more cells are combined, it's become what is known as a merged cell. |
| Workbook | The workbook refers to an Excel spreadsheet file. The workbook houses all of the data that you have entered and allows you to sort or calculate the results |
| Worksheet | Within the workbook is where you'll find documents called worksheets. Also known as spreadsheets, you can have multiple worksheets nestled in a workbook. |
| Labels | Labels refer to text that is typed into the cells of a spreadsheet. Labels have no numeric value and cannot be used in a formula or function. |
| Pie Chart | A pie chart is a circular chart that is divided up into sections, each of which represents the numerical proportion of the whole. |
| Gridlines | Gridlines are the horizontal and vertical lines on the screen that separate cells in a spreadsheet. |
| Fill handle | The fill handle is the small bold square in the bottom right corner of a cell that can be used to copy (fill) data to adjacent cells in the same row or column. |

| Key Vocab | |
|-------------------------------|---|
| Formula | A sequence inside a cell that is used to produce a value. It must begin with an equal (=) sign. This could be a mathematical equation, cell references, functions or operator. A formula is also known as an expression. |
| Function | Functions are formulas that are pre-built into Excel. They are designed to help simplify potentially complex formulas in a worksheet. Eg, SUM, MAX, MIN, AVERAGE |
| Conditional Formatting | Formatting is applied only when the cell meets determined criteria such as duplicate values or values above or below a threshold. |
| Data Validation | This feature helps to prevent incorrect data from being entered into your worksheet. This most commonly used to create drop-down lists for common terms. Data validation promotes consistency and accuracy in the data to be entered. |
| Auto SUM | This feature will add up the numbers you have entered in your sheet and displays the total in a cell of your choosing. |
| Filter | filters are rules that you can employ to decide which rows in a worksheet to display. These filters can use data such as conditions or values. |
| SUM | Sum function adds a range of cells: eg =sum(A1:A10) |
| MAX | Max functions identifies the highest number from a range of cells, eg =max(D1:D10) |
| MIN | Min function identifies the lowest number from a range of cells, eg =min(D1:D10) |
| COUNTIF | Countif functions counts text in a range of cells and gives the total, eg =countif(D1:D10,"pay") - Counts the word pay in the range and gives a total. |
| COUNT | COUNT(A:A) – Counts all values that are numerical in A column. However, you must adjust the range inside the formula to count rows. |
| If Statement | Statement checks condition of values, if its true or false and returns the value set. For example, IF(C2>B2,"Over Budget","Within Budget") |



Year 9 Design and Technology

| Energy Source | Process | What are the advantages? | What are the disadvantages? |
|-------------------|--|---|--|
| Solar | Electricity and hot water are generated via solar cells. | Large amounts of energy available from solar farms. Contributes to heating water, is inexpensive to set up. | Solar cells are expensive. Demand in winter when heat from the sun is at its lowest. |
| Wind | Wind power turns turbines. | Low cost power after initial set up. | Contributes small amount to energy needs. Set up costs high. |
| Tides | Turbine blades are reversible and can harness the tide in both directions. | Has the potential for large scale energy production, is available throughout the day and does not pollute. | Very high set up costs. Could cause flooding of estuary borders, which may damage wildlife and natural habitat. |
| Water | The fall of water - turns turbines, for hydroelectric power. | Clean quick and efficient at peak times. | Contributes only a small amount to the needs of manufacturing. High set up costs. Suitable sites can be in remote areas. |
| Geothermal | Holes in the earth's crust produce steam to generate electricity. | Provides power and hot water. | On a large scale, it is only effective in countries such as Iceland where the crust is thin. |
| Biomass | Wood, plant matter & waste is burnt & generates heat. | Low cost power is produced. | Potential for deforestation – and transportation of timber to biomass sites. Environmental pollution. |

The difference between **active** and **passive speakers**:

Active **speakers** have an in-built power amplifier and just need a power source (or battery) to operate, where **passive speakers** require an external power amplifier to operate. In short, you need an amplifier for **passive speakers**, you don't with active **speakers**.

Developing sustainable products by:

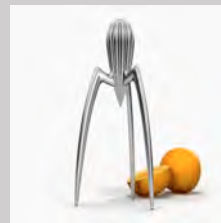
- reversing the trend for more lifestyle products.
- designing to use recycled materials in production.
- designing products that can be reused / recycled easily.
- using low-impact materials: non-toxic, sustainably-produced or recycled materials which require little energy to reprocess.
- being energy efficient: using manufacturing processes and production which require less energy.
- designing for quality and durability: longer-lasting and better-functioning products which have to be replaced less frequently, reducing the impact of producing replacements.

Develop the use of Sustainable manufacturing technologies that:

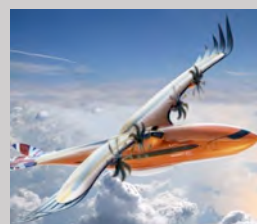
- use less energy
- use fewer of the limited resources
- do not deplete natural resources,
- do not directly or indirectly pollute the environment
- can be reused or recycled at the end of their useful life

Design Focus

Philippe Starck – product designer of furniture, kitchenware



Airbus –aeronautical designer and manufacturer



Speakers

An effective speaker enclosure is one that achieves minimal distortion and efficient amplification of sound from the loudspeaker driver.

The enclosure forms part of the design of a loudspeaker and is just as important as the driver itself. The characteristics of a speaker are driven by materials and design equally. The 'best' material for making any speaker will be:

- 1.Dense** (or heavy) – this is so that any vibrations or mechanical pressures are simply absorbed, and do not result in additional sounds, or losses of energy at certain frequencies.
- 2.Rigid** (or stiff) – Particularly for bass frequencies, a stiffer cabinet means higher efficiency and less distortion.
- 3.Non resonant** – something that if you knock it, sounds 'dead'. The opposite would be metal (which is why they make bells and tuning forks from it!). Ringing sounds mean distortion for your music.

1. Fashion Fad Cycle

Fads can be products that have achieved short-lived popularity, but then fade away. A fashion fad is introduced, and experiences a very sudden rise in popularity, saturates the market to the extent that it rapidly declines as quickly as it appears. As a result the fashion fad is very unlikely to reappear in the future.

2. Fashion and Style Features Cycle The style relating to a fashion and textiles product is introduced by designers at international fashion shows; it rises steadily until it saturates the market. The fashion trend or style suddenly dips due to a reduction in demand. However in contrast to the fashion fad it may reappear a season or two later, or a few years later. An example of a fashion or style such as this is "nautical, peasant or military trend", bobbed or fringed hairstyles, the mini skirt or thigh high boots.

3. Classic Fashion Cycle The third type of cycle is the classic fashion; this can be a style of fashion but is usually a fashion item or garment. It is introduced by designers at international fashion shows, worn by "fashionistas" and celebrities and can appear in fashion publications and the media.

TEAMMFC

Target Market - who it is aimed at
Ergonomics - how it is designed for human use

Aesthetics - what it looks like

Materials - What it has been made from

Manufacture - the process used to make it

Function - what is its job

Cost - how much it costs to make/sell

**PRODUCT LIFE CYCLE****Market Introduction Stage**

1. Introduction of style of product on catwalk
2. Limited numbers will be produced
3. Fashion leaders publicise the look
4. Available to a select few, high prices

Growth Stage

1. Product is watered down/simplified
2. Product is mass manufactured, low cost materials
3. Product becomes more affordable
4. Product widely available, low cost
5. Product accepted by many people

Maturity Stage

1. Multiple variations of product available
2. Product/fashion most popular stage
3. Available in a variety of price levels
4. Its popularity and life span depend on the product or fashion becoming a classic

Saturation and Decline Stage

1. The product/fashion has swamped the market
2. Demand for the product has disappeared
3. Consumer will not pay a premium for product
4. Retail reduction and markdowns' in shops

Decorative Techniques

Applique
Patchwork
Embroidery
Beading/ Beadwork
Couching
Screen printing
Reverse Applique
Felting
Tucks
Sewing Machine Embroidery
Sequins work
Dyeing
Embossing
Stitch and Slash technique

**SUSTAINABLE TEXTILES**

* The textiles industry has a massive effect on the environment.

- Energy is used when producing textiles.
- The process of fabric construction pollutes the air and water.
- Growing Cotton produces the most pollution, it is responsible for using 40% of the world supply of insecticides and as a result damages the environment.
- There is also the problem of waste disposal which ends up in landfill sites.

Year 9 Food Preparation and Nutrition



Shortening:

Shortcrust pastry, shortbread and biscuits rely on fat to give them their characteristic crumbly texture. The fat coats the flour particles and prevents them from absorbing water giving them a waterproof layer. This reduces the formation of gluten development, which would cause the dough to become elastic.

Aeration:

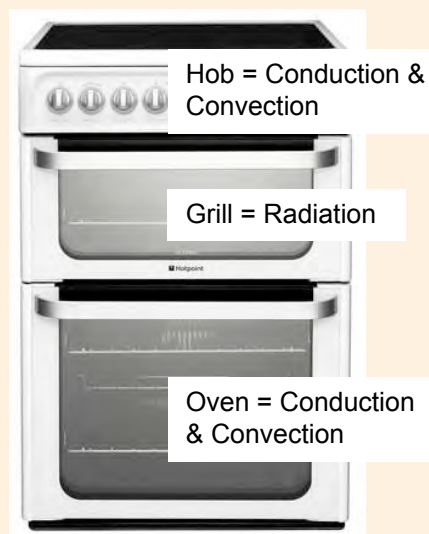
Fats such as butter and vegetable fat spreads are able to trap air bubbles when they are beaten together with sugar for a cake mixture. They can do this because they have plasticity, which means they can be beaten, spread and mixed easily with a wooden spoon or whisk. Mixing fat and sugar together is called creaming because, as the air bubbles are trapped, the mixture becomes lighter in colour and texture and its volume increases. The ability of the fats to aerate the mixture in this way is really important for producing a light, spongy texture in the baked cake.



Gelatinisation:

Starch molecules are made of thousands of glucose molecules joined in long straight chains or short chains with branches. They sink to the bottom of cold liquids. If not stirred = lumps. When heated to 60°C starch granules absorb water and swell up = the sauce starts to thicken, because there is less room for the starch granules to move around. At 80°C starch granules are very swollen and start to burst, letting starch out into the liquid. At 100°C the starch molecules form a 3D network that traps water stopping them moving around so much. At 100°C the liquid completely thickens it has gelatinised.

| | |
|-------------------------|---|
| Fair Trade | Producers receive a fair price for the goods that they produce. |
| Food Miles | The distance between the place where food is grown or made and the place where it is eaten. |
| Carbon Footprint | The amount of carbon dioxide released into the air because of your own energy needs. |
| Seasonality | The times of year when a given type food/fibre is at its peak, either in terms of harvest or its flavour. |



There are **three methods of heat transfer** we use when using the oven.

Conduction: transferring heat through a solid object into food.

Convection: transferring heat through liquid or air into food.

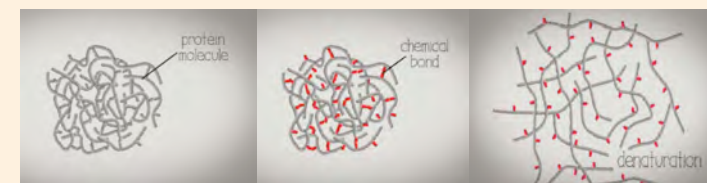
Radiation: transferring heat by infra-red waves that heat up what they come into contact with.

Denaturation & Coagulation:

Protein molecules can easily be denatured. This means that the chemical bonds that hold the protein molecule bundle together can be broken, which makes the protein molecule bundle unfold and change shape. This change can't be reversed. Proteins can be denatured by heat, acid, air bubbles and mechanical agitation. Denatured protein molecules are larger and take up more space. They knock into other denatured protein molecules and start to join together in large groups – called coagulation. As protein foods are prepared and cooked, they change texture + become more solid (set) e.g. meat, fish, and eggs.

RAISING AGENTS

Raising agents are used to make mixtures rise. A raising agent is an ingredient or process that incorporates a gas (normally CO_2) into a mixture. **Chemical raising agents** are raising agents that produce carbon dioxide when they are heated with a liquid. Chemical raising agents can be bicarbonate of soda or baking powder. **Mechanical raising agents** are air or steam, for example whisking or sieving adds air. Yeast is a **biological raising agent**, it is a living organism that produces carbon dioxide due to fermentation.





Planning

Devising - To create a performance from a stimulus.

Stimulus - A stimulus is a starting point for devising drama

Context: The situation or circumstances in which a piece of drama is set or devised, In simple terms:
Who? What? Where? & When?

Linear Structure - When a story has a beginning, middle and end (Chronological order.)

Looped Structure: The last scene is first and then goes in chronical order. End, Beginning, Middle, End

Genre: A way of categorising different types of drama. Comedy, Tragedy, Musical Theatre, Horror, Documentary, Theatre in Education, Melodrama

Style: The way the actors perform. Naturalistic, non-naturalistic, abstract physical theatre

Scene by Scene plan: As a group you plan out the context for each scene making sure that each scene has an intention and you know what impact on the audience.

Rehearse: To practice your performance till it is a 'polished' piece of drama

Evaluation: To reflect on the performance, commenting on the strengths and areas for improvement

Drama conventions

Cliff hanger: a dramatic and exciting ending to a performance, leaving the audience in suspense

Marking the moment: is a dramatic technique used to highlight a key moment in a scene or improvisation. This can be done in a number of different ways: for example, through slow-motion, a freeze-frame, narration, thought-tracking, music or lights

Flashback: A moment during the action of a play when the natural flow of time is interrupted so that a moment from the past can be presented

Narrator: Role designed to tell the story or provide accompanying information.

1. Narrator stands at the side
2. Actor comes out of character and narrates
3. Character narrates

Direct address: When the character talks directly to the audience. No other characters can hear. The character to reveal information on the situation, their emotions, move the drama on or use of dramatic irony.

Chorus: When actors perform as an ensemble, very often performing as the same character, comment on the action or moves the plot on

Intention

Performance intention: What you want the audience to think or feel about your performance. The overall meaning or message.

Scene intention: What information you want the audience to know

Character intention: What you want the audience to think or feel about your character

Characterisation

Facial Expressions - How you communicate your character's emotion using your face

Vocal Dynamics - The way you use your voice to communicate your character's emotions

Body Language - How you communicate your character's emotions through the use of your body

Red Cross – An actor facing forward so the audience see their facial expressions and body language

Staying in role - Being fully committed to your character throughout the whole performance

Proxemics - The distance between:
Actor & actor / Actor & audience / Actor and Set/Props/ Object.

Levels – To show the status of the character through actors being at different heights



Of Mice and Men

John Steinbeck

John Steinbeck was born in Salinas, California in 1902. Although his family was wealthy, he was interested in the lives of the farm labourers and spent time working with them. He used his experiences as material for his writing.

The Great Depression:

The Great Depression was a period of poverty and unemployment across the USA. It started in 1929 when millions of dollars were wiped out in the Wall Street Crash. It led to people losing their life savings and a third of America's population became unemployed and many suffered from poverty, hunger and disease.

The Dust Bowl states:

A series of droughts in southern mid-western states like Kansas, Oklahoma and Texas led to failed harvests and dried-up land. Farmers were forced to move off their land: they could not repay the bank loans which had helped buy the farms and had to sell what they owned to pay their debts.

The American Dream:

A set of ideals in which freedom includes the opportunity for prosperity and success, as well as an upward social mobility for the family and children, achieved through hard work in a society with few barriers.

Racism and Sexism:

Racism was a problem in America and racial segregation was still common. In the 1930s married women had to give up their jobs and were treated as inferior to their husbands.

| | Skill | Definition | Example |
|----------------|-----------------------------|--|--|
| Word Level | Conjunction | Words used to connect clauses or sentences | 'but', 'although', 'and', 'despite' |
| Word Level | Adjective | A descriptive word used to modify a noun | 'tall', 'emerald', 'miniscule' |
| Word Level | Adverb | Give additional information about a verb | 'cautiously', 'nervously' |
| Word Level | Verb | A word describing an action or a state | 'shout', 'believe' |
| Sentence Level | Adjective phrase | A phrase where the adjective is the head word | 'fond of chips', 'very happy' |
| Sentence Level | Prepositional phrase | A phrase that tells you where or when something is in relation to something else | 'Across from the river', 'Beneath the canopy of trees' |
| Sentence Level | Compound sentence | A sentence made up of two main clauses. | 'The trees stood proudly by the river but the dark water swirled ominously.' |
| Sentence Level | Subordinate clause | A clause, usually introduced by a conjunction, that is dependent on a main clause | Despite the hot weather , the men wore their denim jackets. |
| Sentence Level | Mitigated imperative | A command or instruction that is softened or made less direct | 'Would you mind not doing that?' 'Would you like to get your exercise books out please?' |



Of Mice and Men

| Vocabulary | Definition |
|----------------------|--|
| Migrant | A person who moves from one place to another in search of better living conditions |
| Hierarchy | A system where members are ranked according to their authority or status |
| Segregation | Setting someone or something apart from others |
| Companionship | A feeling of friendship or fellowship |

| Characters |
|---|
| Lennie: A physically strong man who travels around to find ranch work with his only friend George. Lennie has learning difficulties. |
| George: Lennie's guardian and best friend. He is 'small and quick' with 'sharp, strong features'. |
| Crooks: Crooks, the black stable-hand, gets his name from his crooked back. He is isolated from the other men because of the colour of his skin. |
| Curley's Wife: She is a young, pretty woman who recently married Curley. She cares about her appearance and wears nice clothes and make-up. She has failed dreams of being a star. |

| | Skill | Definition | Example |
|-----------------|----------------------------|--|---|
| Whole Text | Cyclical structure | When a text begins and ends in the same place or with the same idea | Description of the Salinas Valley in Chapter One and Chapter Six. |
| Punctuation | Colon | A sentence followed by extra information. | 'Lennie wanted one thing: his puppy.' |
| Punctuation | Semicolon | Used to link two main clauses in place of a coordinating conjunction or a full stop | 'Lennie was afraid; he didn't know what to do without George.' |
| Literary Device | Symbolism | Something representing something else | A poppy symbolises remembrance |
| Literary Device | Figurative language | Words or expressions used to suggest a meaning that is different from the literal interpretation e.g. a metaphor or simile | 'The ground was covered by a twinkling white blanket.' |



Travel and Exploration

Robert Scott and the Antarctic expedition:

In 1911, British explorer Robert Falcon Scott and Norwegian explorer Roald Amundsen both aimed to be the first to reach the South Pole. Scott had attempted to reach the South Pole once before in 1902 but his party were forced to turn back due to ill health and sub-zero conditions. He set sail on his second expedition in 1910. Amundson and his Norwegian team were better prepared than Scott and his team, and they reached the Pole 33 days before Scott's team. Scott reached the South Pole on 17 January 1912, and the return journey was difficult. Weak from exhaustion, hunger and extreme cold, his last diary entry is dated 29 March 1912. He died in his tent alongside two of his men.

