Year 11 Art and Design Spring Term Knowledge Organiser

Key Vocabulary:

1	**The Formal Elements of Art**	The formal elements of art are used to make a piece of artwork. The art elements are line, tone, texture, shape, pattern and colour. They are often used together, and how they are organised in a piece of art determines what the finished piece will look like.
2	**A01**	Development of ideas and understanding of different artists. This could include artist research, and analysis work, moodboards, reproductions of artists' work or use of these ideas in their own work.
3	**A02**	Refinement of skills and experimentation using materials and media. This could include drawing, painting, mixed media work, 3D work, edited photography and combination of materials together.
4	**A03**	Recording of skills using drawing, photography and annotation. This could include observational drawings, realistic photography and mind maps.
5	**A04**	Present a personal or final response/s. This is usually a final piece. This could include a final piece or concluded pieces of work in their preparatory work. The work must link to artists researched or on a chosen starting point.
6	**Artist Research**	Showing your understanding of an artist/s work or style and how they have influenced you.
7	**Critical Understanding**	Ability to analyse others artwork. Engaging with ideas, images and identifying how values and meanings are conveyed.
8	**Annotation**	Writing notes and descriptions besides work in order to understand what has been created, why and how work has progressed.
9	**Artist Response**	Showing your understanding of an artists work or style and how they have influenced you.
10	**scale**	The scale of something is its size. To scale something is to enlarge it. To scale down is to do a smaller version or reduction.
11	**balance**	If a picture or piece of art work has balance then each part of it works well together in a whole piece.
12	**composition**	The arrangement of elements in a piece of art.
14	**media**	Different materials.
15	**contrast**	Created by using opposites near or beside one another, such as a light object next to a dark object or a rough texture next to a smooth texture.
16	**perspective**	Creates the feeling of depth using lines that make your image appear to be three dimensional. The closer the image is, the more detailed it will appear, and the larger it will be.
17	**reflect**	Looking back at your work and deciding how you could improve something.

AQA Biology (Combined Science) Unit 7: Ecology Knowledge Organiser

Keywords

Biodiversity - the variety of living organisms.

Carrion - decaying flesh and tissue of dead animals.

Community - made up of the populations of different species living in a habitat.

Competition - the negative interaction between two or more organisms which require the same limited resource.

Consumers - feed on other organisms for their energy. Can be primary, secondary or tertiary.

Decomposers - organisms which feed on dead and decaying organisms. They break down the biomass and release nutrients into the soil.

Deforestation - the removal and destruction of trees in forest and woodland.

Ecosystem - the interaction between the living organisms and the different factors of the environment.

Global warming - the increase of the average global temperature.

Habitat - where a living organism lives.

Interdependence - the interaction between two or more organisms, where it is mutually beneficial.

Population - the number of individual organisms of a single species living in a habitat.

Predators - organisms which kill for food.

Prey - the animals which are eaten by the predators.

Producers - convert the sun's energy into useful compounds through photosynthesis. They are green plants or algae.

Scavengers - organisms which feed on dead animals (carrion).

Species - organisms of similar morphology which can interbreed to produce fertile offspring.

Abiotic and Biotic Factors

Abiotic factors are the non-living factors of an environment. E.g. moisture, light, temperature, CO_2, wind, O_2 or pH.

Biotic factors are the living factors of an environment. E.g. predators, competition, pathogens, availability of food.

Adaptations

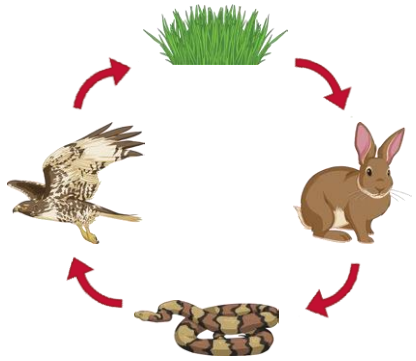
Adaptations are specific features of an organism which enable them to survive in the conditions of their habitat.
Adaptations can be structural, behavioural or functional:

- **Structural adaptations** are features of the organism's body e.g. colour for camouflage.
- **Behavioural adaptations** are how the organism behaves e.g. migration to a warmer climate during colder seasons.
- **Functional adaptations** are the ways the physiological processes work in the organism e.g. lower metabolism during hibernation to preserve energy.

A plant or animal will not physically change to adapt to its environment in its lifetime. Instead, there is natural variation within the species and only organisms whose features are more advantageous in the environment survive. The survivors then go on to reproduce and pass on their features to some of their offspring. The offspring who inherit these advantageous features are better equipped to survive. Charles Darwin described this process as 'survival of the fittest'.

Food Chains

The source of all energy in a food chain is the sun's radiation. It is made useful by plants and algae which produce organic compounds through photosynthesis.

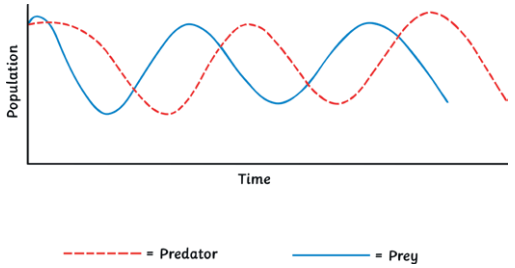


The living organisms use the energy to produce biomass and grow.

When a living organism is consumed, some of the biomass and energy is transferred. Some of the energy is lost.

Remember: the arrow in a food chain indicates the direction of the flow of energy.

Populations of predators and prey increase and decrease in cycles. The size of the predator population depends on the size of the prey population and vice versa. Overall, there is a stable community.



Competition

Species will compete with one another and also within their own species to survive and to reproduce.

Mutualism occurs when both species benefit from a relationship.

Parasitism occurs when a parasite only benefits from living on the host.

Animals compete for resources such as food, water and space/shelter. They may also compete within their own species for mates.

Plants compete for resources including light, water, space and minerals. All these resources are needed for photosynthesis so the plant can make its own food. Plants do not need to compete for food.

Deforestation and Land Use

Humans use land for buildings, quarrying, mining, agriculture and landfill. As the human population increases and we take more land, there is less space for other organisms to live.

Deforestation (to use wood as a fuel/material or to clear space for other uses) destroys habitats where other organisms live.

Peat bogs are produced when decomposition occurs over a very long time. Peat stores a lot of carbon and can be extracted for use by gardeners or as an energy source. Burning peat releases a lot of carbon dioxide into the atmosphere which contributes to the greenhouse effect.

Trees absorb carbon dioxide for photosynthesis, so as they are cut down and removed, less carbon dioxide is taken from the atmosphere. Furthermore, when the trees are burned, they release carbon dioxide back into the atmosphere. The excess carbon dioxide can lead to global warming and the changes to the ecosystem cause reduced biodiversity.

AQA Biology (Combined Science) Unit 7: Ecology Knowledge Organiser

Water Cycle

Convection is the movement caused within a fluid as the hotter, less dense material rises and colder, denser material sinks under the influence of gravity. This results in the transfer of heat.

Evaporation occurs when heat energy from the surroundings (or a heat source) is transferred to water particles as kinetic energy. The particles begin to move more rapidly and can turn from a liquid into a gas.

Condensation occurs when moving particles transfer kinetic energy to the surroundings. The particles begin to move even more slowly and can turn from a gas into a liquid.

Precipitation occurs when rain, snow, sleet, or hail falls to (or **condenses** on) the ground.

Transpiration is the process by which water is carried through plants from roots to the stomata on the underside of leaves and it evaporates into the surroundings.

Global Warming

The **greenhouse effect** is the natural process where some of the Sun's radiation is trapped within the insulating layer of the atmosphere. This maintains a temperature suitable to support life on Earth.

Most of the radiation from the Sun is absorbed by the Earth when it reaches the surface. The rest of the infrared radiation is reflected from the surface and absorbed by the greenhouse gases and clouds in the atmosphere. This is then re-emitted in all directions.

However, due to many contributing factors, the global temperature is gradually increasing. Several gases, called greenhouse gases, trap the heat around the Earth; the most concerning is carbon dioxide. Human activities contribute to the excess amount of carbon dioxide in the atmosphere and so are a cause of global warming.

Global warming leads to the melting of ice caps, rising sea levels, flooding, changes to climate, changes in migration patterns, changes in species distribution and reduction in biodiversity.

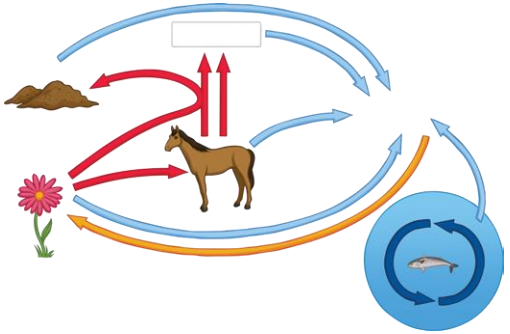
RPI: Field Techniques Quadrats and Transects

The distribution of an organism is affected by the environment and abiotic factors.
Quadrats can be used to measure the frequency of an organism in a given area e.g. the school field. You could count the individual organisms or estimate the percentage cover. You must collect data from at least two areas to make a comparison. Quadrats should always be placed randomly.

Transects are used to measure the change of distribution across an area e.g. from the edge of a river and moving further from the water's edge. You could either count the number of organisms touching the transect at regular intervals or use a quadrat placed at regular intervals along the transect.

$$\text{mean} = \frac{\text{total number of organisms}}{\text{number of quadrats}}$$

Carbon Cycle

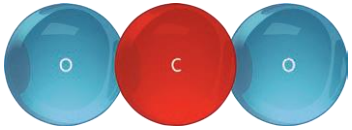


The main focus on the carbon cycle is its transfer to and from the atmosphere. When carbon is in the atmosphere, it combines with oxygen to form carbon dioxide, a greenhouse gas.

Carbon is transferred from the atmosphere when plants absorb carbon dioxide for photosynthesis and when the gas is dissolved into oceans.

Carbon is transferred to the atmosphere through respiration by animals, plants and bacteria and by combustion of fossil fuels (coal, oil and natural gas).

Dead animals and plants are decomposed and their matter is broken down by microbes and fungi. These organisms are collectively called decomposers. When the organisms are broken down, the microbes and fungi release carbon dioxide into the atmosphere through respiration.



AQA Biology (Combined Science) Unit 7: Ecology Knowledge Organiser

Biodiversity and Waste Management

Biodiversity is the variety of living organisms on the earth or in an ecosystem. It is important in helping to maintain stable ecosystems. Organisms are often interdependent, relying on others as food sources, or to create suitable environmental conditions to survive. Human survival is also dependent on this biodiversity.

The global human population has exceeded 7 billion.
Human population has increased due to modern medicine and farming methods, reducing famine and death from disease.
This means a greater demand for food, resources and water.
It also means more waste and emissions are created.

Sewage, toxic chemicals, household waste and gas emissions pollute the water, land and air, killing plants and animals and reducing biodiversity.

Maintaining Ecosystems and Biodiversity

There are many ways that biodiversity and ecosystems are maintained:

- Breeding programmes can help to protect endangered species from extinction.
- Conservation programmes can help to protect and preserve specialised ecosystems and habitats such as peat bogs and coral reefs.
- Reintroduction of hedgerows and field margins on agricultural land can help improve biodiversity by breaking up the monoculture crops.
- Sustainable forestry programmes help to manage the woodlands and reduce the deforestation to a sustainable rate.
- Societies actively encourage recycling and reusing of products and packaging to reduce the household waste going to landfill sites.

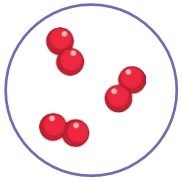
Unfortunately these programmes can be difficult to manage. They are often expensive and are difficult to regulate. People who are employed in certain areas, e.g. tree felling, cannot always transfer their skills to an environmentally friendly role and so become unemployed. It is difficult to maintain biodiversity whilst preventing crops being overrun with pests and weeds, which would affect food security for the human population.

AQA GCSE Chemistry (Combined Science) Unit 8: Chemical Analysis

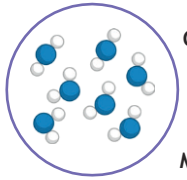
Pure Substances

Pure substances, in chemistry, only contain **one type of element** or **one type of compound**. For example, pure water will just contain water (a compound).

In our everyday language, we use the word 'pure' differently to how it is used in chemistry. Pure can mean a **substance** that has had **nothing else added to it** and is in its natural state. An example of this is pure orange juice. This means that the bottle will just contain orange juice and no other substances.

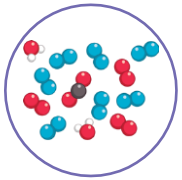


Elements are made up of **one type of atom**. For example, oxygen is made up of oxygen atoms. Carbon is made up of carbon atoms.



Compounds are **two or more elements** that are **chemically joined** together. For example, NaCl which is sodium chloride.

Mixtures are **two or more elements or compounds** that are **not chemically joined** together. An example of this is a standard cup of coffee. Coffee contains water, milk, coffee and possibly sugar. The components of the cup of coffee are not bonded together.



Pure Substances have a **sharp melting point** compared to **impure** substances which **melt over a range** of temperatures.

Formulations

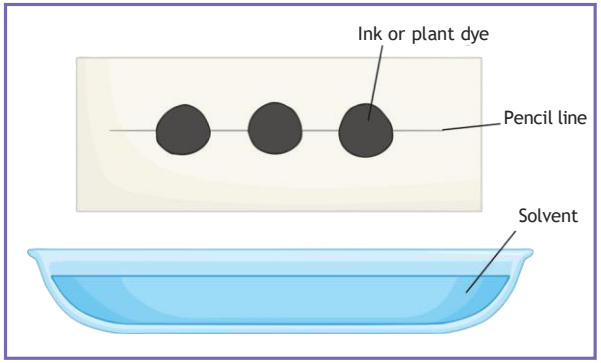
Formulations are **mixtures of compounds or substances** that **do not react together**. They do **produce a useful product** with desirable characteristics or properties to suit a particular function.

There are examples of formulations all around us such as medicines, cleaning products, deodorants, hair colouring, cosmetics and sun cream.

Chromatography

Paper chromatography is a separation technique that is used to **separate** mixtures of **soluble substances**. How soluble a substance is determines how far it will travel across the paper.

In chromatography, there are **two phases**: the mobile and **stationary** phase.

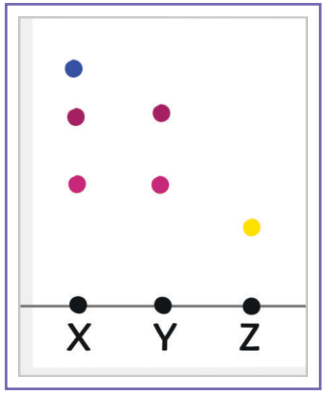


The **mobile phase moves** through the stationary phase. The **solvent** is the **mobile phase**. It moves through the paper carrying the different substances with it.

The **stationary phase** in paper chromatography is the **absorbent paper**.

Separation of the dissolved substances produces what is called a **chromatogram**. In paper chromatography, this can be used to **distinguish** between those substances that are **pure** and those that are **impure**.
Pure substances have **one spot** on a chromatogram as they are made from a single substance. **Impure substances** produce **two or more spots** as they contain multiple substances.

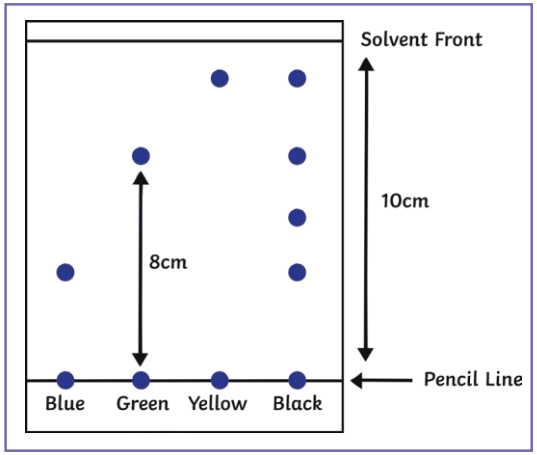
By calculating the **R_f values** for each of the spots, it is possible to identify the unknown substances. Similarly, if an unknown substance produces the **same number** and **colour of spots**, it is possible to match it to a known substance.



R Value

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

Different compounds have different R_f values in different solvents. The R_f values of known compounds can be used to help identify unknown compounds.



Required Practical - Paper Chromatography

Investigate how paper chromatography can be used to separate and distinguish between coloured substances.

Step 1 - Using a ruler, measure 1cm from the bottom of the chromatography paper and mark with a small dot using a pencil. Rule a line across the bottom of the chromatography paper with a pencil, going through the dot you have just made.

Step 2 - Using a pipette, drop small spots of each of the inks onto the pencil line. Leave a sufficient gap between each ink spot so that they do not merge.

Step 3 - Pour a suitable solvent into the bottom of a container such as a beaker. The solvent should just touch the chromatography paper. The solvent line must not go over the ink spots as this will cause the inks to run into each other.

Step 4 - Place the chromatography paper into the container and allow the solvent to move up through the paper.

Step 5 - Just before the solvent line reaches the top of the paper, remove the chromatogram from the container and allow to dry.

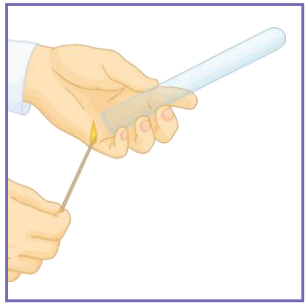
Step 6 - Once the chromatogram has dried, measure the distance travelled by the solvent.

Step 7 - Measure the distance travelled by each ink spot.

Step 8 - Calculate the R_f value. Compare the R_f values for each of the spots of ink.

$$R_f = \frac{\text{distance travelled by substance}}{\text{distance travelled by solvent}}$$

Identification of the Common Gases

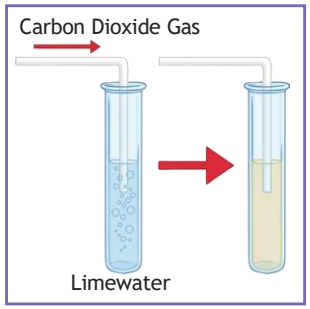


The Test for Hydrogen

Place a burning splint at the opening of a test tube. If hydrogen gas is present, it will burn rapidly with a **squeaky-pop sound**.

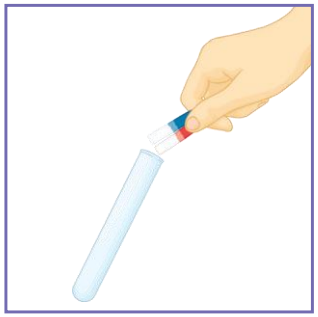
The Test for Oxygen

Place a glowing splint inside a test tube. The **splint will relight** in the presence of oxygen.



The Test for Carbon Dioxide

Calcium hydroxide (lime water) is used to test for the presence of carbon dioxide. When carbon dioxide is bubbled through or shaken with limewater, the limewater turns **cloudy**.



The Test for Chlorine

Damp litmus paper is used to test for chlorine gas. The litmus paper becomes **bleached and turns white**.

AQA GCSE Chemistry (Combined Science) Unit 9: Chemistry of the Atmosphere

The Early Atmosphere

Approximately **4.6 billion years ago** the Earth was formed. Scientists have lots of ideas and **theories** about how the atmosphere was produced and the gases within it, but due to the lack of evidence, they cannot be sure.

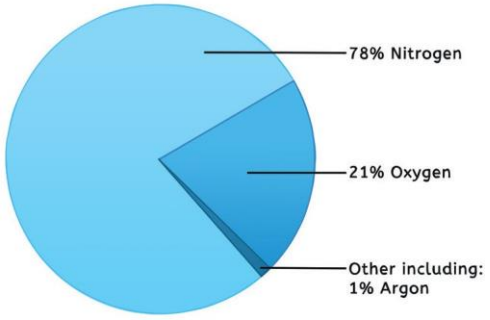
One theory suggested that **intense volcanic activity** released gases that made **Earth's early atmosphere** very similar to that of Mars and Venus. These planet's atmospheres mainly consist of carbon dioxide with little oxygen.

Nitrogen gas would have also been released from volcanoes and would have built up in the atmosphere.

Water vapour in Earth's early atmosphere would have **condensed** to create the **seas and oceans**. Carbon dioxide would have dissolved into the water, decreasing the level in the atmosphere.

Percentage of Gases in the Atmosphere

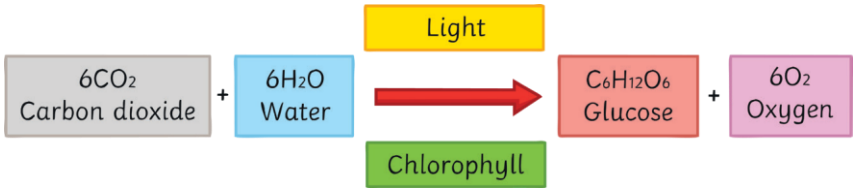
The pie chart below shows the abundance of each gas in our atmosphere.



How Did the Levels of Oxygen Increase?

2.7 billion years ago, algae first produced oxygen. Gradually over time, the levels of oxygen in our atmosphere increased as plants evolved. This was followed by animals as the levels of oxygen increased to a level that would sustain more complex life.

Oxygen is produced by plants in the process of **photosynthesis**.



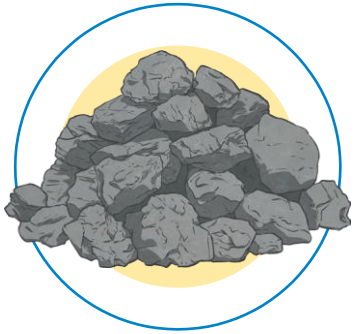
How Did the Levels of Carbon Dioxide Decrease?

Carbon dioxide **dissolves** in water. As water vapour condensed and the oceans and seas formed, the carbon dioxide gas dissolved producing **carbonate compounds**. This process reduced the amount of carbon dioxide in the atmosphere. Carbonate compounds were then **precipitated**: limestone is an example of a sedimentary rock; it has the chemical name calcium carbonate.

Plants in the oceans absorbed **carbon dioxide** gas for **photosynthesis**. The organisms from the food chains that the plants supported were turned into fossil fuels. **Fossil fuels** are **non-renewable** and consist of **coal, crude oil, and gas**, all of which contain carbon.

Crude oil was formed millions of years ago. When aquatic plants and animals died, they fell to the bottom of the sea and got trapped under layers of sand and mud. Over time, the organisms got buried deeper below the surface. The **heat and pressure** rose, turning the remains of the organisms into crude oil or natural gas. Oxidation did not occur due to the lack of oxygen.

Coal is a fossil fuel formed from **giant plants** that lived hundreds of millions of years ago in swamp-like forests. When these plants died, they sank to the bottom of the swamp where dirt and water began to pile on top of them. Over time, pressure and heat increased and the plant remains underwent chemical and physical changes. The oxygen was pushed out and all that remained was coal.



The Human Impact and the Greenhouse Effect

Scientists believe that human activities have resulted in the **increased** amount of greenhouse gases in the atmosphere. Activities such as **farming cattle** and **farming rice** release huge amounts of **methane** into the atmosphere.

Burning **fossil fuels** in cars and power stations releases large amounts of **carbon dioxide**. With large areas of the rainforest being cut down through **deforestation**, the excess carbon dioxide is not being absorbed by photosynthesis.

However, not everyone believes that humans are causing the rise in greenhouse gases. Some believe that the rise in global temperatures is associated with cycles of climate change and natural factors.

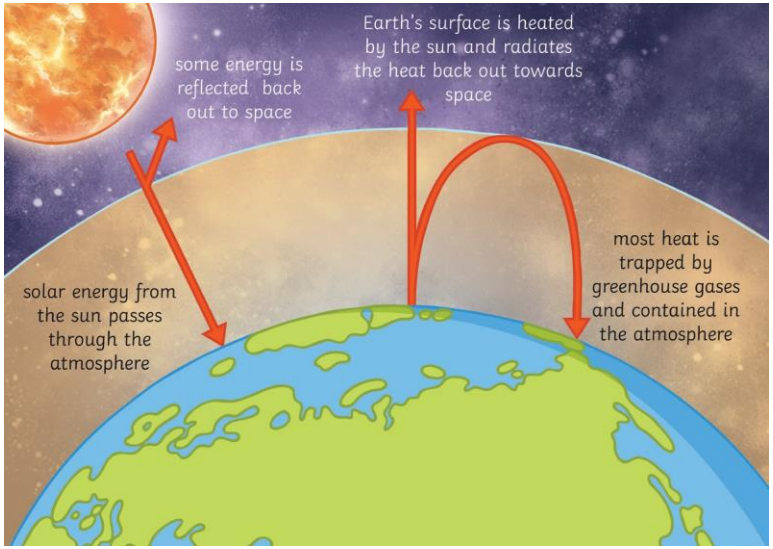
Climate science is often complicated as there are **difficulties** associated with **predicting future global temperatures**. The media present information that can be biased, inaccurate or lacks substantial evidence.

After reading an article on global warming, consider the trustworthiness of the source by considering these factors:

- Is the research done by an expert in that field and do they have the right skills and qualifications to report on the issue?
- Which organisation is reporting the evidence? If it is a newspaper, some stories are sensationalised in order to sell papers.
- Was the research funded by a legitimate organisation and was it conducted in a non-biased way? Think about the methods that were used to obtain the data and the impact the collection and analysis of this data had on the overall result.

AQA GCSE Chemistry (Combined Science) Unit 9: Chemistry of the Atmosphere

The Greenhouse Effect



A greenhouse is a house made of glass and is commonly used by gardeners to help grow plants and keep them warm. As the sun shines through the greenhouse, the air is heated up and becomes trapped by the glass and is prevented from escaping. During daylight, a greenhouse stays quite warm and this lasts into the night.

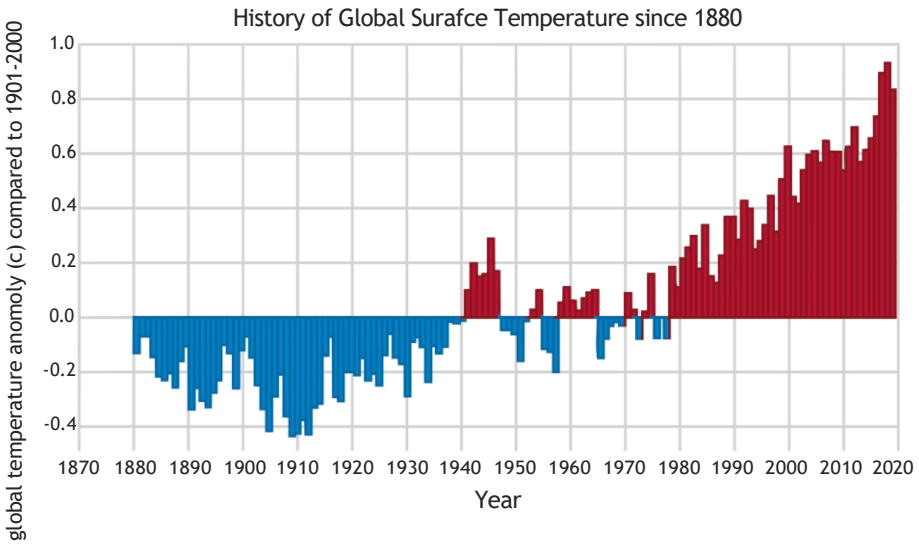
The earth and its atmosphere are very similar to that of a greenhouse. The greenhouse gases in the atmosphere trap the heat and keep the earth warm. The main greenhouse gases are **carbon dioxide**, **water vapour and methane**. During the daylight, the sun warms up the earth's surface. During the night, as the earth begins to cool and release the heat back into the atmosphere, some of the heat is trapped by the greenhouse gases in the atmosphere.