British Colonialism:

By 1913 Britain had colonized a lot of countries. It held power over 412 million people, making up 23% of the world's population. The British Empire was at its peak and this contributed to a desire to explore and conquer further territories. It is partly as a result of this that Scott's Antarctic expedition was so well supported by the country.

Travel writing:

Travel writing as a genre has been popular for centuries. Wollstonecraft in the 18th century was keen to document her personal experiences of travel abroad, and modern writers such as Bryson continue to write about their experiences in other countries.

| | Skill | Definition | Example |
|----------------|----------------------------------|---|---|
| Word Level | Temporal connective | Connectives linked to time | 'Before', 'After', 'Later', 'Yesterday', 'Next', 'Tomorrow' |
| Word Level | Modal verb | An auxiliary verb that expresses necessity or possibility | 'may', 'will', 'could', 'should' |
| Sentence Level | Simple sentence | A sentence made up of one main clause | 'Robert Scott was an explorer.' |
| Sentence Level | Compound sentence | A sentence made up of two main clauses | 'Robert Scott was brave and he travelled to the South Pole.' |
| Sentence Level | Complex sentence | A sentence made up of a main clause and subordinate clause | 'Despite the terrible conditions, Scott and his men tried to reach the Pole.' |
| Sentence Level | Compound complex sentence | A compound sentence made up of two main clauses, and a subordinate clause | Despite the terrible conditions, Scott and his men tried to reach the Pole and they were successful.' |
| Sentence Level | Sentence fragment | An incomplete sentence that does not contain both a subject and a verb. | 'Ice everywhere.' |
| Sentence Level | Embedded clause | A clause embedded in to a main clause | 'Robert Scott, who many considered to be a hero, actually failed his men.' |



Travel and Exploration

| Vocabulary | Definition |
|----------------------|---|
| Chronological | A record of events following the order in which they occurred |
| Patriotism | Devotion to and vigorous support of one's country |

| | |
|--------------------|--|
| Nationalism | Support for the interest of your own country, often to the exclusion or detriment of other countries |
| Colonialism | Acquiring control of another country, occupying it with settlers and exploiting it economically |

| | Skill | Definition | Example |
|------------------|-------------------------------------|---|--|
| Whole Text Level | Structure of a formal letter | Sender address in top right corner with date below; recipient address on left beginning below date; formal greeting | 'Dear Sir/Madam' or 'Dear Mr/Ms/Mrs...'; introductory paragraph; topic paragraphs; concluding paragraph; formal sign off e.g. 'Yours sincerely' or 'Yours Faithfully'. |
| Punctuation | Dashes | Used to add extra information and as a way of showing parentheses | 'The mountain - a huge, towering presence - loomed in the distance.' |
| Punctuation | Semicolons | Used to link two main clauses in place of a coordinating conjunction or a full stop | 'Llandudno was dilapidated; paint flaked from the guest house walls.' |
| Punctuation | Colons | A sentence followed by extra information. | 'I love North Wales: the people are incredibly friendly.' |
| Literary Device | Jargon | Special words or expressions used by a profession or group that can be difficult for others to understand | 'stopover', 'red-eye flight', 'all inclusive' |
| Literary Device | Parody | Imitation of the style of a writer or genre for comic effect | 'As you may know I used to make a programme called 'Top Gear'. Now I just hang around the house doing nothing.' |
| Literary Device | Omniscient narrator | A narrator who knows what is happening at all points of the story at all times | 'The young woman was confident; it would have been impossible for her to know what was coming.' |
| Literary Device | Subjective narrator | Focusses only on the thoughts, feelings and experiences of one character at a time | 'Jack sighed deeply and allowed his mind to wander back to those years.' |



Generations and Ageing

| Vocabulary | Definition |
|-----------------|--|
| Sympathy | Feeling pity or sorrow for someone else's misfortune |
| Empathy | The ability to understand and share another's feelings |

| | |
|-----------------------|---|
| Colloquial | Ordinary or everyday language |
| Unconventional | Doing something different to what is usually done |

| | Skill | Definition | Example |
|------------------|-------------------------------|---|---|
| Word Level | Affixation | Prefix or suffix added to a root word | prefix 'un' and suffix 'al' to root word 'convention' becomes 'unconventional' |
| Word Level | Comparative connective | Connectives used to make comparisons | 'similarly', 'in contrast', 'on the other hand' |
| Whole Text Level | Topic sentence | Tells the reader what the paragraph is going to be about | 'Older people are often labelled with unhelpful stereotypes.' |
| Whole Text Level | Topic paragraph | A paragraph in which a particular topic or idea is explored. | Full paragraph detailing some of the stereotypes older people are labelled with |
| Punctuation | Brackets | Used to add extra information to a sentence | 'My house was warm (in parts) and cleanish.' |
| Punctuation | Question mark | Used to form a direct or rhetorical question | 'What's happened to me?' |
| Punctuation | Colon | A sentence followed by extra information. | 'But then, the worst moment came: someone expressed her outrage.' |
| Literary Device | Speech | Words spoken sit inside speech marks, along with punctuation. | 'Barbara said, 'Everyone dresses so well here!' |
| Literary Device | Monologue | A speech or entire performance by one actor | Doris delivers a monologue 'A Cream Cracker'. |
| Literary Device | Enjambment | The continuation of a sentence without a pause beyond the line, stanza or couplet | 'I am startled by/The rapid clouds'' |
| Literary Device | Caesura | A pause that occurs within a line of poetry | 'Nothing beside remains. Round the decay...' |

| Vocabulary | Definition | | | |
|--------------------|---|---|--|--|
| Refugee | A person forced to leave their country to escape war or persecution | The Vietnam War The United States and Vietnam were at war from 1955-1975. After the war, some Vietnamese citizens from south of the country faced political persecution, and became refugees who escaped to the United States and made their lives there. | The Windrush People from Caribbean countries (which were still under British rule) came to Britain in 1948 to help rebuild the Britain. The first ship to arrive was called 'The Windrush'. Many people settled and made their lives in Britain. | Accent and dialect The U.K. has a wide variety of accents and dialects that vary according to geographical location, social groups and class. Accent and dialect can form an integral part of a person's identity. |
| Immigration | Going to live permanently in another country | | | |
| Identity | Parts of a person that make them who they are | | | |
| Dialect | Form of language characteristic of a particular area | | | |

| | Skill | Definition | Example |
|------------------|--|---|---|
| Word Level | First person inclusive pronoun | Creates a link between reader and writer | 'we', 'us', 'our'. |
| Word Level | Second person pronoun | A narrative method to directly position a reader within a text | 'You hear the music blaring and walk out of the door.' |
| Sentence Level | Non-standard word order | Used to represent accent and dialect | In 'Invisible Mass' the protagonist says, 'Come, let we beat her up'. |
| Sentence Level | Multi-clause complex sentence | Used to add detail to description | 'I saw the sprawling slums, the shanties housing entire families, the trash piled in the streets, and also the gorgeous beach and the staff in uniforms who brought us Coca-Cola in glass bottles.' |
| Punctuation | Ellipsis | Used to denote a pause or create suspense | 'They reminded me who I was...and who I wasn't.' |
| Whole Text Level | Informal letter | Your address in the top right hand corner; informal or colloquial greeting | 'Hi Helen'; topic paragraphs; colloquial sign off e.g. 'Hope to hear from you soon' followed by your first name. |
| Linguistic term | Standard and Non-Standard English | A form of English widely spoken and accepted nationwide, and English that doesn't follow these standard patterns e.g. dialect | 'I didn't do anything.' 'I never done nothing.' |
| Linguistic term | Neologism | A newly coined word or expression | 'woke', 'pingdemic', 'zoombombing' |
| Linguistic term | Portmanteau | Neologisms that combine two words | Hungry + angry = 'hangry' |

Africa and Resource Management

Africa Key Terms

Natural Resource - A product with value that can be extracted from our physical environment.

Colonisation - The action or process of settling among and establishing control over the indigenous people of an areas.

The Slave Trade - The process in which Europeans took West African people to the Americas to trade them for resources.

The Berlin Conference - A meeting of 16 European nations who divided Africa between themselves, not caring about ethnic groups.

Development - The action of growing and improving, creating positive change and progressing.

Gross National Income (GNI) - The value of a country's income, divided by the number of people in that country.

Human Development Index (HDI) - A composite indicator that shows how developed a country is by considering it's wealth, education and life expectancy.

Poverty - Not having enough money to be able to meet basic needs, such as food, water and shelter.

Weather - The conditions in the atmosphere at a given time and place, taking into account precipitation, temperature and wind.

Climate - The conditions in the atmosphere at a given place over a long period of time such as 30 years.

Ecosystem - A community of living organisms (plants and animals) and non-living things, sharing an environment.

Biome - A biome is a very large ecosystem, in a specific geographical area. They follow the same or similar patterns to climate belts.

Drought - A period of abnormally dry weather that lasts long enough to lead to a serious lack of water and crop failure.

Desertification - The process by which fertile land becomes desert, typically as a result of drought, deforestation or inappropriate agriculture.

Great Green Wall - A 7,775 km wall of trees that have been installed to try to stop the spread of the Sahara desert further south.

Population density - How many people live in a certain area, usually 1km². This can be sparse (very few people) or dense (lots of people).

Urbanisation - The percentage of the population living in cities increasing as people move to urban areas (cities) and away from rural areas (countryside).

Push factor - A negative aspect of a place that makes us want to move away.

Pull factor - A positive aspect of a place that makes us want to move there.

Resource Management Key Terms

Renewable resource - A resource that has an unlimited source, can be replaced within a human's lifetime and causes no environmental damage.

Non-Renewable resource - A resource that has a limited source, cannot be replaced in a human's lifetime and will cause environmental damage.

Igneous rock - Formed from molten rock from volcanoes and is hard and durable. Examples include granite and basalt.

Sedimentary rock - Formed from compacted material under the sea and contains fossils. Examples include chalk and limestone.

Metamorphic rock - Formed by extreme heat and pressure transforming existing rocks. Examples include marble and slate.

Soil - This is the thin layer on the Earth's surface of minerals, water and organic material that formed from the weathered rock and decaying vegetation.

Atmosphere - The thin, fragile layer of gases that surround the Earth.

Biosphere - All living matter on Earth, including all plant and animal life.

Hydrosphere - The water on the surface of the Earth in oceans, rivers, rain etc.

Lithosphere - The Earth's crust, including landforms, rocks and soils.

Water scarcity - Where more water is needed than is available. The demand exceeds the supply.

Water surplus - Where more water is available than is needed. The supply exceeds the demand.

Fossil fuel - The term used to describe the 3 naturally occurring fuels, natural gas, coal and oil, formed from the fossils of plants and animals.

Crude Oil - Oil extracted from the ground. This can be refined to create fuel, plastics and fertilisers.

Solar power - Energy created from the sun's rays, captured through solar panels.

Biomass - The burning of organic matter to heat steam and drive turbines.

Wind power - Energy generated from the wind blowing large turbines.

Hydroelectric power - Fast flowing water turns a turbine attached to a generator. This can be through a man made dam or in areas with waterfalls.

Nuclear energy - The splitting of Uranium atoms, which generates energy to heat water, where the steam turns turbines.

Geothermal energy - Heat produced in the Earth's crust is used to heat water, which turns turbines. Commonly found in Iceland and volcanic regions.

Tidal energy - The rise and fall of the tide turns turbines which generates electrical energy.



Controversial Geography and the Middle East

Controversial Geography Key Terms

Borders - A real or artificial line that separates geographic areas. They outline the area that a particular governing body controls.

Physical border - The first type of border that would have separated tribes via rivers, mountain ranges, oceans etc.

Cultural borders - These separate people based on their ethnicity, religion or language.

Relic borders - These are borders that no longer exist but can still be seen in the culture of the country. For example the Berlin Wall.

Positives of electric cars - They are zero emissions, quiet, cheaper to run, the government provides grants to buy and there are increasing charging stations.

Negatives of electric cars - The cars can take a long time to charge and have a limited range and there are ethical issues with the minerals for the batteries.

Tension - A feeling of fear or anger between two groups of people who do not trust each other.

United Nations - A group formed after WWII to maintain international peace.

Fast Fashion - A term to describe a highly profitable business based on copying catwalk trends and high-fashion designs, and mass producing them at a low cost.

Negatives of fast fashion - The goods are often produced in sweatshops meaning that they are low quality and the product of forced or poorly paid labour. It also contributes hugely to landfill as the clothes are thrown away by consumers.

Racism - When a person is treated worse, excluded, disadvantaged, harassed, bullied, humiliated or degraded because of their race or ethnicity.

Race Relations Act 1976 - A law which makes it illegal to discriminate based on race or ethnicity, or use abusive language which could stir up racial hatred.

Dark Tourism - When people visit locations that are associated with sadness or tragic events for the purpose of a holiday or visit.

Dark Tourism Destinations - Pompeii, Chernobyl, Auschwitz, Hiroshima, Battlefields Tours, Mumbai Slums, Ground Zero in New York.

North-South Divide - The concept that North of the UK is poorer, less educated and given less money and opportunities than the government.

HS2 - A high speed rail network connecting London to the Midlands and Northern England, reducing the journey time for passengers to get to London.

The Taliban - A very strict religious and political group who attempt to enforce strict laws over Afghanistan.

Middle East

The Middle East is located where the continents of Europe, Asia and Africa meet.

Physical Features - The main physical features are mountains in the north of the region (Pontic and Taurus ranges) and deserts to the south (Arabian and Rub' Al Khali deserts). There are also 3 major rivers, the Nile, Euphrates and Tigris.

Climate - The conditions in the atmosphere at a given place over a long period of time such as 30 years.

Southern climate - Desert climates with temperatures reaching 52°C in the day. This can create water shortages across the region, especially with demand increasing due to a higher population.

Northern climate - Mediterranean climate with hot dry summers and warm wet winters.

Population density - In the Middle East the highest population density is around the River Nile and the North of the region, focused around Turkey. Less than 1 person lives per square kilometer in most of Saudi Arabia and Oman.

Economy - The Middle East is the world's largest source of fossil fuels with 48% of the world's oil and 43% of the gas. It exports 20 million barrels of oil every day. Export - To send products to other countries for profit. The Middle East exports oil to Europe, North America, Asia and Oceania which helps them make money.

Emirate - An area of land ruled over by a monarch called an Emir. The UAE is made up of 7 emirates including Abu Dhabi and Dubai.

Diversify - To make something more varied. Dubai is diversifying their economy by moving from oil exporting to tourism and business.

Causes of poverty - Location (no coastline), natural hazards (earthquakes, volcanoes), climate (drought), access to education and healthcare (illiteracy and disease), war (disrupted services), gender inequality (less rights for women), politics (corruption and instability).

Conflict - A serious disagreement or argument between 2 or more people or groups.

Causes of conflict - Borders (British and French changed them), oil (rich countries interfere with regional politics), religious divides (Sunni and Shia Muslims fighting), Iraq War in 2003, Arab Spring in 2011.

Forced migration - where people are left no choice but to move because they fear for their safety.

Refugees - People who are forced to leave due to war, persecution or disaster.



| What is an ecosystem? | | EXAMPLE – Small scale ecosystem of the UK (pond) | |
|---|---|---|--|
| An ecosystem is the (biotic) living and (abiotic) non-living parts of an environment and the relationships that exist between them. | | Producers | Algae and microscopic plants, Detritus |
| Biotic | Animals, plants, trees, insects, bacteria, fungi | Consumers | Worms, Blackfly, Mayfly, Midge larvae |
| Abiotic | Soil, rock, water, air, sun | Secondary consumers | Caddis, Stonefly, Dragonfly, Great diving beetle |
| Rainforest climate | | Top predators | Heron, Kingfisher |
| Very wet with over 2,000 mm of rainfall per year. Very warm all year round with an average daily temperature of 28°C. | | Decomposers | Bacteria |
| | | Abiotic | soil, air, water, sun, stones/rock |
| Case Study – Malaysian Rainforest | | | |
| Causes of deforestation | Impacts of deforestation | Sustainable Management | |
| <ul style="list-style-type: none"> • Logging – world's largest exporter of tropical wood in 1980s. Clear felling, where all trees are cleared. • Road building – these are built to provide access to mining areas, new settlements and energy projects. • Energy development – flooding of land to power hydro electric dams • Mineral extraction – gold, tin and drilling for oil • Commercial farming – largest exporter of palm oil | <ul style="list-style-type: none"> • Loss of species • Forests catch CO₂, deforestation releases CO₂ • Loss of nutrients in soils • Disruption of the food web • Loss of indigenous people's traditional way of life • Pollution of water sources • Loss of medicine • Tourists decrease • Provides jobs • More taxes for the government from large companies | Eco-tourism this encourages tourism that creates jobs for local people. The money is used to protect and conserve the TRF | |
| | | International agreements to protect TRF's | |
| | | Selective logging of mature trees ensures that the rainforest canopy is preserved. | |

| Distribution of Hot Deserts and Hot Desert climate | |
|---|---|
| <p>The climate is very hot. Day time temperatures can exceed 40°C. At night it can drop below 0°C. The climate is very dry with less than 250 mm of rainfall a year.</p> <p>There are four factors which form desert areas:</p> <p>The presence of high pressure, creating cloud-free conditions. Cold ocean currents – which limit evaporation. Mountain ranges to create rain shadows. Continentality – distance from the sea</p> | |
| Desertification - causes | Reducing the risk of desertification |
| Population growth - the population in some desert areas is increasing. In places where there are developments in mining and tourism, people are attracted by jobs. | Planting more trees - the roots of trees hold the soil together and help to reduce soil erosion from wind and rain. (The Sahel desert and Great Green Wall) |
| Overgrazing - an increasing population results in larger desert areas being farmed. Sheep, cattle and goats are overgrazing the vegetation. This leaves the soil exposed to erosion | Improving the quality of the soil - this can be managed by reducing the number of grazing animals. By building Bunds , these slow runoff and let water infiltrate. This prevents the removal of nutrients. |
| Climate change - In desert regions conditions are getting warmer and drier. On average there is less rain now in desert regions than there was 50 years ago | Water management - water can be stored in earth dams in the wet season and used to irrigate crops during the dry season. This is an example of using appropriate technology . |
| Case Study – The Thar desert (India) | |
| Development Opportunities | Challenges of developing hot deserts |
| <ul style="list-style-type: none"> • Farming using water from irrigation, commercial farming is possible. The Indira Gandhi Canal allows crops such as wheat and cotton to thrive. • The Thar desert is rich in minerals including gypsum, feldspar, phosphorite and kaolin • Energy. Coal and oil has transformed the local economy. The Thar desert also provides wind and solar power. • Tourism means people come from all over India and beyond for desert safaris and the yearly desert festival. | <ul style="list-style-type: none"> • Temperatures reach up to 50°C. • Lack of roads meant limited access and dangerous (if the vehicle breaks down) • Water is limited – underground it is salty, the River Luni is only sufficient after rainfall |
| | <p>Adapting to live in the hot deserts</p> <p>Irrigation – The Indira Gandhi Canal, provides drinking water for many people in the desert</p> <p>Small homes, to reduce sunlight and keep temperatures down.</p> |



Women Through Time and USA in the 1920s

Women Through Time - Key Concept

Women make up roughly 50% of the world population but they only make up 0.5% of recorded history. History is dominated by the male narrative as they are the ones who have traditionally written the History books. However, there has always been examples of extraordinary women however their stories have been written out of history rather than into it. Society for thousands of years has tried to control the status and role of women. Our role as historians is to put back their stories back into the narrative.

Key Figures

| | |
|--------------------------------|---|
| Boudica 30 – 61AD | Boudica was a queen of the British Celtic Iceni tribe who led an uprising against the occupying forces of the Roman Empire in AD 60 or 61. She died shortly after its failure. |
| Elizabeth I 1533–1603 | The daughter of Henry VIII and his second wife, Anne Boleyn, Elizabeth I was England's 'Gloriana' – a virgin queen who saw herself as wedded to her country, and who brought almost half a century of stability after the turmoil of her siblings' short reigns |
| Bess of Hardwick 1527- 1608 | A notable figure in Elizabethan English society following a series of well-made marriages, she rose to the highest levels of English nobility and became enormously wealthy. |
| Nancy Astor 1879-1964 | Nancy Astor was an American-born British politician who was the first female Member of Parliament to take her seat, serving from 1919 to 1945 |
| Margaret Thatcher 1925-2013 | Baroness Margaret Thatcher, the 'Iron Lady', was the first female British Prime Minister and the longest serving PM for over 150 years |

Key words

| | |
|--------------------------|--|
| Agricultural Revolution | A massive change in lifestyle moving from a Nomadic Hunter gatherer lifestyle to a settled existence dependant on farming |
| Original sin | A sin committed by 'Eve' which Christians believe has now caused all other people to be born with sin. |
| Widow | A woman who has lost her spouse through death and has not married again |
| The Bluestocking Society | initially founded in the 1750s, its members represented a new kind of modern, intellectual women, who were accomplished and well-versed in many fields – artistic, literary and political. |
| Enlightenment | A movement away from society only being focused on God and religion with a greater focus on science, learning and philosophy |
| Liberal | A belief that society should be more accepting and there should be more equality and openness to new ideas. |

USA in the 1920s - Key Concepts

The 1920s is often seen as the roaring Twenties, a time of economic prosperity and social change. Mass production helped create jobs & produce inexpensive consumer goods which improved the standard of living for 60% of Americans.

The 1930s was a period of economic hardship & high unemployment often known as Great Depression. President Roosevelt tried to solve this with his 'New Deal' programme.

Key Words

| | |
|----------------------|--|
| US Constitution | The document that sets out rules of how USA is governed |
| Congress | US Parliament (Split into Senate and House of Representatives) |
| Immigration | 40 million people moved to America between 1850 - 1919 |
| Isolationism | Keeping USA out of League of Nations & world affairs |
| Xenophobia | The term given to the idea that people are afraid of (or racist towards) foreigners or immigrants. |
| The American Dream | The belief that a poor immigrant can work hard and become rich in the USA |
| Mass Production | Making lots of products quicker to decrease the cost |
| Laissez Faire | 'Leave alone' economic theory that government should keep out of business |
| Tariff | Tax on foreign imports – made them more expensive |
| Roaring 20s | The name given to the 1920s in the USA because of the strong economic growth / exciting lifestyles |
| Prohibition | Banning the sale of alcohol |
| Wall Street Crash | 29th October 1929: Collapse of share price in the US stock market |
| The Great Depression | Period of high unemployment and economic problems during the 1930s |
| The New Deal | President Roosevelt's attempt to solve the Great Depression |

Cold War and Civil Rights



| | |
|----|--|
| 1 | The Cold War is the name given to the relationship that developed between USA and the USSR after the Second World War. This led to tension, fear amongst civilians, thousands of lives lost in wars but no direct conflict ever taking place between the two superpowers. |
| 2 | Capitalism - An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state |
| 3 | Communism - A political and economic system in which the major resources in a society are owned by the state and wealth is divided equally among citizens |
| 4 | Soviet Union – States/ countries controlled and led by Russia after the Second World War, that lived under a Communist regime |
| 5 | Arms Race - A competition between nations for superiority in developing weapons |
| 6 | Iron Curtain – a metaphorical divide between Communist countries in the East and Capitalist countries in the West of Europe |
| 7 | Doctrine - Speech |
| 8 | NATO – North Atlantic Treaty Organization. Capitalist military alliance between America and other European countries against Communism |
| 9 | Warsaw Pact – Communist military alliance signed in Poland by the Soviet union protecting Communist states. |
| 10 | Détente - An attempt to reduce tension between superpowers |
| 11 | 1939-45 - Second World War |
| 12 | 1945 - The Yalta and Potsdam Conferences. |
| 13 | 1945 - The USA explodes first atomic bomb |
| 14 | 1946 - Churchill's 'Iron Curtain' speech. |
| 15 | 1947 - Truman Doctrine and Marshall Plan. |
| 16 | 1948 - Beginning of Berlin Blockade |
| 17 | 1949 – Creation of NATO |
| 18 | 1955 – The Warsaw pact |
| 19 | 1961 - Construction of Berlin wall begins |
| 20 | 1961 - Bay of Pigs invasion |
| 21 | 1962 - Cuban Missile crisis |
| 22 | 1970s – Détente period |
| 23 | 1989 - Pulling down of Berlin wall |
| 24 | 1990 - Collapse of the Soviet Union |

Civil War (1861-1865): A war fought between the Northern and Southern states (Confederacy) of America over the issue of slavery.

Jim Crow Laws: Laws in the Southern states that enforced racial segregation. For example, separate water fountains and schools.

Rosa Parks: A civil rights activist who was arrested in 1955 for refusing to give up her seat on a bus for a white passenger. Her actions inspired the Montgomery Bus Boycott led by Martin Luther King Jr. This peaceful protest led to U.S. Supreme Court ruling that bus segregation was unconstitutional.

Little Rock: The Little Rock Nine was a group of 9 African American students enrolled in Little Rock Central High School in 1957. This was a result of the 1954 Brown v. The Board of Education Supreme Court ruling that that segregated schools were illegal. The 9 students were met by a belligerent mob and the National Guard preventing the students entering the school. Eventually President Eisenhower sent in the US army to protect the students and ensure they received the education they were entitled to.

Martin Luther King: He led a civil rights organisation called the Southern Christian Leadership Conference (SCLC). Advocated for non violent direct action, the most famous being the Montgomery Bus boycott and the March on Washington. He is known for his famous 'I have a dream speech' that spoke of racial equality. His actions help the passing of the Civil Rights Act 1964. He was assassinated in 1968.

Malcolm X: He was a key figure in the Black power movement. This was a movement in support of civil rights for black people, it emphasised pride in black culture, focused on self help. Black power supporters often supported the use of violence as a protest method. Unlike MLK Malcolm X was Muslim and urged Black Americans to protect themselves against white aggression by any means necessary.

Cultural Leaders: In 1960s there were few leaders African American's could look to for inspiration and guidance so young black men turned to popular sporting figures instead. They looked up to men such as Muhammad Ali and Tommie Smith. Muhammad Ali was a famous boxer and refused to fight in the Vietnam War based on the racial persecution he face in America. Tommie Smith won a Gold medal in the Olympics , during medal ceremony he performed the Black Power salute and then was stripped of his medals.

Post War Britain 1945-Modern Day

Key Concepts

Britain emerged victorious but bankrupt from the Second World War. The years that followed witnessed significant changes in British society and Britain's place in the world.

Key Events

| | |
|--|---|
| The Suez Crisis 1956 | Egypt took control of the Suez Canal (an important man-made waterway) this was followed by an attack from Israel, France and Great Britain, this angered America calling for France and Great Britain to withdraw. This humiliated Britain showing it was no longer a world superpower and was disastrous event for the Prime minister Anthony Eden. |
| The Profumo affair 1961-63 | A political scandal that originated with a sexual relationship in 1961, between John Profumo, the Secretary of War in Macmillan's government, and Christine Keeler, a 19-year-old model. It helped highlight the problems with the establishment and help topple the conservative government. |
| The 1964 General Election | By the time of the 1964 general election, the Conservative Party had been in power for 13 years. Labour won by the narrowest of margins. Labour took 317 seats, giving them a majority of just four, the smallest since 1847. Labour's victory was largely put down to the popular leadership of Harold Wilson, |
| Introduction of the pill 1961 | The contraceptive pill is often described as one of the most significant medical advances of the 20th century. It allowed women control over their reproductive health and when/ if they wanted to start a family. It was introduced in the UK on the NHS in 1961 for married women only - this lasted until 1967. |
| Introduction of liberal laws and reduced censorship | The increase in liberal views of the nation was reflected in law passed through parliament. This meant relaxing of censorship greater freedom in arts , greater rights for women (family planning act 1967, Abortion Act 1967 Equal Pay Act 1970) and the protection of minority groups in Britain (Race Relations Act 1965). |
| Britain becomes a member of the EEC in 1973 | The European Economic Community, later became The European union, was set up in 1957. previous attempts had failed and Britain was finally became a member in 1973. This relationship, among many other things, allowed the UK to trade freely with other members of the EU. People, like goods, could also move between countries without complication. |
| 1975 Conservative Party leadership election | 13 January 1975 Heath called a leadership election for 4 February, in order to assert his authority as leader of the party. Many expected the contest to be a walkover. Thatcher's support was seen as minimal, with all the Conservative daily newspapers backing Heath . Thatcher won following Heath's resignation becoming the 1 st female leader of the conservative party. |

| Key Words | Definition |
|----------------------------|--|
| The establishment | The dominant group or elite that controls a nation unified by a common social background and attitude usually rich, Oxbridge graduates |
| Labour Party | A left centered party , it believes that wealth and power should be shared fairly, and public services should be free for everyone. |
| Conservative Party | The main right wing political party , their policies usually promote the importance of a capitalist economy with private ownership rather than state control. |
| Mass tourism | Holiday destinations such as Spain were tens of thousands of tourist visits in the same areas at set times of the year. This led to building of resorts and package holidays, |
| Youth culture | Due to post war baby boom there was a unprecedented number of teenagers, due to increase prosperity they could explore a culture separate and challenged that of their parents. This included their fashion , music and attitudes. |
| Windrush generation | The Caribbean migrants were named after the Empire Windrush ship which first brought families over to help rebuild Britain. |

Key People

| | |
|--------------------------|--|
| Anthony Eden | British Conservative politician who served three periods as Foreign Secretary and then a relatively brief term as Prime Minister of the United Kingdom from 1955 to 1957. |
| Harold Macmillan | A British Conservative politician who served as Prime Minister of the United Kingdom from 1957 to 1963. Dubbed "Supermac". |
| Harold Wilson | Labour Prime Minister from 1964 to 1970 and 1974 to 1976. He was famed for his use of the media to get his message across. His election was seen as the end of the establishment. |
| Enoch Powell | Member of Parliament, noted for his controversial rhetoric concerning Britain's non white population and for his opposition to the nation's entry into the European Economic Community. Famous for his 'Rivers of Blood ' speech 1968 warning about immigration. |
| Edward Heath | Served as Prime Minister of the United Kingdom from 1970 to 1974 and Leader of the Conservative Party from 1965 to 1975. Prime Minister during a time of industrial upheaval and economic decline |
| Margaret Thatcher | Served as Prime Minister of the United Kingdom from 1979 to 1990 and leader of the Conservative Party from 1975 to 1990 |

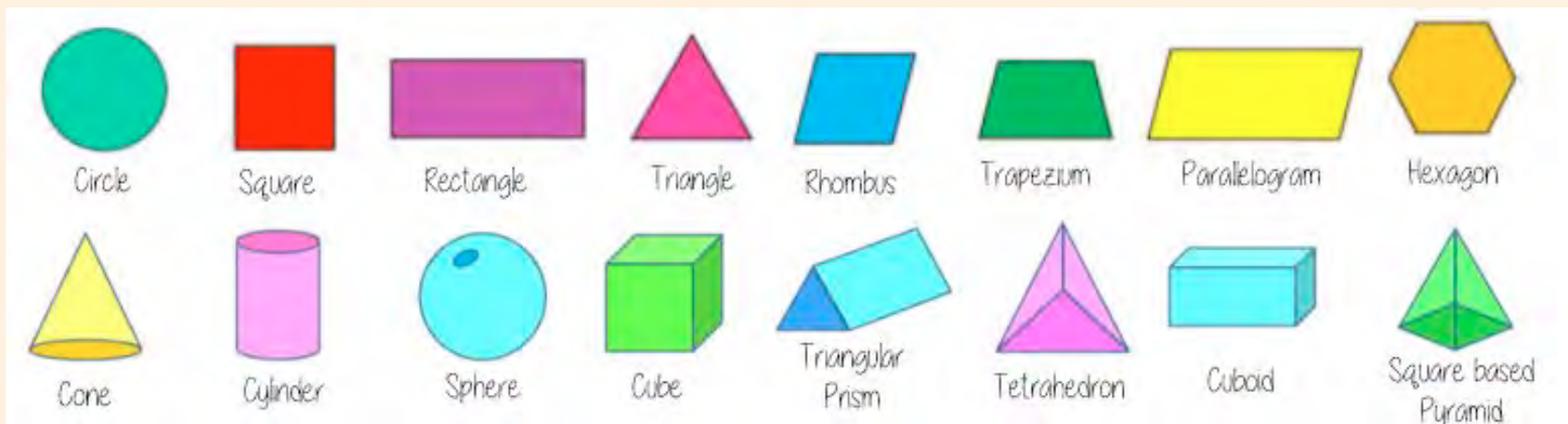
REASONING WITH ALGEBRA



| | | | |
|--------------------------|---|-------------------|--|
| Gradient | The steepness of a line | Solve | Find a numerical value that satisfies an equation |
| Intercept | Where two lines cross. The y-intercept: where the line meets the y-axis | Multiples | Found by multiplying any number by a positive integers |
| Parallel | Two lines that never meet with the same gradient | Factor | Integers that multiply together to get another number |
| Co-ordinate | A set of values that show an exact position on a graph | Prime | An integer with only 2 factors |
| Linear graphs | Linear graphs (straight line) - linear common difference by addition/subtraction | HCF | Highest common factor - biggest factor two or more numbers share |
| Asymptote | A straight line that a graph will never meet | LCM | Lowest common multiple - the first time the times table of two or more numbers match |
| Reciprocal | A pair of numbers that multiply together to give 1 | Verify | The process of making sure a solution is correct |
| Perpendicular | Two lines that meet at right angles | Proof | Logical mathematical arguments used to show the truth of a statement |
| Inequality | An inequality compares two values showing if one is greater than, less than or equal to another | Binomial | A polynomial with two terms |
| Variable | A quantity that may change within the context of the problem | Quadratic | A polynomial with four terms (often simplified to three terms) |
| Rearrange | Change the order | Substitute | Replace a variable with a numerical value |
| Inverse operation | The operation that reverses the action | | |

CONSTRUCTING IN 2 AND 3 DIMENSIONS

| | | | |
|----------------------|---|-----------------------|--|
| 2D | Two dimensions to the shape e.g. length and width | Arc | Part of a curve |
| 3D | Three dimensions to the shape e.g. length, width and height | Bisector | A line that divides something into two equal parts |
| Vertex | A point where two or more line segments meet | Locus | A set of points with a common property |
| Edge | A line on the boundary joining two vertex | Equidistant | The same distance |
| Face | A flat surface on a solid object | Discorectangle | (shape of a stadium) a rectangle with semi circles at either end |
| Cross-section | A view inside a solid shape made by cutting through it | Perpendicular | Lines that meet at 90 degrees |
| Plan | A drawing of something when drawn from above (sometimes birds eye view) | Protractor | A piece of equipment used to measure and draw angles |
| Perspective | A way to give illustration of a 3D shape when drawn on a flat surface | | |



REASONING WITH NUMBERS

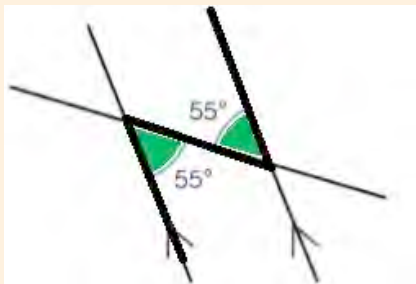


| | | | |
|---------------------------|--|-------------------|--|
| Integer | A whole number that is positive or negative or zero | Growth | To increase/ to grow |
| Rational | A number that can be made by dividing two integers | Invest | Use money with the goal of it increasing in value over time (usually in a bank) |
| Irrational | A number that cannot be made by dividing two integers | Multiplier | The number you are multiplying by (more than 1 = increasing, less than 1 = decreasing) |
| Inverse operations | The operation that reverse the action | Profit | The income take away after any expenses/costs |
| Quotient | The result of a division | Credit | Money being placed into a bank account |
| Product | The result of a multiplication | Debit | Money that leaves a bank account |
| Multiples | Found by multiplying any number by positive integers | Balance | The amount of money in a bank account |
| Factor | Integers that multiply together to get another number | Expense | A cost or outgoing |
| Percents | Parts per 100 - written using the % symbol | Deposit | An initial payment (often a way of securing an item you will pay for later) |
| Decimal | A number in our base 10 number system. Numbers to the right of the decimal place are called decimals | Per annum | Each year |
| Fraction | A fraction represents how many parts of a whole you have | Currency | The type of money a country uses |
| Equivalent | Of equal value | Unitary | One - the cost of one |
| Reduce | To make smaller in value | | |