If the **greenhouse effect** becomes too **strong**, the earth will get too warm and melt the Arctic ice. As we burn more fossil fuels, the levels of **carbon dioxide** and the other greenhouse gases **increase** in our atmosphere which makes the greenhouse effect stronger.

What is the Difference Between Climate Change and Global Warming?

Since the Earth was formed over 4.6 billion years ago, its climate has constantly been changing with several ice ages followed by warmer temperatures. Changes in the Sun's energy reaching the Earth and volcanic eruptions were responsible for the changes until about 200 years ago.

Global warming is different to climate change and is used to explain how the earth's climate has warmed up over the past 200 years. Scientists believe that the warming of the climate is due to the activities of humans.



Carbon Footprint

The carbon footprint is the total amount of **carbon dioxide** and other greenhouse gases emitted over the full life cycle of a product, service or event.

An individual's carbon footprint is a calculation of all the activities that that person has taken part in throughout the year.

These activities might involve flying abroad or **travelling** by bus or rail. Each of which might be powered by petrol or diesel. **Heating a home** in winter by using a gas-powered boiler and using electricity to power lights and electronic devices. **Food** also has a **carbon footprint**, for example, beef and rice produces huge amounts of methane when farmed.

Nitrogen

Nitrogen and oxygen react together to make oxides of nitrogen. This occurs inside a **car engine** where there is a high temperature and pressure. Many compounds can be formed when nitrogen reacts with oxygen. The two that are formed inside a car engine are NO and NO_2.

Nitrogen compounds are grouped together with the general formula NO_x. Nitrogen compounds, along with sulfur dioxide, are also responsible for acid rain.

Compounds of nitrogen oxides react in the atmosphere with ultraviolet light from the sun to produce **photochemical smog**. The smog is most noticeable during the morning and afternoon and occurs mainly in densely populated cities.

The presence of smog can have a **major impact on human health**, particularly to those who suffer with **asthma**.

AQA GCSE Chemistry (Combined Science) Unit 9: Chemistry of the Atmosphere

Combustion

Complete combustion occurs when there is **enough oxygen** for a fuel to burn. A hydrocarbon will react with oxygen to produce carbon dioxide and water.

propane + oxygen → carbon dioxide + water

$C_3H_8 + 5O_2 \longrightarrow 3CO_2 + 4H_2O$

Incomplete combustion occurs when there **isn't enough oxygen** for a fuel to burn. The products in this reaction are water and poisonous **carbon monoxide**. Carbon particles (soot) may also be seen.

ethane + oxygen → carbon monoxide + water

$2C_2H_6 + 5O_2 \longrightarrow 4CO + 6H_2O$

Carbon monoxide is a poisonous gas. It is often called the **silent killer** due to it being colourless and odourless. Carbon monoxide works by binding to the **haemoglobin** in your red blood cells. This prevents them from carrying oxygen to the cells around your body. Carbon monoxide detectors are used to detect levels of the gas in the surrounding air and are often placed near gas-powered boilers to detect gas leaks.

Particulate carbon irritates the lining of the lungs making asthma worse and could cause cancer. **Global dimming** is caused by particulates of carbon blocking out the Sun's rays and may reduce rainfall.

Sulfur Dioxide

Sulfur dioxide is an **atmospheric pollutant**. It is a gas that is produced from the burning of **fossil fuels**. Sulfur dioxide is able to dissolve in rainwater and produces **acid rain**. Acid rain causes damage to forests, kills plants and animals that live in aquatic environments, and damages buildings and statues as the acid rain erodes the stone that they are made from.

sulfur + oxygen → sulfur dioxide

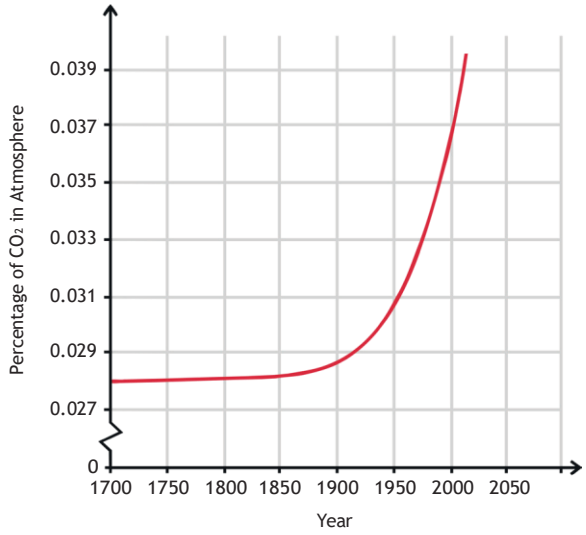
$S + O_2 \longrightarrow SO_2$

Sulfur dioxide can be further oxidised to form sulfur trioxide.

What is the Link Between Carbon Dioxide and Global Warming?

There is a strong correlation between the percentage concentration of carbon dioxide in the atmosphere and increased global temperatures.

The impact of this is that the polar ice caps are melting, sea levels are rising and habitats and rainfall patterns are changing. The impact of which is already being felt around the globe. The consequences of human activity will affect us all.



AQA GCSE Chemistry (Combined Science) Unit 10: Using Resources

Sustaining Human Life on Earth

The human **population** is **increasing** rapidly and our use of earth's finite resources has increased. If humans continue to use these resources at the rate at which we are, then we will reach a point where the human population cannot be sustained on earth.

Humans use the **earth's natural resources** for warmth, shelter, food, clothing and transport. Scientists are making **technological advances** in **agricultural** and **industrial processes** to provide food and other products that meet the growing needs of the human population but it is of major importance that this is done in a sustainable way so that our finite resources are not used up.

Earth's Resources

Finite resources are those of which there is a **limited supply**, for example coal, oil and gas. These resources can be used to provide energy but, one day, their supply will run out.

Crude oil is processed through **fractional distillation** and **cracking** to produce many useful materials such as petrol, diesel and kerosene.

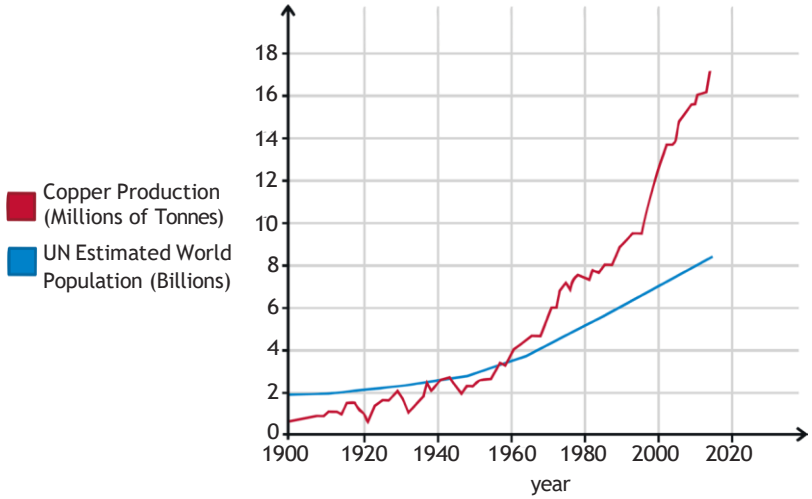
Renewable resources will not run out in the near future because the reserves of these resources are high. Examples of renewable resources include solar energy, wind power, hydropower and geothermal energy.

Haber Process and Copper

Scientists often discover new ways to produce a product; **synthetic methods** of production replace **natural methods**. For example, fertilisers were obtained from manure (a natural resource).

The **Haber process** allowed the synthetic production of **fertilisers** and this enabled **intensive farming** methods to spread across the globe. In turn, this supported the growing human population.

Copper is another resource that has been exploited over time. As the human population has increased since 1900, the demand for copper has also increased. Copper is a finite resource which means that there is a limited supply.



Water

Potable water is water that is **safe to drink**. Potable water is **not pure; dissolved impurities** still **remain** in the water. Pure water is odourless, tasteless and colourless compared to rainfall or water from streams and wells as these **harbour chemicals** such as acid.

Pure – the **definition** of a pure substance is one that contains only a single type of material that has not been contaminated by another substance.

Potable water must contain **low levels** of microbes and salts for it to be deemed safe to consume. This is because **high levels** of microbes and salts can be harmful to human health.

The methods of making water safe vary depending on where you live. Starting with sea water is harder than starting with fresh water. This is because the **energy cost** of removing large amounts of sodium chloride from seawater is greater.

In the UK, our populations' water needs are met through **rainfall**. During the **summer, water levels** in reservoirs **decrease** and local areas are encouraged to reduce their water usage by swapping baths for showers and they are asked to avoid using hosepipes.

In the UK, **insoluble particles** are **removed** from naturally occurring fresh water by passing it through **filter beds**. **Microbes** are **killed** by **sterilising the water**. Several different sterilising agents are used for potable water. These are chlorine, ozone or ultraviolet light. The right amount of chlorine and ozone gas (O_3) must be used as both are harmful to human health.

AQA GCSE Chemistry (Combined Science) Unit 10: Using Resources

Desalination of Sea Water

If fresh water supplies are limited, sea water can undergo a process called **desalination**. This process requires **large amounts of energy**, but can be done by distillation or the use of membranes such as **reverse osmosis**.

Distillation involves **heating** the sea water until it reaches **boiling point**. Once the water is boiling, it will begin to **evaporate**. The steam then rises up where it cools and condenses in a condensing tube. The salt is left behind. The **downside** to this process is the **energy cost** of boiling the water and cooling down the steam sufficiently in the condensing tube. Not all of the water evaporates which leaves behind a **salty wastewater** that can be **difficult to sustainably dispose of** without harming aquatic organisms.

Reverse Osmosis of Salt Water

Osmosis, as you will have learnt in biology, is the **movement of particles** from an area of **high** concentration **to** an area of **low** concentration through a **semi-permeable membrane**.

Reverse osmosis involves **forcing water** through a **membrane** at **high pressure**. Each membrane has tiny holes within it that only allow water molecules to pass through. Ions and other molecules are prevented from passing through the membrane as they are too large to fit through the holes.

The **disadvantage** of this method is that it produces **large amounts of wastewater** and requires the use of **expensive membranes**. Due to a large amount of wastewater produced, the efficiency of this method is very small.

Water Treatment

Before the **wastewater** from industry, agriculture and peoples' homes can be released back into the environment, it must be **treated**.

Pollutants such as human waste contain **high levels of harmful bacteria** and **nitrogen compounds** which can be a **danger to aquatic organisms**.

Industrial and agricultural waste may contain **high levels** of **toxic metal compounds** and **fertilisers and pesticides** which may also damage the ecosystem.

Cleaning sewage requires several steps:

Step 1 - The water must be **screened**. This is where material such as branches, twigs and grit is removed.

Step 2 - The water undergoes **sedimentation**; wastewater is placed in a settlement tank. The heavier solids sink to the bottom and form a sludge whilst the lighter effluent floats on the surface above the sludge.

Step 3 - The effluent is then transferred to another tank where the organic matter undergoes **aerobic digestion**. Although not pure, this water can be safely released back into the environment. The sludge is placed in another tank where the organic matter undergoes **anaerobic digestion**. It is broken down to produce fertiliser and methane gas which can be used as an energy resource (fuel).

Required Practical 8 - Analysis and Purification of Water Samples from Different Sources

Analysing the pH of Water Samples

Test the pH of each water sample using a pH meter or universal indicator. If using universal indicator, use a pH colour chart so that you are able to identify the pH of the sample against the colour produced by the indicator.

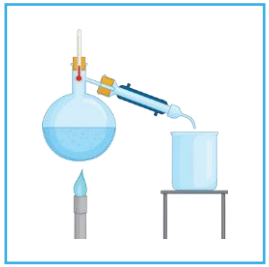
Analysing the Mass of Dissolved Solids

To measure the mass of dissolved solids in a water sample, measure out 50cm^3 of the sample using a measuring cylinder. Take the mass of an evaporating basin before heating and record the mass in a table. Place the measured amount of water into an evaporating basin and gently heat over a Bunsen burner until all the liquid has evaporated. Once the evaporating basin has cooled, place it on a top pan balance and record its mass. Calculate the mass of the solid left behind.

Distillation of the Water Sample

To distil a water sample, set up your equipment as per the diagram.

Heat the water sample gently using a Bunsen burner. After a short period of time, distilled water should be produced.



Life-Cycle Assessment (LCA)

Life-Cycle Assessments follow the four main stages of the life cycle of a product.

Stage 1 - Extracting the raw materials needed to make the products and then processing them.

At this stage, the energy and environmental costs need to be considered. For example, if the raw material being used is a finite or renewable resource, the energy to extract and transport the raw material should be considered. Environmental factors also play a large part in stage 1 as the extraction of the raw material can leave scars on the landscape and waste products may be produced that could damage local ecosystems.

Life-Cycle Assessment (LCA) (continued)

Stage 2 - Manufacturing and packaging of the product.

The main consideration is how much energy and resources are needed to manufacture the product. Energy may be used in the form of fuel, electricity or chemicals used in the production of the product. In the manufacturing process, there may be pollution and waste products that need to be considered. Transportation of the goods from the factory to the user will have an environmental impact.

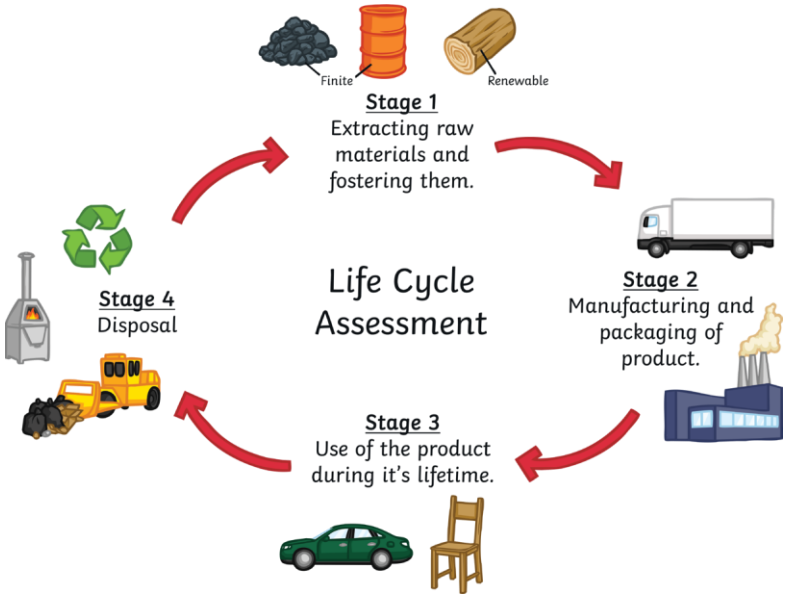
Stage 3 - Use of the product during its lifetime.

The environmental impact of a product during its life depends on the type of product. For example, a car will have a significant impact i.e. it needs to be filled with petrol or diesel, a finite resource, to get to where you are going. A car's engine releases harmful emissions into the atmosphere. On the other hand, a wooden chair may only need minor repairs and is made from a renewable resource.

Stage 4 - Disposal at the end of a product's life.

There are different methods of disposal:

1. Landfill - the product is put in a hole in the ground - high environmental impact.
2. Incineration (organic matter) - burning of the product - low environmental impact.
3. Recycling - for example, batteries contain metal compounds that are not good for the environment. By recycling, it means that no new compounds have to be taken out of the ground.



Comparative LCAs

Comparative LCAs are used to evaluate products and to find which one will have a lower environmental impact.

Stage 1 - raw material	Uses a finite resource (crude oil). The processes of fractional distillation, cracking and polymerisation all require energy to make crude oil useful.	Made from trees/recycled paper. Making paper from trees requires more energy than recycled paper because trees have to be chopped down. Still uses less energy than making plastics from crude oil.
Stage 2 - manufacture	Cheap to make.	More expensive to make.
Stage 3 - use	Plastic bags have a low environmental impact as they can be used a number of times. In comparison to paper bags, they are much stronger.	Paper bags can only be reused a limited number of times and so have a short lifetime.
Stage 4 - disposal	The downside to plastic bags is that they do not biodegrade easily in landfill. Recycling options are available. If they are not disposed of correctly, plastic bags can have a detrimental impact on the environment and animal habitats.	Paper bags biodegrade easily in landfill sites.

Disadvantages of Comparative LCAs

The disadvantage of **comparative LCAs** is that some parts of it require certain judgements to be made.

Different people have different opinions and this is dependent on who completes the LCA and whether a certain level of bias is added. For example, if the LCA is completed by a company that is manufacturing a specific product, they may only discuss **some** of the environmental impact of their product in the LCA. Accurate numerical values, for example, show a company how much energy has been used in the **manufacturing process** or how much **carbon dioxide** was produced when the goods were transported.

Recycling

Many materials are made from **natural resources** that have **limited supplies**. Reusing items such as glass bottles that only need washing and sterilising saves energy and reduces the environmental impact. Not all products can be reused, some need to be recycled before reuse.

There are both advantages and disadvantages to recycling materials.

Advantages

- Fewer resources such as **mines** and **quarries** are needed to remove raw, finite materials from the ground. For example, copper.
- Crude oil, the raw material used in the production of plastics, does not need to be extracted. This, in turn, **avoids** high energy cost processes such as fractional distillation and cracking. If more items are recycled, less would end up in landfill sites.
- The amount of greenhouse gases would reduce as the energy cost of recycling is a lot **less** than making a new product.

Disadvantages

- Recycling items require collection and transport of the goods to the organisation. This involves using staff, vehicles and the use of fuel.
- Some materials, such as **metals**, can be **difficult to sort**; the amount of sorting is dependent on the purity of the materials or metals and the level of purity required for the final product. For example, copper used in electrical appliances must have a high purity. To achieve this, the copper needs to be processed and then melted down again to make copper wiring.
- Steel that is used in the construction industry does not require such high purity. Often scrap iron is added to the furnace when steel is made. This reduces the need for as much iron ore and reduces the cost of making steel.

Biological Extraction Methods (Higher Tier Only)

Biological methods of extraction are needed as the resources of **metal ores** on earth are in **short supply**. Large scale **copper mining** leaves **scars on the landscape** and produces significant amounts of waste rock that must be disposed of. Biological methods have a lower impact on the environment and make use of waste containing small amounts of copper. The disadvantages of **biological extraction methods** are that they are **slow**, but they do reduce the need to obtain new ore through mining and conserve limited supplies of high-grade ore.

Phytomining

Phytomining involves the use of **plants**. Plants absorb the metal compounds found in the soil. The plants cannot get rid of the copper ions and it builds up in the leaves. The plants are then **harvested, dried** and then placed in a furnace. The ash that is produced from the burning process contains soluble metal compounds that can be extracted. The ash is dissolved in an acid such as hydrochloric or sulfuric and the copper is then extracted by electrolysis or through a **displacement**

Bioleaching

Bioleaching uses **bacteria** to produce an acidic solution called **leachate** which contains **copper ions**. The disadvantage of bioleaching is that it produces **toxic substances** that are **harmful to the environment**. To process the copper, the copper undergoes a displacement reaction with iron. Iron is cheaper and a **more cost-effective** way of producing copper from the leachate.

Inheritance, Variation and Evolution Knowledge Organiser

Keywords

allele - An alternative form of a gene.

asexual reproduction - The production of offspring from a single parent by mitosis. The offspring are clones of the parent.

chromosome - Structures that contain the DNA of an organism and are found in the nucleus.

cystic fibrosis - A disorder of cell membranes that is caused by a recessive allele.

DNA - A polymer that is made up of two strands that form a double helix.

dominant - An allele that is always expressed, even if only one copy is present.

fertilisation - The fusion of male and female gametes.

gamete - Sperm cell and egg cell in animals; pollen and egg cell in plants.

gene - A small section of DNA that codes for a specific protein.

genome - The entire genetic material of an organism.

genotype - The combination of alleles.

heterozygous - A genotype that has two different alleles, one dominant and one recessive.

homozygous - A genotype that has two of the same alleles. Either two dominant alleles or two recessive alleles.

meiosis - The two-stage process of cell division that reduces the chromosome number of the daughter cells. It makes gametes for sexual reproduction.

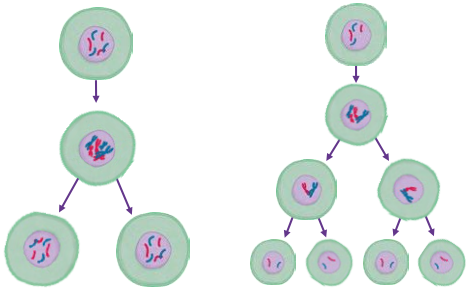
mutation - A change in DNA.

phenotype - The characteristic expressed because of the combination of alleles.

polydactyly - Having extra fingers or toes. It is caused by a dominant allele.

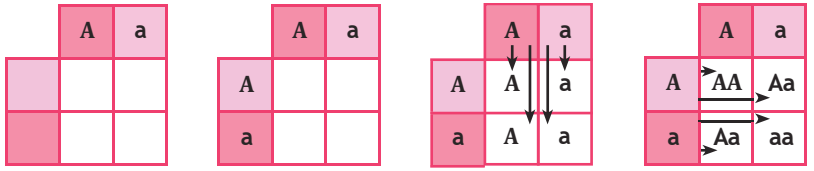
recessive - An allele that is only expressed if two copies of it are present.

sexual reproduction - The production of offspring by combining genetic information from the gametes of two parents. Leads to variation in the offspring.



Mitosis	Meiosis
Produces two daughter cells.	Produces four daughter cells.
Daughter cells are genetically identical.	Daughter cells are not genetically identical.
The cell divides once.	The cell divides twice.
The chromosome number of the daughter cells is the same as the parent cells. In humans, this is 46 chromosomes.	The chromosome number is reduced by half. In humans, this is 23 chromosomes.
Used for growth and repair, and asexual reproduction.	Produces gametes for sexual reproduction.

How to Complete a Punnet Square



Step 1:

Put the two alleles from one parent into the boxes at the top. This parent is a heterozygote. This means they have one dominant and one recessive allele.

Step 2:

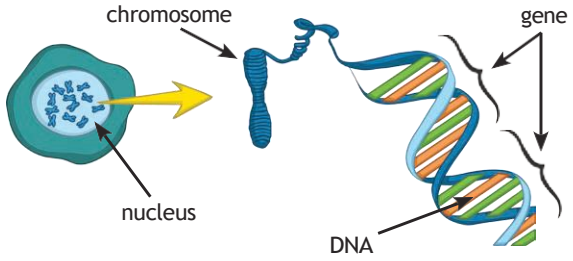
Put the two alleles from the second parent into the boxes on the left. This parent is also a heterozygote.

Step 3:

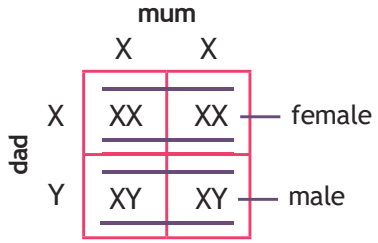
Put the alleles from the first parent into the two boxes underneath them.

Step 4:

Put the alleles from the second parent into the two boxes to the right of them.



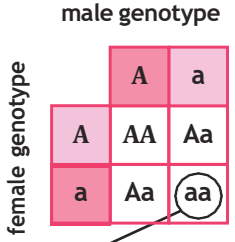
Sex Determination



Females carry two X chromosomes.
Males carry one X and one Y chromosome.

Probability

There are four possible combinations of gametes that offspring can inherit.



One of these four has the genotype aa - that's ¼, 25% or 0.25.

The recessive phenotype has a ratio of 1:3 because only one combination will show the phenotype while the other three will not.

Inheritance, Variation and Evolution Knowledge Organiser

Keywords

embryo screening – Genetic tests carried out on an embryo to see whether it carries a faulty allele.

evolution – A change in the inherited characteristics of a population over time through a process of natural selection.

evolutionary tree – A method used to show how scientists believe organisms are related.

extinction – The permanent loss of all members of a species.

fossils – The remains of organisms from millions of years ago which are found in rocks.

genetic engineering – The process by which scientists manipulate and change the genotype of an organism.

natural selection – The process by which organisms that are better suited to an environment are more likely to survive and reproduce.

selective breeding – Humans selecting animals or plants, that have a required characteristic, for breeding.

speciation – The process by which two species evolve from a single original species by natural selection. The two populations have become so different that they can no longer interbreed to produce fertile offspring.

variation - Differences in characteristics of individuals in a population.

Variation

Variation maybe be due to differences in:

- the genes that have been inherited (genetic causes);
- the conditions in which they have developed (environmental causes);
- a combination of genes and the environment.

Evolution

All species of living things have evolved from simple life forms by natural selection.

- If a variant/characteristic is advantageous in an environment, then the individual will be better able to compete.
- This means they are more likely to survive and reproduce.
- Their offspring will inherit the advantageous allele.

Fossils

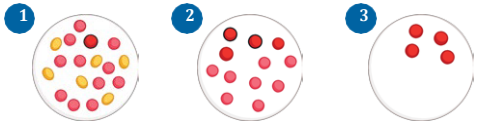
Fossils could be:

- the actual remains of an organism that has not decayed;
- mineralised forms of the harder parts of an organism, such as bones;
- traces of organisms such as footprints or burrows.

Many early life forms were soft-bodied so have left few traces behind.

Fossils help us understand how much or little organisms have changed as life developed on earth.

Resistant Bacteria



There is variation in the bacterial population. One bacterium develops a mutation by chance that means it is resistant to an antibiotic.

The antibiotic kills some of the bacteria, the resistant bacterium survives and reproduces.

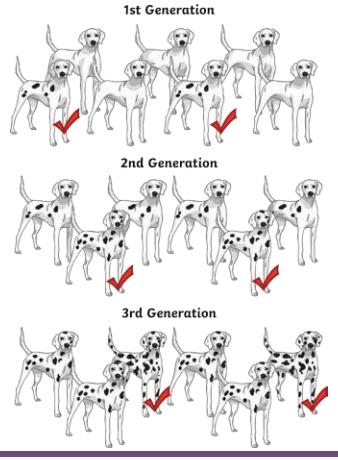
The antibiotic kills the rest of the non-resistant bacteria so the person may start to feel a little better. The resistant bacterium has survived the antibiotic and continues to multiply.

To reduce the rate at which antibiotic-resistant strains appear:

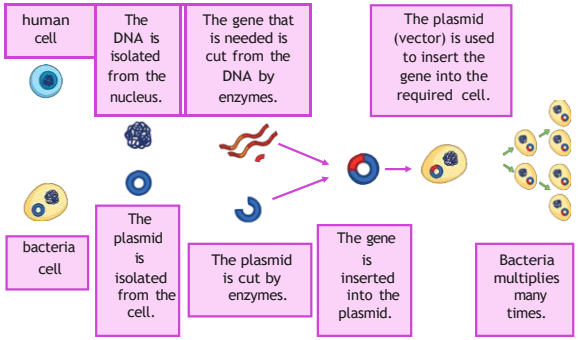
- Antibiotics should only be used when they are really needed, not for treating non-serious or viral infections.
- Patients should complete their courses of antibiotics, even if they start to feel better.
- The agricultural use of antibiotics should be restricted.