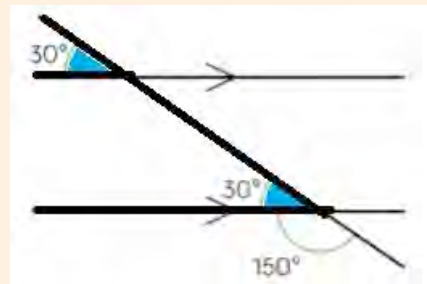
REASONING WITH GEOMETRY

| | | | |
|-----------------------|---|----------------------|--|
| Parallel | Two straight lines that never meet at the same gradient | Horizontal | From side to side |
| Perpendicular | Two straight lines that meet at 90 degrees | Vertical | From up and down |
| Transversal | A line that crosses at least two other lines | Square number | The output of a number multiplied by itself |
| Sum | The result of adding two or more numbers | Square root | A value that can be multiplied by itself to give a square number |
| Conjecture | A statement that might be true but it not proven | Hypotenuse | The largest side on a right angled triangle. Always opposite the right angle |
| Equation | A statement that says two things are equal | Opposite | The side opposite the angle of interest |
| Polygon | A 2D shape made from straight edges | Adjacent | The side next to the angle of interest |
| Counterexample | An example that disproves a statement | Invariant | A point that does not move after a transformation |
| Rotate | A rotation is a circular movement | Vertex | A point where two edges meet |
| Symmetry | When two or more parts are identical after a transformation | Regular | A regular shape has angles and sides of equal lengths |

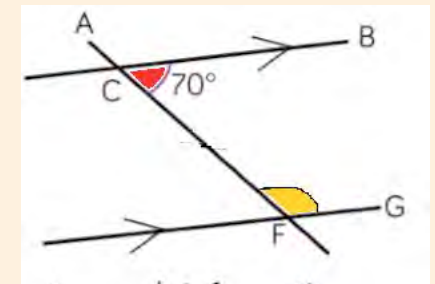
Alternate angles



Corresponding angles



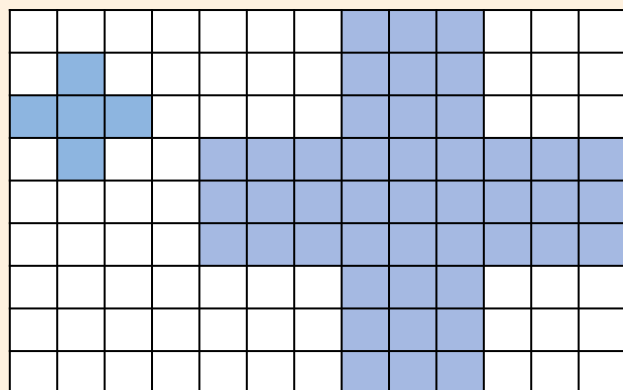
Co-interior angles



REASONING WITH PROPORTION



| | | | |
|-----------------------|--|---------------------------|--|
| Similar shapes | Shapes of different sizes that have corresponding sides in equal proportion and identical corresponding angles | Substitute | Putting numbers where letters are - replacing numbers into a formula |
| Scale factor | The multiple describing how much a shape has been enlarged | Direct proportion | As one variable is multiplied by a scale factor, the other variable is multiplied by the same scale factor |
| Enlarge | To change the size of a shape (enlargement is not always making a shape bigger) | Inverse proportion | As one variable is multiplied by a scale factor, the other is divided by the same scale factor |
| Corresponding | Objects (or sides) that appear in the same place in two similar situations | Convert | Change |
| Image | The picture or visual representation | Mass | A measure of how much matter is in an object. Commonly measured by weight |
| Proportion | A comparison between two numbers | Origin | The coordinate (0,0) |
| Ratio | A ratio shows the relative size of two variables | Volume | The amount of 3D space a shape takes up |



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

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

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

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

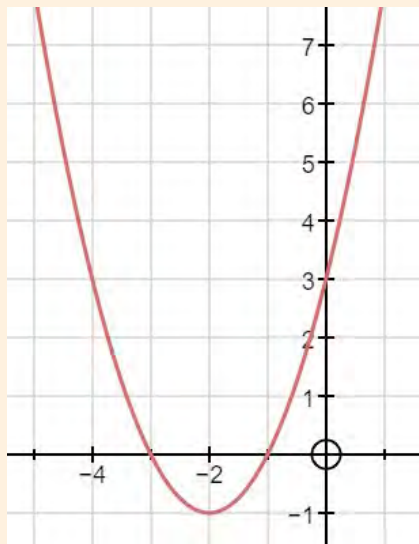
$$\text{distance} = \text{speed} \times \text{time}$$

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

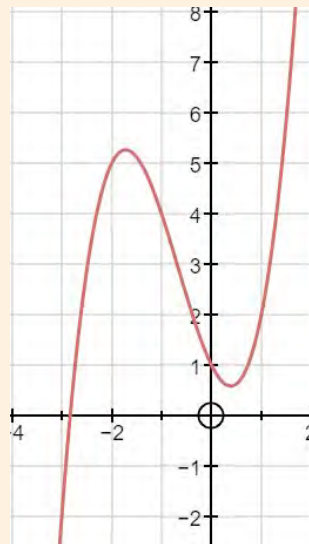
REPRESENTATIONS

| | | | |
|---------------------------|---|-------------------|--|
| Probability | The chance that something will happen | Quadratic | A curved graph with the highest power being 2 - square power |
| Relative frequency | How often something happens divided by the outcomes | Inequality | Makes a non equal comparison between two numbers |
| Independent | An event that is not affected by any other event | Reciprocal | A reciprocal is 1 divided by the number |
| Chance | The likelihood of a particular outcome | Cubic | A curved graph with the highest power being 3 - cube power |
| Event | The outcome of a probability - a set of possible outcomes | Origin | The coordinate (0,0) |
| Biased | A built in error that makes all the values wrong | Parabola | A 'u' shaped curve that has mirror symmetry |

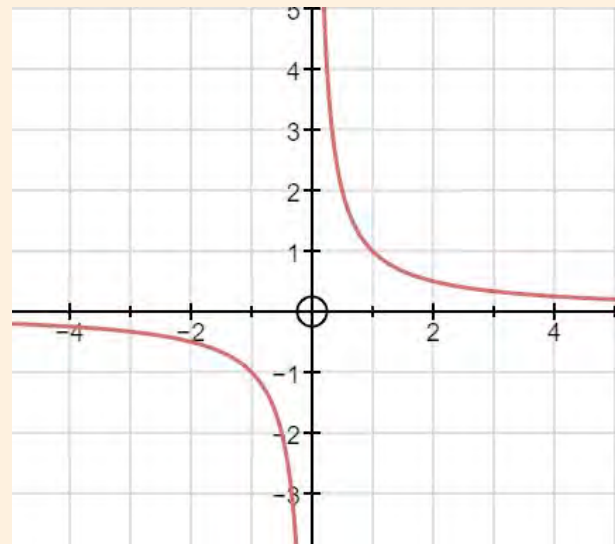
$$y = x^2 + 4x + 3$$



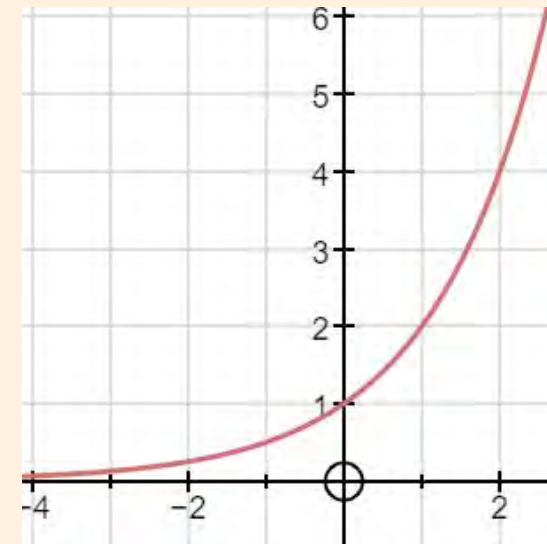
$$y = x^3 + 2x^2 - 2x + 1$$



$$y = \frac{1}{x}$$



$$y = 2^x$$



MEDIA CODES

TYPOGRAPHY

SERIF

Formal
Fancy
Traditional
Printed

SANS SERIF

Informal
Casual
Modern
Screen

Script

Personal
Handwritten
Unique

I am serif.

I am sans.

KEY TERMS

MODE OF ADDRESS is the way in which the text or images engages the audience. **DIRECT** is speaking directly to the audience or the image is looking directly at the audience. **INDIRECT** is when text and images are passive and not personal

STRAPLINE/TAGLINE is the text that gives additional meaning to the imagery - short, snappy, memorable

NEGATIVE SPACE is empty space used to focus attention, to enhance design or to allow space for text

COLOUR THEORY

ANALOGOUS are three colours that would be next to each other on the colour wheel

COMPLIMENTARY are two colours opposite to each other on the colour wheel

HUE is another word for colour

SATURATION is the intensity of the colour or hue

VALUE is the amount of lightness or darkness within the colour

BLUE authority, trust, science

GREEN nature, calm, environment

RED power, passion, courage

YELLOW optimism, youth, fresh

PINK feminine, pretty, beauty

ORANGE energy, creative, fun

BLACK mystery, sophisticated

WHITE purity, clean, innocent

TECHNICAL CODES

CAMERA

EDITING

LIGHTING

SOUND

SPECIAL EFFECTS

SYMBOLIC CODES

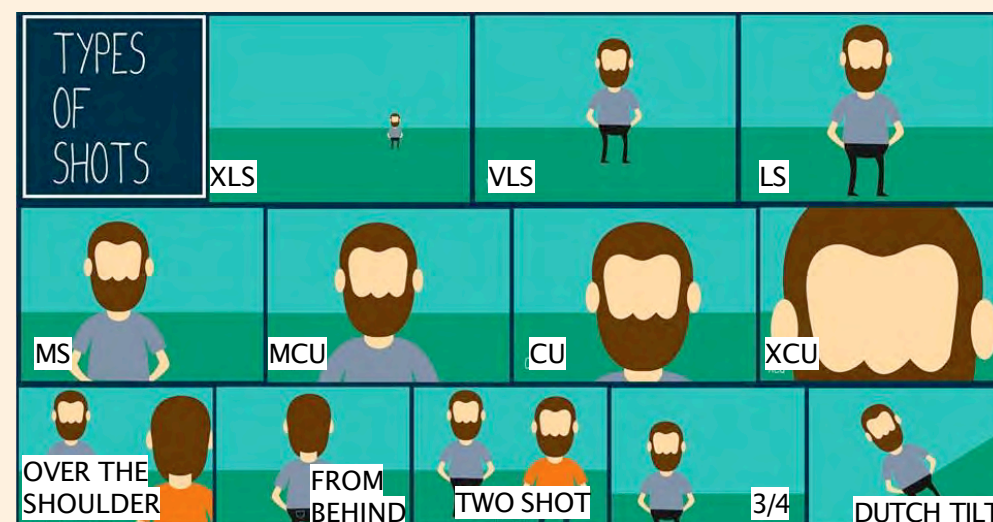
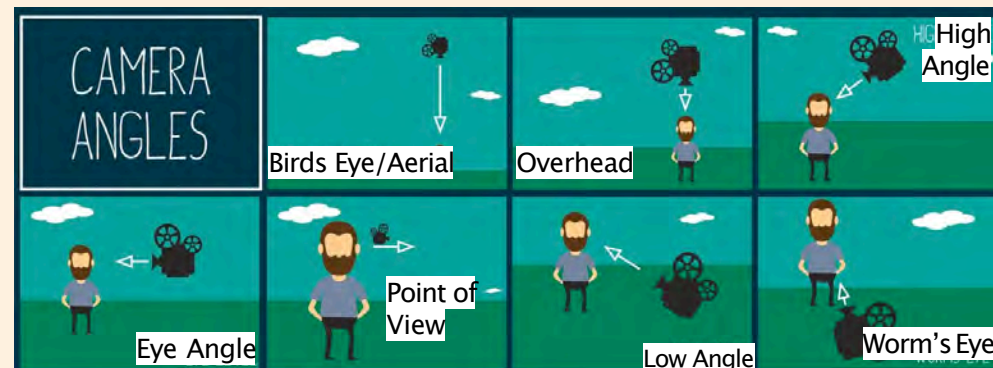
ACTING

SETTING

MISE EN SCENE

COLOUR

VISUAL COMPOSITION



SOUNDWORK VOCABULARY

DIEGETIC

Sound you can see the source of or it is implied e.g. police siren

NON DIEGETIC

Sound you cannot see and is not implied e.g. narrator

INCIDENTAL MUSIC

Music that emphasises an action or event

THEME MUSIC

Music that reinforces a brand identity

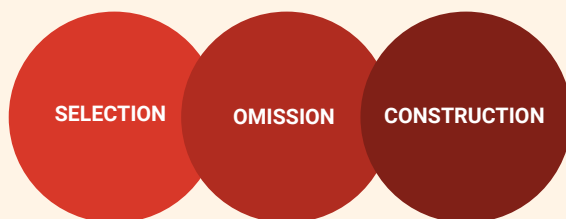
AMBIENT SOUND

Naturally occurring sounds in the environment e.g. plates clattering in cafe

CORE MEDIA THEORIES

| | |
|--------------------|--|
| GENRE | A category of media product. |
| HYBRID | A combination of genres e.g. romantic comedy. |
| SUB GENRE | A genre with a sub category e.g. superhero. |
| CONVENTIONS | Typical things that reoccur within similar genre, like a template. |

| | |
|-----------------------|---|
| DENOTATION | What you can literally see or hear e.g. chicken (animal). |
| CONNOTATION | The implied meaning e.g. chicken (someone who is afraid). |
| ENIGMA | Information withheld from the audience, creates mystery. |
| STEREOTYPE | Characterising groups under labels. |
| MISE EN SCENE | Breakdown of composition, lighting, props, location, costume and acting. |
| SEMIOTICS | The study of signs and symbols. |
| REPRESENTATION | The understanding that everything in the media is constructed/designed. Information is selected , omitted and new meanings are constructed . |



TARGET AUDIENCE

(must be specific)

- **Age Range** (e.g. 18-24)
- **Social Class** (see below).
- **Gender** (e.g. one, both).
- **Psychometrics** (e.g. Explorer).

SOCIAL CLASSES

| | | |
|----|---------------------------------|---|
| A | UPPER MIDDLE CLASS | Top level executives, celebrities, heirs, politicians. |
| B | MIDDLE CLASS | Highly educated, professionals, management roles. |
| C1 | LOWER MIDDLE CLASS | Semi-professionals with an average standard of living, good level of education. |
| C2 | SKILLED WORKING CLASS | Skilled manual jobs, average standard of living, some higher education. |
| D | WORKING CLASS | Low job security, casual work, |
| E | CASUAL/LOW GRADE WORKERS | Rely on government support, occupy poorly-paid jobs. |

PSYCHOMETRICS

| | |
|----------------------|---|
| MAINSTREAMERS | Seek security . Tend to be domestic, conformist, conventional. Favour value for money brands. The largest group. |
| ASPIRERS | Seek status . Materialistic, oriented to image and appearance, persona and fashion. Typically younger people. |
| SUCCEEDERS | Seek control . Strong goals, confidence, work ethic and organisation. Typically higher management and professionals. |
| RESIGNED | Seeks survival . Rigid beliefs. Interested in past and tradition. Typically older people. |
| EXPLORERS | Seeks discovery . Energy, individualism, and experience. Values difference and adventure. Typically a younger demographic (students) |
| STRUGGLERS | Seeks escape . Disorganised, few resources. Buys lottery tickets. Typically lower demographics. |
| REFORMERS | Seeks enlightenment . Freedom from restrictions and personal growth. Social awareness and independent judgement. Anti-materialistic but aware of good taste. |

POWER OF MEDIA

POLITICAL IDEOLOGIES

| | |
|-------------------|---|
| COMMUNIST | A system of government in which the state <u>plans</u> and <u>controls</u> the economy and a <u>single</u> -- often authoritarian -- <u>party holds power</u> ; state controls are imposed with the elimination of private ownership of property or capital while claiming to make progress toward a higher social order in which all goods are equally shared by the people (i.e., a classless society). |
| CAPITALISM | An economic and political system in which a country's trade and industry are controlled by private owners for profit, rather than by the state. |
| SOCIALISM | A government in which the means of <u>planning, producing and distributing goods</u> is controlled by a central government that theoretically seeks a more <u>just and equitable distribution</u> of property and labour. |

AUDIENCE THEORIES

| | |
|---------------------------------|---|
| HYPODERMIC NEEDLE MODEL | Audience receive and accept messages without challenge. |
| TWO STEP FLOW | People form opinions influenced by opinion leaders, who in turn are influenced by mass media. |
| USES & GRATIFICATION | Audience consumes media products to fulfill one of four needs; Diversion (escape from reality), Personal Relationships (create emotional interactions), Personal Identity (reflecting yourself in media), Surveillance (Information useful in life) |
| RECEPTION THEORY | Producer's encode meaning and audience decode meanings. |

LANGUAGE USED IN THE NEWS

| | |
|------------------------|---|
| SENSATIONALISM | Controversial, provocative, attention-grabbing. Engages the audience but isn't always factual. Can be considered biased. Stories may be manipulated. May offend people. |
| PUNS | Play on words to create a humorous impact. Catches attention. People might discuss/share it. |
| ALLITERATION | Repeating the same sound at the beginning of two or more words. To attract the audience. |
| HYPERBOLE | Over exaggerated. Blown out of proportion. To attract attention. |
| PERSONALISATION | Typically used with celebrities. Uses their first or last names in the headline. Creates a sense of personal involvement. |

IDEOLOGY

A system of ideas and ideals, especially one which forms the basis of economic or political theory and policy.

HOW TO SPOT FAKE NEWS

HOW TO FIND CREDIBLE SOURCES

- 1. CONSIDER THE SOURCE**
Click away from the story to investigate the site, its mission and its contact info.
- 2. READ BEYOND**
Headlines can be outrageous in an effort to get clicks. What's the whole story?
- 3. CHECK THE AUTHOR**
Do a quick search on the author. Are they credible? Are they real?
- 4. SUPPORTING SOURCES?**
Click on those links. Determine if the info given actually supports the story.
- 5. CHECK THE DATE**
Reposting old news stories doesn't mean they're relevant to current events.
- 6. IS IT A JOKE?**
If it is too outlandish, it might be satire. Research the site and author to be sure.
- 7. CHECK YOUR BIASES**
Consider if your own beliefs could affect your judgement.
- 8. ASK THE EXPERTS**
Ask a librarian, or consult a fact-checking site.

ANARCHISM COMMUNISM SOCIALISM LIBERALISM CONSERVATISM AUTOCRACY FACISM

LEFT WING RIGHT WING

Food and Food Banks

Food and drink

Le petit-déjeuner = breakfast
Le déjeuner = lunch
Le dîner = dinner/tea

Les pâtes (fpl) = pasta
Les boîtes de... = tins of...
Les légumes = vegetables
Le pain = bread
La pizza = pizza / les frites = chips
La viande = meat
Les produits frais = fresh produce
La confiture = jam
Les oeufs = eggs / La farine = flour

L'eau (f) – water
Le café / le thé = coffee / tea
Le jus d'orange / le coca = orange juice/cola

Useful verbs & verb phrases

Aller = going/to go

Je vais / il va/ nous allons = I go / he goes / we go

Je suis allé(e) = I went

Je vais aller = I'm going to go

Faire du bénévolat = to do/doing some volunteer work

J'ai fait = I did

Je vais faire = I'm going to do

manger = eating/to eat **boire = drinking/to drink**

J'ai mangé = I ate J'ai bu = I drank

Je vais manger / boire = I'm going to eat / to drink

Il y a – there is/are

Il n'y a pas de = there isn't/aren't

C'est / ce n'est pas... - it's /it's not...

C'était / ce n'était pas = it was/wasn't

Ce sera /ce ne sera pas = it will be/it won't be

| | |
|--|--|
| Il faut avoir des /J'ai besoin de produits comme... | You must have/I need products like.... |
| Je suis allé(e) à la banque alimentaire et j'ai choisi... | I went to the food bank and I chose... |
| Quand j'étais petit(e) j'étais... | When I was little I was... |
| Je m'entends bien /me dispute/me chamaille/m'amuse avec | I get on well/argue/bicker/have fun with |
| On fête/mange/boit/décore/va/cherche/porte | We celebrate/eat/drink/decorate/go/look for/wear |

Adjectives

pratique/utile - practical/useful
triste = sad
sérieux/grave = serious
délicieux = delicious
savoureux = tasty
Sain(e) / malsain(e) = healthy/unhealthy

How to say a/the/some

| | Feminine | Masculine | Starts with vowel | Plural |
|------|----------|-----------|-------------------|--------|
| The | la | le | l' | les |
| A | une | Une | un/une | (des) |
| Some | de la | du | de l' | des |

Comparisons

plus que = more.... than
Le pain est plus savoureux que l'eau =
Bread is more tasty than water

Moins... que = less... than
Le pain est moins savoureux que l'eau =
Bread is less tasty than water

Donner = giving/to give

J'ai donné = I gave

Je vais donner = I'm going to give

Être - being/to be

Je suis = I am

J'étais = I was

Je vais être = I'm going to be

Useful adverbs

Maintenant = now
Dans l'avenir = in the future
Quelquefois – sometimes

Toujours = always
Rarement = rarely
Souvent = often

Jobs and Employment



| | |
|---|--|
| <u>Quand</u> je suis plus âgé(e) je voudrais être / je veux travailler comme | When I am older I would like to be / I want to work as |
| Après mes examens, j'irai à l'université/à la fac/je ferai un apprentissage | After my exams I will go to university/do an apprenticeship |
| Je veux gagner beaucoup d'argent/un bon salaire/me marier/me pacser/ voyager /visiter d'autres pays | I hope to earn a lot of money/a good salary/get married/enter into a civil partnership/ to travel /visit other countries |

Additional Show Off Phrases

ce qui me plaît = which pleases me

ce qui me stresse = which stresses me

Je l'aime = I like it
Je les aime = I like them

Useful adjectives

(bien) organisé(e) = (well) organised
ambitieux/euse = ambitious
créatif/ve = creative
indépendant(e) = independent
motivé(e) = motivated
fatigant = tiring
monotone = monotonous
Barbant = (deadly) boring
bien-payé = well paid
mal-payé = badly paid

Negatives (the sandwich structure)

Ne...pas = not/don't
Ne...plus = no longer
Ne... jamais = never
Ne...rien = nothing

Job vocabulary

Infirmier/infirmière = a nurse
Médecin = doctor
professeur = a teacher
instituteur/institutrice = primary school teacher
agent de police = police officer
gardien(ne) d'enfants = childminder
facteur/factrice = postman
comptable = accountant
pompier/pompière = firefighter
le patron/la patronne = the boss
créateur/créatrice de mode = fashion designer

mes atouts = my strengths
mes compétences = my skills
un métier/un emploi = a job
doué(e) = talented

Additional verbs/verb phrases

Passer **mes** examens = to take my exams
Réussir **mes** examens = to pass my exams

Postuler à un emploi = to apply for a job
Améliorer = to improve

Être à la mode/avoir du swag = to be fashionable
Risquer = to risk
Souffrir** de l'anxiété = to suffer with/from anxiety (irregular verb)

Modal Verbs

Pouvoir = to be able to (can)
Je peux = I can
On peut = you can

Vouloir = to want
Je veux = I want

Devoir = to have to (must)
Je dois = I have to / I must

Clothing

Les vêtements = clothes

Porter = wearing/to wear
Je porte = I wear
Nous portons = we wear
Ils portent = they wear
J'ai porté = I wore
Je vais porter = I'm going to wear

les vêtements tendances = on trend clothes

Un pull vert = a green jumper
un jean chez Armani - Armani **jeans**
des baskets de marque = designer trainers

Un collant = tights/leggings

Un pantalon noir = black trousers

le tissu = material

une jupe en cuir = a leather skirt

une chemise à pois = a spotty shirt

un sweat à capuche de marque Nike = a Nike hoodie

Writing and talking about jobs

In French you have to leave out the word for 'a' which is un/une when you write and talk about jobs.

Je suis prof (no word for 'a')
I am A teacher

Je veux devenir médecin (no word for 'a')
I want to be A doctor

Home and Area

| | |
|--|---|
| En mi dormitorio hay una cama pero no hay armario | In my bedroom there is a bed but there isn't a wardrobe |
| Fui a la casa de mi amigo español y lo pasé genial | I went to my Spanish friend's house and had a good time |
| El apartamento no tiene suficientes habitaciones | The apartment doesn't have enough rooms |
| Cuando era pequeño/a/cuando tenía...años vivía en... | When I was little /when I was...years old I used to live in... |
| Ahora vivo en una granja con muchos animales | Now I live on a farm with lots of animals |
| Cuando sea mayor me gustaría vivir en un castillo | When I am older I would like to live in a castle |
| La casa de mis sueños sería ... | The house of my dreams would be ... |
| En el centro de la cocina hay una mesa y 4 sillas grandes | In the middle of the kitchen there is a table & 4 big chairs |
| Me acuesto a las diez de la noche | I go to bed at 10 at night |

Adjectives to describe home & rooms

práctico/útil = practical/useful
 moderno/antiguo = modern/old
 cómodo/incómodo = (un)comfortable
 grande/pequeño/a = big/small
 azul/rojo/verde/amarillo =
 blue/red/green/yellow
 rico/pobre = rich/poor

Additional time phrases

En el pasado = in the past
 Cuando **era** pequeño/a = when I **was** small

En el futuro = in the future
 Cuando sea mayor = when I am older

ahora = now

Houses and rooms & furniture

Una casa adosada = a semi detached house

Una finca = a farm/country house
 Un piso = a flat
 Una habitación = a room
 Un dormitorio = a bedroom
 Un cuarto de baño = a bathroom
El/un salón = the/a living room
 Un comedor = a dining room
Una/la cocina = **A/the** kitchen
 Un pasillo = a hallway
 Un jardín = a garden

A la izquierda/a la derecha = to the right/to the left
 En el centro = in the centre
 Delante de/detrás de = in front of/behind
 lejos de/Cerca de = far from/ near to
 al lado de/entre = next to/ between
 Sobre/encima de = on top of
 debajo de = underneath
 Está/n = it is/ they are (location)

Prepositions

Un oso de peluche = a teddy
 Un armario = a wardrobe
 Un ordenador/portátil/una tableta =
 a computer/laptop/tablet
 Una mesa = a table
 Una silla/un sillón = a chair/a sofa
 Una cama = bed
Unas estanterías = **some** shelves
 Una lámpara = lamp
 Una ventana/una puerta = a
 window/a door

Conditional tense - how to say 'would'

Add these endings to the infinitive:
 yo(I) = ía
 Tú (you) = ías
 el/ella (he/she) = ía
 Nosotros (we) = íamos
 Vosotros (you) = íais
 ellos/ellas (they) = ían

Useful verbs

Hay = there is/are

No hay = there isn't/aren't

Es/no es... = it's /it's not...

Ir = going/to go

Tener = having/to have

Hacer (los deberes) = doing/to do (HWK)

Salir = going out/to go out

Comer = eating/to eat

Dar = to give

Comprar = buying/to buy

Cocinar = cooking/to cook

Trabajar = to work

Desayunar = to eat breakfast

Despertarse* = to wake up

Me despierto = I wake up

Levantarse = to get up

Me levanto = I get up

Ducharse = to shower

Me ducho = I shower

Celebrations Past & Future

| | |
|--|---|
| El nueve de febrero voy a celebrar mi cumpleaños | On the 9th of February I'm going to celebrate my birthday |
| Si hace calor, voy a ir a la costa para nadar en el mar | If it is hot, I'm going to go to the coast to swim in the sea |
| Cuando sea mayor quisiera celebrar la Nochevieja en Ibiza | When I am older I would like to celebrate NYE in Ibiza |
| Fui a un festival de música cerca de Madrid ¡ Lo pasé bomba! | I went to a music festival near Madrid. I had a great time! |
| Cuando era pequeño/a no me gustaba el día de los muertos | When I was little I didn't like the day of the dead |
| Hago mucho para ayudar mis padres en casa por ejemplo... | I do a lot to help my parents at home for example... |
| El Domingo de Pascuas siempre voy a la iglesia | On Easter Sunday I always go to church |

Making future tense

Remember V = B sound!

Voy a = I'm going

Vas a = you're going

Va a = he/she/it's going + infinitive verb

Vamos a = we're going

Van a = they're going

Making preterite (past) tense

Verbs ending in ar

Remove ar and add:

Yo (I) = é tú (you) = aste

el/ella (he/she) = ó nosotros (we) = amos

Vosotros (you) = asteis

Ellos/ellas (they) = aron

Verbs ending in er and ir

Yo (I) = i tú (you) = iste

el/ella (he/she) = ió nosotros (we) = imos

Vosotros (you) = isteis

Ellos/ellas (they) = ieron

Infinitive verbs

Ver = to see

Ser = to be

Tener = to have

Comprar = to buy

Viajar = to travel

Llevar = to wear

Bailar = to dance

Comer = to eat

Beber = to eat

Hacer = to do

Cocinar = to cook

Cantar = to sing

Time expressions

Future

La semana que viene/la próxima semana = next week

Mañana = tomorrow

En el fin de semana = at the weekend

En verano = in summer

Past

La semana pasada = last week

Ayer = yesterday

El fin de semana pasado = last weeknd

En invierno = in winter

More useful past tense

Fui = I went Fue = he/she went

Fuimos = we went Fueron

era = I was, he/she was

Me gustaba = I used to like / I liked

Me encantaba = I used to love / I loved

Detestaba = I used to hate / I hated

Celebrations

El Domingo de Pascuas = Easter Sunday

La Nochebuena = Christmas Eve

La Navidad = Christmas

Cantar villancicos = sing carols

La Nochevieja = New Year's Eve

Comer 12 uvas = eat 12 grapes

El Día de Muertos = day of the dead

Decorar la tumbas = decorate the graves



Musical Styles and Composition



| | | |
|--|--|--|
| | | |
|--|--|--|

Performance Directions

Dynamics:

ff - Fortissimo - Very Loud
 f - Forte - Loud
 mf - Mezzoforte - Moderately Loud
 mp - Mezzopiano - Moderately Soft
 p - Piano - Soft
 pp - Pianissimo - Very Soft
 cresc. - Crescendo - Gradually getting louder
 dim. - Diminuendo - Gradually getting softer
 sfz - sforzando - A note played suddenly loud to give emphasis

Tempo:

Vivace - Lively and Fast
 Presto - Very Fast
 Allegro - Fast
 Andante - Walking Pace
 Lento - Slowly
 Largo - Slow and stately
 Accel. - Gradually getting faster
 Rall. - Gradually getting slower

General:

Staccato - Note played short and detached
 Legato - Note(s) played smoothly
 Accent - Play the note with additional force
 Fermata (Pause) - note should be held longer than its usual duration

Structure

Binary - 2 Sections AB **Ternary** - 3 Sections ABA **Rondo** - 5 Sections ABACA

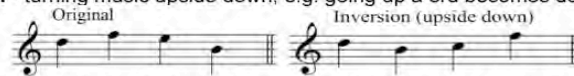
Strophic - Song structure, intro, verse 1, chorus etc.

Theme and Variations - original theme, variation 1, variation 2 etc.

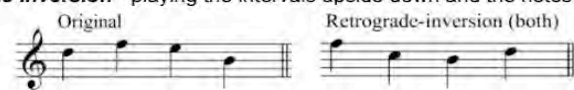
Sonata form - Exposition (main idea), development (progression), recapitulation (return to the main idea), coda (ending)

Composition techniques

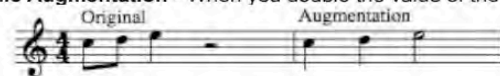
Inversion - turning music upside down, e.g. going up a 3rd becomes down a 3rd



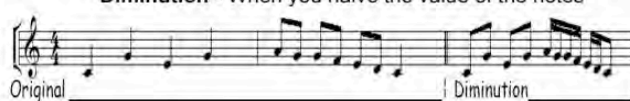
Retrograde Inversion - playing the intervals upside down and the notes in reverse



Rhythmic Augmentation - When you double the value of the notes



Diminution - When you halve the value of the notes



Musical Genres

1930's & 40's

Jazz - coming out of the southern states of America characterised by swing and blue notes, call and response vocals and improvisation

1950's

Rock and Roll - using some of the characteristics of blues music, Rock and Roll utilises guitars, drums and keyboards along with gospel esque vocals

1960's

Psychedelia - The Beatles revolutionised music by using new recording techniques such as multitrack recording to accompany the indian instruments on the album.

1970's

Disco - This genre was born for the American nightclub scene and included high pitched, falsetto vocals, synthesisers and four on the floor beats.

1980's

New Wave - A poppy style of music that adds synthesisers to the musical makeup.

1990's

Britpop - Bands like Oasis and Blur added lyrics about everyday life to strummed guitar chords and drum beats.

2000's

EDM - DJ's remix and sample tracks from other genres and add it to synth beats to create modern dance music.



| Definitions | Physical benefits of activity and sport | Social benefits of activity and sport | Emotional benefits of activity and sport |
|--|--|---|---|
| <p>Health – State of complete <u>physical, social, emotional</u> well-being.</p> <p>Fitness – The body's ability to function <u>efficiently and effectively</u> to meet the demands of the environment.</p> <p>Well-being – Positive, mental state of being <u>positive and happy</u>.</p> <p>Sedentary – Inactive. Spending a large proportion of the day <u>sitting down or not exercising</u></p> | <ul style="list-style-type: none"> • Prevents injury – Increases flexibility and stability of joints • Decreases the risk CHD and high blood pressure. • Increases and maintains bone density. • Prevents obesity and type 2 diabetes. • Increases fitness and maintains good posture. | <ul style="list-style-type: none"> • Increase friendship groups – Meeting new people and sharing experiences at sports clubs. • Increase sense of belonging – Being part of a team. • Socially active – Increase opportunities for social events. | <ul style="list-style-type: none"> • Increase self esteem and confidence – Elevates mood and releases endorphins. • Good stress management – Distraction from work or school. • Positive body image – Happy with your physique raises self esteem |

| Rules/regulations | | Sporting contexts | |
|-------------------|--|-------------------|--|
| Netball | 1. Obstruction – The defender must be 1m away from the player with the ball | Key term | Definition |
| | 2. Replaying the ball – Once the ball has been fully controlled, a player cannot regain possession of the ball. | Invasion | To invade an opponent's territory in an attempt to score points and keep the opponents score to a minimum. |
| Badminton | 1. Over head clear – A defensive shot played to send the shuttlecock to the back of the court. | Attack | The action of attacking an opposing team with the objective of scoring points or goals. |
| | 2. Drop shot – An attacking shot played to the front of the court with the aim to win a point. The shuttle is placed just over the net. | | |
| Rugby | 1. Passing - The ball must be passed laterally when running forwards. 2. Running with the ball – The player with the ball aims to attack space to get nearer to thy try line. | Defence | Defence is the action of preventing an opponent from scoring. |