Selective Breeding

1. Choose parents who have the desired characteristic.
2. Select the best offspring and breed these to make the next generation.
3. These offspring are then bred again and again, over many generations, until a desired result is achieved.



Genetic Engineering

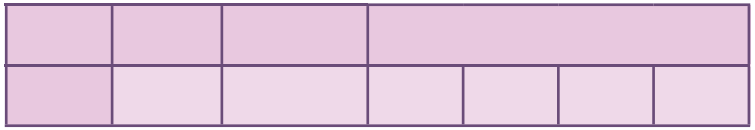


Classification

Linnaeus classified living things into kingdom, phylum, class, order, family, genus and species.

Organisms are named by the binomial system of genus and species.

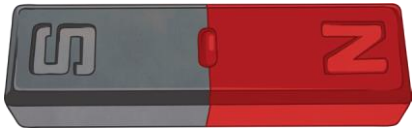
Due to evidence from chemical analysis, there is now a 'three-domain system' developed by Carl Woese.



AQA Combined Science: Physics Topic 7 Magnetism and Electromagnetism

Poles of a Magnet

A magnet has two ends called **poles**: the **north pole** and the **south pole**. The magnetic forces of the magnet are strongest at the poles.



When two magnets are brought close together, they will **attract** or **repel**, depending on which poles are brought together:

- **Like poles** will **repel** one another e.g. N-N or S-S.
- **Opposite poles** will **attract** e.g. N-S.

The forces exerted between the poles of two magnets are a type of **non-contact force**: the magnets do not have to be touching for the effect to be observed.

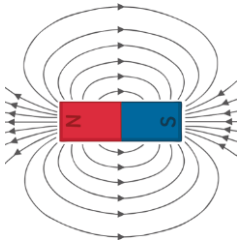
Remember that only **iron**, **cobalt** and **nickel** (or alloys containing these metals) are magnetic.

A **permanent magnet** is one with its own magnetic field. The magnetism cannot be turned on or off e.g. a bar magnet or a horseshoe magnet.

An **induced magnet** is a material which becomes magnetic only when placed within a magnetic field. Induced magnets only attract other materials and lose most (if not all) of their magnetism when removed from the magnetic field e.g. iron filings.

Magnetic Fields

The **magnetic field** is the area surrounding a magnet where the force is acting on another magnet or magnetic material. It can be observed using a compass placed at different points around a bar magnet. The field lines can be drawn by using the compass to mark the direction at a range of points.



A magnet always causes a magnetic material to be **attracted**. The strength of the magnetic field is determined by the proximity to the magnet.

When looking at a diagram of magnetic field lines, the force is strongest where the lines are closest together. The magnetic field of the magnet is strongest at the poles. The direction of the magnetic field shows the direction the force would act on another north pole.
As a result, magnetic field lines always come away from the north pole (like poles repel) and towards the south pole (unlike poles attract).

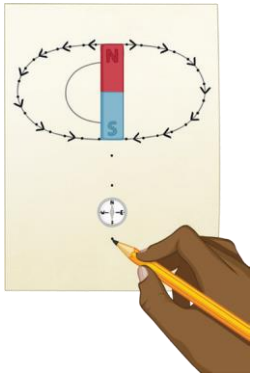
The earth produces a magnetic field and a magnetic compass uses this to help aid navigation. The core of the earth is made of iron (a magnetic material). A compass contains a small bar magnet shaped as a needle, which points in the direction of the earth's magnetic field.

Plotting Magnetic Field Lines

A magnetic compass can be used to plot and draw the magnetic field lines around a magnet.

You should be able to describe this method for a bar magnet.

1. Place the bar magnet in the centre of a sheet of plain paper.
2. Using a magnetic compass, position it on the paper somewhere around the magnet.
3. Observe the direction of the needle and carefully draw a dot at the circumference of the magnet, in line with each end of the needle. Make sure you include an arrow to indicate the direction of north.
4. Repeat steps 2 and 3 for several positions around the magnet.
5. Join the arrows to complete the magnetic field lines and whole pattern.



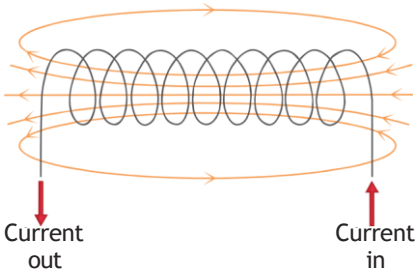
Electromagnetism

A circular **magnetic field** is produced when a current is passed through a conducting wire. This produces an **induced magnet**.

Switching off the current causes the magnetism to be lost.

The strength of the magnetic field can be increased by increasing the current flowing through the wire. The strength of the magnetic field is stronger closer to the wire.

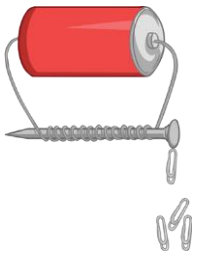
Coiling the wire to form a **solenoid** will also increase the strength of the magnetic field. The strength of the magnetic field created by a solenoid is strong and uniform throughout.



To increase the strength of the magnetic field around a solenoid you can...

- add an iron core;
- increase the number of turns in the coil;
- increase the current passing through the wire.

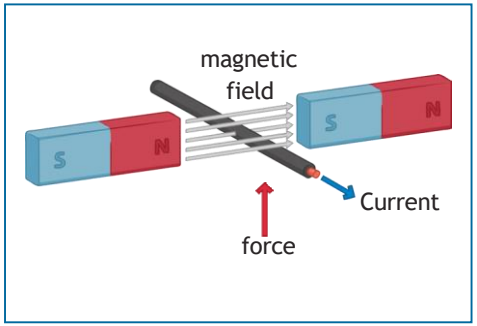
An **electromagnet** is a solenoid with an iron core. Electromagnets are **induced magnets** and can be turned on and off.



Electric motors, loudspeakers, electric bells and remotely controlled door locks all use **electromagnets**.

The Motor Effect and Flemings Left-Hand Rule

When a wire carrying a current is exposed to the magnetic field of another magnet, then a **force** is produced on the wire at a **right angle** to the direction of the magnetic field produced.



This is called the **motor effect**.

The force produced by the motor effect can be calculated using this equation:

force (N) = magnetic flux density (T) × current (A) × length (m)

For example:
A current of 8A is flowing through a wire that is 75cm long. The magnetic field acting at a right angle on the wire is 0.5T. Calculate the force.

$F = B \times I \times l$

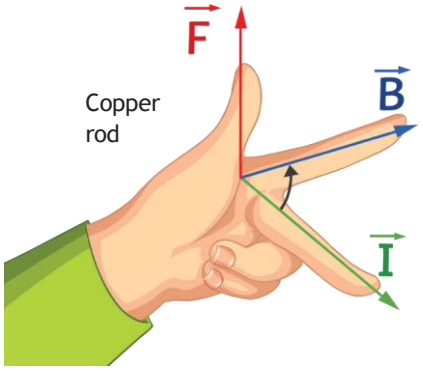
Remember: the equation uses length measured in m. The question gives you the length in cm so you need to convert it before you calculate your answer.

$F = 0.5 \times 8 \times 0.75$

$F = 3N$

From the equation we can see that the force acting on a given length of wire (e.g. 1m) will be increased if the current increases or the magnetic flux density increases. If the current flowing through a wire is **parallel** to the magnetic field, then **no force** is produced – there is no motor effect.

You might be shown a diagram and asked to indicate the direction of the force produced. **Fleming's left-hand rule** can help you do this because it represents the **relative orientation** of the force produced by the motor effect.

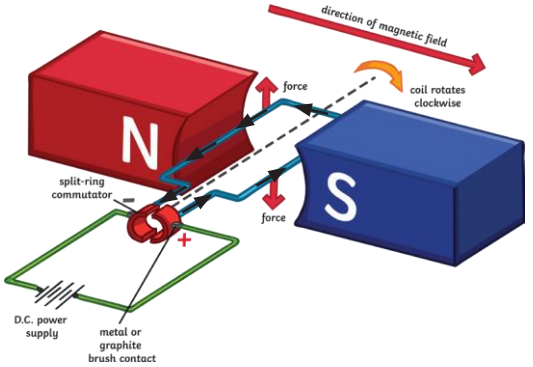


Remember:

- Use your **left hand**!
- The angle between your index finger and middle finger should be a **right angle** on the horizontal plane.
- The angle between your index finger and thumb should be a **right angle** on the vertical plane.
- Your **thumb** represents the direction of the **force**.
- Your **index finger** represents the direction of the **magnetic field**.
- Your **middle finger** represents the direction of the **current** flowing through the wire.

Electric Motors

When the wire carrying the current is **coiled**, the motor effect acting on it causes the wire to **rotate**. This is how an **electric motor** works.



As the **current** flows (from negative to positive), the force produced in each side of the coil acts in **opposite directions**, causing the coil to **rotate** overall.

When the coil reaches a **vertical position**, the force produced is now **parallel** to the magnetic field line and so would be **zero**. This would cause the motor to stop rotating.

To maintain the rotation of the coiled wire, a **split ring commutator** is used to supply the current to the wire. The DC supply reaches the split ring via graphite or metal **brushes** which maintain the connection while allowing it to rotate freely on the **axle**.

The two halves of the split ring commutator ensure that the **current supplied** to the wire **changes direction** each half-turn (or that the current supplied is the same direction on each side of the motor) and as a result, the force produced maintains a **constant rotation** in one direction overall.

BTEC Tech Award Health and Social Care Component 2—Learning Aim A

Knowledge Organiser

Understand the different types of Health and Social Care services and barriers to accessing them.

This knowledge organiser will help you to understand key words and concepts, as well as how to spell them and define what they mean.

A1: Health and Social Care Services

Health Care Services

Primary Care Services

Usually the service which an individual would access first if they had a health issue. For example: GP, dentist, optometry.

Secondary and Tertiary Care Services

Secondary/tertiary care refers to services provided by medical specialists who generally do not have the first contact with a patient but they have been passed on by the primary service. For example: cardiologists (heart disease) and neurologists (for problems with the nervous system).

Allied Health Professionals

AHPs provide treatment and support for adults and children who are ill, have disabilities or additional needs. They work across a wide range of different settings including the community and people's homes, as well as hospitals. For example: dieticians and physiotherapists.

Social Care Services—includes informal support offered by friends and family

Services for children and young people, e.g. foster care, residential care, youth work

Services for adults or children with specific needs (learning disabilities, long-term health issues), e.g. residential care, respite care

Services for older adults, e.g. residential care, home care services.

A2: Barriers to accessing Services

Some individuals cannot access services due to barriers which prevent (stop) them from doing so.

Physical barriers, e.g. issues getting into and around the facilities.

Sensory barriers, e.g. hearing and visual difficulties

Social, Cultural and Psychological barriers, e.g. lack of awareness, differing cultural beliefs

Language barriers, e.g. differing first language, language impairments

Geographical barriers, e.g. distance of service provider, poor transport links

Intellectual barriers, e.g. learning difficulties

Resource barriers for service provider, e.g. staff shortages, lack of local funding

Financial barriers, e.g. charging for services, cost of transport, loss of income while accessing services.

Key Words: Primary, Secondary, AHPs, Barriers

BTEC Tech Award Health and Social Care Component 2—Learning Aim B

Knowledge Organiser

Demonstrate care values and review own practice

This knowledge organiser will help you to understand key words and concepts, as well as how to spell them and define what they mean.

B1 Care Values

Care Values are a range of standards within Health and Social Care settings, that help to guide professionals in giving the most appropriate care to each individual.

1. Empowering and promoting **independence** by involving individuals, where possible, in making choices, e.g. about treatments they receive or about how care is delivered.
2. **Respect** for the individual by respecting service users' needs, beliefs and identity.
3. Maintaining **confidentiality** (when dealing with records, avoiding sharing information inappropriately, e.g. gossip)
4. Preserving the **dignity** of individuals to help them maintain privacy and self-respect
5. Effective **communication** that displays empathy and warmth
6. **Safeguarding and duty of care**, e.g. maintaining a healthy and safe environment, keeping individuals safe from physical harm
7. Promoting **anti-discriminatory** practice by being aware of types of unfair discrimination.

B2 Reviewing own application of care values

Using teacher feedback from your demonstration, you will be expected to: Identify your own strengths (what was good about your demonstration of the care values) and areas for improvement (what didn't go so well) against the care values.

Definitions

Independence

Free to make own choices.

Respect

Understanding the feelings and wishes of others.

Dignity

Keeping respect and for a person.

Anti-Discriminatory

Prevents discrimination on gender, age, race, disability etc.

Confidentiality

Keeping information private and secure.

Knowledge Organiser | A1. Factors affecting Health & Wellbeing | Physical & Lifestyle factors

Health & Social Care
BTEC Technical Award - Component 3

Health & wellbeing

What you need to know: - definition, factors

Not just the absence of disease but a holistic attitude/the whole person:
Physical (healthy body, regular exercise, a healthy diet, sleep, shelter & warmth, personal hygiene)
Intellectual (keeping the brain healthy, concentrate, learn new knowledge/skills, communicate & solve problems)
Emotional (feeling safe & secure, express emotions, deal with negative emotions, self-concept)
Social (friendships, relationships with friends and family)

Genetic inheritance

What you need to know:
- inherited conditions - predispositions

Genetic inheritance is a physical factor that can have positive and negative effects
Genes are inherited from both birth parents

Inherited characteristics
- height, eye colour, hair colour
- This can effect self image (how you see yourself) & self esteem, (how you feel about yourself)

Inherited conditions
Different versions of genes are called alleles.
Some alleles can be faulty and pass on conditions
Dominant condition
(one parent passes faulty allele on)
i.e. Huntington's – involuntary movements and loss of intellectual ability
Recessive condition
(both parents pass faulty allele on)
i.e. Cystic fibrosis – sticky mucus on the lungs

Genetic predisposition
Some people are predisposed (more likely) to develop a condition due to genetic makeup
i.e. heart disease, cancer, diabetes.
Whether they end up developing the conditions depends on their lifestyle & environmental factors
(.e. Diet, exercise)

Ill Health

Ill health -a physical factor which can have a negative effect on health & wellbeing

What you need to know:
- Effects on a persons PIES, difference between acute & chronic

Chronic
Comes on more slowly, lasts a long time
Usually treated, not cured
i.e. diabetes, arthritis, asthma, heart disease

Management:
Address the negative impacts on the person and try to control the symptoms (i.e. use of medication, counselling, schooling in hospital, support groups)

Effect on PIES –
P – growth rates, restricted movements
I – disrupted learning, difficulties in thinking./problem solving, memory problems
E – negative self-concept, stress
S – isolation, loss of independence, difficulties forming relationships

Acute
Starts quickly, lasts for a short period of time. Usually cured
i.e. bacterial/viral infection, flu, broken bones, pneumonia
Management - Usually with medication

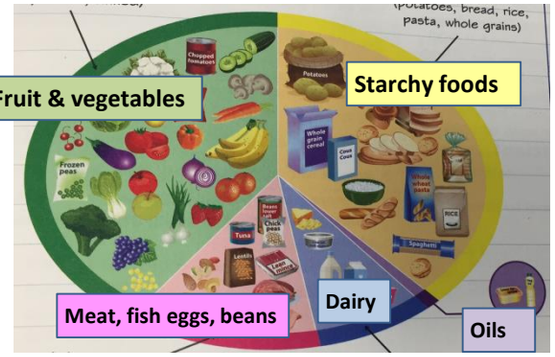
Diet

What you need to know: - amounts, quality, effects of poor diet
Diet - lifestyle choice. Diet = The balance of foods a person eats (diet doesn't mean weight loss!)

Foods to avoid
Salt – raises blood pressure –> heart disease

Saturated fat – raises blood cholesterol –> heart disease
*found in animal fats such as meat, butter

Sugar – rots teeth, high in kcals (energy) -> tooth decay & weight gain



Section	Nutrient	Needed for
Starchy	Carbohydrates (& fibre if wholemeal)	Carbohydrates - Provides energy Fibre – Digestive system/prevents constipation
Fruit & vegetables	Vitamins Fibre	Vitamins - Keep the body healthy Fibre – Digestive system/prevents constipation
Meat, fish, eggs, beans	Protein	Growth and repair of cells and muscles
Dairy	Calcium	Strong bones and teeth
Oils	Unsaturated fats	Reduces cholesterol, Keeps the body warm, Protects organs

Other points:
Water is important to stay hydrated
Control calorie intake to manage weight.
More energy in (food) than expended in exercise causes weight gain
Less energy in (food) than expended in exercise causes weight loss

Physical activity

What you need to know:
- recommendations
– benefits at each life stage

Exercise is a lifestyle choice
- gentle – walking, housework
- moderate – light jog, steady swim
- vigorous – spinning, football

How much?
Changes depending on age. Adult: approx. 150 mins moderate per week

Lack of exercise:
Stiff joints
Poor stamina/strength
Obesity
Stroke
Heart disease
Osteoporosis
Poorly formed muscle

Why?
P – lower BMI, energy, stamina, strengthen bones & muscle
I – links to better memory and thinking skills
E – increases confidence, Relieve stress, concentrate, relax
S – social interaction, communication, teamwork

Substance misuse

Alcohol - a lifestyle choice
Men & women should drink <14 units/week
1 unit = 1 single spirit
1.5 units = 1 pint, 1 small glass of wine
Avoid saving units for 'binge'
Can increase risk of addiction & cancers.

Effect on PIES
P – dependence (alcoholism) damage to organs (mouth, liver, breast), infertility, weight gain
I – difficulty in decision making, depression, anxiety, stroke & brain damage
E – poor judgement leading to risky behaviour
S – relationship breakdown, domestic violence

Smoking & Nicotine – a lifestyle choice.
Nicotine is an addictive drug found in tobacco products.
Cigarette smoke contains nicotine, tar, carbon dioxide & soot which are all harmful.
People smoke to relieve stress, peer pressure, or are unable to quit. Passive smoking also carries risk to others

Effect on PIES
P – increases risk of disease (cancer, stroke, coronary heart disease and others)
I – addiction leads to irritation, distraction & stress when unable to smoke. Increase chance of anxiety and depression.
E – poor self concept. May worry about negative impacts on health and costs.
S – may feel socially excluded when smoking, people may avoid smokers due to smell.

Drugs – including legal and illegal.
Prescription misuse - when people take for non medical (recreational use), become addicted to them, take excess, or take someone else's.
Stimulants - alertness, excitability (i.e. Cocaine, nicotine)
Depressants –calm, relax (i.e. cannabis, alcohol, heroine)
Hallucinogens – cause hallucinations i.e. LSD, ketamine)

Effect of drug misuses
Addictive drugs are taken to change the mental state, to give an immediate feeling of wellbeing or happiness but they have long term effects. i.e. Paranoia,, sleep problems, anxiety, depression, suicidal feelings,

Personal hygiene

Good personal hygiene
Prevents spread of infection
Improves self concept
-Hand washing
- Washing
- Nails clean
-Tissue for cough/sneeze
-Brushing and washing hair
-Brushing teeth
-Clean clothes
-Flushing the toilet

The cleanliness of a persons body. Essential for health & wellbeing

Effect on PIES of poor personal hygiene
P - Catching & spreading disease
Poor body odour, bad breath & tooth decay
Illness such as food poisoning, sore throat, athletes foot.
I – may reduce chance of job
E – poor self – concept, bullied
S – social isolation, loss of friendship.

Key Words

Health & Wellbeing – how physically fit and mentally stable a person is (not just absence of disease)
Genetic Predisposition – more likely to inherit a condition based on genes
Chronic illness – gradual, long term illness, treated not cured. i.e. asthma
Acute illness – illness comes on quickly, short term & curable i.e. cold
Balanced diet - variety of different types of food and providing adequate amounts of the nutrients necessary for good health.
Substance misuse - continued misuse of any mind-altering substance that affects a person's health & wellbeing (drugs, alcohol, smoking)
Hygiene - cleanliness of body and clothing to maintain health & wellbeing.

Knowledge Organiser

A1. Factors affecting Health & Wellbeing

Social, emotional, cultural, economical & environmental factors

Health & Social Care BTEC Technical Award - Component 3

Social interaction

Between family–friends–work colleagues–school friends.

Reacting to people through communication & relationships

Integration – when people feel they belong to a group
Isolation - when people do not have contact with others.
Due to: staying in, physical illness, reduced mobility or unemployment, mental illness, a condition such as autism

	Positive relationships	Negative relationships
P	Day to day care & practical assistance	Peer pressure/Poor lifestyle choices (drinking)
I	Shared experiences, supported learning & thinking	Less support with learning, conversation
E	Unconditional love, security, contentment , self concept, independence & confidence	Loneliness,, insecurity, anxiety, depression,
S	Companionship, social interactions	Relationship difficulties

Relationship breakdown Can lead to:
Anxiety, stress, depression insecurity, loss of confidence, poor lifestyle choices, more pressure on finances, new home etc

Topics
-Social interaction
-Stress
-Economic/financial
-Life events
-Environment & Living Conditions
- Willingness to seek help or access services

Stress

Feelings of mental & emotional tension.

Occurs when the body responds to demand
The hormone adrenaline is released
Trigger 'fight or flight' response
– *so you respond instantly in life or death situations*
BUT an overreact ion to non life threatening situation can cause negative stress.

Causes of stress
Pressures at work
Exams
Financial difficulties
Life events
(illness, relationship changes, moving home, bereavement)

Effect on health & wellbeing

Physical
Short Term:
-Tense muscles
-Fast breathing
-Dry mouth
-Faster heartbeat
-Butterflies
-Urge to pass water (urine)
-Diarrhoea
-Sweaty hands

Physical:
Long term:
-Sleeplessness
-High blood pressure
-Irritability
-Loss of appetite
-Heart disease
-Headaches
-Poor sex life
-Anxiety
-Mood swings

Intellectual
Forgetfulness
Poor concentration
Difficulty in making decisions

Emotional
Difficulty controlling emotions – crying, angry
Feeling insecure
Negative self concept
Feeling anxious

Social
Difficulty making friends/building relationships
Breakdown of close relationships
Loss of confidence
Social isolation

Willingness to seek help or access services

Asking for help
People need to seek help from health & social services at various stages. Being reluctant can lead to negative effects

Barrier 1: Gender
Men are less likely to access as they are often less open & avoid looking vulnerable

Barrier 2: Education
More educated are more likely to seek help
They are more likely to:
Research symptoms and know when help is needed
Understand importance of early diagnosis & treatment
Know how and where to access services

Barrier 3: Culture
Social behaviour, value, transition, customs and beliefs of communities. E.g.
- discriminated against when accessing services
- not speaking English well enough to discuss issues
- some cultures require women to see women
- Some cultures use 'alternative therapy'
- stigma (feel ashamed)of conditions e.g., depression

Environmental & Living conditions

Air – water – noise – light – housing - area

Environmental – Air, water and land around us.
Pollution - Contamination of the environment & living organisms by harmful chemicals.

Examples
Outdoor air – Chemicals from factories, exhausts
Indoor air – Aerosols, mould, cigarette smoke, carbon monoxide from heating
Water– Farm fertilisers/pesticides, waste, sewage
Food pollutants – chemicals in food production
Noise – Machinery and traffic music, loud neighbours
Light – Excess lighting, street lights

Impact of pollutants
• Lung problems *(Bronchitis, asthma, lung cancer)*
• Heart damage *(disease, stroke)*
• Reduction of brain function *(thinking and memory)*
• Low birth weight or premature births

Housing
Good living conditions
Less polluted areas, quiet, safe, spacious, warm, dry, safe outdoor space
Poor living conditions
- Overcrowding – anxiety & depression, sleeplessness, difficulty concentrating & studying
- Lack of open space – less exercise & physical play
- Pests - Rats carry disease, bugs carry disease
- Damp & mould - Respiratory problems (asthma)
- Poor heating – poor health (cold, flu) heart disease

City
Better transport links
Close to facilities i.e. Shops, gym, entertainment, health services
Easy assess to social events
BUT pollution problems

Rural
Sense of community
Access to outdoors & less polluted
BUT commute, difficult to access services, isolation

Economic

Relate to a persons employment situation & financial resources. Effects lifestyle, health & wellbeing

Factors

2) Occupation - Job role & status (i.e. level of responsibility, salary)

3) Employment/ unemployment
- Part time
- Self employed
- Not being able to find work (due to being disabled, made redundant, or being reliant on state benefits)

1) Wealth
-Level of income
- Amount of personal wealth, including non-essential, valuable material possessions (jewellery, cars & property)

Adequate income:
Pay for rent/mortgage – Pay bills (heating etc.)
- Afford luxuries, clothing, holidays, car, house with a garden – Eat a balanced diet – Socialise with friends - Afford travel to leisure/health services – Live in suburbs /countryside

Relative Poverty - Can only afford the essentials. (reduced financial resources)
Life choices will be limited -more likely to:
- suffer ill health
- lack personal development *(i.e. school trips, warm clothes, doing well at school)*

Absolute Poverty -Not enough money to meet basic needs (food, clothing, housing) even with benefits.

	Positive	Negative
P	Good housing conditions Healthy diet Manual jobs can improve muscle tone & stamina	Poor housing conditions Poor diet Manual jobs - muscular/skeletal problems Desk jobs - less activity and weight gain
I	Opportunity to access intellectual activities Work, education & training helps to develop problem-solving & thinking skills	Long hours -less leisure time & reduced learning opportunities Being unemployed can result in poor mental health
E	A well paid job gives a feeling of security and less stress/worry over housing etc. Affording to socialise =positive self concept	Financial worries - stress & breakdown of relationships Not affording to go out and socialise =depression Unemployment of a low status job =low self concept
S	Better financial resources =opportunities to socialise Socialise with colleagues	ask of financial resources reduces opportunities for socialising Reduced opportunities for relationships = social isolation Financial worries = stress & breakdown of relationships

Life events

Events can change life circumstances in positive & negative ways

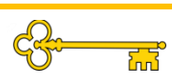
Expected
These can be predicted. They are easier to plan for & manage the effects
-Leaving school
-Starting school
-Moving house
-Starting work
-Living with a partner
-Marriage/civil partnership
-Retirement

Effects on health & wellbeing:
Positives:
New friends, learning, skills, independence, excitement, confidence
Negatives:
Anxiety, insecurity, stress, unhappiness about loss of 'old' life, change in lifestyle

Unexpected
Cannot be predicted and cannot prepare.– has a greater impact
e.g. Redundancy, imprisonment, exclusion, sudden death of someone close (bereavement) and ill health, accident or injury

Effects on health & wellbeing:
P – High blood pressure
I – Depression, difficulty thinking & decision making, memory
E – Difficulty sleeping, grief, insecurity, stress and anxiety
S – Isolation, loss of friends
Some positives – catalyst for change of behaviours, opportunities for new study or training, support for emotional, diet etc

Key Words



Health & Wellbeing – how physically fit and mentally stable a person is (not just absence of disease) Linked to PIES.

Social integration – When people feel they belong to a group

Social Isolation - When people do not have contact with others.

Social interaction Acting/reacting to people through communication & relationships

Stress - Feelings of mental & emotional tension.

Adrenaline – a hormone released when the body responds to a demand which can lead to stress.

Economic - Relate to a persons employment situation & financial resources

Income – money people receive from work, savings pensions or benefits.

Expected life events – can be predicted e.g. Leaving school

Unexpected life event – cannot be predicted i.e. Bereavement

Environmental – The air, water and land around us.