Types Of Training



| Continuous training | | Fartlek training | | Interval training | | Circuit training | |
|---|--|---|--|---|--|---|--|
| <p>Steady state, low moderate intensity exercise for a prolonged period of time.</p> <ul style="list-style-type: none">• Practical example- Jogging, swimming, cycling, rowing for longer than 20 minutes at a time.• Sports - Marathon runner, cross country runner, long distance swimmer.• Fitness benefits – Improves cardiovascular endurance and muscular endurance. | | <p>Continuous steady state aerobic exercise with random higher intensity periods. Speed play</p> <ul style="list-style-type: none">• Practical example – Hill running and jogging with fast sprints.• Sports - Games players (footballers, rugby players, netball players, hockey players)• Fitness benefits – Improves cardiovascular endurance, speed and anaerobic fitness. | | <p>Periods of exercise followed by periods of rest.</p> <ul style="list-style-type: none">• Practical example – Sprinting followed by walking as a rest period. Rowing followed by rest.• Sports - Sprinters and games players• Fitness benefits - Improves aerobic and anaerobic fitness (depending on the intensity of the interval training) | | <p>A series of exercise stations arranged in a specific order, usually to alternate muscle groups.</p> <ul style="list-style-type: none">• Practical example – Star jumps, burpees, press ups, sit ups, bicep curls, squats• Sports - Any athlete can create a circuit to match their sporting requirements• Fitness benefits - Improves aerobic and anaerobic fitness | |
| Weight training | | Plyometric training | | HIIT training | | | |
| <p>Series of exercises organised in to sets of repetitions Use of free weights or machine weights.</p> <ul style="list-style-type: none">• Practical example – Bicep curls, bench press, shoulder press• Sports - Rugby players, Weight lifter, shot putter, discus thrower• Fitness benefits – Increases strength, power and muscular endurance. | | <p>Series of explosive exercises to improve the speed of muscle contractions.</p> <ul style="list-style-type: none">• Practical example – Hopping, bounding and jumping• Sports - Sprinters, high jumpers, triple jumpers , throwers (Athletics)• Fitness benefits - Strength, power and flexibility . | | <p>Repeated high periods of high intensity exercise, followed by varied recovery times.</p> <ul style="list-style-type: none">• Practical example – Sprint training, hill climbing, sprint cycling (Spinning)• The interval intensity should be between 80 – 95% max HR;• Fitness benefits - Improves cardiovascular endurance, power, muscular endurance, speed | | | |
| Rules/regulations | | | | Sporting contexts | | | |
| <u>Football</u> | | 1. Yellow card offences - A yellow card is shown for Unsporting behaviour, foul play, simulation, denying a goal-scoring opportunity and dissent. Red card offences - A red card is shown for serious foul play or violent conduct | | <u>Key term</u> | | <u>Definition</u> | |
| | | | | <u>Agility</u> | | The ability to <u>change direction at speed</u> | |
| | | | | <u>Strength</u> | | The ability of the muscles to <u>exert a force</u> | |
| <u>Cross Country</u> | | 1. Course Route - Routes will vary in distance depending on the level of competition, schools events will usually be a distance of 5KM. | | <u>Muscular Endurance</u> | | The ability of a <u>group of muscles</u> to <u>repeatedly contract</u> without tiring | |

Effects Of Exercise On The Body



| Short term - Muscular | Short term - Cardiovascular | Short term - Respiratory |
|--|---|---|
| <ul style="list-style-type: none"> Increased <u>muscle temperature</u> and <u>flexibility</u> at the joint Increased <u>production of lactic acid</u> - increased <u>muscle fatigue</u>. | <ul style="list-style-type: none"> Increased heart rate (bpm) Max Heart Rate = 220 - age Stroke volume increases - volume of blood ejected from the left ventricle each beat (ml) Cardiac output increases (Volume of blood ejected from the left ventricle each minute). | <ul style="list-style-type: none"> Increased <u>breathing rate</u> and <u>depth of breathing</u> Increased <u>tidal volume</u> (Volume of air inspired or expired in one breath and minute ventilation (Volume of air inspired or expired each minute)) Increased volume of <u>oxygen to muscles</u> |

| Long term - Skeletal | Long term - Muscular | Long term - Cardiovascular | Long term - Respiratory |
|--|---|---|---|
| <ul style="list-style-type: none"> Increased bone density - reduced chance of osteoporosis. Weight bearing activity increases bone density. | <ul style="list-style-type: none"> Hypertrophy of muscles - increase in size and strength Resistance to fatigue improves Muscular strength, power and endurance improves | <ul style="list-style-type: none"> Hypertrophy of the heart - the heart muscle <u>increases</u> in size and strength. Becomes <u>more efficient</u>. Decreased resting heart rate - more blood can be ejected per beat, so the heart <u>does not need to beat</u> as often. | <ul style="list-style-type: none"> Increased aerobic capacity - can breathe in and <u>transport oxygen</u> more efficiently. Increased strength of respiratory muscles (diaphragm and intercostal muscles) - increased force of contraction leads to <u>increased volume</u> of chest cavity and lung volumes |

| Rules/regulations | | Sporting contexts | |
|----------------------------------|---|------------------------|--|
| <u>Cricket</u> | 1. Leg Before Wicket (LBW) - A batter can be out if the ball hits their pad when the ball is pitched in line with the wickets | <u>Key term</u> | <u>Definition</u> |
| | | Reaction time | The time taken from the <u>stimulus</u> to the start of a <u>response</u> |
| <u>Rounders/ Softball</u> | 1. Backwards Hit - When the ball is hit behind the line the batter is allowed to run to the 1st post but is not allowed to continue until the ball is back in play | Coordination | The ability to use different body parts together <u>accurately</u> and <u>fluently</u> |
| | | Overload | To make a task more <u>difficult or challenging</u> over time |

THE BASICS part 1 - Year 9 Photography

PHOTOGRAPHY GLOSSARY - WORD BANK

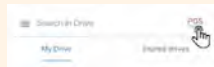
COMPOSITION / TEXTURE / GRAIN / TONE / CROPPING / CONTRAST / FOCUS / DARK / SPACE / MACRO / FOREGROUND / BLUR / TRIPOD / SHUTTER SPEED / GRADIENT / RESOLUTION / RULE OF THIRDS / F-STOP / DEPTH OF FIELD / SATURATION / LENS / APERTURE / MIDDLEGROUND / EXPOSE / CONTACT SHEET / FOCAL POINT / PAN / PANORAMIC / UNDER EXPOSED / WIDE - ANGLE / PHOTOSHOOT / EXPERIMENTAL / VISUAL ANALYSIS / BACKDROP / SCOPE

UPLOADING PHOTOGRAPHS TO GOOGLE DRIVE

STEP 1 - Download the App from your phones app store



STEP 2 - Open the App and sign in using your school login credentials



STEP 3 - Press on the files icon at the bottom and then on the + icon



STEP 4 - Create the folders you need



STEP 5 - Click on the + again and then choose 'upload photos'

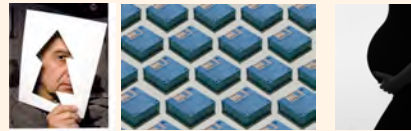


STEP 6 - Allow drive access to your photos

VISUAL ELEMENTS



LINE - vertical, horizontal, diagonal, or curved. Short or tall, thick or thin. Lead you away, or move you forward in an image.



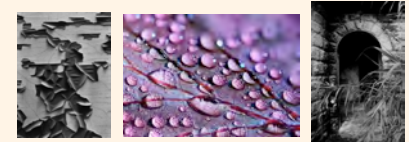
SHAPE - Needs to be in strong contrast with its surroundings so that it is detached from the clutter



LIGHT & SHADOW - create abstract or anonymous silhouettes. Especially in monochrome with high contrast lighting.



COLOUR - value, hue, and saturation. Different colours can send out different messages.



TEXTURES - accentuated by the side light of early mornings or early evenings, or by overhead light when the sun is high in the sky.

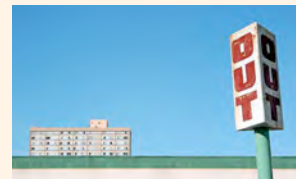


DEPTH - Depth of field is the distance between the closest and farthest objects in a photo that appears sharp.

BALANCING ELEMENTS



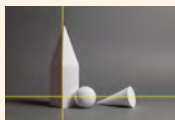
GROUPING



VIEWPOINT



S SHAPE



L - SHAPE



RULE OF THIRDS



DIAG-ONALS

RADIATING LINES

COMPOSITION



LEADING LINES



SYMMETRY

DEPTH

FRAMING



GOLDEN RATIO

THE BASICS part 2 - Year 9 Photography

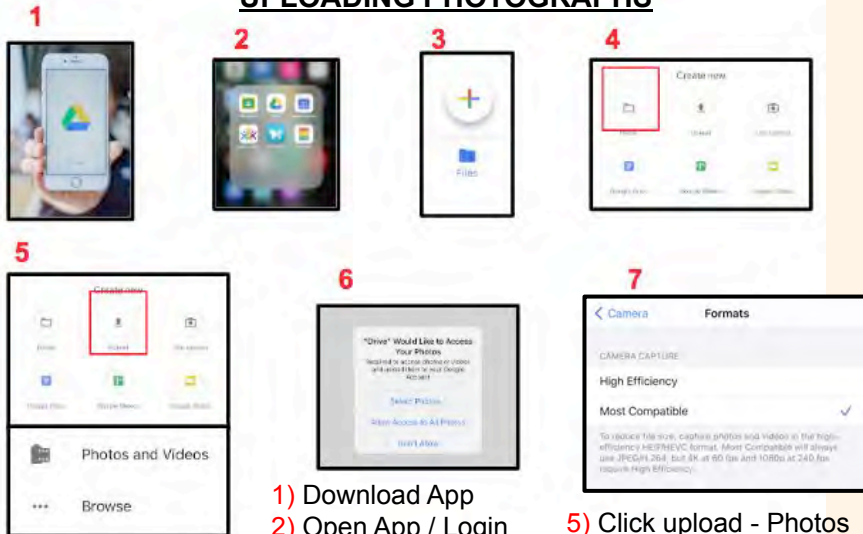
USING A CAMERA

- 1) Shutter Release button
- 2) Mode Dial (for Auto/Manual)
- 3) Settings Dial
- 4) On/Off switch
- 5) Flash Button



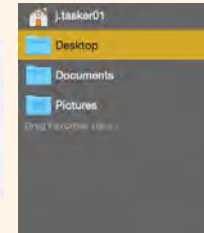
- 6) Display button (look at settings)
- 7) LED screen view (for TRIPOD)
- 8) Viewfinder
- 9) Playback button
- 10) Menu button

UPLOADING PHOTOGRAPHS



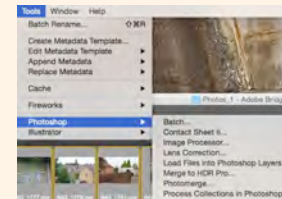
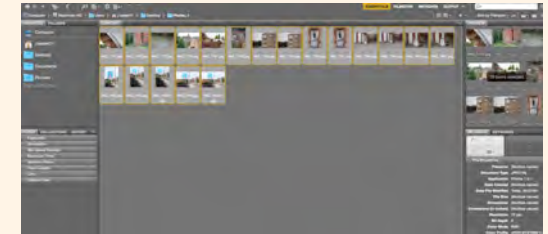
- 1) Download App
- 2) Open App / Login
- 3) Files then Plus icon
- 4) Create folder
- 5) Click upload - Photos
- 6) Allow access to photos
- 7) Change to JPEG

CREATING CONTACT SHEETS - ADOBE BRIDGE



- 1) Having successfully downloaded your pictures from your Camera. Load up **Adobe Bridge** and select your **Desktop** (on the left hand side)

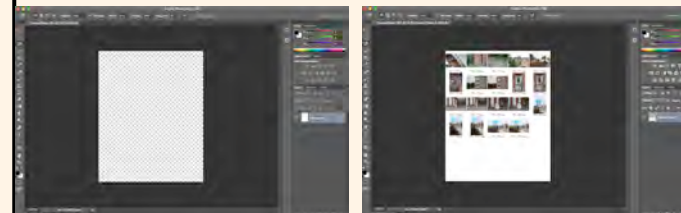
- 2) Once you have selected your **Desktop**, find the **folder** containing your images from your shoot. Hold down **cmd** and **click** on the images you want in your contact sheet



- 3) On the top bar go up to **'Tools' > 'Photoshop' > 'Contact Sheet II'** and click (this will load up Photoshop)

- 4) On Photoshop, this message will come onto your screen. Halfway down just make sure you change the **Resolution** to **'pixels/inch'**

Units > cm / Width: 20.32 / Height: 25.4 / Resolution: 300 pixels/inch



- 2) Be patient; this screen will start to load up. **Do not click anything** until you can see your image thumbnails. **This is what your contact sheet should eventually look like**
Save to **Desktop** and the **Format** should be **JPEG**.



PSHE- Behaving to Achieve & Financial consumerism

| Term 1a: Behaving to Achieve | | Term 1a: The Equality Act 2010 |
|---------------------------------------|---|---|
| Investment: | the idea of doing something that may make life a tiny bit harder now, in order to reap much bigger benefits in the future | 9 protected characteristics: <ul style="list-style-type: none"> • Age • Disability • Gender Reassignment • Race • Religion & Belief • Sex • Sexual Orientation • Marriage & Civil Partnership • Pregnancy and Maternity |
| Self Managers: | being someone who takes control of their own behaviour, failures and successes and does not blame or credit others for their actions | |
| Prejudice: | judging someone without knowing them, on the basis of what they look like or what group they belong to, for example all black people are good dancers | |
| Discrimination: | the unjust or prejudicial treatment of different categories of people, especially on the grounds of race, age, or sex | |
| The Equality Act 2010: | an Act of Parliament of the United Kingdom with the primary purpose of consolidating, updating and supplementing the numerous prior Acts and Regulations, that formed the basis of anti-discrimination law in Great Britain | Term 1a: Growth Mindset: The Power of Yet I can't do this... yet This doesn't work... yet I don't get it... yet I don't know... yet It doesn't make sense... yet I'm not very good at this... yet |
| Fixed Mindset: | when people believe that qualities like intelligence and ability are essential, stable and do not change over time | |
| Growth Mindset: | when people believe that qualities such as intelligence and ability are not fixed and can grow over time in the right conditions. | |
| Term 1b: Finance and Being a Consumer | | Term 1b: 8 Get Out of Debt Steps |
| Interest: | the extra amount you pay on the money you have borrowed (according to a set interest rate) | <ol style="list-style-type: none"> 1. Commit to a goal – decide to make lifestyle changes and maintain discipline 2. List your debt 3. Start tracking spending 4. Create a budget 5. Add your debt to budget 6. Begin a repayment plan 7. Strictly follow the budget 8. Earn more money |
| Short-term Loans: | tend to be easy to take out by have higher interest rates as you are supposed to pay them back quickly | |
| Long-term Loans: | hard to take out but generally better deals with lower interest rates and are paid back over months or even years | |
| Credit Score: | a number, available to all lending companies, which indicates how reliable you are to lend money to | |
| Debt: | a sum of money that is owed or due | |
| Consumer Rights: | the rights you are entitled to as a consumer of goods or services. For example, the right to a refund on faulty goods | |
| Sustainability: | the idea of living in a way that can maintained in the long term. We talk about 'sustainability' in terms of looking after our environment | |



PSHE- Personal Safety & Rights/ Responsibilities

| Term 2a: Our Health and Personal Safety: | | Class | Drug | Possession | Supply |
|--|--|---|---|--|---|
| Alcohol: | a chemical which is put in drinks and changes how people behave | A | Crack cocaine, cocaine, ecstasy (MDMA), heroin, LSD, magic mushrooms, methadone, crystal meth | Up to 7 years in prison, unlimited fine, or both | Up to life in prison, unlimited fine or both |
| Legalisation: | the process of making something legal to use | | | | |
| Possession: | where you get caught with drugs that you're going to use yourself | | | | |
| Supply (Dealing): | if you're caught with drugs and it looks like you've bought them to sell, or give to your friends, you could be charged with 'possession with intent to supply' or 'supplying drugs' | B | Amphetamine, barbiturates, cannabis, codeine, ketamine, methylphenidate (Ritalin), synthetic cannabinoids, synthetic cathinones (mephedrone, methoxetamine) | Up to 5 years in prison, unlimited fine, or both | Up to 14 years in prison, unlimited fine, or both |
| Self-harm: | deliberate injury to oneself, typically due to an overwhelming negative mental state | | | | |
| Dermatillomania: | a condition where people pick, scratch or harm themselves, not to feel pain but because of an addictive urge to do this | | | | |
| Vaccine: | a substance created and given to people that will provide immunity from a specific infection or disease | C | Anabolic steroids, benzodiazepines (diazepam), gamma hydroxybutyrate (GHB), gamma butyrolactone (GBL), piperazines (BZP, khat | Up to 2 years in prison, unlimited fine, or both (except anabolic steroids - it's not an offense to possess them for personal use) | Up to 14 years in prison, unlimited fine, or both |
| Vaccination: | the means of giving a person a vaccine, most commonly injected | | | | |
| Immunity: | the ability to resist infections and diseases | | | | |
| Anti-vaxxer: | someone who argues against the use of vaccinations | | | | |
| Term 2b: Rights and Responsibilities | | Tempor ary Class Drugs* | Some methylphenidate substances and their simple derivatives | None, but police can take away a suspected temporary class drug | Up to 14 years in prison, |
| UNICEF: | the United Nations Children's (emergency) Fund. A charitable organisation to help children around the world | | | | |
| Human Trafficking: | the forceful recruitment, harbouring, transportation, provision or obtaining of a person for commercial sex, labour or services | Term 2a: Organ, Blood and Stem Cell Donation | | Term 2b: UNICEF and Children's Rights | |
| Coercion: | the action or practice of persuading someone to do something by using force or threats | <ul style="list-style-type: none">Stem cells: cells from which any body parts can growSaviour siblings: brothers or sisters that are created to provide a matching organ or cell transplant for a sick siblingEmbryology: the science that studies the development of embryos and how to use them to cure illness | | In 1989, governments around the world promised all children the same rights by adopting the UN Convention on the Rights of the Child. The Convention says what countries must do so that all children grow as healthy as possible, can learn at school, are protected. | |
| Age of Criminal Responsibility: | the age at which young people can be blamed for their crimes (10 in the UK) | | | | |
| Peer Pressure: | the pressure felt to do what people in your age group are doing and to do what they want you to do | | | | |
| Knife Crime | illegal activities involving knives, e.g. carrying a knife, using a knife as a weapon, hiding a knife used as a weapon, selling a knife or possessing a knife as a weapon | | | | |

PSHE TERM 3: Risk & UK Society

Term 3a: Risk

| | |
|------------------------|---|
| Risk: | Risk is the possibility of something bad happening. |
| County Lines: | Used in reference to a form of criminal activity in which drug dealers in major cities establish networks for the supply and sale of drugs to users in towns and rural areas, using other people (typically those who are young or otherwise vulnerable) to carry, store, and sell the drugs. |
| Trafficking: | Involves the recruitment or movement of people for exploitation by the use of threat, force, fraud, or the abuse of vulnerability. Trafficking is a crime that can occur across international borders or within a country. |
| Young Offenders | A young person who has been convicted or cautioned for a criminal offense. |
| Knife Crime: | Any crime involving a Knife |
| Exploitation: | The action or fact of treating someone unfairly in order to benefit from their work. |
| Coercion: | The practice of persuading someone to do something by using force or threats. |
| Peer Pressure: | Influence from members of one's peer group |