Pollution - contamination of environment & living organisms by harmful chemicals.

Knowledge Organiser

B/C. INTERPRETING HEALTH AND LIFESTYLE DATA and DESIGNING AN IMPROVEMENT PLAN

Health & Social Care
BTEC Technical Award - Component 3

Health Indicators

B1 Physiological indicators

Physiological indicators that are used to measure health:

- **Pulse** (resting and recovery rate after exercise) (you will be given this data, compare theirs against recommended healthy data.)
- **Blood Pressure** (you will be given this data, interpret and compare theirs against recommended healthy data.)
- **Peak flow** (you will be given this data, interpret and compare theirs against recommended healthy data.)
- **Body mass index (BMI)** (you will be given this data, interpret and compare theirs against recommended healthy data.)

Using published guidance to interpret data relating to these physiological indicators
The potential significance of abnormal readings: risks to physical health

LIFESTYLE DATA

B1: Lifestyle indicators

Lifestyle indicators that are used to measure health:
You will be given this information if it's relevant. You only have to answer questions on information you are given

Smoking- Do they smoke to excess and what are the current and future risks to health?
Drinking alcohol – Do they drink too much and what are the potential current and risks to future health?
Do they have an inactive lifestyle (lack of exercise) ? and what are the potential current and risks to future health?
Do they have a poor diet? (lack of nutrition or overeating or eating the wrong thing) and what are the potential current and risks to future health?

Topics

-Health and lifestyle indicators
-Current and future health risks
-Recommended actions, short and long term targets.
-Sources of Support
-Person centred care (meeting needs)
-Obstacles

Final question asks for suggestions: Make them sensible and realistic. Use general knowledge and ask: would I be able to do this ?
YOU HAVE 2 HOURS- GOOD LUCK!

HEALTH DATA		Current risks to health	Future risks to health
BMI	HIGH BMI	High blood pressure – fat restricting blood flow Harder to do exercise, so it becomes a vicious cycle	**Cardiovascular disease – fat restricting blood flow to the heart** **Diabetes – too much sugar** **Arthritis – pressure on the joints due to excess weight** **Stroke – fat builds up in the arteries and causes a blood clot, this stops blood from getting to the brain**
	LOW BMI	The body is not getting enough nutrients which can lead to; • Depression • Tiredness due to a lack of iron • Infections such as colds and flu because of a lack of vitamin c	Undiagnosed illness such as an 'underactive thyroid' – not enough of a certain hormone is produced An eating disorder such as anorexia or bulimia Anaemia Rickets Stunted bone growth or weaker bones due to lack of vitamin d
Pulse rate	High pulse rate	Blood is being pumped around the body too quickly – sweating, shortness of breath, feeling weak	Heart attack – the heart cannot pump the blood quickly enough through the heart
Blood Pressure	High blood pressure	Dizziness, fainting or falls – Blood cannot move easily through the brain	**Heart disease – arteries are narrowed so blood has to pump harder to get through the heart** **Kidney disease – damaged kidney arteries will not filter the blood** **Strokes – arteries are narrowed causing blood clots in the brain** Blindness – caused by blood clots affecting the nerves behind the eyes
	Low blood pressure	**Dizziness, fainting or falls - Blood is not pumped enough to the brain**	
Peak flow	Low peak flow reading	-Airway is narrowed – lungs are not working as well as they should be. -Harder to take part in exercise which means the lungs are not as strong or elastic – easily get out of breath and feel dizzy when walking upstairs etc	Airway is narrowed – lungs are not working as well as they should be If exercise is not done due to reduced lung capacity it can mean fat could build up and lead to heart disease or stroke

LIFESTYLE DATA	Current risks to health	Future risks to health
Poor Diet	Too much salt – can cause high blood pressure Too much sugar – can cause raised blood glucose levels Increased thirst Blurred vision Too much fat – Blocks arteries causing tiredness Not enough vitamins (usually found in fruit and veg) – Tiredness due to a lack of iron Infections such as colds and flu because of a lack of vitamin c	Obesity Heart disease (see in bold causes) High blood pressure (see in bold causes) Strokes (see in bold causes) Tooth decay (see in bold causes)
Lack of Exercise	Stiffening of the joints – muscles and ligaments become stiff and will not stretch Poor strength Obesity (see in bold causes)	Stroke (see in bold causes) Heart disease (see in bold causes) Slow blood flow (see in bold causes) Osteoporosis (weak bones)
Drinking alcohol	Addiction – alcohol Significant weight change – lack of appetite or much more of an appetite	Liver cancer Jaundice - yellowing of the skin and eyes as the liver fails
Drug misuse	Addiction Significant weight change – lack of appetite or much more of an appetite	Damage to organs such as brain, liver and kidneys
Smoking	Addiction - nicotine Gum disease – pollutants in cigarettes Smelly breath Prone to chest infections – weakens the immune system Smokers cough –build up of tar on the lungs	Illness such as asthma or bronchitis Increased blood clotting – tar blocks the arteries Stroke Lung cancer – pollutants in the cigarettes cause this and build up of tar Hands and nails stained of nicotine Wrinkled faces

TARGETS

Recommended actions – THREE- What do we know that we want to change? – Broad target, in detail.

Short term target- MAKE IT SMART- What will help straight away and can be done over a short period of time 0-6 months. (CAN YOU MEASURE IT?)

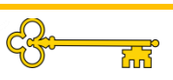
Long term target- MAKE IT SMART- What will help them achieve your recommendation over a longer period of time. Something they are going to need to do for longer and/or be able to keep doing for longer.

SOURCES OF SUPPORT

Formal Support
GP, Pharmacist, Dentist (Primary services)
Help groups such as quit smoking, weight watchers, alcohol anonymous.
Hospital departments (Secondary services).
Hospice care.
Physiotherapist, dietician.
Voluntary groups **And how will they help?**

Informal Support
Family
Friends
Neighbours

OBSTACLES



emotional/psychological – lack of motivation, low self-esteem, acceptance of current state
time constraints – work and family commitments
availability of resources – financial, physical, e.g. equipment
unachievable targets – unachievable for the individual or unrealistic timescale
lack of support, e.g. from family and friends
other factors specific to individual – ability/disability, addiction
Other barriers to accessing identified services.- geographical, financial, physical, culture, language, psychological

Key Words

Needs = Health and lifestyle needs
Wishes= wants and doesn't want
Circumstances= Other relevant info from case study

BMI- Body mass index (how much fat you have)
PEAK FLOW- Lung capacity (how much air you can use)
BLOOD PRESSURE- Amount of blood in one beat – lower is better = more blood. Higher is bad.
RESTING PULSE- Beats per minute not during exercise- lower is better.

Year 11 Design and Technology Spring Term Knowledge Organiser

Key Vocabulary

Sustainability

Anthropometrics
Ergonomics
Computer Aided Design (CAD)
Computer Aided Manufacture (CAM)
MDF
Man-made boards
Laser cutting
Profile
Interlocking
Knock-down
Interference Fit
Standard components
Inclusive Design
Stereotype
Traditional
Feature
Nesting
Accuracy
Repeatability
Tolerance
Dimension
Finger joint
Adjustment

DESIGN PROCESS

Evaluating

This should include one from the users and one from the designer.

Think about the following to produce a user questionnaire and your own depth product evaluation.

- Strengths
- Weaknesses
- Matching specification
- Meeting the needs of client
- Materials
- Quality of manufacture
- Overall success of product
- Client product testing and review
- Suggestions for modifying

Health and Safety

Remove any jewellery and tie back long hair. **Wear an apron and roll up your sleeves.** **Walk safely and calmly around the classroom/ workshop.** **Keep your work area and floor area clear.** **Make sure that you are wearing the correct equipment for tasks.** **Report all spillages and clean up properly after yourself**

Year 10 Hospitality and Catering Autumn Term Knowledge Organiser 2.1.1 The Importance of Nutrition

Key Vocabulary:

1	**Amino acid**	The basic component of all proteins.
2	**High biological value (HBV) protein**	A protein that contains all of the essential amino acids.
3	**Low biological value (LBV) protein**	A protein that lacks one or more of the essential amino acids.
4	**Sugary foods**	Foods high in sugar, such as jam, cakes, biscuits and ice cream.
5	**Starchy foods**	Foods high in starch, such as pasta, rice, potatoes and bread.
6	**Fat-soluble vitamins**	Vitamins that dissolve in fat; these are vitamins A and D.
7	**Dietary fibre**	A type of carbohydrate found in the cell walls of vegetables, fruits, pulses and cereal grains. It is also known as non-starch polysaccharide (NSP).
8	**Immune system**	The processes of the body that protect against disease.
9	**Fortified cereals**	Cereals with added vitamins and minerals.
10	**Haemoglobin**	Part of the red blood cell that carries oxygen around the body.
11	**High blood pressure**	A higher than normal force of blood pushing against the arteries.
12	**Constipation**	A condition where emptying the bowels is difficult.

Nutrition at different life stages

13	**Adults**
Early	Growth in regard to height of the body continues to develop until 21 years of age. Therefore, all micro-nutrients and macro-nutrients especially carbohydrates, protein, fats, vitamins, calcium and iron are needed for strength, to avoid diseases and to maintain being healthy.
Middle	The metabolic rate starts to slow down at this stage, and it is very easy to gain weight if the energy intake is unbalanced and there isn't enough physical activity.
Elderly	The body's systems start to slow down with age and a risk of blood pressure can increase as well as decrease in appetite, vision and long-term memory. Because of this, it is essential to keep the body strong and free from disease by continuing to eat a healthy, balanced diet.

14	**Children**
Babies	All nutrients are essential and important in babies, especially protein as growth and development of the body is very quick at this stage. Vitamins and minerals are also important. You should try to limit the amount of salt and free sugars in the diet.
Toddlers	All nutrients remain very important in the diet at this stage as growth remains. A variety of foods are needed for toddlers to have all the micro-nutrients and macro-nutrients the body needs to develop.
Teenagers	The body grows at a fast pace at different times at this stage as the body develops from a child to an adult, therefore all nutrients are essential within proportions. Girls start their menstruation which can sometimes lead to anaemia due to not having enough iron in the body.

Special dietary needs

The amount of energy the body needs is determined by lifestyles, occupation, age and activity level.

15	**Medical conditions**
Allergens	Examples of food allergies include milk, eggs, nuts and seafood.
Lactose intolerance	Unable to digest lactose which is mainly found in milk and dairy products.
Gluten intolerance	Follows a gluten free diet and eats alternatives to food containing wheat, barley and rye.
Diabetes (type 2)	High level of glucose in the blood, therefore changes include reducing the amount of fat, salt and sugar in the diet.
Cardiovascular disorder	Needing a balanced, healthy diet with low levels of salt, sugar and fat.
Iron deficiency	Needing to eat more dark green leafy vegetables, fortified cereals and dried fruit.

16	**Dietary requirements**
Religious beliefs	Different religions have different dietary requirements.
Vegetarian	Avoids eating meats and fish but does eat dairy products and protein alternatives such as quorn and tofu.
Vegan	Avoids all animal foods and products but can eat all plant-based foods and protein alternatives such as tofu and tempeh.
Pescatarian	Follows a vegetarian diet but does eat fish products and seafood.

Year 11 Drama Spring Term Knowledge Organiser

Key Vocabulary:

1	Stage Levels	To show power, status or just different locations for the scenes.
2	Genre	Comedy, Thriller, Melo drama
3	Creative Intentions	What was the director/ writer/ creator thinking about? Themes / issues / response to stimulus / style/genre / contextual influences / collaboration with other practitioners / influences by other practitioners.
4	Purpose	Why was it made? to educate / to inform / to entertain to provoke/ to challenge viewpoints / to raise awareness / to celebrate…
5	Theme	The topic of the performance e.g. Conflict, Family
6	Stylistic Qualities	How a performance is structured – Musical, Inclusivity, Epic theatre - storytelling
7	Processes used in development, rehearsal and performance	Responding to stimulus to generate ideas for performance material / exploring and developing ideas to develop material / discussion with performers / setting tasks for performers / sharing ideas and intentions / teaching material to performers / developing performance material / organising and running rehearsals / refining and adjusting material to make improvements / providing notes and/or feedback on improvements.

Component 3- Learning Aim A
Developing ideas in response to a brief

8 **A1**

Target Audience: What age and gender are you aiming your work?

Performance Space: Configuration-End on, Traverse, Thrust or in the round?

Planning and managing resources: What do we need? Props? Sound? Lighting? Research?

Running Time: Must be in the timeline – 10-15minutes

Style of work: Naturalistic – Stanislavski? **Epic-**Brecht?

Starting points: Using the given theme, issue, social background.

Props/Costume: Influence the work?

Individual and group contribution: What did you suggest?

Period of time: past, present or future?

9 **Learning Aim B1**
Selecting and developing skills and techniques in response to a brief

Skills and techniques of the individual performer e.g. vocal, physical.
•Skills and techniques of the performers as a group e.g. comedy, improvisation.
•Skills and techniques of the designer e.g. understanding implications of selected performance skills and techniques in relation to design, research, shaping and refining ideas.
•The style and/or genre of the work being created e.g. street dance, physical theatre.
•The influence of selected practitioners e.g. Brecht and Stanislavski
• Appropriate skills for the target audience e.g. young children, the elderly.
•Taking part in skills development classes or workshops.
•Taking part in the rehearsal process, including individual preparation and group rehearsals.

Component 3 – Learning Aim C
Contributing to a workshop performance

10 **C1 - Skills and Techniques**

Skills may include:
- Vocal skills
- Physical skills
- Interpretative skills: showing time and place, presenting a character, creating humour or emotion.
- If performing, demonstrating and sustaining in performance the following skills:
- energy o focus o concentration o commitment.
- Responding to a stimulus
- Exploring and developing ideas
- Sharing ideas and intentions
- Teaching material to performers
- Refining and adjusting material

11 **C2 Working effectively with others**

•Communicating effectively with other performers:
in preparation for performance
(if performing) during performance.
•Taking part in final group preparations, which may include: o setting up/get in o get out/strike taking part in/contributing to a workshop performance.

12 **C3 Communicating ideas through performance**

•Taking part in/contributing towards a performance for an audience.
•Communicating ideas and intentions effectively to an audience.
•An explanation of creative intentions and processes

13 **D1 Evaluating the development process and performance;** •Contributing to initial ideas and exploring activities in response to: o the brief o the stimulus o contributions from other members of the group.
•Contributing to the development process.
• development and/or adaptation o application o individual strengths and areas for improvement o overall individual contribution to the group.
D2 Reflect on the outcome
o effectiveness of the response to the brief o individual strengths and areas for improvement o overall impact of the work of the group.

Year 11 GCSE A Christmas Carol Knowledge Organiser

Scrooge
A selfish business man who transforms into a charitable philanthropist. Our protagonist.
"Hard and sharp as flint… As solitary as an oyster" "Are there no prisons…are there no workhouses…"
"I will honour Christmas in my heart. I will live in the Past, the Present, and
the Future. I will not shut out the lessons that they teach."

Fred
Scrooge's nephew whose party invitation he declines. Represents forgiveness and family.
"I have always thought of Christmas as a good time, a kind, forgiving, charitable, pleasant time"
"Scrooge's offences carry their own punishment. Who suffers? Himself!"

Jacob Marley
Scrooge's dead partner who returns to warn Scrooge to change his ways.
"I wear the chain I forged in life"
"The chain was made up of cash boxes.. ledgers.. heavy purses"
"My spirit never roved beyond the narrow limits of our money changing hole"

Bob Cratchitt
Scrooge's clerk. He loves his family and is shown to be happy and morally upright. He has love but not wealth.
"The clerk's fire was so very much smaller that it looked like only one coal" "Tiny Time rode upon his shoulder"
"I'll give you Mr Scrooge, the founder of the feast"
"I think he's walked a little slower than he used to" –

Tiny Tim
Bob's son whose story plays a part in inspiring Scrooge's transformation. Represents the victims of poverty.
"He bore a little crutch, and had his limbs supported by an iron frame!"
"Tiny Tim hoped the people saw him in the church, because he was a cripple, and remember upon Christmas day, who made lame beggars walk, and blind men see."
"God bless us every one"

PLOT STRUCTURE

The Preface
Dickens introduces his 'Ghostly Little Book' and his 'ghost on an idea'. He talks to his reader telling them that he wants if to 'haunt' their memories, so they don't forget why we need to live by Christian values.

Stave One
Scrooge is at work in his counting house. Despite the Christmas Eve cold, he refuses to spend money on coals for the fire. Scrooge's turns down his nephew, Fred's, invitation to his Christmas party and the request of two men who want money for charity. Scrooge is visited by the ghost of his dead partner, Jacob Marley, who tells Scrooge that, due to his greedy life, he has to wander the Earth wearing heavy chains. He tells Scrooge that three spirits will visit him during the next three nights.

Stave Two
He wakes and the Ghost of Christmas Past takes Scrooge into the past. Invisible to those he watches, Scrooge revisits his childhood school days, his apprenticeship with a jolly merchant named Fezziwig, and his engagement to Belle, who leaves Scrooge as he loves money too much to love another human being. Scrooge sheds tears of regret before being returned to his bed.

Stave Three
The Ghost of Christmas Present shows Scrooge Christmas as it will happen that year. Scrooge watches the Cratchit family eat a tiny meal in their little home. He sees Bob Cratchit's son, Tiny Tim, whose kindness and humility warm Scrooge's heart. The spectre shows Scrooge his nephew's Christmas party. Toward the end of the day the ghost shows Scrooge two starved children, Ignorance and Want. He vanishes as Scrooge notices a dark, hooded figure coming.

Stave Four
The Ghost of Christmas Yet to Come takes Scrooge through a sequence of scenes linked to an unnamed man's death. Scrooge, is keen to learn the lesson. He begs to know the name of the dead man. He finds himself in a churchyard with the spirit pointing to a grave.
Scrooge looks at the headstone and is shocked to read his own name. He is desperate to change his fate and promises to change his ways. He suddenly finds himself safely tucked in his bed.

Stave Five
Scrooge rushes out onto the street hoping to share his newfound Christmas spirit. He sends a turkey to the Cratchit house and goes to Fred's party, As the years go by, he continues to celebrate Christmas with all his heart. He treats Tiny Tim as if he were his own child, gives gifts for the poor and is kind, generous and warm.

Key Terms and ideas:
Novella
Ghost Story
Bildungsroman
Transformation
Redemption
Christian Values
1st person narrative voice
3rd person omniscient narrator
Stave
Metaphor, simile, imagery
Senses
Pace
Shifts in time, place, person

Key Concepts and Themes:
Greed
Avarice (an excessive desire for wealth – one of the 7 deadly sins)
Ignorance & Want (lack of knowledge/education & need/poverty)
Redemption (being saved from sin or evil)
Predestination
Free Will
Poverty
Class
Isolation
Transformation
We observe Scrooge observing…
The passage of time
Family
Guilt
Generosity
Social Responsibility
Justice
The supernatural
Christmas
Death

Year 10 GCSE A Christmas Carol Knowledge Organiser

The Ghost of Christmas Past

A strange combination of young and old, wearing white robes and looking like a candle.

"Would you (Scrooge) so soon put out he light I give?"

"A solitary child, neglected by his friends, is left there still – Scrooge sobbed." "Scrooge's heart and soul were in the scene.. he remembered everything, enjoyed everything."

The Ghost of Christmas Present

- ✓ A portly, jovial gentleman surrounded by a warm glow. He brings joy to the neediest.

"A jolly giant who bore a glowing torch with a cheery voice and a joyful air" "I see a vacant seat. The child will die"
"They are Man's. This boy is Ignorance. This girl is Want. Beware for I see that written which is Doom."

The Ghost of Christmas Yet To Come

A robed and hooded spirit who confronts Scrooge with his own tombstone.

"It was shrouded in a deep black garment which concealed its head, its face, its form and left nothing visible except one outstretched hand"
"Scrooge crept towards it, trembling, and following the finger, read upon the stone of the neglected grave his own name, Ebenezer Scrooge."

Fezziwig

Scrooge's ex-employer. A representation of a good employer and generosity of spirit.

"Bless his heart; it's Fezziwig alive again!"
"He has the power to render us happy or unhappy; to make our service light or burdensome. The happiness he gives, is as if it cost a fortune"

Belle

- ✓ Scrooge's fiancé as a young man.

"Another idol has displaced me.. a golden one"

Fan

- ✓ Scrooge's sister. Fred's mother.

"I have come to bring you home dear brother.. home, home, home!"

Edexcel English Language Paper Two (Reading Section) Knowledge Organiser Year 11

Exam Paper

What's it on?	Two non fiction extracts that are linked by the same theme or idea.
How long?	2 Hours 5 Minutes.
Questions and timings (approx.) **Reading section**	Read both extracts: 10 mins. **Q 1-3 on Text 1** Q1- Retrieve two quotes – 1 min. Q2- Retrieve one quote giving one sentence explanation - 2 mins. Q3- Analyse language & structure - 20 mins. **Q 4-6 on Text 2** Q4- Retrieve quote - 1 mins. Q5- Explain effect of quote in one sentence - 2 mins. Q6- Evaluate how successful the writer has been – 20 mins. **Q 7a & 7b on Text 1 & Text 2** 7a- Spot the similarities – 5 mins 7b- Compare and contrast ideas and perspectives of both writers - 20 mins.
Reading	Read the exam questions first. As you are reading the texts, highlight AND annotate your extracts with ideas that you will use in your answers. Read both extracts before beginning to answer questions.

How to approach the questions

Q3

You must discuss language and structure.

Language devices include:

- Tone/ Simile/ Metaphor/ Personification/ Alliteration/ Verbs/ Adverbs/ Adjectives/ Sibilance/ Pronouns/ Hyperbole.

Structural devices include:

- Sentence types/ Repetition/ Juxtaposition/ Punctuation/ Paragraphing.

Key thing to remember:

This is the same skill as all other analysis questions so you need to explain the effect of the technique used. Always zoom in on single words and explore why the writer has chosen to use this specific word.

Q6

When reading focus on:

- The key word in the question, what is it asking you to evaluate?
- How SITE (Setting/ Ideas/ Themes/ Events) have been used in the extract to help create this effect,
- Identify key evidence from the text that helps the writer to create this effect.

When writing make sure to include:

- Evaluative adverbs (Successfully/ Subtly/ Continuously/ Deftly/ Consciously/ Carefully/ Deliberately)
- Evaluative verbs (Develops/ Creates/ Enhances/ Amplifies/ Denotes/ Demonstrates/ Emphasises/ Foreshadows/ Implies)

Q7

For Q7a follow this structure:

In text 1 the writer shows … through the description … (quote), similarly in text 2 the writer highlights … through the description … (quote). Complete three of these short comparison paragraphs.

For 7b focus on:

- Similarities AND differences (find evidence in the texts)
- Analyse the evidence for what it shows about the writer's attitudes/ perspectives/ ideas.
- Single word analysis.
- Using comparative connectives (similarly/ contrastingly/ on the other hand)

Edexcel English Language Paper Two (Writing Section) Knowledge Organiser

Section B Writing	
What's it on?	You will have to produce a piece of non fiction writing in one of the following formats: newspaper article/ review/ speech/ guide/ letter. Your task will be to achieve one of the following aims in your writing: inform, explain, describe, argue, persuade, advise.
How long?	45 Mins
What does the question look like?	You will be give a choice where you pick ONE question, either 8 OR 9. Typical question: **EITHER** **8)** Your school or college is writing an information guide for students who are new to the school/college. Write the section for the guide with the title 'Stress-free Settling In'. **OR** **9**) Your local newspaper has published a report with the title 'Discrimination still exists today; nothing can be done about it'. Write a letter to the newspaper giving your views.
Key vocab	**Vocabulary and tone need to be precisely match to task:** Style of the question will require a blended approach: inform, explain, describe, argue, persuade, advise. **Modal verbs are used for advice**: *Can, could, may, might, must, ought to, should, shall, will, would.* **Informative/explanatory**: *After all; as can be expected; generally; namely; naturally; obviously.* **Opinionated vocabulary**: *Without a doubt; the fact is; clearly; it is vital that.* **Anecdotal vocabulary**: *As a matter of fact; one incident that can be recalled; a great illustration of this was.* **Persuasive techniques**: Anecdotes, Facts, Opinions, Rhetoric, Emotive language, Sarcasm, Triple Emphasis, Direct Pronouns, Repetition, Imperatives, Punctuation for effect.
Sentence Stems	**Sentence stems to learn:** Research, funded by _____, has revealed that…. / Consequently, many people have found that… / Differing variables must be considered… / Perhaps it might be fair to…. / Every year hundreds… / Over recent decades many experts have… / A reasonable conclusion might be… / Critically important is… / Despite definitions varying, it is possible to consider… / Anecdotally, those who have experienced this have found… / It is rather alarming that research, published by….

Year 11 Enterprise & Marketing AUTUMN Term Knowledge Organiser R064

Customer Profiles

A Customer Profile is a detailed description of a business's main target customer. They're really specific depictions, so they often include the customer name and picture as well as other key details such as their age, gender, spending habits and lifestyle.

Market Segmentation

Market segmentation is the process of dividing a market into groups – customers are grouped based on key characteristics such as their **age**, **gender**, **occupation**, **income** or **lifestyle**.

A women's magazine, for example, segments their market based on gender. Businesses segment their market so they can tailor products to suit their target audience and so they can focus their marketing at their target customer.

Market Research

Anything a business does to find out potential customers' wants and needs is called market research.

Primary methods of research generate new data through **surveys**, **focus groups**, **observations** and **interviews**. Data can be expensive to gather, especially if a large amount is needed, but it will be more likely to suit a business's research needs.

Secondary sources of market research, such as **competitor research**, **government publications** and **published materials** (**books** and **magazines**) use data that already exists. Data is cheaper to obtain and quicker as it has already been generated. The data might not be fully applicable to the business's research needs though.

Customer Profile Example

Name: Gary Asher
Age: 39
Occupation: Decorator

Gary lives in Derby with his wife who he married in 2015 and their two children Essie and Abbie.

He works full time and, as he has two young children, lives a busy life. He enjoys eating out with his family and plays football at the weekend with a group of friends. He is trying to save as much money as possible to put towards a new house.

R065

Knowledge Organiser

Key Calculations

Revenue:

Selling Price x Number Sold

Total Costs:

Fixed Costs + (Variable Cost for 1 x Number Sold)

Profit or loss:

Revenue – Total Costs

It's a loss if the answer is negative

Break-even:

$$\frac{\text{Fixed Costs}}{\text{Selling Price – Variable Cost per Unit}}$$

The answer is given in units, not pounds

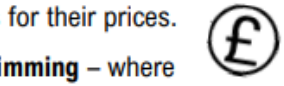
Pricing

When businesses set a price for a product or service, they consider many factors including being able to cover their costs in order to make a **profit**.

Pricing strategies are specific approaches businesses can use when setting their prices and include:

Competitive Pricing – where businesses base their prices on those of their rivals.

Psychological Pricing – where businesses avoid round/whole numbers for their prices.



Price Skimming – where businesses set a high price for a new product and lower this price over time.

Price Penetration – where businesses set a low initial price, later increasing this price.

Risk and Viability

Setting up a new business or launching a new product can be **risky** for a business. Market research helps reduce this risk.

Viability refers to how successful a product might be – often based on finances – is the break-even point realistic, for example.