Term 3b: UK Society

| | |
|------------------------|--|
| Identity: | Who a person is, or the qualities of a person or group that make them different from others. |
| British Values: | Democracy, The rule of law, Individual liberty, Mutual respect, Tolerance of those of different faiths and beliefs. |
| Ethnicity: | The fact or state of belonging to a social group that has a common national or cultural tradition |
| Diverse: | Including or involving people from a range of different social and ethnic backgrounds and of different genders, sexual orientations, etc |
| Immigration: | Immigration is the international movement of people to a destination country |
| Tolerance: | the ability or willingness to tolerate the existence of opinions or behaviour that one dislikes or disagrees with. |

Term 3a: What makes us take a risk

- peer groups
- the media
- culture
- movies

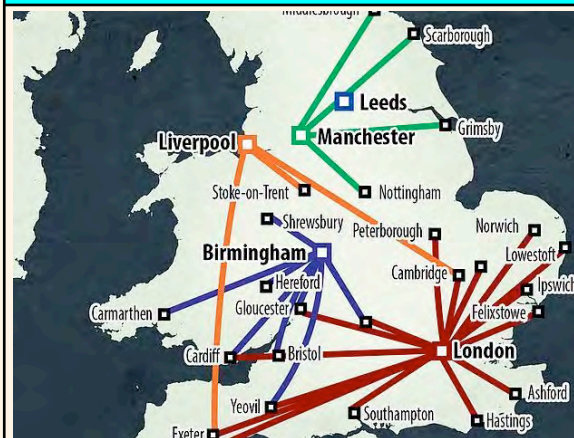
Term 3a: Help and Support

- The police
- A family member
- A friend
- A teacher you feel able to talk to
- Child line
- www.thehideout.org.uk
- www.refuge.org.uk
- <https://www.womensaid.org.uk/>

Term 3a: Identity



Term 3b: County Lines

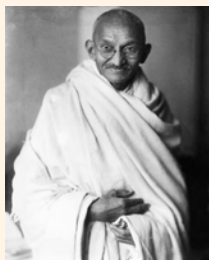




RELIGION, PEACE AND CONFLICT

| Key Concepts | |
|------------------------------------|---|
| Just War | A war which meets internationally accepted criteria for fairness |
| Israel | A country in the Middle East which declared its independence in 1948 |
| Nuclear Weapons | Weapons that work by a nuclear reaction. A weapon of mass destruction |
| Palestine | An area in the Middle East which is recognised as a nation by some other nations but not others. |
| Peace | An absence of conflict, which leads to happiness and harmony |
| Reconciliation | When individuals or groups restore friendly relations after conflict or disagreement |
| 'The Troubles' | The period in the 20th Century where groups used violence to pressure others into making changes in Northern Ireland |
| War | Fighting between nations to resolve issues between them |
| Weapons of mass destruction | Weapons that can kill large numbers of people and/or cause great damage |
| Zionism | A movement for (originally) the re-establishment and (now) the development and protection of a Jewish nation in what is now Israel. |

| Conditions for a Just War | |
|---------------------------|--|
| Just Cause | The war must have a just cause. This may include self-defence or defending someone else. It must not be to gain territory or resources, or in retaliation. |
| Correct Authority | The war must be declared by the correct authority. This should be the government or lawful rulers of the country. |
| Just intention | The intention of the war has to be to defeat wrongdoing and promote good. The good achieved by the war must outweigh the evil that led to it. |
| Last Resort | Fighting must be a last resort. All other ways of resolving the issues such as diplomacy, must have been attempted before war can be declared. |
| Chance of success | There must be a reasonable chance of success. It is unjust to ask people to fight a war if it is probable that the war will be lost and they will be killed. |
| Proportional | The methods used to fight the war must be proportional to achieve success. Excessive force should not be used. |
| Just Means | The war must be fought but just means. Innocent people and civilians must not be targeted or harmed. |
| Appropriate Force | Only appropriate force may be used. This includes the type of force and how much is used. |
| Conventions | Internationally agreed conventions on the conduct of war must be obeyed. |

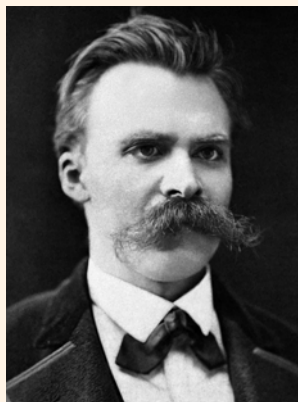


"Non-violence is the greatest force at the disposal of mankind. It is mightier than the mightiest weapon of destruction devised by the ingenuity of man."

Gandhi



| Key People | |
|----------------------------|---|
| Hannah Arendt | 20th-century German philosopher who attended the trial of Adolf Eichmann in 1961 and wrote about the 'banality of evil'. |
| Jeremy Bentham | 18th-century English philosopher, regarded as the founder of utilitarianism, who argued that pleasure and pain are the same as good and bad. |
| Philippa Foot | 20th-century English philosopher who designed the runaway train thought experiment in 1967 |
| Friedrich Nietzsche | 19th-century German atheist who expressed his belief that humans no longer needed the idea of God by saying 'God is dead and we have killed him'. |
| Peter Singer | 20th-century Australian philosopher and utilitarian who popularised the word 'speciesism', which describes prejudice and discrimination against animals |
| Robert Nozick | 20th-century American philosopher who used the example of an imaginary 'experience machine' to show that humans value more than simply pleasure |



Nature has placed mankind under the governance of two sovereign masters, pain and pleasure.

Jeremy Bentham



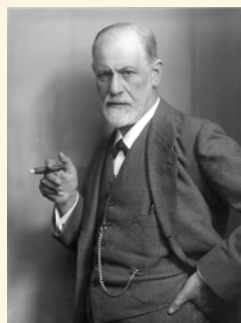
"God is dead, and we have killed him"

Friedrich Nietzsche

| Key Concepts | |
|-----------------------------|--|
| Absolutism | The view that certain actions are inherently good and bad |
| Altruism | Selfless actions done without thought or expectation of a reward |
| The banality of evil | A phrase used by Hannah Arendt to describe how evil can result from ordinary, thoughtless behaviour |
| Ethics | The philosophy study of right and wrong |
| Hedonic calculus | Jeremy Bentham's way of calculating which actions are right and wrong |
| Holocaust | The killing of six millions Jews and two millions others by the Nazis in Europe between 1933 and 1945 |
| Relativism | The view that whether an action is good or bad depends on the situation |
| Speciesism | A term popularised by Peter Singer to describe prejudice or discrimination towards animals |
| Thought Experiment | A mental test in which people think through the consequences of different actions, often in scenarios that can't be tested out in real life. |
| Utilitarianism | The theory that the best action in any situation is the one which creates the greatest happiness for the greatest number. |
| The will to power | A term used by Nietzsche to describe a natural human desire for strength and power. |

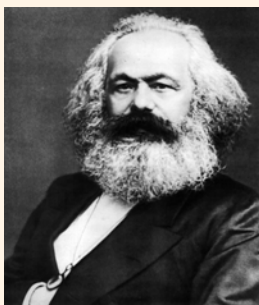
Key People

| | |
|-----------------------|---|
| Thomas Aquinas | 13th-century Italian philosopher and priest whose <i>Summa Theologica</i> outlines his 'Five Ways' of demonstrating that faith in God is reasonable, including the First Cause argument |
| Charles Darwin | 19th-century scientist and author of <i>On the Origin of Species</i> in 1859, which outlined his theory of evolution by natural selection |
| Sigmund Freud | 19th/20th-century Austrian psychologist who claimed in his wish-fulfilment hypothesis that humans invent religion to satisfy their desires for a father, fairness and immortality. |
| David Hume | 19th-century Scottish philosopher who criticised the first cause and design arguments and belief in miracle. |
| Karl Marx | 19th-century German philosopher who described religion as the 'opium of the people', used by the ruling class to exploit and oppress the working class. |
| New Atheists | Four modern thinkers and writers from the UK and USA who criticise faith and argue that science and reason can answer all questions about the universe. |
| William Paley | 18th-century English philosopher and priest who compared the world to a watch in his version of the design argument |



"Religions are illusions"
Sigmund Freud

"Religion is the opium of the people" **Karl Marx**



Key Concepts

| | |
|---------------------------------------|---|
| Agnostic | Someone who does not know whether there is a god or gods. |
| Apophatic Theology | The view that God cannot be accurately described in positive language, only by saying what God is not. |
| Atheist | Someone who does not believe in the existence of a god or gods |
| Class consciousness | A term used by Marx to mean the working class becoming aware they are being oppressed |
| Creationist | Someone who believes that God created the world in six days, as described in Genesis (the first book of the Bible) |
| Design Argument | The argument that the world looked designed and so has a designer - God |
| Evolution by natural selection | The theory that all life evolved from a common ancestor through gradual changes over millions of year |
| False consciousness | A term used by Marx to describe a way of thinking that stops the working class from seeing how they are being oppressed |
| Infinite regress | An endless sequence of causes with no beginning |
| Omnibenevolent | All-loving |
| Omnipotent | All-powerful |
| Omniscient | All-knowing |
| Problem of evil | The argument that evil and suffering shows that an omnipotent, omniscient, omnibenevolent god does not exist |



Key Definitions - Climate

Climate - The weather conditions prevailing in an area in general or over a long period

Climate Change - A sustained change in global or regional climate patterns

Greenhouse Gas - A gas that contributes to the greenhouse effect by absorbing infrared radiation.

Carbon Footprint - The amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization, or community.

Endangered Species - a species of animal or plant that is seriously at risk of extinction.

Extinction - When a species has no living members remaining

Fossil Fuels - fuels which formed over millions of years from ancient biomass. Eg. Coal, Oil, Natural Gas

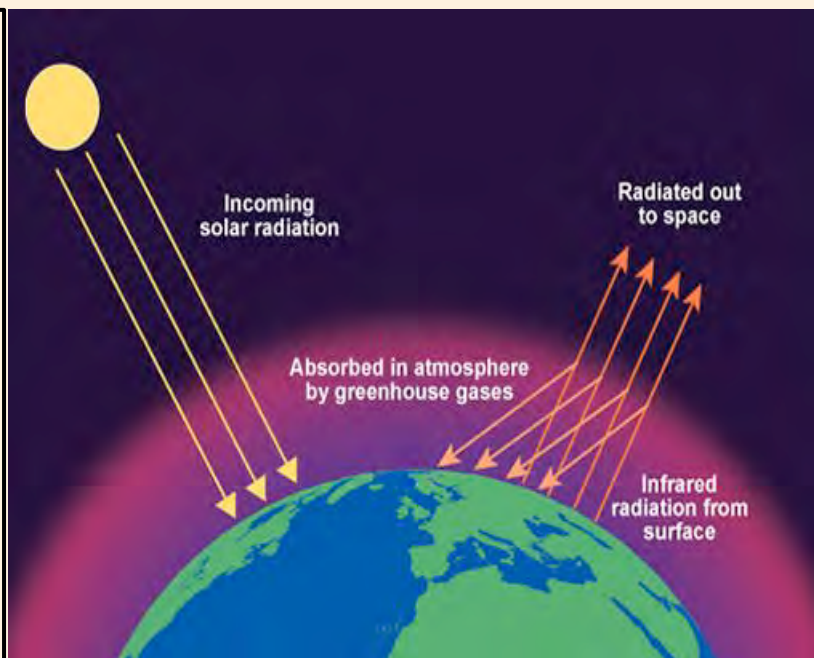
Carbon Neutral - A process which either produces no carbon dioxide or takes in as much carbon dioxide as it produces.

Deforestation - cutting down trees

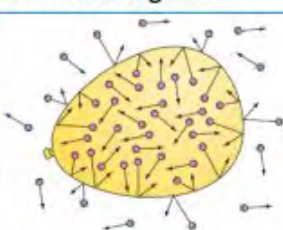
Habitat loss - Use of space that once provided a home to other species

Overfishing - Fish are caught faster than they can reproduce

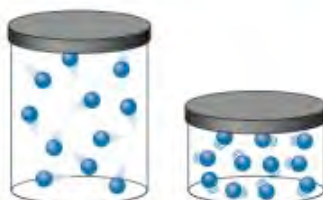
Unsustainable use of finite resources - mining and use of crude oil, which will run out as it cannot be created in our lifetime



Pressure in gases



▲ If there are more collisions on the inside than the outside the balloon gets bigger.



▲ In a smaller volume gas molecules will collide more often with the walls of the container.

| Concept | Unit |
|----------|----------------|
| Pressure | N/m |
| Force | N |
| Area | m ² |

$$\text{Distance} = \text{Speed} \times \text{Time}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

Key Definitions - Forces

Forces - can change the direction, speed or shape of an object.

Contact force - A force that can be exerted between two objects when they touch.

Non -contact force - A force that can sometimes be exerted between two objects that are physically separated.

Resultant force - A number of forces acting on an object may be replaced by a single force that has the same effect as all the forces acting together. This single force is called the resultant force.

Balanced - Two forces are equal and opposite (resultant force = 0 N)

Unbalanced - Two forces are opposite but not equal (there is a resultant force).

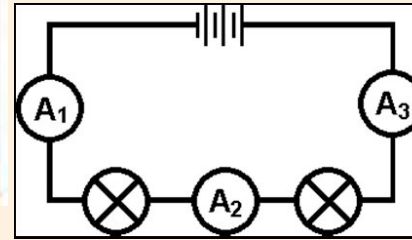
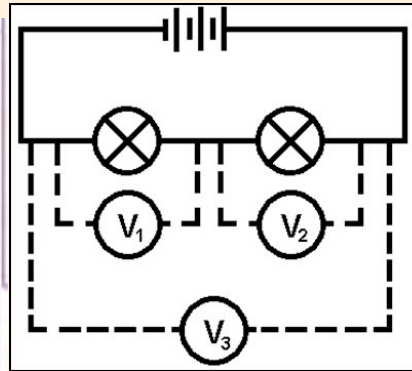
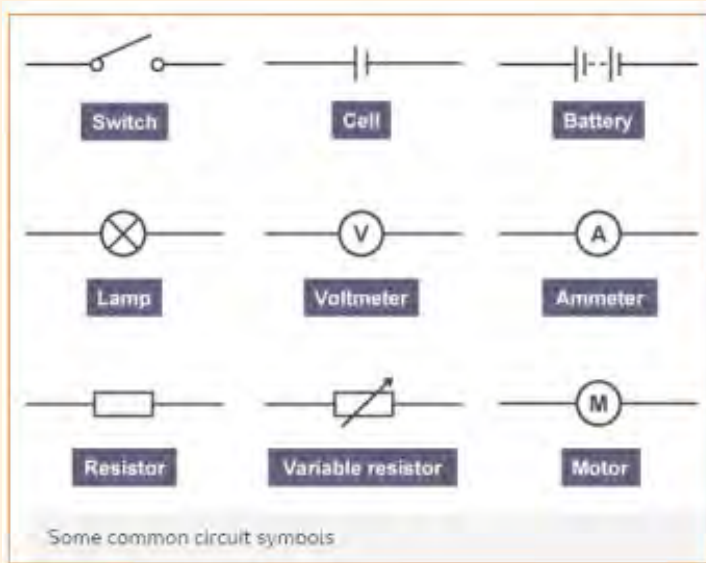
Reaction force - A force that stops you falling through the floor

Friction - A force that opposes the motion of a moving object

Drag/ air resistance - A force that resist motion through the air

Upthrust - An upwards force pushing on an object in fluids

Newton (N) - The unit a force is measured in



Voltmeters in parallel!
Ammeter in series!

Rules for current and voltage:

Current in a **series** circuit is same.

Voltage in a **series** circuit is shared out

Current in a **parallel** circuit splits.

Voltage in a **parallel** circuit is the same across branches.

Series Advantages:

Easy to use, easy to add more power to the circuit

Series Disadvantage:

If one component breaks the whole circuit won't work

Parallel Advantage:

Easy to switch different components on and off using the same circuit

Parallel Disadvantage:

Lots of wires, cannot increase voltage across branches.

| | |
|-------------------|---|
| Voltage | A measure of the energy shifted from the battery to the moving charge, or from the charge to circuit components, measured in volts (V). |
| Current | The flow of electric charge, measured in amps (A). |
| Series | A single loop in the circuit |
| Parallel | A circuit with branches |
| Ammeter | Measures current |
| Voltmeter | Measures voltage |
| Conductor | Will allow electricity to flow through it |
| Insulator | Will not allow electricity to flow through it |
| Resistance | When something tries to stop the flow of electrons. |
| Component | Part of an electrical circuit e.g. bulb or battery |

$$V = I R$$

$$\text{power} = \frac{\text{energy transferred}}{\text{time}}$$

Safety: Turn off the power if you're making or changing your circuits

- Set the voltage to the lowest level that will allow your circuit to work
- Keep electrical components away from water
- Don't get any metal objects (jewellery) away from circuits
- The voltage in your home is lower than that in overhead cables to protect you. It can still seriously injure though.

Key Definitions:

Protein - nutrient used for growth and repair of cells

Carbohydrate - Nutrient used in respiration to release energy

Fat - Nutrient used for insulation and stored energy

Vitamins and Minerals - Essential components of our diet to prevent deficiency diseases

Oesophagus - Flexible tube between mouth and stomach

Stomach - Muscular bag containing acid and enzymes to destroy microbes and begin digestion.

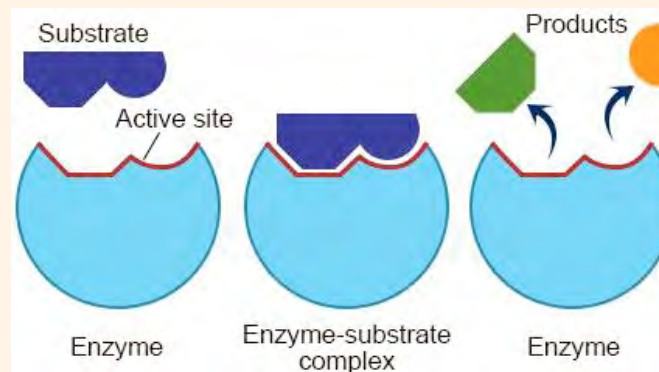
Liver - Produces bile which emulsifies fats and speeds up their digestion

Pancreas - Produces many enzymes to break down different nutrients

Small Intestine - Absorbs nutrients from our digested food into our blood stream

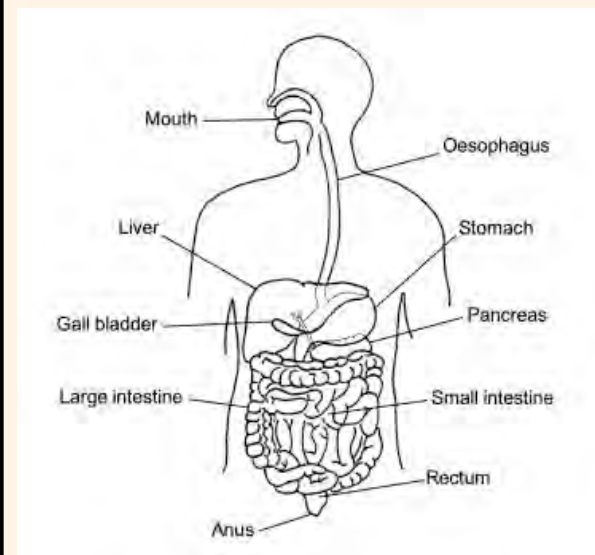
Large Intestine - Absorbs excess water from waste food

Rectum - where undigested food is stored.

Enzymes

Enzymes are **biological catalysts** for the breakdown of large food molecules.

Each enzyme is specific to a certain type of food molecule.



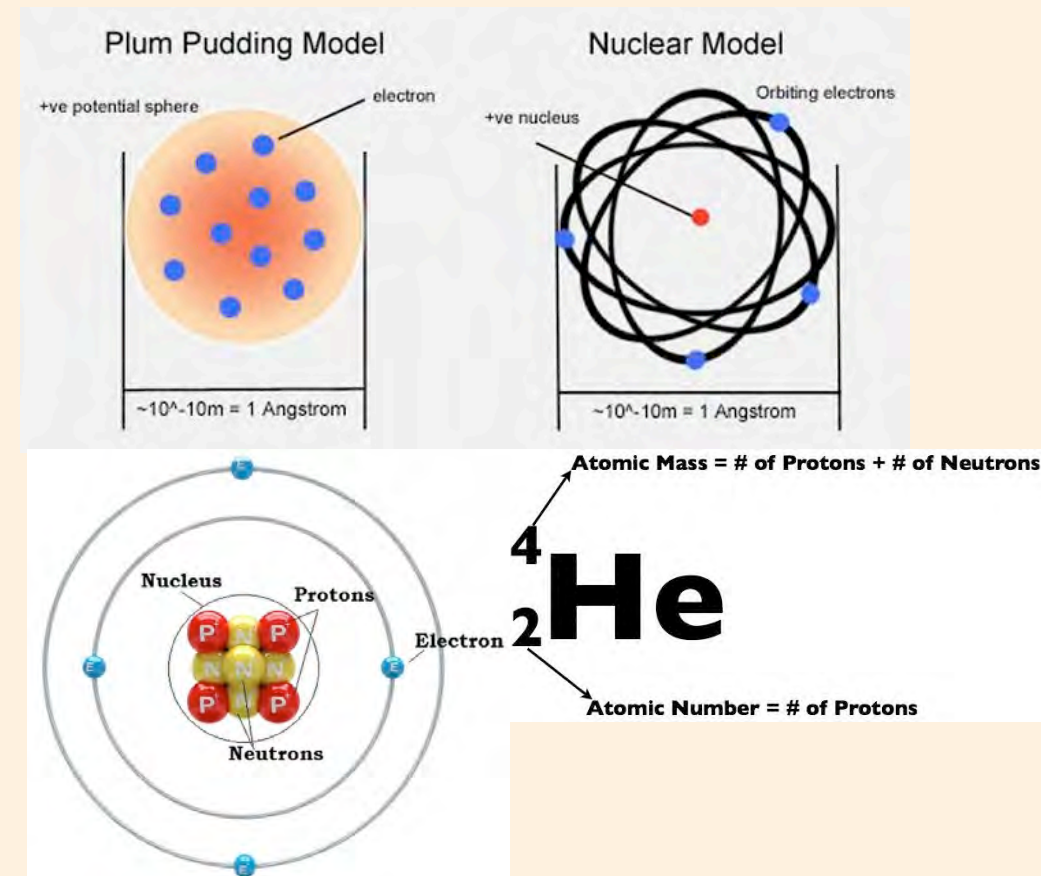
| Enzyme | Function | Location |
|---------------|---|----------------------------------|
| Carbohydrases | Catalyse the breakdown of carbohydrates into simple sugars | Mouth, pancreas, small intestine |
| Proteases | Catalyse the breakdown of proteins into amino acids | Stomach, small intestine |
| Lipases | Catalyse the breakdown of fats into glycerol and fatty acids | Pancreas, small intestine |

| Food Group | Test for the food group | Positive Test |
|------------|--------------------------------------|------------------------|
| Fat | Equal parts ethanol and water. Shake | White emulsion |
| Sugar | Benedicts Solution. Warm for 5 min | Orange/Red precipitate |
| Protein | Biuret Reagent | Turns lilac |
| Starch | Iodine | Turns Blue/Black |

Atomic Structure and Periodic Table

| | |
|-----------------------------|---|
| Atom | A particle with no electric charge made up of a nucleus containing protons and neutrons and surrounded by electrons. |
| Proton | A positively charged particle found in the nucleus of an atom. |
| Neutron | A neutral particle found in the nucleus of an atom. |
| Electron | Negatively charged particles found on energy levels (shells) surrounding the nucleus inside atoms. |
| Nucleus | Central part of an atom containing protons and neutrons. |
| Energy level (shell) | The region an electron occupies surrounding the nucleus inside an atom. |
| Atomic number | Number of protons in an atom. |
| Mass number | Number of protons plus neutrons in an atom. |
| Isotope | Atoms with the same number of protons but a different number of neutrons. |
| Relative atomic mass | The average mass of atoms of an element taking into account the mass and amount of each isotope it contains. RAM = Total mass of atoms / total number of atoms |
| Electronic structure | The arrangement of electrons in the energy levels of an atom. |
| Ion | An electrically charged particle containing different numbers of protons and electrons. |
| Group | The name given to each column in the periodic table. |
| Element | A substance containing only one type of atom. |
| Compound | A substance made from different elements chemically bonded together. |
| Period | The name given to a row in the periodic table. |
| Alkali metals | The elements in Group 1 of the periodic table. |
| Noble gases | The elements in Group 0 of the periodic table. |

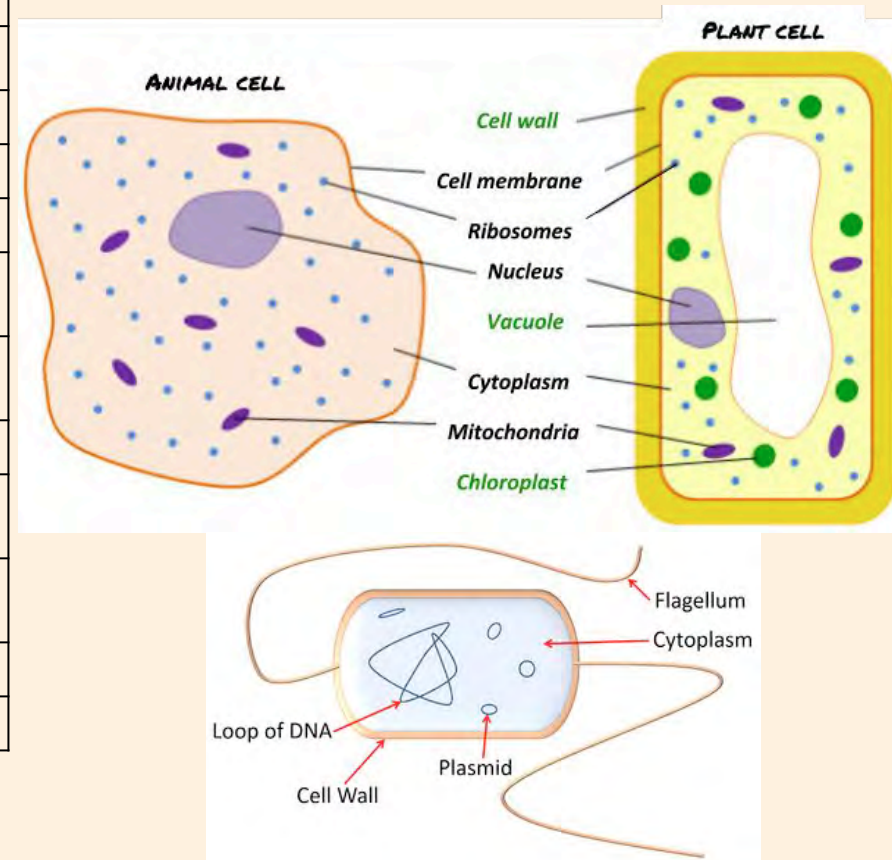
| | |
|--------------------------|---|
| Halogens | The elements in Group 7 of the periodic table. |
| Diatomic molecule | A molecule containing 2 atoms. |
| Halides | Compounds made from Group 7 elements. |
| Mixture | More than one substance that are not chemically bonded. |
| Solvent | The liquid that a solute dissolves in. |
| Solution | A solute dissolved in a solvent. |
| Soluble | A substance that will dissolve. |
| Insoluble | A substance that will not dissolve. |
| Solute | The solid that dissolves in a solvent. |



Cells

| | |
|--------------------------|--|
| Eukaryotic cells | Cells that contain a nucleus |
| Eukaryote | An organism that is made of eukaryotic cells |
| Prokaryotic cells | Single-celled organisms that do not contain a nucleus |
| DNA | Deoxyribonucleic acid – the genetic information found in all living organisms |
| Ribosome | A cell organelle that makes proteins |
| Respiration | The release of energy from glucose |
| Diffusion | The net movement of particles from an area of high concentration to an area of lower concentration |
| Organelle | A part of a cell with a specific function |
| Mitochondrion | A cell organelle in which respiration occurs |
| Chloroplast | A cell organelle in which photosynthesis occurs |
| Cytoplasm | Jelly like substance in cells where chemical reactions occur |
| Nucleus | A cell organelle found in eukaryotes containing their genetic material |
| Cell membrane | Structure surrounding the cell that controls what moves in and out of the cell |
| Vacuole | Found in plant cells, filled with cell sap, keeps the cell turgid |
| Cell wall | Made from cellulose and provides structural strength to some cells (not animal cells) |
| Photosynthesis | Chemical reaction that happens in chloroplasts that stores energy in glucose |
| Turgid | Describes a swollen cell |
| Biconcave | Describes a shape with a dip that curves inwards on both sides |

| | |
|----------------------------|---|
| Ova | Eggs |
| Axon | The extension of a nerve cell along which the electrical impulses travel |
| Phloem | Tubes of living cells that carry sugars to all cells in plants |
| Xylem | Tubes of dead plant cells through which water flows |
| Electron microscope | A microscope that uses electrons in place of light to give higher magnification |
| Resolution | The smallest distance between two separate points |



Energy

| | |
|---------------------------------------|---|
| Specific heat capacity | The energy needed to raise the temperature of 1kg of a substance by 1°C. |
| Dissipate | To scatter in all directions or to use wastefully. When energy has been dissipated it means we cannot get it back. The energy has spread out and heats up the surroundings. |
| Non-renewable energy resources | Energy resources which will run out, because they are finite reserves, and which cannot be replenished. |
| Renewable energy resources | Energy resources which will never run out and (or can be) replenished as they are used. |
| Alternative energy resource | Resources other than fossil fuels. The resources may or may not be renewable. Nuclear power is not a renewable energy resource, but tidal power is. Alternative energy resources do not contribute to global warming. |
| Biofuel | Fuel produced from biological material. Biofuels are provided by trees such as willow that can be grown specifically as energy resources. |

Energy Equations

Efficiency (%) = (useful energy out ÷ total energy in) x 100.

GPE = mgh Gravitational Potential Energy = mass x gravity x height.

$E_e = \frac{1}{2}ke^2$ Elastic potential energy = 0.5 x spring constant x extension²

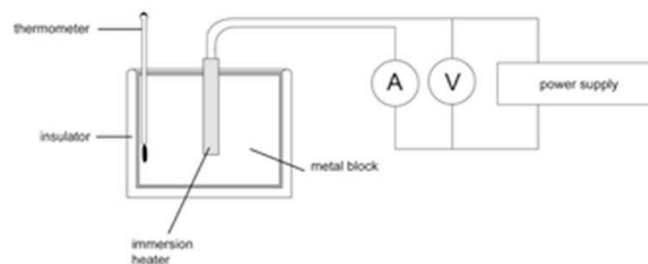
KE = $\frac{1}{2}mv^2$ Kinetic Energy = 0.5 x mass x velocity².

W = F x d work done = force x distance.

P = E ÷ t power = energy ÷ time.

E = c x m x θ energy = specific heat capacity x mass x change in temperature.

Working out specific heat capacity, c



Method

1. Collect your apparatus.
2. Measure the mass of the metal block and record it.
3. Set up your apparatus as shown in the diagram
4. Record the temperature of the metal block using the thermometer.
5. Switch on the heater.
6. Record the voltage, current,
7. Record the temperature of the block after 10 minutes
8. Switch the heater off and leave it to cool before touching it.

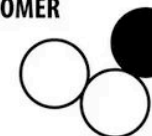
Bonding and Structure



| | |
|------------------------------|---|
| Giant Lattice | Ionic substances are made up of a giant lattice of positive and negative ions in a regular structure. |
| Ionic bonding | The electrostatic attraction between positive and negative ions |
| Molecule | Particle made from atoms joined together by covalent bonds |
| Covalent bond | Two shared electrons joining atoms together |
| Intermolecular forces | Weak forces between molecules |
| Polymer | Long chain molecule made from joining lots of small molecules together by covalent bonds |
| Monomer | The building block (molecule) of a polymer |
| Delocalised | Free to move around |
| Metallic bonding | The attraction between the nucleus of metal atoms and delocalized electrons |
| Malleable | Can be hammered into shape |
| Alloy | A mixture of a metal with small amounts of other elements, usually other metals |
| States of matter | These are solid, liquid and gas |
| Fullerenes | Family of carbon molecules each with carbon atoms linked in rings to form a hollow sphere or tube |
| Catalyst | Substance that speeds up a chemical reaction but is not used up in it |

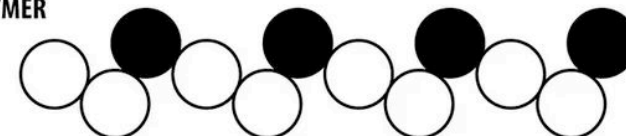
Structure of Monomers and Polymers

MONOMER

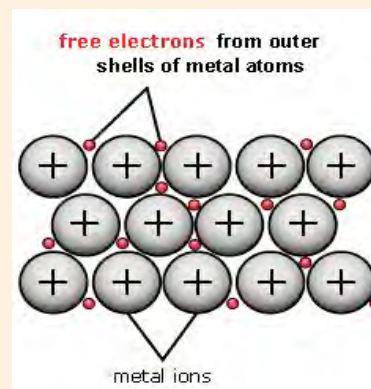


A monomer is a small molecule.

POLYMER

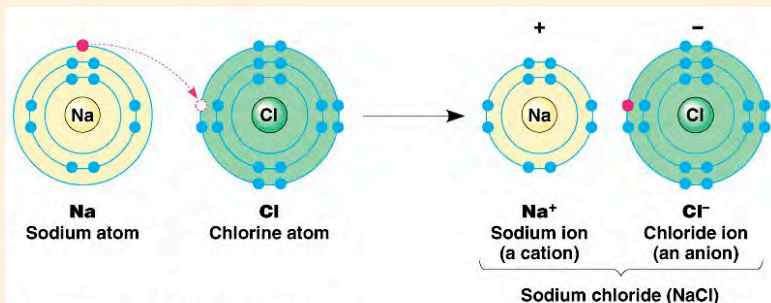


A polymer is a long-chain molecule made up of a repeated pattern of monomers.

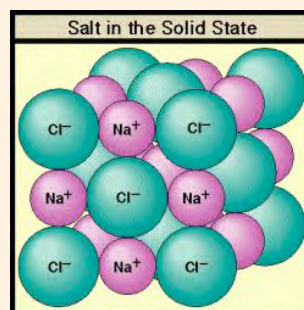


Metallic
structure

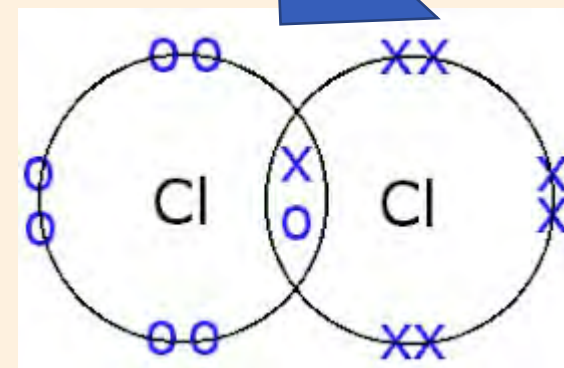
Covalent
bonding



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Ionic bonding
and structure



Communicable Diseases

| | |
|--------------------|---|
| Infectious | Describes a pathogen that can easily be transmitted, or an infected person who can pass on the disease. |
| Vector | An animal that spreads a communicable disease. |
| Antibiotic | A group of medicines, first discovered by Alexander Fleming, that kill bacteria and fungi but not viruses. |
| Malaria | A communicable disease, caused by a parasite transmitted in mosquitos, which attacks red blood cells. |
| Cilia | Tiny hair-like projections from ciliated cells that waft mucus out of the gas exchange system. |
| Antigen | A protein on the surface of a pathogen that your antibodies can recognize as foreign. |
| Antitoxin | A protein produced by your body to neutralize harmful toxins produced by pathogens. |
| Vaccine | A medicine containing an antigen from a pathogen that triggers a low level immune response so that if you become infected later your body can respond more quickly to the pathogen. |
| Antiseptic | A substance applied to the skin or another surface to destroy pathogens. |
| Anaesthetic | A drug that stops all pain sensation and can be local or general. |
| Efficacy | How effective a drug is. |

| | |
|----------------------------|---|
| Double blind trials | A medical experiment in which the patient and doctors do not know who has been given the drug and who has been given the placebo. |
| Placebo | A medicine that has only psychological effects. |
| Phagocytes | A type of white blood cell that engulf pathogens. |
| Lymphocytes | A type of white blood cell that produce antibodies. |
| Antibodies | Highly specific Y-shaped proteins that are produced by the immune system to help stop intruders from harming the body. |