Year 11 Enterprise & Marketing SPRING Term Knowledge Organiser R065

Customer Profiles

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R065

Knowledge Organiser

Key Calculations

Revenue:

Selling Price x Number Sold

Total Costs:

Fixed Costs + (Variable Cost for 1 x Number Sold)

Profit or loss:

Revenue – Total Costs

It's a loss if the answer is negative

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Year 11 Music Spring Term Knowledge Organiser

Key Vocabulary:

1	Repetition	Repeating chord patterns/melody lines
2	Sequence	A melody that moves up and down in pitch but the pattern of the notes stays the same – for example, CDEFG – DEF#GA
3	Decoration	A melody that is played in higher pitch over the top of the original melody with faster rhythmic notes
4	Variation	Where you take an original melody and repeat it but each time you change the rhythm, key, speed, instrument etc.
5	Modulation	Changing key during the second section of your piece – major to minor, C major to G major etc
6	Use of contrast	Changing the overall musical effects by using speed, dynamics, pitch etc
7	Processes	Use of canon – one instrument starts – another joins in with the same melody and they play following each other
8	Instrumentation	Choice of instruments and the way they are played to create effects and change the timbre of the music
9	Texture	The layers of the sound – homophonic – 1 layer of music or all instruments playing the same thing, polyphonic – los of layers of music, contrapuntal
10	Chords	Use of broken chords, triads, arpeggios, major, minor, diminished chords

Music Theory

11 Composing

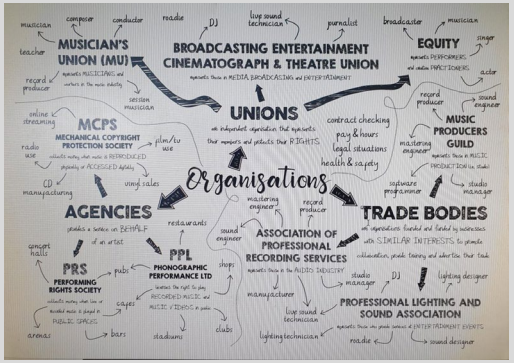
Use different starting points, for example:

- **melodic ideas and fragments**
- **rhythmic patterns**
- **chords and chord progressions**
- **harmonic systems**
- **textures**
- **riffs and hooks**
- **sound palettes**
- **improvisation and experimentation**
- **non-musical starting points such as themes , texts and images**

12 Reviewing your composition – every lesson

1. What ideas have you composed?
2. What techniques did you use to develop your composition?
3. What sections of music have you added to your composition?
4. What do you need to improve next time?
5. Are there any techniques you need to add to develop your compositions further?

13 Unions and how they work in the music industry

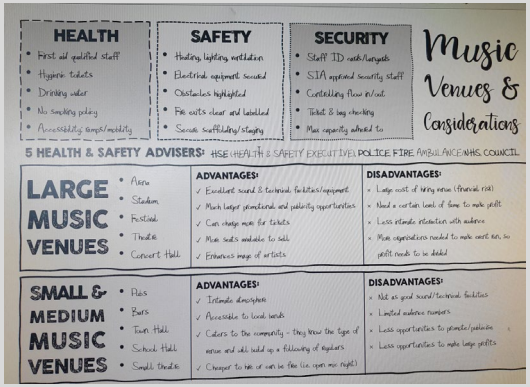


Music Theory

14 Record labels – unit 1

What are record labels – who do they work with? Why?

15 Venues – unit 1



Music venues – what is their role in the music industry?

Year 11 GCSE History Autumn Term Knowledge Organiser Queen, government and religion, 1558-69

Key Vocabulary:

1	Nobility	Belonging to the aristocracy. E.g. a Lord or Lady
2	Gentry	People of a high social class.
3	Yeomen	Men who held a small amount of land or an estate.
4	Tennant farmers	Farmed rented land usually owned by yeomen or gentry.
5	Merchants	Traders.
6	Craftsmen	Skilled employees.
7	Militia	A military force of ordinary people, rather than soldiers, raised in an emergency.
8	Privy Council	Advisors to Elizabeth.
9	Justices of the Peace	Large landowners who kept law and order.
10	Secretary of State	Elizabeth's most important Privy Counsellor.
11	Divine Right	Belief that the monarchs right to rule came from God
12	Succession	The issue of who was going to succeed the throne after the existing monarch died.
13	Legitimate	Being born in wedlock when the existing king and queen were married.
14	Auld Alliance	A Friendship between France and Scotland
15	Puritans	Radical/extreme protestants
16	Papacy	The system of church government ruled by the Pope.
17	heretics	People who refused to follow the religion of the monarch.
18	Excommunicated	Expulsion from the Catholic Church.

The situation on Elizabeth's accession

8 Society and Government:

90% of English population lived in the countryside
Social hierarchy:monarch at the top, then the nobility (Lords and Ladies), gentry , Yeomen, tenant farmers, labouring poor and the homeless and vagrants at the bottom
The Court was made up of the nobility and were the monarch's key advisors and friends.
The Privy Council advised the monarch on government policy and oversaw law and order and security in England
Parliament was made up of the House of Lords and the House of Commons and could only be called and dismissed by the monarch. It passed laws and advised the monarch

9 The Virgin Queen:

Elizabeth's accession caused controversy as her gender; legitimacy religion were questioned. Women were seen as weak, and the property of their husband's and Christian religion taught that women should be under the authority of men. Elizabeth's legitimacy was in doubt because of how her father (Henry VIII) divorced his first wife, Catherine of Aragon, in order to marry Elizabeth's mother, Anne Boleyn.

10 Challenges at home and abroad:

England had financial weakness: England had fought costly wars before Elizabeth came to the throne (and lost) and was £300,000 in debt. There had been a series of bad harvests which increased poverty.
The French threat: France was wealthier and had a larger population. They were an ally of Scotland another enemy of England (The Auld Alliance). The French port of Calais had been in English control since 1347 but was lost when England went to war with France during Mary I's reign
Mary Queen of Scots was Elizabeth's cousin (granddaughter of Henry VIII's sister), had a strong claim to the throne, was half French and married to Francis, the heir to the French throne and declared herself the legitimate Catholic claimant to the English throne. She also had a son, James.
Religious problems: The reformation began in 1532 and since then it had flip flopped between Protestant (Edward VI) and Catholic (Mary I).
Spain was a powerful catholic country who's king, Phillip II had been married to Mary I and wanted to marry Elizabeth.

How settled is religion?

13 The Religious Settlement

Catholic Church: The Pope in Rome is the head of the church, the bible and church services should be in Latin, priests are special and should wear special vestments and not marry. Transubstantiation happens (a miracle when the bread and wine becomes the body and blood of Christ)
Protestantism: there should be no pope, the bible and church services should be in English, sins can only be forgiven by God (not priests), priests are not special and should not wear special clothing and can get married, churches should be plain and simple so not to distract people from worshipping god.
The Elizabethan Settlement happened in 1559 and was Elizabeth's attempt to solve the religious problems and establish a form of Protestantism that Catholics could accept.
The Act of Supremacy: Elizabeth supreme governor and all clergy had to swear an oath of loyalty to her
The Act of Uniformity introduced a protestant Common Prayer Book that all churches had to use, the services and bible had to be in English but the meaning of the bread and wine taken in church was left open.
The settlement was largely successful 8,000 priests took the oath of supremacy, she replaced the catholic bishops that refused to take the oath, the majority of the public accepted it as the new Prayer Book kept the interpretation of beliefs open.

14 Catholic challenge

1/3 of English nobility were Catholic especially those in the north of England. They disliked Elizabeth's favourites such as Robert Dudley ad Sir William Cecil.
In 1566 the pope issued an instruction to English Catholics should not attend Church of England services. However although there were punishments for those that didn't follow the settlement these were generally not enforced as Elizabeth didn't want to create martyrs and the majority of Catholics stayed loyal to Elizabeth.

15 Puritan challenge:

The Puritans had two issues 1.) crucifixes (Puritans thought they were idols and wanted to get rid of them) 2.) vestments (Puritans thought priests did not need any special clothing at all.) Although they had support in London and several powerful and influential supporters at court (Robert Dudley, the Earl of Leicester and Sir Francis Walsingham) they did not enjoy widespread support amongst the country.

Year 11 GCSE History Autumn Term Knowledge Organiser Challenges to Elizabeth at home and abroad: 1569-88

Key Vocabulary:

1	New World	North and South America
2	Thomas Howard, Duke of Norfolk	One of England's most senior nobles and had strong catholic sympathies despite being a protestant.
3	Council of the North	Used to implement Elizabeth's laws and authority in the North of England.
4	Sir Francis Walsingham	Elizabeth's Secretary of State and chief spymaster
5	Privateers/ sea dogs	Individuals with their own armed ships that capture other ships for their cargo, often with the support and authorisation of the government
6	Francis Drake	Elizabeth hired him as a privateer.
7	Circumnavigate	To travel all the way around the world.
8	Spanish Fury	The Spanish rampaged through Dutch provinces as they left
9	Pacification of Ghent 1576	Spanish troops expelled from Netherlands, political autonomy to be returned and end of religious persecution.
10	Treaty of Joinville 1584	The King of France and the King of Spain became allies against Protestantism.
11	Treaty of Nonsuch 1585	Effectively put England and Spain at war as Elizabeth agrees to help the Dutch with money and soldiers.
12	Singeing of the King of Spain's beard 1587	Drake sailed into Cadiz harbour, Spain's most important Atlantic port, and over 3 days destroyed 30 ships.

Plots and revolts at home

13 Revolt of the Northern Earls (1569):

The aim with the support of the Spanish, replace Elizabeth with MQS and marry her to the Duke of Norfolk.
The Earls marched to Durham and celebrated a catholic mass in the cathedral. Headed south but Spanish troops never arrived and Elizabeth raised an army of 14000 men. 450 rebels executed. The Earl of Westmoreland escaped and the Earl of Northumberland executed.
Political/power reasons for the plot: under Mary I, the Earls had been very influential but not as influential under Elizabeth. Job of looking after the borders with Scotland given to Sir John Foster. Lost the rights to a valuable, copper mine found on his land to the queen in 1567. The northern earls resented the influence favourites like William Cecil and Robert Dudley had over the queen. Religious reasons for the plot: The Earls were catholic, the bishop of Durham (James Pilkington) was a committed and unpopular protestant.
The revolt was significant as 1.) it was the most serious rebellion by English Catholics 2.) It prompted harsher treatment of Catholics and widened the definition of treason to include calling Elizabeth a heretic 3.) It encouraged the pope to excommunicate Elizabeth in 1570.

14 Other Catholic Plots:

Ridolfi Plot (1571) Plan to murder Elizabeth, launch a Spanish attack and put Mary Queen of Scots on the throne.
Throckmorton Plot (1583) Planned for the French Duke of Guise to invade England, free Mary , overthrow Elizabeth and restore Catholicism in England.
Babington Plot (1586) The Duke of Guise would invade England and put Mary on the throne.

15 Why Mary, Queen of Scots was executed:

Plots at home: fours plots planned to overthrow Elizabeth
Foreign Threats: Phillip II of Spain was a devout Catholic and disliked Elizabeth supporting the Dutch rebels
Mary Queen of Scots herself: She had been involved in all plots, was a legitimate Catholic heir to the throne, had links to France and claimed to be the rightful queen of England
Elizabeth's parliament and advisers: Act for the Preservation of the Queen's Safety (1585) stated that Mary could be killed if she had been involved in a plot, Sir Francis Walsingham had a network of spies and gathered evidence against Mary, her advisers were Protestant.

Spain and the Spanish Armada

16 Why was there tension between England and Spain?

Commercial rivalry: England wanted new markets to trade with and make money but Spain controlled the Netherlands (England's main route into the European markets and the wool trade) and Spain controlled much of the New World
Piracy- in 1572 Elizabeth hired Francis Drake as a privateer- he went to Panama and captured £40,000 of Spanish silver and in 1577 Elizabeth gave Drake secret instructions to attack Spain's colonies in the New World.
Marriage:- Elizabeth rejected Philip's marriage proposal
Religious reasons- Phillip II was a strict Catholic and opposed Elizabeth's religious settlement and in 1571 the Pope had excommunicated Elizabeth and Elizabeth had executed MQS in 1587.
The Netherlands:- In the 1570s Elizabeth increasingly supported the Dutch rebels. Sent a loan of £100,000 to the Dutch rebels and a future promise of an armed force to enforce the Pacification of Ghent.

17 Spanish Armada 1588

After being delayed by the Singeing of the King of Spain's Beard the Armada set sail in 1588. With 130 ships and 30,000 men under the command of the Duke of Medina-Sidonia was to sail along the English Channel to the Netherlands, pick up the Duke of Parma and his army of 27,000 men before invading England and impose a Catholic government in England.

18 Why the Armada failed:

1.) English strengths: the English ships were Galleons and were faster and more manoeuvrable, they could also fire more cannon balls than the Spanish ships but they only had 24 when the armada invaded. 2.) English tactics- Elizabeth left key decisions to her commanders (including Sir Francis Drake) and they used fire ships on 6th August which did little damage but panicked and scattered the Spanish ships. 3.) Spanish weaknesses- their supplies (the food was rotting and they didn't have enough cannon balls) and Phillip II didn't listen to the advice of his commanders. They also had communication problems which meant that Medina-Sidonia couldn't collect the Duke of Parma before the English attacked 4.) Chance- after the Battle of Gravelines the Armada headed north and thousands of them lost their lives in shipwrecks caused by storms.

Year 11 GCSE History Autumn Term Knowledge Organiser Elizabethan society in the Age of Exploration, 1558-88

Key Vocabulary:

1	Social mobility	Being able to change your position in society.
2	Grammar schools	Private schools set up for boys considered bright who largely came from well off families in towns.
3	Corporal punishment	Punishment which causes physical pain.
4	Apprentice	Someone learning a trade or a skill.
5	Petty and dame schools	Set up in a teacher's home, for boys (Petty) ad girls (dame)
6	galleons	Ships that were much larger than traditional trading ships.
7	Mystery plays	Plays based on the Bible and saints' stories.
8	The Globe	Shakespeare's theatre.
9	Poor relief	Financial help for those in poverty paid for with taxes.
10	Vagabonds	Homeless people without jobs who roamed the countryside begging for money or perhaps committing crimes in order to survive.
11	Enclosure	The process of replacing large, open fields that were farmed by villages with individual fields belonging to one person.
12	Deserving poor	People unable to work because of illness or old age.
13	Idle poor/ sturdy beggars	People who were fit to work but didn't.
14	Astrolabe	Used by sailors to help with navigation at sea
15	Colonies	Land under the control or influence of another country.

Elizabethan society

16 Education:

Education expanded during Elizabeth's reign, but this expansion was limited. Of those that got education, most were boys. Literacy rates improved by 10% for men but not at all for women. Education was not based on social mobility but on preparing you for the life you were expected to live. The large majority of people were illiterate (70% of men and 90% of women). There was not a lot of difference in the academic education of noble girls and boys. They learnt foreign languages, Latin and Greek, History, Philosophy and Government.. **Every town in England had a grammar school by 1577.** This was the greatest change in Elizabethan education- there were more schools than ever before. Boys went to grammar school at 8yrs-14 yrs and the focus of the curriculum was on Latin and there was a great emphasis on memorising huge quantities of text.

17 Leisure:

Wrestling, tennis, football, music and dancing, but sport was much more violent e.g. it was known for men to be killed during matches and bear baiting and cock-fighting were popular. Theatre thrived in Elizabethan times: there were many new plays and purpose built theatres (the Red Lion in 1567 and the Rose in 1587) and was popular with all classes in Elizabethan England.

18 Why poverty increased:

1.) Population growth -it grew as much as 35% 2.) rising prices- food especially 3.) enclosure sheep farming was very profitable in this era as the demand for woollen cloth had grown 4.) rack renting Landowners were charging farmers more to rent land. 5.) closure of monasteries the Church used to help the poor. 6.) bad series of harvest especially in the 1560s and 1570s 7.) wages increasing slowly

19 How the Elizabethans dealt with poverty:

1572 Vagabonds Act : aim: to deter vagrancy (old thinking) so vagrants should be whipped and have a hold drilled in their ear (old) and it established the national poor rate which was a tax to help the deserving poor (new thinking).

1576 Poor Relief Act aimed to distinguish between abled bodied and deserving poor (old) and to help the able bodied poor to find work (new thinking). So JPs provided the able-bodied with wool and raw materials to make things to sell and those who refused to work were sent to a special prison known as the house of correction.

Spain and the Spanish Armada

20 Why was there more and more exploration

1.) Expanding trade- the conflict with Spain and the Netherlands hit the traditional wool and cloth trade hard, reports from the Americas suggested there were many valuable crops, animal skins and gold and silver. The triangular trade was beginning and was making huge profits already. 2.) New technology- navigation became easier due to the use of astrolabes and quadrants and more accurate maps such as the Mercator map. 3.) Improved ship design- Galleons were much larger than traditional trading ships and more stable in heavy seas, they were also more manoeuvrable due to improved sail design

21 Significance of Sir Francis Drake's circumnavigation

Why ? 1.) Wanted to be the first Englishman to do so. 2.) Wanted revenge on the Spanish 3.)Economic reasons- he returned to England with an estimate treasure haul of £500,000,000 in today's money!

Why so significant? 1.) It's a boost to English morale and established the reputation of English ships and sailors. 2.) Encouraged explorations: They may have gone as far north as Vancouver and their logs of their journeys were written up and shared. 3.) established Nova Albion: 1579 Drake landed in California and declared an area of it for England. 4.) Encouraged colonies in America. 5.) Damaged Anglo-Spanish Relations: Drake had attacked Spanish colonies in America and Elizabeth had knighted him- made Phillip II angry.

22 The Virginia colonies:

Why the 1st attempt to colonise Virginia failed. 1.) The voyage they left to late in the year to plant crops in Virginia, the biggest ship *The Tiger*, got damaged and all the food and seeds were ruined. 2.) the Colonists were unsuitable Not enough farmers and the others were not prepared for the hard work of surviving in an inhospitable place. The soldiers were undisciplined. 3.) Bad relations with the Native Americans- The chief, WIngina, got tired of the English asking for food, they carried new diseases that killed many native Americans The colonists left in July 1586. Another attempt was made to colonise in 1587. There were attempts to improve on the first expedition by bringing colonists who were prepared to work hard, the leader of the expedition (John White) was experienced, having gone on the 1st attempt. When John White returned to the colony in 1590 after going back to England the colony had disappeared and no trace of them has been found.

Year 11 GCSE History Knowledge Organiser Medieval Medicine in Britain c.1250-1500

Key Vocabulary:

1	**Diagnosis**	Identify illness based on symptoms.
2	Miasma	Bad air that believed to cause diseases.
3	Physician	Qualified person to practice medicine.
4	Rational	Idea based on logic and evidence.
5	Supernatural	Ideas not explained by science/nature.
6	Bloodletting	Drawing blood from the sick in order to rebalance the humours.
7	Herbal remedy	Medicine made from plants/herbs.
8	Pilgrimage	Journey to sacred place.
9	Purging	Removing humours from the body by bring sick.
10	Regimen sanitatis	Instructions created by Hippocrates on how to keep healthy
11	Flagellants	People who whipped themselves to ask for God's forgiveness to avoid plague.
13	Purifying the air	Removing foul smells from the air.
14	Quarantine	Separating sick to stop spread of disease.

What were the causes treatments, preventions and healers of the time period?

15. Causes

Religious: Belief that **God** caused illnesses.
Supernatural: **Astrology** also used to help diagnose illnesses.
Rational: **Four Humours** Theory: Body made of four liquids (blood, phlegm, black and yellow bile). Imbalance of these humours can cause illness and disease. Hippocrates
Miasma: Belief that **bad air** was harmful and cause illnesses.

16. Diagnosis/Treatments:

Diagnosis was either based on urine analysis
Religious/supernatural treatments: praying, fasting, using star charts to determine treatment.
Rational treatments: herbal remedies, bloodletting, leeches and purging.

17 Preventions:

Religious/supernatural treatments: praying, fasting, lighting a candle in a Church,, pilgrimage
Rational preventions: Lighting a fire, smelling sweet herbs, ringing bells

18 Healers

Physician: Diagnosed illnesses and suggested treatments. Studied patients' blood and urine. Trained at university for 7 years, approximately 100 in the country
Apothecary: Mixed herbal remedies.
Barber Surgeon: Performed simple surgery.
Hospitals: Owned and run by the Church. Monks and nuns provided shelter and food for the sick and poor elderly and prayed for them
Home: Majority of sick cared for at home (women).

19 Case Study: Black Death (1348)

The Black Death caused the death of between 1/3 to ½ of the entire population. While it was caused by bacteria fleas, it was spread to humans by fleas jumping from rats onto humans.
Causes: Sent by God as punishment, bad air that corrupted the body's four humours.
Treatment: Prayer, charms, bleeding and purging, sniffing strong herbs, and fires lit to remove bad air.
Prevention: Pray to God, Flagellants + streets cleaned, newcomers to a town were quarantined for 40 days, run away from the disease.

Who were the key individuals and key themes?

20 Individuals

Hippocrates: Four Humours Theory.
+ = Observed patients/recorded symptoms + Hippocratic Oath.
- = Ideas on causes of disease were wrong.
Galen: Theory of Opposites.
+ = Wrote over 250 books on medicine.
- = Made mistakes – Jaw bone made of 1 bone not 2.

21 Did the Church help or hinder medicine?

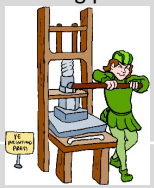
+= Safeguarded all valuable Ancient Greek and Roman texts in monastery libraries
+= Monasteries were hygienically designed
+=The Church funded universities and provided hospitals
-= Banned dissections
-=promoted respect of Galen's ideas
-= Taught that everything in the Bible was true

22 Why did medicine not progress in the Medieval period?

The Church: The was the most powerful institution in Medieval society, there was a priest in every village, funded education in universities promoted the Bible and Galen had all of the answers, imprisoned those who went against their teachings such as Roger Bacon in 1270.
Attitudes: Everyone was taught to respect tradition, taught that Galen had discovered everything there was to know about medicine and had written it down in his books. Not taught to experiment and improve
Government: The government was weak in Medieval society and it's job was to keep law and order and defend against invasion, it's job was not to invest in medical research
Education: Doctors trained for 7years at university and were taught to respect tradition, read books produced by monks copying by hand, read the books of Galen and watched dissections with the aim of proving Galen correct

Year 11 GCSE History Knowledge Organiser Renaissance Medicine in Britain 1500-1750

Key Vocabulary:

1	**Epidemic**	Disease that spreads quickly e.g the plague in 1665
2	Printing press 	Created by Johannes Gutenberg in the 1440s- a machine for printing text/pictures
3	Renaissance	Means Re-birth- a time period of renewed interest in revival of ideas
4	Royal Society	Set up in 1660 with Charles II as it's patron. An organisation to discuss and share new ideas in medicine and sciences. Sponsored scientists and published it's findings.
5	Human anatomy	Knowledge of the working of the body
6	Pomander	Ball containing perfumed substances 
7	Transference	Belief that an illness can be transferred (or passed) to something else by touch e.g. rub an object n a boil it would transfer the disease from the person to the object
8	Pest House	A hospital that specialised in one disease (the plague)
9	Dissection	The scientific internal study of a corpse.

What were the causes treatments, preventions and healers of the time period?

10 Causes

Continuities: Miasma Theory, influence of Church during epidemics and that supernatural beliefs.
Changes: Most accepted that illnesses were not sent by God, decline of importance regarding the Four Humours Theory and analysis of urine. A new idea developed that little animals (animalcules) could be the causes of disease
There was a move away from old ideas about the causes of illness but they had not been replaced!

11 Diagnosis/Treatments:

Diagnosis: Thomas Sydenham emphasised the need to observe a patients symptoms, decline of analysis of urine
Religious/supernatural treatments: praying, fasting, Rational treatments: herbal remedies (with new ingredients), bloodletting, leeches and purging. People were also starting to look for chemical cures for diseases

17 Preventions:

Religious/supernatural treatments: praying, fasting, lighting a candle in a Church
Rational preventions: Lighting a fire, smelling sweet herbs by carrying a pomander all removing bad air

18 Healers

Physician: Diagnosed illnesses and suggested treatments. Trained at university for 7 years, could now do dissections although difficult to get supply of fresh corpses. Would now visit hospitals
Apothecary: Mixed herbal remedies with new ingredients- would now also visit hospitals.
Surgeon: Performed surgery- better educated as wars were fought with new technology which led to new wounds.
Hospitals: now funded by the wealthy or charities
Home: Majority of sick cared for at home (women).

19 Case Study: Great Plague (1665)

Causes: Unusual alignment of the plants, sent by God as punishment, imbalance of Four Humours + Miasma.
Treatment: Prayer, fasting, + Plague Doctors, go to a Pest Hospital
Prevention: quarantine, smoking tobacco to ward off miasma Local governments tried the following: banning public meetings, closing theatres, sweeping the streets, burring barrels of tar and sweet smelling herbs to ward off miasma, killing cats and dogs, quarantining victims in their own homes for 28 days with a red cross and 'Lord have mercy upon us' painted on the door, watchmen outside to stop victims leaving.

Who were the key individuals and key themes?

20 Individuals

Thomas Sydenham: *'English Hippocrates'*.
+ = Placed importance on observing a patient, wrote the book *Observationes Medicae* which was used by doctors for two centuries.
- = Doctors/physicians still reliant on Galen's work.
Andreas Vesalius: *'On the Fabric of the Human Body'* (1543).
+ = Corrected 300 mistakes by Galen on anatomy, lower jaw has one bone, not two, breastbone has three parts, not seven
- = Caused controversy by challenging Galen's work.
William Harvey: Circulation of the blood.
+ = Proved that arteries and vein were linked together, heart is a pump (1628).
- = Considered to be mad as challenged Galen's work and did not have a powerful enough microscope to prove capillaries existed.

21 What factors encouraged change?

Technology: The printing press and improved microscopes.
The Royal Society: helped develop new ideas as scientists and physicians could read each other's work.
Reformation: Loss of control of education by the Church, legalisation of dissection.
Individuals: Improved knowledge of anatomy, published books for others to learn from, encouraged others to carry out dissections themselves

22 What factors encouraged continuity?

Individuals: Traditional physicians continued to reply on Galen, Vesalius and Harvey's discoveries had little practical use in medical treatment.
Attitudes: While doctors were being encouraged by the work of Vesalius, Harvey and Sydenham to experiment and not rely on Galen, it was very difficult to change this attitude and ordinary people continued to believe in and use the theory of opposites long after Galen had been discredited.
Technology: While there was new technology such as the printing press and microscopes, the microscopes were not powerful enough to prove certain things about the body- e.g. that capillaries exist or germs cause disease
Lack of knowledge: None of the discoveries made during the Renaissance were about the causes of disease therefore little could change in treatments and preventions.

Year 11 GCSE History Knowledge Organiser Industrial Revolution Medicine in Britain 1750-1900

Key Vocabulary:

1	**Enlightenment**	A period between the 18th and 19th centuries where the main attitude was one of the use and celebration of reason, the power by which humans understand the universe and improve their own condition.
2	**Microbes**	Living organism that can only be seen under a microscope.
3	**Spontaneous Generation Theory**	Belief that microbes are released when things decay, rather than being the cause and that they are spread by miasma.
4	**Anaesthetic**	Used to make someone unconscious.
5	**Antiseptic**	Killing bacteria before operations or treatment.
6	**Aseptic**	Operation that takes place in a strictly controlled germ-free environment.
7	**Inoculation**	Deliberately infecting a patient with a disease in order to become immune to it.
8	**Vaccination**	Injection of weakened organisms to give body resistance against disease.
9	**Laissez-Faire**	Government's attitude that it should not interfere with matters relating to Public Health.

What were the causes treatments, preventions and healers of the time period?

10. Causes

Continuities: Miasma Theory, influence of Church during epidemics and that supernatural beliefs.
Changes: Germ Theory (1861) disproved Spontaneous Generation Theory and believed that germs cause disease in human body. Pasteur/Koch.

11. Diagnosis/Treatments:

There were no new treatments in this time period as most people by 1900 accepted that germs caused disease but there was not a lot of understanding about the best was to remove germs so old herbal remedies continued to be popular. Anaesthetics were used for the first time in surgery.

12 Preventions:

The biggest changes were to prevention with both the willingness of the government and population to take steps to prevent diseases from spreading. Widespread use of the smallpox vaccination, Public Health Act 1875 and the building of sewers by Bazalgette

13 Healers and Hospitals

Only the rich or the 'deserving poor' who went to hospitals would see a doctor. Most people continued to be treated at home.
Hospital Care: c18 Hospitals were dirty, overcrowded and in poor conditions. Florence Nightingale changed this and Lister/Simpson improved surgery.

14 Case Study: Cholera (1854)

Epidemics in 1831, 1848-9 and 1854. John Snow
+ = Concluded it caused by dirty drinking water by using population statistics, removed the handle from the Broad Street pump and saved lives.
- = Government unwilling to pay for improvements at the time, Snow couldn't prove why dirty water cause cholera.

15. Case Study: Smallpox Vaccination (1798)

Edward Jenner: Vaccination.
+ = Discovered vaccination for Smallpox, by observing milkmaids who caught the mild cowpox but not the deadly smallpox, tested his vaccination on James Phipps. Smallpox practically eradicated by 1900
- = Vaccination not compulsory until 1852 by state and vaccination was opposed by inoculators.

Who were the key individuals and key themes?

16 Individuals

Louis Pasteur: Germ Theory (1861).
+ = Identified that germs cause disease and illnesses.
MISHAPS VET to remember impacts
- = Unable to identify specific germs.
Robert Koch: Microbes (1867).
+ = Discovered microbes cause specific illnesses.
- = Took time for his work to be widely accepted.
Florence Nightingale: *'Notes on Nursing' (1859)*.
+ = Improved conditions in hospitals and professionalised nursing.
James Simpson: Chloroform as an anaesthetic (1847).
+ = Provided safer alternative to Laughing Gas + Ether.
- = Difficultly in gauging correct dose to be used.
Joseph Lister: Carbolic Acid as an antiseptic (1865).
+ = Antiseptic surgery – killing germs from wounds.
- = Opposed because of poor knowledge Germ Theory.
Joseph Bazalgette: Introduced Sewer system (1865).
+ = Built over 1300 sewers in London.
- = Size of project took time until completed in 1875

17 Why did the government's attitude to public health change?

Public Health Act - 1848: Not compulsory + no change.
Public Health Act: 1875: Compulsory and forced authorities to provide clean drinking water, build public toilets and dispose of sewage to avoid pollution.
Changes due to: Germ theory (1861), Great Stink-1858, John Snow (1854), changes in voting (most working class men could now vote)

18 Why were there so many breakthroughs?

Change in attitudes: This was the period of the Enlightenment and the government changed its laissez faire attitude to public health
War: The Crimean war gave Florence Nightingale the opportunity to car for sic soldiers- she reduced the death rate in the hospital in Scutari from 40% to 2%
Individuals: Pasteur, Koch, Jenner, Snow, Nightingale, Simpson, Lister.
Technology: improvements in technology such as better microscopes to be able to see germs.
Germ Theory: First scientifically proven cause of disease.

Year 11 GCSE History Knowledge Organiser Modern Medicine in Britain 1900-present

Key Vocabulary:

1	**DNA**	Carries genetic information about a living organism.
2	**Genome**	Each human being has a unique DNA.
3	**Human Genome Project**	Scientists worked to decode and map out the human genome.
4	**Hereditary diseases**	Diseases that are passed down from one generation to another.
5	**Magic Bullet**	Chemical that kills specific bacteria in the body.
6	**Antibiotic**	Medicine that destroys the growth of bacteria inside the body.
7	**D-Day**	Allied forces in WW2 invade northern France.
8	**General Practitioner**	Community-based doctor who treats minor illnesses.

What were the causes treatments, preventions and healers of the time period?

10. Causes

By 1900, scientists realised not all diseases were caused by microbes. Discovery of **DNA** (1953) meant scientists understood how hereditary diseases were caused. E.g. Down's Syndrome. **Crick and Watson.**
Lifestyle choices impact on health: smoking, poor diet, alcohol, sharing of bodily fluids and exposure to excessive amounts of sun.

11. Diagnosis/Treatments:

Improvements in diagnosis which was not based on observing symptoms now but on medical testing: X-ray, CT/MRI scans, ultrasound, Blood testing and pressure monitor.
Magic Bullets: Salvarson 606. Paul Ehrlich.
Antibiotics: Penicillin discovered in 1928 by Alexander Fleming developed by Florey and Chain. Mass produced for D-Day in 1944.
High-tech medical/surgical treatment: Dialysis, Prosthetic limbs, Keyhole surgery, ECG, Endoscope.

12 Preventions:

Government lifestyle campaigns: *Change4life* + campaigns warning of dangers of drug/binge drinking.
Genetic screening and gene therapy: women who have the gene for breast cancer can prevent the disease by getting a mastectomy

13 Doctors and Hospitals

NHS created in 1948- before this 8 million people had never seen a doctor before. People can now visit a **GP** and stay in hospital for free with universal healthcare. Also other healthcare professionals such as **dentists, ambulance services + health visitors.**

14 Case Study: Penicillin

Alexander Fleming started his search for a treatment for infection due to the number of soldiers dying in WW1 . He discovered penicillin in 1928 when he noticed a 'white mould' which killed bacteria. He was unable to fund any further research and went no further. Florey and Chain went on to test penicillin on humans (Albert Alexander) and gained funding to mass produce it

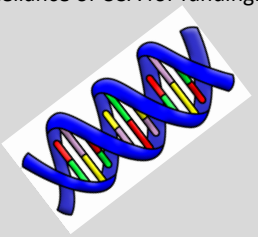
15. Case Study: Fight against Lung Cancer

Diagnosis: Difficult to diagnose early on.
Treatment: Transplants, radio/chemotherapy.
Prevention: Smoking banned in public places, raising age of buying cigarettes and stop smoking campaigns.

Who were the key individuals and key themes?

16 Individuals

Crick and Watson: Discovered DNA (1953).
+ = Scientists explore causes of hereditary diseases.
- = Doctors still unable to treat genetic conditions.
Paul Ehrlich: Created first Magic Bullet (1909).
+ = Discovered Salvarson 606 to treat Syphilis.
- = Magic Bullet can only treat one specific disease.
Alex Fleming: Discovered Penicillin (1928).
+ = Noticed 'white mould' killed bacteria - Penicillin.
- = Unable to fund further research + went no further.
Florey and Chain: Mass produced Penicillin (1944).
+ = Developed Penicillin and mass produced it.
- = Reliance of USA for funding.



17 Why were there so much rapid change?

Change in attitudes: The government was taking much more responsibility for health with the creation of the NHS
War: WW1 causes thousands of soldiers to die of infection which started Fleming's research and WW2 gave governments motivation to fund mass production and research into penicillin to treat infection. In WW2 people were shocked by the health and hygiene of some refugees and was one of the reasons for the creation of the NHS
Individuals: See above
Technology: advances in microscopes and the ability to produce higher powered images enabled scientists to identify DNA. Better technology has improved diagnosis, technology has enabled the mass production of drugs, development of capsules (easier way to take drugs), hypodermic needles for injections and insulin pumps.
Teamwork: The Human Genome Project involved thousands of scientists from around the world. Hata retested Ehrlich's work to find Salvarson 606

Year 11 GCSE History Knowledge Organiser The British Sector of the Western Front 1914-1918

Key Vocabulary:

1	**No Man's Land**	Land between Allied and German trenches in WW1 where fighting took place.
2	**Trenches**	A system of long, narrow ditches dug in a zig-zag pattern during WW1, easier to defend than attack.
3	**Ypres Salient**	Area around the town of Ypres where many battles took place in WW1.
4	**Gangrene**	When a body decomposes due to a loss of bloody supply.
5	**Shrapnel:**	A hollow shell filled with steel balls or lead, with gunpowder and a time fuse.
6	**FANY**	First Aid Nursing Yeomanry. Volunteer nurses, who helped the wounded and also drove ambulances.
7	**RAMC**	Royal Army Medical Corps. This organisation organised and provided medical care. It consisted of all ranks from doctors to ambulance drivers and stretcher bearers.
8	**Triage**	A system of splitting the wounded into groups according to who needed the most urgent attention.
9	**Compound Fracture**	Broken bones pierces the skin + increases risk of infection in wound.
10	**Debridement:**	Cutting away of dead and infected tissue from around the wound.
11	**Gas Gangrene**	Infection that produced gas in gangrenous wounds
12	**Radiology department**	Hospital department where X-rays are carried out.

What was the Western Front like?

13 Battles

The Ypres Salient: Germans had the advantage with being on the higher ground. Tunnelling and mines were used by the British at Hill 60. Germans used Chlorine gas for the first time

The Battle of the Somme: July-November 1917. 1st day of battle, 60,000 casualties and 20,000 died. In total, 400,000 Allied casualties and this put pressure on medical services on the Western Front.

Battle of Arras - 1917. Allied soldiers dug tunnels below Arras which led to an underground hospital with electricity, water, 700 beds and operating theatres.

Battle of Cambrai: 1917. 450 tanks used to advance on the German position, however, plan didn't work because there was not enough infantry to support.

14. Impact of the terrain on helping the wounded:

Difficult to move around, + night, communication was difficult. Collecting wounded from No Man's Land was dangerous- shell craters, waterlogged conditions and the danger of enemy snipers so was often done at night. Stretcher bearers found it difficult to move around corners in trenches and transport of the wounded was difficult because of this. If wounded soldier left for long they had the risk of infection from the muddy ground the was used as farm land before the war and contained bacteria and fertilisers

15 Who helped the wounded on the Western Front

Evacuation route: Survival depended on speed of treatment. Care improved as war progressed. 1914 0 motor ambulances but by 1915, 250. Ambulance trains were introduced, as well as, ambulance barges used along River Somme.
Stretcher bearers: Collect wounded, 16 in each battalion + 4 for each stretcher.
Regimental Aid Post: Always close to the front line and staffed by a Medical officer selected those who were lightly wounded/needed more attention.
Field Ambulance and Dressing Station: Emergency treatment for wounded. Could treat 150 soldier for up to a week
Casualty Clearing Station: Large, well equipped station, 10 miles from trenches in schools or factories, injured triaged.
Base Hospitals: On French/Belgian coast, CCS started to do more operations so Base Hospitals used for experimenting with new techniques which could then be used in CCS

What were the diseases and injured and how were they treated?

16 Conditions requiring treatment:

Ill health: Trench fever: caused by body lice and included flu-like symptoms including high temperature. Treatment: Passing electric current through infected area was effective. Prevention: Clothes disinfected and delousing stations were set up. Affected 0.5 million.
Trench foot: caused by soldiers standing in mud/waterlogged trenches. Treatment: soldiers advised to keep clean but worst cases, amputation. Prevention: Changing socks + keeping feet dry and rubbing whale oil into feet. Affected 20,000 in winter of 1914-1915.
Shell-shock: caused by stressful conditions of war and symptoms included tiredness, nightmares, headaches and uncontrollable shacking. Treatment: Not well understood. Prevention: rest and some received treatment in UK. **Weapons of war: Rifles**: fired one at a time/loaded from cartridge case creating rapid fire. **Machine guns**: Fired 500 rounds a minutes. Pierced organs and fracture bones.
Artillery: Bombardments were continuous, Artillery fire caused half of all causalities. **Shrapnel:** Caused maximum damage exploded mid-air above enemy. Killed/injured.
Chlorine and Phosgene Gas: Led to death by suffocation. 1915, gas masks given to all British soldiers.. **Mustard Gas:** Odourless gas, worked in 12 hours. Caused blisters, burn the skin easily

17 Impact of Western Front on medicine

The Thomas Splint: Stopped joints moving and increased survival rates from 20 to 82%. Reduced infection from compound fractures.
X-rays: Developed in 1895, used to diagnose issues before operations. Problems: could not detect all problems, were fragile and overheat. Mobile X-rays: 6 operated on the front line, pictures of a poorer quality. Enabled soldiers to be treated more quickly.
Blood Transfusions: Blood loss = major problem. Blood transfusions used at Base Hospitals by a syringe and tube to transfer blood from patient to donor. Extended to CCS from 1917. **Blood bank at Cambrai:** Adding Sodium Citrate allowed blood to be stored for longer. Stored in glass bottles.
Brain surgery: Harvey Cushing used magnets used to remove metal fragments from the brain and local anaesthetic- 71% survival rate. **Plastic surgery:** Harold Gillies developed new techniques, skin drafts developed for grafts.

Who discovered that Penicillin kills bacteria – and when?	**Which two scientists were responsible for the discovery of DNA?**	**When did Pasteur announce his Germ Theory?**	**Put in order: Aid Post Hospital, Clearing Station and Dressing Station.**
What were the Four Humours?	**What was so important about the 1875 Public Health Act? (Mention two details to support your answer.)**	**What is shrapnel?**	**What did John Snow do to stop Cholera spreading in Soho, London, 1854?**
Name two types of gas used as weapons.	**Give two methods used to reduce deaths from Lung Cancer.**	**Give two ways people used to keep towns clean and healthy in Medieval England.**	**Give two reasons why changes were taking place in medicine by 1700.**
List three ideas people had about the cause of disease in Medieval England.	**Name three different kinds of medieval healers.**	**List three ways in which governments have tried to improve health since 1900.**	**List three kinds of treatments used in the Renaissance England.**
Which three factors were most important in advancing in medicine in Modern Britain?	**Why was Thomas Sydenham's work important?**	**Why were there so many infected wounds on the Western Front?**	**Which three factors were most important in inhibiting change in medicine in Medieval England?**

Year 11 GCSE History Summer Term Knowledge Organiser The Weimar Republic 1918-29

Key Vocabulary:

1	Abdication	When a monarch leaves the throne
2	Republic	A country without a King or a Queen
3	Armistice	An agreement to end war
4	Treaty of Versailles	The peace agreement that Germany was forced to sign at the end of WW1
5	Diktat	An enforced peace
6	Reparations	Money Germany was forced to pay to the Allies as compensation for WW1
7	Ebert	The first President of the Republic
8	Stresemann	The Chancellor of Germany from the Summer of 1923 and Foreign Minister
9	Constitution	This is an agreement about how the country would be ruled
10	Reichstag	German parliament
11	Article 48	A rule in the new constitution that allowed the president to rule on his own without the Reichstag in times of emergency
12	coalition	A government of two or more political parties.
13	Freikorps	Ex military soldiers who wanted to overthrow the Republic
14	Rentenmark	The currency of Germany after November 1923
14	Hyperinflation	When money becomes worthless

Origins and challenges of the Weimar Republic

16 End of the War

Losing the war was a shock for Germany and the Kaiser abdicated. Germany was humiliated, faced psychological problems, political problems, anarchy and poor conditions in Germany due to lack of food. The Weimar Republic was set up but faced much opposition, It was disliked by the left wing who wanted Germany to be like Communist Russia and it was disliked by the right wing who wanted the monarchy back.

17 Stabbed in the Back by the Treaty of Versailles

Germans felt they should have won the war and felt they had been stabbed in the back by their politicians who signed the humiliating Treaty of Versailles. In the Treaty Germany was blamed for WW1 (Article 231), forced to pay reparations of £6.6 billion, reduced their army to 100,000 & lost 13% of land.

18 Weimar Constitution:

Advantages:

- All people over 18 can vote
- 75% of the Reichstag must agree for the constitution to be changed
- Article 48 allows quick actions in a crisis

Disadvantages:

- most governments were formed with a coalition which caused arguments
- Article 48 could be used to make a dictatorship
- Laws were not easily passed as a number of parties had to agree for it to be voted through

19 Challenges to the Republic:

Spartacist Rising 1919: Communist try to take over the country led by Rosa Luxemburg. The army and Freikorps stop it and over 100 workers were killed.

Kapp Putsch 1920: Freikorps try to take over after they are disbanded after the ToV, people go on strike to stop them, they are forced to give up.

20 The Year of Crisis: 1923

Invasion of the Ruhr: France invades as Germany stops paying reparations. In the Ruhr are Germany's iron and coal resources. The German workers strike in protest. German industry is devastated.

Hyperinflation: Germany continues to pay the striking workers which causes hyperinflation, a loaf of bread costs 200,000 billion marks.

Recovery and changes in society

21 Stresemann and the economy

Stresemann solves hyperinflation by destroying the old money and printing the Rentenmark, helps rebuild the economy by getting loans from the US (Dawes Plan 1924) and decreasing the amount of reparations by 20% (Young Plan 1929). However these were short term solutions e.g. Germany became dependant on the USA, unemployment never fell below 1 million people, middle class never recovered their savings

22 Stresemann and international relations:

Stresemann improves relations with other countries by signing the Locarno Pact (1925 agreement to keep borders) and joining the League of Nations (1926) and the Kellogg Briand Pact. (1928 agreement to solve problems peacefully)

23 Changes for workers:

Hourly wages rose every year from 1924 to 1929 and by 10 per cent in 1928 alone. Generous pension, health and unemployment insurance schemes which covered 17 million workers were introduced from 1927. However, some workers, such as farmers missed out on these changes and suffered declining incomes.

24 Changes for women:

Women could vote and become politicians, they increasingly taking white collar jobs such as teachers, lawyers and doctors. The classic image of German women in the 1920s was as the 'New Woman' who was short-haired, wore make up, liberated and having fun. However life for a lot of women, especially outside of Berlin did not change and most women voted conservatively.

25 Change in culture:

Weimar experienced a flourishing of culture, in Berlin especially, that saw developments in architecture, art and the cinema. This expression of culture was greatly helped by the ending of **censorship** in the new republic.

Architecture changed with the **Bauhaus** School founded by Walter Gropius in 1919

Art: Dada and New Objectivity were two new art movements, artists included **Otto Dix and George Grosz.**

Cinema boomed in this time period and one of the most famous directors of the time was **Fritz Lang.**

Not everyone appreciated these cultural changes.

Year 11 GCSE History Summer Term Knowledge Organiser Hitler's Rise to Power 1919-1933

Key Vocabulary:

1	NSDAP	Nazi Party
2	25 Point Programme	The political manifesto of the Nazi Party
3	Swastika	Emblem of the Nazi Party
4	SA or Sturmabteilung	Private army of the Nazi Party headed by Himmler
5	Aryan	Pure German people
6	Anti-Semitism	Hatred of the Jewish people
7	Mein Kampf	Hitler's autobiography
8	Putsch	An attempt to get power illegally
9	Blood Martyrs	16 Nazis who died at the Munich Putsch
10	SS or Schutzstaffel	Hitler's bodyguards
11	KPD	German Communist Party
12	coalition	A government of two or more political parties.
13	Propaganda	Goebbels attempted to make people think in a certain way
14	Hindenburg	The currency of Germany after November 1923
14	Hyperinflation	The President of the Republic from 1925 to 1934

Early development of the Nazi Party and the Lean Years

16 German Workers' Party

1919 – Hitler joined the German Worker's Party (DAP), a right-wing group led by Anton Drexler.
1920: Hitler the leading public speaker/ propagandist.
1920 – Changes name to National Socialist German Workers Party (NSDAP) – or Nazis for short.
1921 – Hitler was elected leader of the Nazis
1923- Nazi Party had 55,000 members

17 Features of the Nazi Party

Key Nazi beliefs contained in the **25 Point Programme:**
A strong Germany - the **Treaty of Versailles** should be **abolished** and all German-speaking people united in one country. **Führer** - the idea that there should be a single leader with complete power rather than a **democracy**. Social Darwinism - the idea that the **Aryan** race was superior and Jews were 'subhuman'. **Autarky** - the idea that Germany should be economically self-sufficient. That Germany was in danger - from **communists** and Jews, who had to be destroyed. **Lebensraum** - the need for 'living space' for the German nation to expand.
SA also very important Their nickname was the **Brownshirts** and their role was to protect party meetings and intimidate political opponents by breaking up their meetings

18 Munich Putsch (1923):

During the Hyperinflation crisis Hitler saw an opportunity to seize power and he also wanted to copy Mussolini. Even though a failure and the Nazi Party banned, Hitler was given a lenient prison sentence, he gained publicity, he wrote Mein Kampf and he realised that if he was to win power, he needed to do this by votes and not by force.

19 The Lean Years (1923-29):

The Nazis lacked working class support (they tended to vote for the communists), it was a time of peace and prosperity (Stresemann had solved many of Germany's problems) and the Nazis ideas were too extreme (SA were very violent). Hitler did take the time to strengthen his authority, he also began building a national party structure to attract members and develop policies and campaign

Growth in Support and how Hitler becomes chancellor

20 The growth in support for the Nazis 1929-32

The Wall Street stock market in America crashed so the US could no longer prop up the German economy and recalled their loans. So the German economy collapsed and Germany entered the **Great Depression** so by Feb 1932 6 million people were unemployed.
Weak opposition: The government's response to the economic crisis was not popular with Germans. For example, unemployment benefits and wages were cut while taxes increased. Everyday life became hard. The government starting using article 48 and became less democratic.
Appeal of the Nazis: Promised to solve the problems of the depression (e.g. create jobs, get rid of ToV), used communists and Jews as scapegoats for all of Germany's problems.
Hitler was a powerful public speaker and was charismatic.
The SA were strong and intimidated the communists which appealed to those who feared the increase in support for the Communists after the Wall Street Crash.
Nazi Propaganda: used new technology such as radio and planes and Joseph Goebbels was the chief of propaganda, used clear simple appealing messaging on their propaganda posters

21 How Hitler becomes Chancellor 1932-33:

1932
April – Presidential election. Hitler (37%) came second to Hindenburg (53%),
May – Brüning resigned as Chancellor. Hindenburg appointed Franz Von Papen, a conservative, as his replacement.
July – Reichstag elections. The Nazis became the largest party with 230 seats. Hitler demanded to be made Chancellor but Papen remained.
November – Reichstag elections called by Von Papen to try to win a majority in parliament. Nazis lost 34 seats but remained the largest party with 196 seats.
December – Von Papen resigned. Hindenburg appointed Kurt Von Schleicher as Chancellor. Von Schleicher tried to split the Nazis by asking a leading Nazi called Gregor Strasser to be his Vice Chancellor. Hitler forced Strasser to decline.
1933
January – Von Papen and Hindenburg turned to Hitler, appointing him as Chancellor with Von Papen as Vice Chancellor. They believed they could control Hitler and get him to do what they wanted

Year 11 GCSE History Summer Term Knowledge Organiser Nazi Control and dictatorship, 1933-39

Key Vocabulary:

1	Marinus van der Lubbe	The Reichstag Fire was blamed on this Dutch Communist
2	Reichstag	German parliament
3	Emergency Decree	Hindenberg is persuaded to pass this after the Reichstag Fire, it restricted civil liberties.
4	Enabling Act	Gave the Nazis full power for the next 4 years
5	Gleichschaltung	Hitler's attempt to bring German society into line with Nazi philosophy
6	German Labour Front (DAF)	Set up to replace Trade Unions
7	Lander	State Parliaments
8	Dachau	First concentration camp
9	Purge	To get rid of opposition
10	Night of the Long Knives	Removal of internal and external opposition to the Nazi Party and Hitler
11	Sicherheitsdienst (SD)	The intelligence body of the Nazi Party
12	Concordat	In July 1933 the Pope agreed to stay out of political matters if the Nazis did not interfere with Catholic affairs
13	Confessional Church	Followed traditional German Protestantism and refused to allow the Nazification of religion. Led by Pastor Martin Niemoller
14	Edelweiss Pirates and Swing Youth	Groups who apposed the Hitler Youth
14	Mit Brennender Sorge (With Burning Concern)	The Pope wrote to priests in Germany about his concerns over the Nazi attempts to control religion

Creation of a dictatorship and the police state

16 Creation of a dictatorship 1933-34

Reichstag Fire Feb 1933: Hitler had become chancellor but needed more power in order to pass the laws he wanted to. He used the Fire to whip up anti-communist feelings and gain emergency powers to round up 4000 communist members and intimidate communist voters

Enabling Act March 1933: In the March 1933 elections, the Nazis gained more seats in the Reichstag but still didn't have an overall majority. He banned the Communist Party so he had enough votes to pass the Enabling Act. With this act he is able to: pass any laws without needing the support of the Reichstag, he banned all trade unions and all political parties apart from the Nazi Party.

Night of the Long Knives 1934: Hitler used the SS to kill Ernst Rohm, the leader of the SA (the Nazis private army) and several hundred other SA members and politicians. This stamped out any opposition to Hitler in the Nazi Party.

Death of Hindenburg: Hindenburg was the President of Germany. When he died, Hitler made himself both Chancellor and President of Germany. He called himself the Fuhrer and reorganised the government so he was in absolute control and made the army swear an oath of loyalty to himself.

17 The police state

Germany became a police state and the Nazis used terror and violence. Himmler was in charge of the Gestapo and the SS who listened into telephone calls, interrogated and arrested people.

Judges had to swear an oath of loyalty to Hitler and make sure their judgements were in line with Nazi ideas. In 1933 the first concentration camp was opened in Germany at Dachau.

18 Nazi Propaganda

The Ministry of Enlightenment and Propaganda, headed by Dr Joseph Goebbels. It aimed to brainwash people into obeying the Nazis and idolising Hitler. It did this by censoring the press, controlling radio broadcasts, holding mass rallies (the biggest one was at Nuremberg each year in August) and using sporting events such as Berlin Olympics of 1936 to showcase the success of the regime and the superiority of the Aryan Race

Opposition, resistance and conformity

19 Extent of support for the Nazis

Exact figures for those who opposed the Nazis are difficult to obtain. However, it is clear that the Nazis were incredibly popular when they came to power and many Germans welcomed the stability and economic growth an **authoritarian** regime brought – something missing with the Weimar democracy. The Nazi regime restored Germany's international prestige through **rearmament** and the dismantling of the **Treaty of Versailles**.

20 Opposition from the Churches

There were approximately 45 million Protestants and 22 million Catholic Christians in Germany in 1933. Hitler saw Christianity as a threat and a potential source of opposition to Nazism because it emphasised peace. The Protestant church was re-organised and fell under Nazi control, in 1936 all Protestant churches merged into the Reich Church and it made a National Socialist version of Christianity. The Pope signed an agreement (the Concordat) with Hitler agreeing to stay out of German politics. There was Little opposition overall but some Church members such as Martin Niemoller (Protestant) and von Galen (Catholic) preached against the Nazis. Niemoller was sent to a concentration camp, but von Galen forced the Nazis to keep their killing of the disabled a secret.

21 Opposition from the young

The main youth opposition group was the Edelweiss Pirates, based in the Rhineland. They reacted to the discipline of the Hitler Youth by daubing anti-Nazi slogans and singing pre-1933 folk songs. In 1942 over 700 of them were arrested and in 1944, the Pirates in Cologne killed the Gestapo chief, so the Nazis publicly hanged 12 of them.

During the war, 'Swing Youth' and 'Jazz Youth' groups were formed. These were young people who rejected Nazi values, drank alcohol and danced to jazz. The Nazis rejected jazz music as **degenerate** and called it Negro music, using their racial ideas against this cultural development. These youths were closely monitored by the Gestapo, who regularly raided illegal jazz clubs.

Year 11 GCSE History Summer Term Knowledge Organiser Life in Nazi Germany 1933-39

Key Vocabulary:

1	Kinder, Kuche, Kirche	Children, Kitchen, Church. This summed up the Nazi ideal of womanhood
2	The Motherhood Cross Award	Given to women for large families. E.g a bronze award for a woman with 4 children.
3	Lebensborn	Where unmarried women were impregnated by SS men.
4	Napola	Schools intended to train the future leaders of Germany
5	Nazi Teachers League	All teachers had to swear an oath of loyalty to the Nazis
6	Reich Labour Service	A scheme to provide young men with manual labour jobs
7	Invisible unemployment	The Nazi unemployment figures did not include women, Jews, opponent and unmarried men under 25
8	Autobahn	Motorway
9	Rearmament	Building up the armed forces in readiness for war
10	Volksgemeinshaft	The Nazi community
11	Strength Through Joy	An attempt to improve the leisure time of German workers
12	Beauty of Labour	Tried to improve working conditions of German workers.
13	Volkswagon	People's car
14	Nuremberg Laws	Jews were stripped of their citizenship rights and marriage between Jews and no Jews was forbidden
14	Kristallnacht (Night of the Broken Glass)	A Nazi sponsored event against the Jewish community

Nazi policies towards Women and the young

16 Nazi policies towards women

The Nazis didn't allow women much freedom. They believed that women should stay at home and look after the family. They were banned from being lawyers in 1936 and they were expected to dress plainly and not wear make-up or smoke. Nazis gave awards to women who had lots of children and encouraged women to marry with marriage loans

17 Successes and failures of these policies

Failure: female labour was cheap and between 1933 and 1939 the number of women in employment actually rose by 2.4 million. Some Nazi policies reversed e.g. women with marriage loans allowed to work (1937)
Success: German Women's Enterprise had 6 million members; birth rate increased to 20 per 1,000 in 1939

18 Nazi Policies towards the young:

Youth groups such as the Hitler Youth taught children Nazi ideas so they would be loyal to the Nazi Party when they grew up. By 1936 boys had to join the Hitler Youth, they went on camping trips and had sports competitions. Girls joined the League of German Maidens where they were trained in domestic skills like cooking.
Schools also indoctrinated young people. All teachers had to join the Nazi Teachers' Association and the curriculum altered: History lesson included the rise of the Nazi Party, a new subject called Race study was introduced and PE was taught 5 times a week

19 Successes and failures of these policies:

Failure: Attendance at Hitler Youth meeting by 1938 was only 25% so by 1939 the authorities made attendance compulsory.
Success: 1939 90 per cent of German boys aged 14 and over were members.

Employment, living standards and persecution of minorities

21 How the Nazis reduced unemployment:

Public Works: Hitler created jobs with the building of autobahns, hospitals, schools and public buildings such as the 1936 Olympic Stadium.
National Service: making any man between 18-24 join the National Labour Service.
Rearmament: Hitler also created more jobs with building tanks and weapons and joining the army.
Invisible unemployment: Not counted by Hitler in his unemployment figures: 1.4 million men in the army and men working on public works schemes, Jews who were sacked and women who had to give up their jobs for men.

22 Did the Nazis improve living standards?

Yes: By 1937, agricultural prices had increased by 20 per cent. Beauty of Labour encouraged factory owners to improve conditions for workers and Strength through Joy gave rewards to workers for their work such as very cheap holidays.
No: Workers couldn't join trade unions or go on strike for campaign for better conditions and the Nazi Labour Front (which had replaced trade unions) nearly always sided with the employers. Wages remained low and the cost of living rose by 25%.

23 Nazi racial beliefs and policies:

Nazis believed certain groups, such as Slavs, gypsies, homosexuals, the disabled and Jews were inferior to and a threat to the Aryan race. Mentally and physically disabled were first sterilized and then between 1939-1941 over 100,000 were euthanatized. Other such as homosexuals, prostitutes, Jehovah's Witnesses and gypsies sent to concentration camps.

24 Jewish persecution:

1933- Boycott of Jewish shops, books by Jewish authors publicly burnt, Jewish teachers, lawyers and civil servants sacked.
1935- Nuremberg Laws- stripped Jews of German citizenship, outlawed marriage between Jews and Germans, took away all civil and political rights
1938,- Jews had to have the name Israel (men) or Sarah (women), Jewish children forbidden to go to school.
Kristallnacht - 9 Nov. The SS organised attacks on Jewish homes, businesses and synagogues in retaliation for the assassination of the German ambassador to France by a Jew.

Year 11 BTEC Sport; Unit 6 Leading Sports Activities Autumn Term Knowledge Organiser

Sport Leaders

1	**Types**  	This can be anyone who leads a sport or an activity. For example, sports coaches, fitness instructors, dance teachers, local/professional club coaches.
2	**Attributes**  	These are **key skills** that coaches must have in order to be successful at sports leading. For example, communication, organisation of equipment and knowledge. **Advanced skills** also include activity structure, target setting, use of language, evaluation. **Qualities** of the coach should also be considered which include things such as appearance, enthusiasm, confidence, leadership style, motivation, humour, personality.
3	**Responsibilities**   	**Core responsibilities** include professional conduct, health and safety, equality. **Wider responsibilities** include insurance, child protection, legal obligations, ethics and values, rules and regulations.

My sports session checklist

4	**Leading**	When leading it is important to demonstrate key attributes so that you are seen a positive role model.
5	**Measure of success**	As a leader, you need to ensure that you plan well using of the STEP principles. You will also need to check whether the aims and objectives have been met that were set out at the beginning of the session. As a leaders you will also consider how safe and inclusive the session was.
6	**Targets for development**	SMARTER targets (specific, measurable, achievable, realistic, time-related, exciting, recorded). Development plan which includes aims and objectives, goals, SMARTER targets, activities and opportunities, e.g. training, courses, qualifications and possible barriers.
7	**Review**	Feedback from participants, supervisor, observers, self-analysis. Methods, e.g. questionnaires, comment cards, observation records, direct verbal feedback. Strengths and areas for improvement (demonstration of attributes, completion of responsibilities, e.g. planning, content, organization, health and safety, communication, target setting, enjoyment).

Planning Sports Activities

8	**Participants information** e.g. age, ability, gender, numbers, medical and specific needs. **Aims and objectives**, e.g. target setting, expected outcomes. **Resources,** e.g. equipment, time, environment. **Warm-up**, • Pulse raiser: activities that can be used to gradually increase the pulse rate. • Mobilise: activities to mobilise the main joints of the body such as knees, hips, shoulders, ankles and wrists. • Stretching (different types of stretches for the main muscles used in sports activity sessions – deltoids, triceps, obliques, quadriceps, hamstrings, gastrocnemius). **Main component/components of activity**, e.g. skill introduction, development, conditioned game, final activity. Incorporate safe activities to minimise injury. **Cool down** and pulse lowering: activities that gradually decrease in intensity. • Followed by maintenance and developmental stretches with the main muscles that were used in the activity session, including deltoids, biceps, triceps,, abdominals, obliques, hip flexors, gluteus maximus, quadriceps, hamstrings, gastrocnemius. **Health and safety** considerations: adhere to health and safety guidelines, and consider appropriate risk management strategies via a risk assessment.

Year 11 Spring Term Knowledge Organiser for Maths

Averages

The Mean

5, 6, 2, 4, 7, 8, 3, 5, 6, 6

Add up the data and then share it out…

$$\frac{5+6+2+4+7+8+3+5+6+6}{10}$$

$$= \frac{52}{10} \quad = 5.2.$$

The Median

5, 6, 2, 4, 7, 8, 3, 5, 6, 6

Order the number and find the middle…

2, 3, 4, 5, 5, 6, 6, 6, 7, 8

There are two middle values so find half-way between…

$$\text{median} = \frac{5+6}{2} \quad = \frac{11}{2} \quad = 5.5.$$

The Mode

5, 6, 2, 4, 7, 8, 3, 5, 6, 6

The mode is the most common = 6

The Range

5, 6, 2, 4, 7, 8, 3, 5, 6, 6

The range is not an average, it measures how spread out the data is…

Biggest – Smallest = 8 – 2 = 6

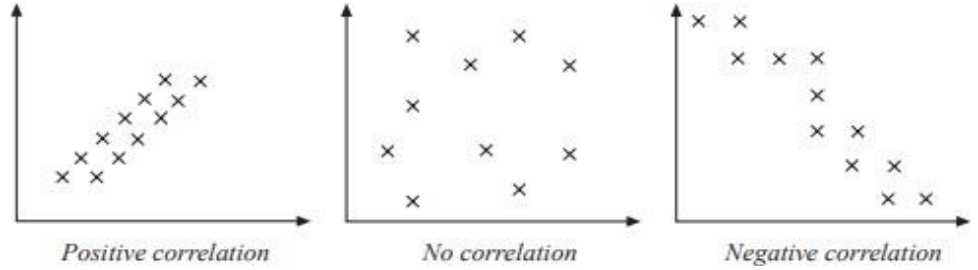
The Mean From Frequency

No. of Goals	*Frequency*	*No. of Goals × Frequency*
0	8	0 × 8 = 0
1	10	1 × 10 = 10
2	12	2 × 12 = 24
3	3	3 × 3 = 9
4	5	4 × 5 = 20
5	2	5 × 2 = 10
TOTALS	**40**	**73**

$$\text{Mean} = \frac{73}{40} = 1.825$$

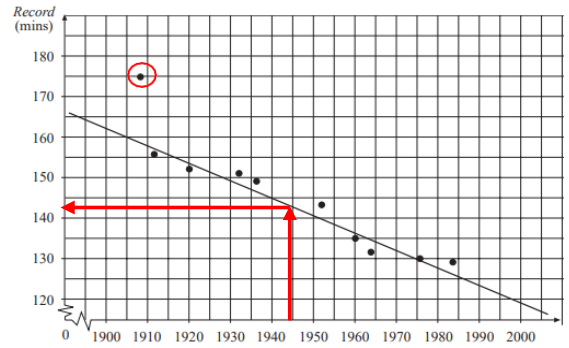
Scatter Graphs

Correlation – the three types of correlation…



Line of Best Fit – This graph shows Olympic records for marathon runs since 1900 with a line of best fit added. The line of best fit should go through the middle of the points with roughly the same number of points above as there are below. Anomalies, known as outliers – like the point circled – can be ignored.

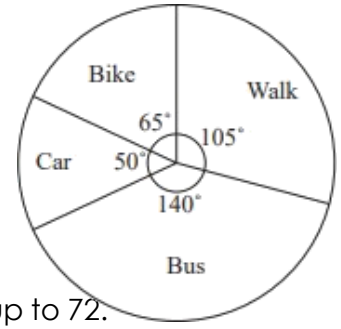
Using the line of best fit, we can estimate the record in 1945 was 143mins.



Pie Charts

Pie Charts - Reading

This pie chart shows how 72 people travel.



$\frac{360°}{72} = 5°$ per child. This means…

$\frac{65°}{5°} = 13$ children travel by bike.

Work out the rest. Check they add up to 72.

Pie Charts – Drawing

This is how a student spends their pocket money.

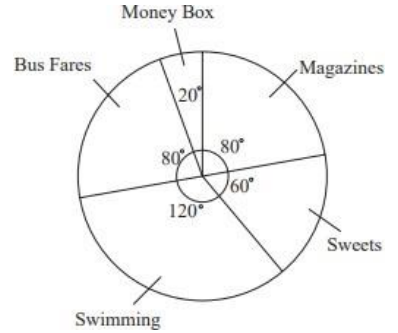
Magazines	£4
Sweets	£3
Swimming	£6
Bus fares	£4
Money box	£1

The total is £18, and…

$$\frac{360°}{18} = 20°$$

… so each pound gets 20^0

Magazines	4 × 20° = 80°
Sweets	3 × 20° = 60°
Swimming	6 × 20° = 120°
Bus fares	4 × 20° = 80°
Money box	1 × 20° = 20°



Year 11 Spring Term Knowledge Organiser for Maths

Linear Graphs

Drawing Linear Graphs

- To draw the graph y=2x-1 using coordinates

This rule tells us the y-coordinate is the x-coordinate x 2 then -1.

We could choose three x-coordinates to plot. For example…

(4, ?), (2, ?), (–2, ?)

$y = 2 \times 4 - 1 = 7$ $y = 2 \times 2 - 1 = 3$ $y = 2 \times (-2) - 1 = -5$

This gives us:

(4, 7) (2,3) and (-2,-5)

…to plot and draw a straight line through (see right)

Drawing Linear Graphs

- To draw the graph y=2x-1 using a table

This rule tells us the y-coordinate is the x-coordinate x 2 then -1.

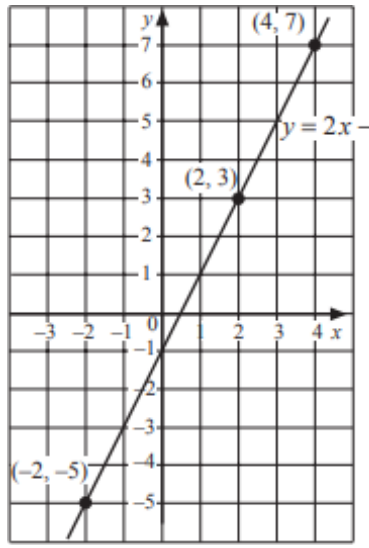
The coordinates can also be calculated in a table:

x	-2	2	4
y	-5	3	7

This also gives us:

(4, 7) (2,3) and (-2,-5)

…to plot and draw a straight line through (see right)



Drawing Linear Graphs (Intercept and Gradient)

We can see from the graphs of y=2x-1, that the y-intercept is -1, and the gradient (steepness) is 2.

For a graph of the form y=mx+c

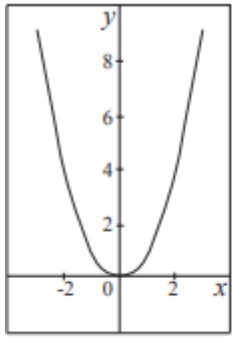
- The 'm' will be the gradient
- The 'c' will be the y-intercept

Gradient can also be calculated using Change in y or Rise
Change in x Run

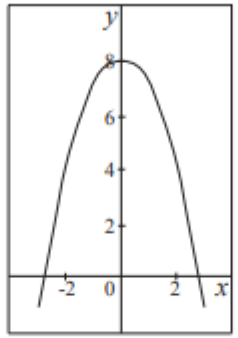
Quadratic Graphs

Quadratic Graphs – contain an x^2 and make 'U' and ''n' shapes.

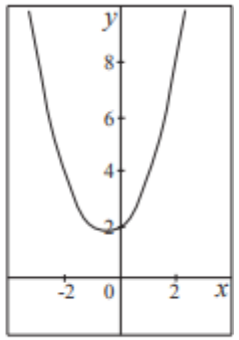
Here are three examples:



$y = x^2$



$y = 8 - x^2$



$y = x^2 + x + 2$

Quadratic Graphs – Drawing and Finding Solutions.

To draw a quadratic graph, use a table (see below)
Write down your steps, as you can see for x=-1 and x=1

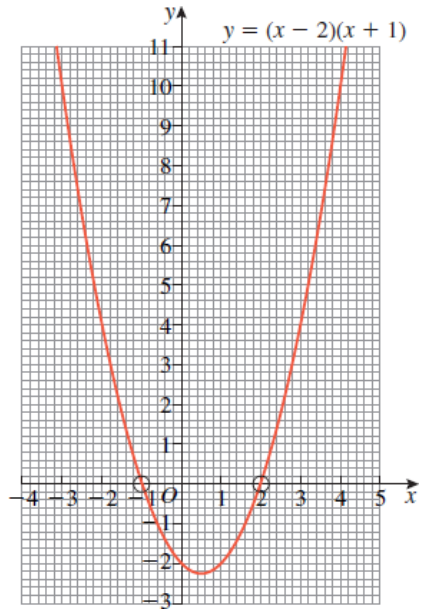
$y = x^2 - x - 2$

x	–3	–2	–1	0	1	2	3	4
y	10	4	0	–2	-2	0	4	10

x^2 = 1 = 1
– x = 1 = -1
- 2 =-2 =-2

1+1-2=0 1-1-2=-2

The Solutions or Roots are where y=0, at the points (-1,0) and (2,0)

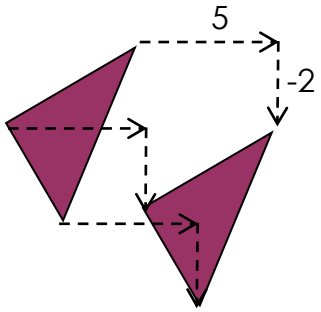


Year 11 Spring Term Knowledge Organiser for Maths

Transformations

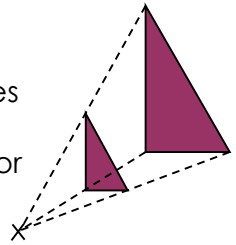
Translations

A translation is just a movement. Vectors are used to describe the movement. Here this would be: $\begin{pmatrix} 5 \\ -2 \end{pmatrix}$



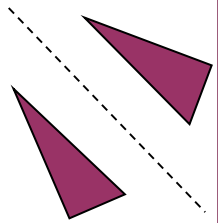
Enlargements

An enlargement changes the size of a shape. The number of times bigger or smaller the shape gets is called the scale factor. You also need to state the centre of enlargement.



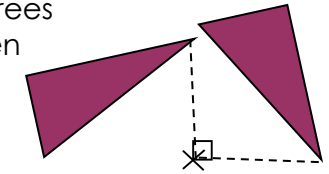
Reflections

Reflections give shapes which are the same distance to and from a mirror line. Remember to state the equation of the mirror line.



Rotations

A rotation is a turn. Remember to state the direction and degrees the shape has been rotated and the coordinates of the centre of rotation.



Probability – Multiple Events

Two-Way Tables

Example

Two dice were rolled, a red dice and a blue dice, and their scores were added up. Find the probability the total score is higher than 8.

Blue Dice \ Red Dice	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

Outcomes for the red dice.

Outcomes for when they are added together.

Outcomes for the blue dice.

We can see the probability of getting a score higher than 8 is 10/36 = 5/18 (because 10 out of the 36 outcomes are above 8)

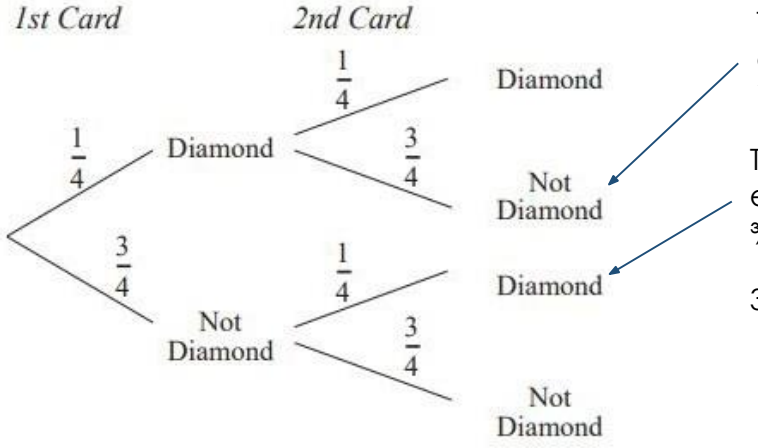
Probability Trees

Probabilities for two events can also be shown on a tree diagram. Branches will always add up to 1.

Example

A card is taken from a pack, returned, and then another one is taken. Find the probability of exactly one diamond.

p(Diamond) = ¼ and p(Not Diamond) = ¾ and so a tree looks like this…



This outcome shows exactly one diamond.
¼ x ¾ = 3/16

This outcome shows exactly one diamond.
¾ x ¼ = 3/16

3/16 + 3/16 = 6/16, or 3/8

Remember
AND means x and
OR means +

Year 11 Spanish Spring Term HT4 Knowledge Organiser –Problemas sociales

Me preocupa(n) mucho – I'm really worried about

Lo que más me preocupa es (que) – the thing I'm most worried about is (that)

El problema más grave es (que) – the most serious problem is (that)

el paro/el desempleo – unemployment
el hambre/la pobreza – hunger/poverty
la obesidad – obesity
la drogadicción – drug addiction
la diferencia entre ricos y pobres – the rich/poor divide
la crisis económica – the economic crisis
los sin hogar/los sin techo – the homeless
el estrés – stress
la soledad – loneliness
el prejuicio – prejudice
el racism – racism
la igualdad – equality
el crimen - crime

Es necesario que – it's necessary that

recaudamos dinero/fondos – we raise money/funds
hagamos campañas publicitarias – we carry out publicity campaigns
construyamos más casas – we build more houses
creemos oportunidades de trabajo – we create job opportunities
compremos productos de comercio justo – we buy fair trade products
apoyemos proyectos de ayuda – we support help projects

organización benéfica – a charity
el sida – aids
una residencia de ancianos – old people's home
una tienda solidaria/con fines benéficos – charity shop
el trabajo voluntario – voluntary work
una campana – a campaign

borracho - drunk
el humo – the smoke
el olor – the smell
muerto - dead
un fumador – a smoker
un ladrón – a thief

Beber alcohol – drinking
Fumar cigarillos – smoking cigarettes
Fumar porros – smoking joints
Tomar drogas duras/blandas – taking hard/soft drugs
El fumo pasivo – passive smoking
Emborracharse – getting drunk
El tabaquismo – tobacco addiciton

es - is

ilegal – illegal
peligroso – dangerous
un malgasto de dinero – a waste of money
una tontería – stupid
un problema serio – a serious problem
un vicio muy caro – a very expensive habit
tan malo como… – as bad as…
muy perjudicial para la salud – very damaging to your health

provoca mal aliento – causes bad breath
daña los pulmones – damages your lungs
mancha los dientes de amarillo – makes your teeth yellow
causa el fracaso escolar – causes failure at school
causa la depresión – causes depression
produce una fuerte dependencia física – causes a stong, physical dependence
tiene muchos riesgos – has many risks
afecta a tu capacidad para tomar decisiones – affects your ability to make decisions
te relaja – relaxes you

Parallel Text:

1	**No es justo que <u>haya tanto desigualdad social</u>** en el mundo.	**It's not fair that <u>there's so much social inequality</u>** in the world.
2.	**Me preocupa más <u>la pobreza</u>** y por eso	**I'm most worried about <u>poverty</u>** and therefore
3.	Recaudo dinero para una obra benéfica que ayuda a los **<u>sin techo</u>**	I raise money for a charity which helps the **<u>homeless</u>**
4.	y **he organizado** un evento para recaudar fondos	and **I have organised** an event to raise funds.
5.	En mi opinión, **es necesario que <u>construyamos más casas</u>**	In my opinion, **it's necessary that <u>we build more houses</u>**
6.	y **<u>creemos oportunidades de trabajo</u>**.	And **<u>create job opportunities</u>**.
7.	Además, **es terrible que** haya **<u>tanta gente obesa</u>** y tantos **<u>drogadictos</u>** en mi ciudad.	In addition, **it's terrible that** there are **<u>so many obese people</u>** and so many **<u>drug addicts</u>** in my town.
8.	Nunca **<u>bebo alcohol</u>** porque es **<u>un malgasto de dinero</u>**	I never **<u>drink alcohol</u>** because **<u>it's a waste of money</u>**
9.	pero mis amigos **lo beben <u>cada fin de semana</u>**.	but my friends **drink it <u>every weekend</u>**.
10.	**Dicen que <u>te quita el estrés</u>**	**They say that <u>it relieves stress</u>**
11.	y **<u>te hace sentir más adulto</u>**.	and **<u>makes you feel like an adult</u>**.

Year 11 Spanish Spring Term HT4 Knowledge Organiser –Problemas sociales

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Topic 6
Dynamic Development

What is development?

Development is an improvement in living standards through better use of resources.

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This is advances in the management and protection of the environment.

Measuring development

There are used to compare and understand a country's level of development.

Economic indictors examples

Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product (GDP) per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income (GNI) per capita	An average of gross national income per person, per year in US dollars.

Social indicators examples

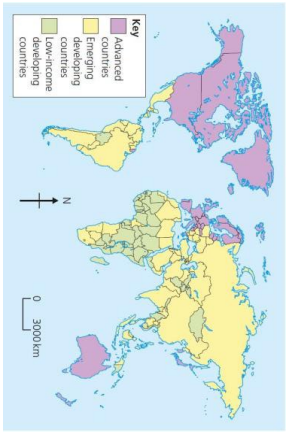
Infant mortality	The number of children who die before reaching 1, per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.

Mixed indicators

Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.

Variations in the level of development

LIDCs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
EDCs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
ACs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.



Uneven development

Development is globally uneven with most ACs located in Europe, North America and Oceania. Most EDCs are in Asia and South America, whilst most LIDCs are in Africa. Remember, development can also vary within countries too.

Physical factors affecting development

Natural Resources

- Fuel sources such as oil.
- Minerals and metals for fuel.
- Availability for timber.
- Access to safe water.

Natural Hazards

- Risk of tectonic hazards.
- Benefits from volcanic material and floodwater.
- Frequent hazards undermines redevelopment.

Climate

- Reliability of rainfall to benefit farming.
- Extreme climates limit industry and affects health.
- Climate can attract tourists.

Location/Terrain

- Landlocked countries may find trade difficult.
- Mountainous terrain makes farming difficult.
- Attractive scenery attracts tourists.

Human factors affecting development

Politics

- Aid can help some countries develop key services and infrastructure faster.
- Aid can improve projects such as schools, hospitals and roads.
- Too much reliance on aid might stop other trade links becoming established.

Trade

- Countries that export more than they import have a trade surplus. This can improve the national economy.
- Having good trade relationships.
- Trading goods and services is more profitable than raw materials.

Education

- Education creates a skilled workforce meaning more goods and services are produced.
- Educated people earn more money, meaning they also pay more taxes. This money can help develop the country in the future.

Health

- Lack of clean water and poor healthcare means a large number of people suffer from diseases.
- People who are ill cannot work so there is little contribution to the economy.
- More money on healthcare means less spent on development.

Aid

- Corruption in local and national governments.
- The stability of the government can effects the country's ability to trade.
- Ability of the country to invest into services and infrastructure.

History

- Colonialism has helped Europe develop, but slowed down development in many other countries.
- Countries that went through industrialisation a while ago, have now develop further.

Five stages of economic development.

Rostow's model predicts how a country's level of economic development changes over time. The model also shows how people's standard of living improves.

1. Traditional society	2. Preconditions for take-off	3. Take-off	4. Drive to maturity	5. Mass Consumptions
Subsistence based. i.e. farming, fishing and little trade.	Manufacturing starts to develop with better infrastructure.	Rapid growth with large-scale industrialisation.	Economy grows so people get wealthier & have higher standards of living	Lots of trade with a high level of consumption.

Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and education.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Education	More developed countries have better standards of education available than those in less developed countries.

Barriers to ending Poverty

Debt	Many LIDCs have huge national debts from burrowing from wealthy countries and organisations. With high interest rates, these debts are difficult to wipe out and can lead to a spiral of decline. This situation makes it difficult for these countries to invest in services and infrastructure.
Trade	Countries with a negative balance of trade, import more than they export make development difficult. Also ACs have TNCs that operate in LIDCs. These companies take profits away from LIDCs to ACs where their headquarters are.
Political unrest	Widespread dissatisfaction with the government can be caused by political unrest, corruption and a lack of investment and attention into services (i.e. education and healthcare).

Breaking out of Poverty

Countries can try various ways to reduce poverty and increase development. These often involve different types of aid that can either be short term or long term strategies.

Top Down	These are large scaled, government led and expensive schemes involving money borrowed from wealthier countries. Their is little community involvement but instead large scale projects.
Bottom Up	These are small scaled, local led and less expensive schemes. They involve communities and charities developing local businesses and housing.
Short term	This aid is sent to help countries cope with emergencies such as natural disasters.
Long term	This is aid given over a long period to help countries develop through investing in projects such as education and healthcare.
Trade	Fair trade can allow for fair wages. Also grouping with other countries in the form of trading blocs can increase links and increase the economy.
Debt Relief	Wealthier countries can cut or partly cut debt to countries that have burrowed money. This allows for money to be reinvested in development.

Positives and Negatives of Aid

Positives	Negatives
Allows for immediate or long-term investment into projects that can develop a countries prospects.	Local people might not always get a say. Some aid can be tied under condition from donor country.

Are LIDCs likely to stay poor?
Case Study: Zambia

Location & Background

Zambia is a LIDC in southern Africa. A **landlocked** country surrounded by 8 countries. the population of Zambia is **17.9 million**. The capital is **Lusaka** with a population of 3.36 million.

Current level of development

- GNI per capita is **$1,430** compared to a world average of **$10,858**
- Level of wealth per person is **significantly less** than other LIDCs across the world.
- Became independent from the British Empire in 1964
- A long history of **disease, poverty** and **political unrest**.
- HDI of **0.584 with low life expectancy** at **64 years**.
- Country is **reliant on agriculture** with **75% of people working in labour based jobs (primary sector)**.

Influences upon Zambia's development

Political

- Gained independence from the UK in 1964
- Government couldn't afford to subsidise food prices so people rioted.
- Wages are extremely low for all labour workers

Social

- HIV epidemic in Zambia in the 1980's meant a lot of the economically active population could not work.
- Growing population is causing a food deficient.

Physical

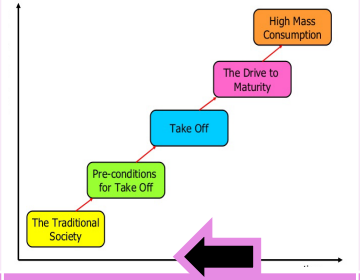
- Rainfall in the country is unpredictable, the country has suffered from droughts. Zambia has large natural copper resources – Zambia has one of the largest metal ore mines in Africa.
- Kariba dam generates power to help with mining of copper

Economic

- Reliant on the copper industries and TNC investment.
- Copper prices were low in 1970's and stayed low for 30 years .
- Zambia's debt was cleared in 2006 by the IMF to help development

Ethiopia & Rostow's Model

- Despite the large primary industry (copper) Zambia has improved education and healthcare due to investments from TNCs. As a result, Zambia is at stage 2.
- Better technologies & quality of life is allowing for pre Take off to emerge.



Millennium Development Goals

Set by the UN to set targets to reduce poverty.

+ Zambia is on track with primary education and reducing HIV/AIDS, malaria and other diseases
- Poverty is high in Zambia, leading to malnutrition, gender equality, disease, child mortality, global partnership and low environmental sustainability

Investment from TNC

Associated British Foods (ABF) provides primary and secondary jobs
+ Investment in infrastructure is aiding tourism.
+ Increase employment levels and people receive fair wages.
-Some TNC pay low salaries and working conditions are poor.
-TNCs don't pay full taxes in the country they operate in .

Aid & Debt relief

- **Bi-lateral aid** from **ACs** such as **USA and UK**
- **Multilateral – ACs** donate to **World Bank** which **distributes money to LIDCs**
- Wiped debt of $6.5 million in 2006 so more reinvestment n the country could happen

Development strategy for Zambia

Bottom-up

This is led by local people and are known as 'grassroot' project.

+ Education for girls so that they can work in the future
+ tailored for local communities
- **Depend on volunteers.**
- **Usually stop when AC volunteers leave**
- **Stops when money runs out**

Top-down strategies

This is large scale investment at a national level.

+ Kariba dam creates HEP for the country
+ Creates jobs when building the dam
- **57,00 Local farmers have been evicted.**
- **Crops downstream affected as no water to that area.**

Topic 8
Resource Reliance

What is Resource Reliance?

Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.

Resource Required

Resources such as food, energy and water are what is needed for basic human development.

FOOD	WATER	ENERGY
Without enough nutritious food, people can become **malnourished**. This can make them ill . This can prevent people working or receiving education.	People need a supply of **clean and safe water** for drinking, cooking and washing. Water is also needed for food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need **light and heat** for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

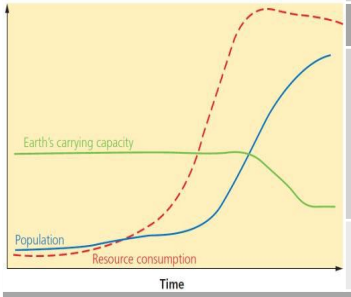
The demand for resources like food, water and energy is rising so quickly that supply cannot always keep up. Importantly, access to these resources vary dramatically in different locations

1. Population Growth

- Currently the global population **is 7.3 billion**.
- Global population has risen **exponentially** this century.
- Global population is expected to reach **9 billion by 2050**.
- With more people, the **demand** for food, water, energy, jobs and space **will increase**.

2. Economic Development

- As **LIDCs** and **EDCs** develop further, they require **more energy** for industry.
- **LIDCs** and **EDCs** want similar lifestyles to **ACs**, therefore they will need to **consume more resources**.
- Development means **more water is required** for food production as diets improve.



Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.
Carry Capacity – A maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!

3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.

Reasons for NOT Meeting Modern Resource Demands.

Climate	• **Global warming** effects cycles and seasons and therefore farming. • **Rainfall patterns** are changing and are becoming unpredictable. This is a problem for farming.
Geology	• Not all countries have **access to fossil fuels** or suitable landscape for renewables. • Many **minerals are finite** and therefore once used will reduce the resources available. • **Rock types** might limit the availability to store water.
Conflict	• **War** can disrupt transport of resources by damaging roads and water pipes.
Poverty	• LIDCs are unable to **afford technology** to effectively exploit the natural resources available.
Natural Hazards	• **Increase in hazard events** due to climate change. • Prime agricultural regions in Asia and Africa and are also in **hazard zones**. • Has the ability to **destroy infrastructure** needed to transport resources.

Environment and Food: Fishing and Farming

	Methods	Environmental and Ecosystems
Fishing	**Bigger nets and fishing boats** have allowed for greater catches. **GPS and sonar** has also find the fish easily.	• **Overfishing** of certain fish has caused their decline. • **Dredging** can damage seafloor habitats. • Decline of one species has a **knock on** effect on other marine species.
Farming	**Tractors, computer programming** and **GPS** technology is producing food more effectively and at a larger scale.	• Field sizes have caused **hedgerows to decline** in biodiversity. • **Fertilisers and pesticides** enter water courses and harm or kill organisms. • Heavy machinery can cause **soil erosion**.

Environment and Energy: Deforestation and Mining

	Methods	Environmental and Ecosystems
Deforestation	Logging using **modern machinery** and **transportation** has made deforestation more productive & convenient.	• **2 billion people depend on wood** for fuel, which therefore creates high **CO2 emissions** • Forests provide for **important habitats**. • Clearing of forests leads to **soil erosion**. • Tree intercepts rain and **prevents flooding**.
Mining	Large machines and drill technology can remove and reach through material effectively.	• Mining waste **can pollute soil and contaminate water** supplies. • **Habitats are destroyed** in mining zones. • Fossil fuels burnt **release greenhouse gases**

Environment and Water: Reservoirs and Water Transfer

	Methods	Environmental and Ecosystems
Reservoirs	Increasing **storage to hold more water** and constructing more dams to **control river flow** can provide a reliable source of water.	• Can **flood** a large area of land and damage **habitats** and **natural landscapes**. • Dams can be **a barrier for certain species** to migrate upstream. • Natural flow of sediment is disrupted, which then **reduces fertility of land** further down.
Water Transfer	Constructing pipes and canals to divert water surplus to areas in need of a water supply.	• Large-scale engineering works can **damage ecosystems** along the route. • **Lots of energy** is required to pump water over long distances.

Food Security

'Food Security' is when people at all times need to have physical & economic access to food to meet their dietary needs for an active & healthy life. This is the opposite to **'Food Insecurity'** which is when someone is unsure when they might next eat.

Human

- **Poverty** prevents people affording food and farmers buying modern equipment.
- **Poor infrastructure** makes food difficult to transport fresh food.
- **Conflict** disrupts farming and prevents supplies.
- **Food waste** due to poor transport and storage.
- **Climate Change** is affecting rainfall patterns making food production difficult.

Physical

- **Temperature** needs to be ideal for certain crops to grow.
- The **quality of soil** is important to ensure crops have the necessary nutrients.
- **Water supply** needs to be reliable to allow food to grow.
- **Pest, diseases and parasites** can destroy vast amounts of crops that are necessary to feed large populations.
- **Extreme weather** events can damage crops (i.e. floods).

Malthus and Boserup's Theories about Food Supply

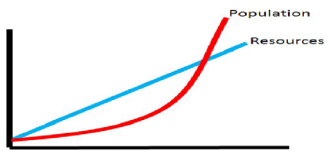
With the population growing very quickly, there are different ideas about whether or not this will lead to a food crisis.

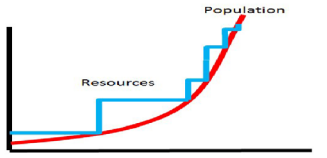
Malthus Theory

- Believed that **population would increase faster than food supply**.
- This would lead to a lack of food being available.
- Malthus believed this would cause **large scale famine, illness** and **war**
- This would occur until population returned to level that can be supported.

Boserup Theory

- Believed that however big the population grew, **people would find ways to manage**.
- If food supplies became limited, **people would find new ways** to increase production.
- These solutions would often involve **creating new technologies**.

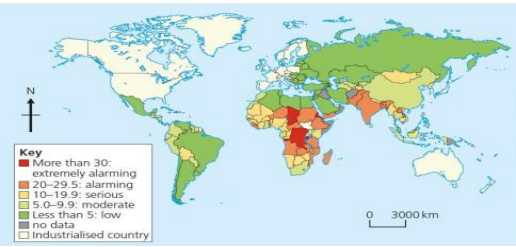




Measuring Food Security

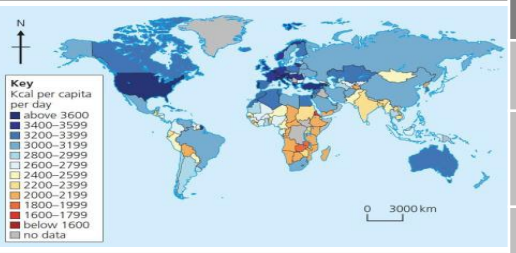
Food security varies around the world. Some people and places are more food secure than others. This can often depend on how much a country can grow and is able to afford.

The Global Hunger Index



- This shows how many people are suffering from **hunger or illness** caused by lack of food.
- The index gives a value for each country from **0** (no hunger) to **100** (extreme hunger).

Daily Calorie Intake



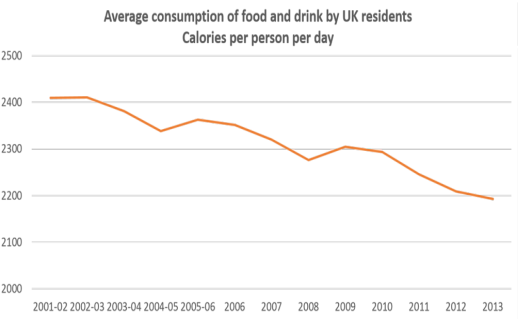
- This shows how many **calories per person** that are consumed on average for each country.
- This can indicate the global distribution of **available food** and **food inequality**,

Case Study: UK Food Security

Food Availability in the UK

The UK population is around **65 millio**n and enjoys a **high level of food security**.

- The UK **produces 68% of its own food** but this is steadily decreasing.
- The **UK has to import** the rest, especially seasonal food such as fruit and vegetables.
- Food production in the UK has increased by **intensifying agriculture**.



Food consumption in the UK

Average daily calorie intake in the UK has **decreased** from **2600** in **1960** to **2150** by **2000**.
Reasons for this decrease includes:

- More people being **more active in the past** and having physical jobs.
- More **awareness of having a good diet** and problems surrounding obesity.
- The price of food has increased.

Success in securing local food security

Food Banks

- This is food that is **donated** by the public.
- They help people with **a sudden loss of income**.
- It is estimated that **1 million people** rely on food banks for their own food security.

Urban Gardens

- These **are large projects** where groups work together to grow food and **promote healthy living**.
- This can involve planting crops in urban environments such as roundabouts.

Effectiveness of pasts attempt at food security

Intensification of farming from **1940s** to the **1980s** attempted to increase production by;

- **Higher yields** of crops and animals
- **Monoculture** by growing one crop in a large area.
- **Irrigation** with better groundwater pumping.
- **Chemicals** with improved fertilisers and pesticides.
- **Mechanisation** for sowing and harvesting.

Effectiveness of present attempts at food security

Recently the UK has been promoting sustainable intensification, involving food security and supporting the environment.

- **New technology** such as **hydroponics** help a range of foods to be grown all year round.
- However, this method is **expensive** for producer and consumer.

Attempts to Achieve Food Security

There are various measures to maintain or even improve our food security. These measures are often taken to be socially, economically, environmentally viable for the longer term.

Social	Economic	Environmental

Ethical Consumerism

This involves buying products that have a positive social, economic and environmental impact today, without compromising future generations.

Fairtrade	• This is a global movement to give farmers a **fairer price for their products**. • The profits benefit the community **with schools and medical facilities**. • Involves using farming methods that **protects rather than destroys environments**.
Food Waste	• One-third of all food gets lost or wasted. • Aim to **eat locally sourced food** to reduce waste through transport. • Eating 'ugly' food despite it not being 'ideal' can prevent waste and **save money**. • Prevents wasted energy for producing food and therefore **reduces CO2 emissions**.

Food Production

This involves producing as much food as possible in as small a space as possible. They often involve using machines and chemicals to gain as much produce as they can.

Intensive Farming	• Makes the most of the land and allows for higher yields. This can make growing food more **productive and therefore cheaper** to produce. • Chemical fertilisers, pesticides and herbicides can **pollute the environment** and **harm people**, animals and insects.
Organic Methods	• This involves the banned use of chemicals and **ensuring animals are raised naturally**. • This can lead to **lower yields of 20%** and products being **more expensive**.

Technological Developments

Through better understanding of science and improved technology, it is now possible to change the food we grow and protect and harvest the crops more effectively.

Genetically modified (GM)	• Involves changing the DNA of foods to enhance their productivity and properties. • Crops can be **better protected from disease and drought**, but also made larger or include more **health benefits**.
Hydroponics	• This is a method of growing plants without soil. Instead they use nutrient solution. • Less water is needed and a **reduced need for pesticides** to be used. • However, this method is **very expensive** so only used for high value crops.

Small Scale 'Bottom Up' Approaches

This involves a small scale production of food and relies on individuals and communities, rather than government or large organisations.

Allotments	• This is an area of land that is divided into plots and rented to **individuals to grow their own fruit and vegetables**. • Allows people in urban areas to produce their **own cheap** & **healthily food** close to home.
Permaculture	• This involves **people growing their own food** and **changing their eating habits**. • This can create **more natural ecosystems** and fewer resources are required.

Year 11 Spring term Knowledge Organiser for BTEC Sport

Principles of Training

For any training to be successful, it must stick to the following additional principles of training;

Specificity: Tailoring training to your goals and sport.

Progressive Overload: Gradually increasing exercise intensity to cause adaptation.

Variation: Changing the type of training, to increase motivation.

Adaptation: Changes in the body caused by exercising at a high intensity.

Reversibility: When you stop training, you lose any fitness adaptations you will have gained.

Rest & Recovery: The time required to allow your body to repair any damage sustained during training/competition. The body will repair itself and become stronger than before.

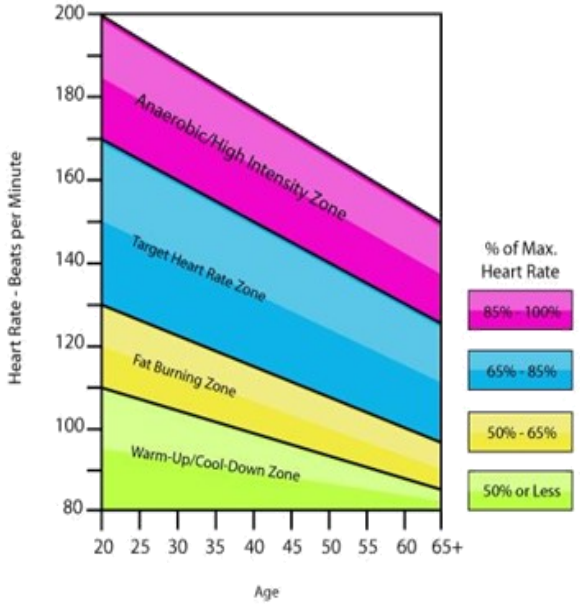
Basic Principles of Training

Frequency: How often you train
Intensity: How hard you train
Time: How long you train for
Type: what type of training do you do

Exercise Intensity

Measure how hard you are training by using your heart rate (BPM). Maximum heart rate = 220 – age Target heart rate zone for Aerobic training 60-85% of your maximum heart rate.

Therefore, you should be training hard enough, that your heart rate is between 60-85% of your maximum heart rate.
This will cause your body to adapt.
Borg's RPE scale can also predict intensity and heart rate.
RPE X 10 = HR



All the targets that you set must be **SMARTER targets:**

Specific – they say exactly what you mean (e.g. to improve flexibility in the hamstring muscle group)

Measurable – you can prove you have reached the target, (e.g. increase flexibility by 5cm using the sit and reach test)

Achievable – they are actions you can achieve (e.g. practice and improve flexibility through training)

realistic – you will be able to achieve them but they will still challenge you (e.g. the increase in flexibility must be manageable – a 20cm increase in two weeks is not achievable)

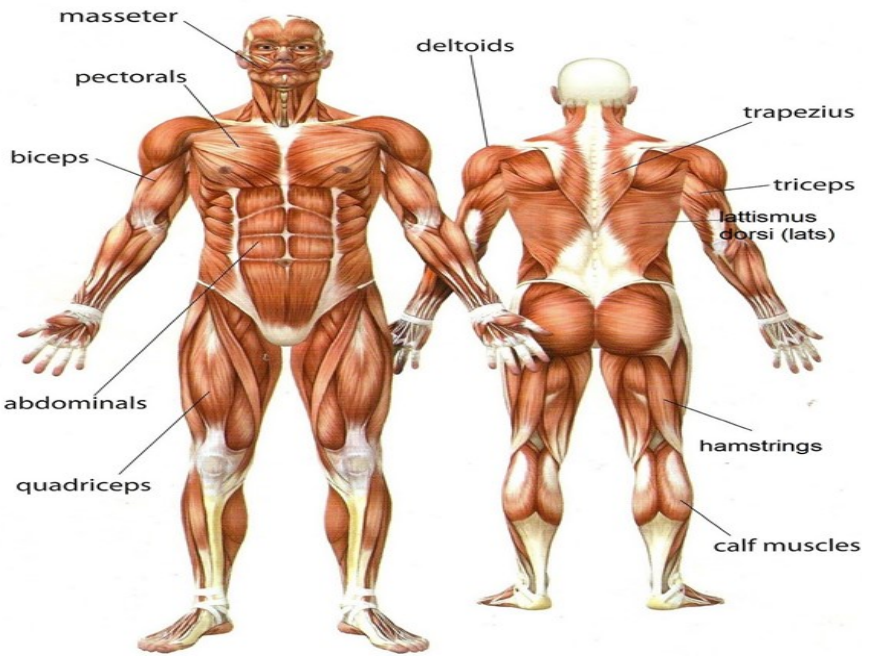
Timed – they have deadlines (e.g. to reach target within six weeks)

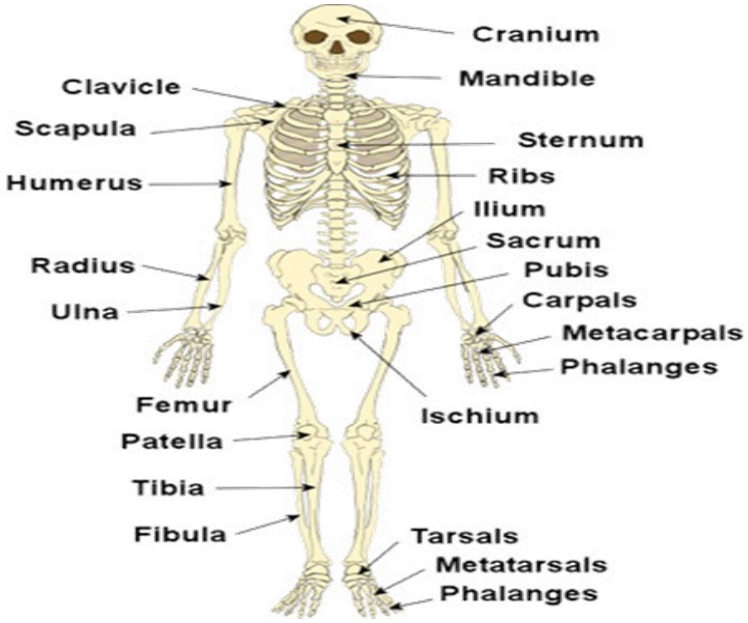
Exciting – ensure you look forward to and never get bored with your training programme.

Recordable – keep accurate records of everything you do in a training diary. This will be an excellent resource and source of inspiration to keep you fit and healthy.

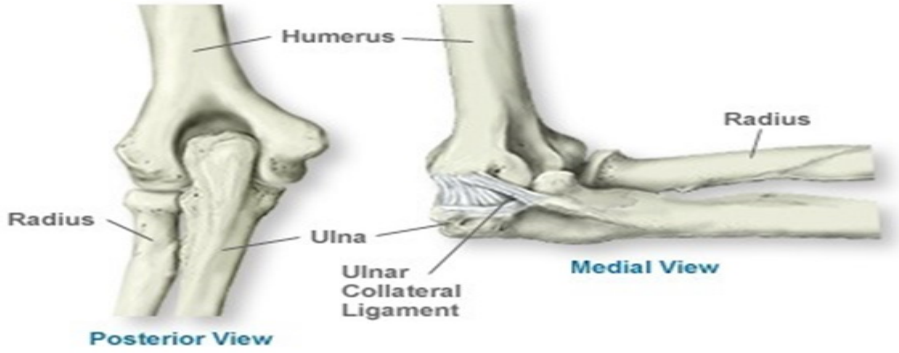
Year 11 Spring term Knowledge Organiser for BTEC Sport

Location of the Major Muscles





Location of Major Bones



Synovial Joints:

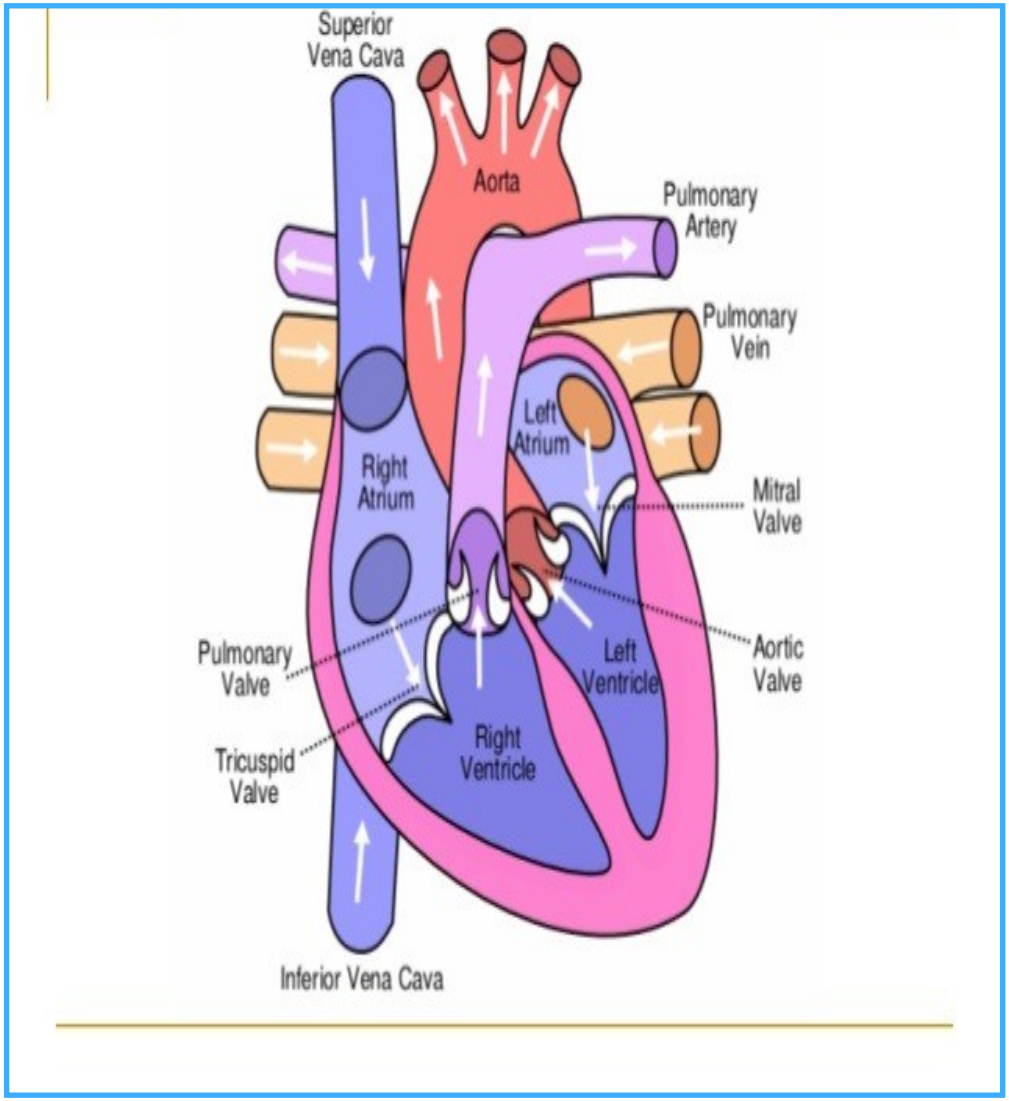
Knee: Hinge Joint – Flexion and extension are available at the knee, by the use of the quadriceps (Knee flexion) and Hamstrings (Knee extension).

Elbow Hinge joint – Flexion and extension are available at the elbow by the use of the triceps (Elbow extension) and Biceps (Elbow Flexion)

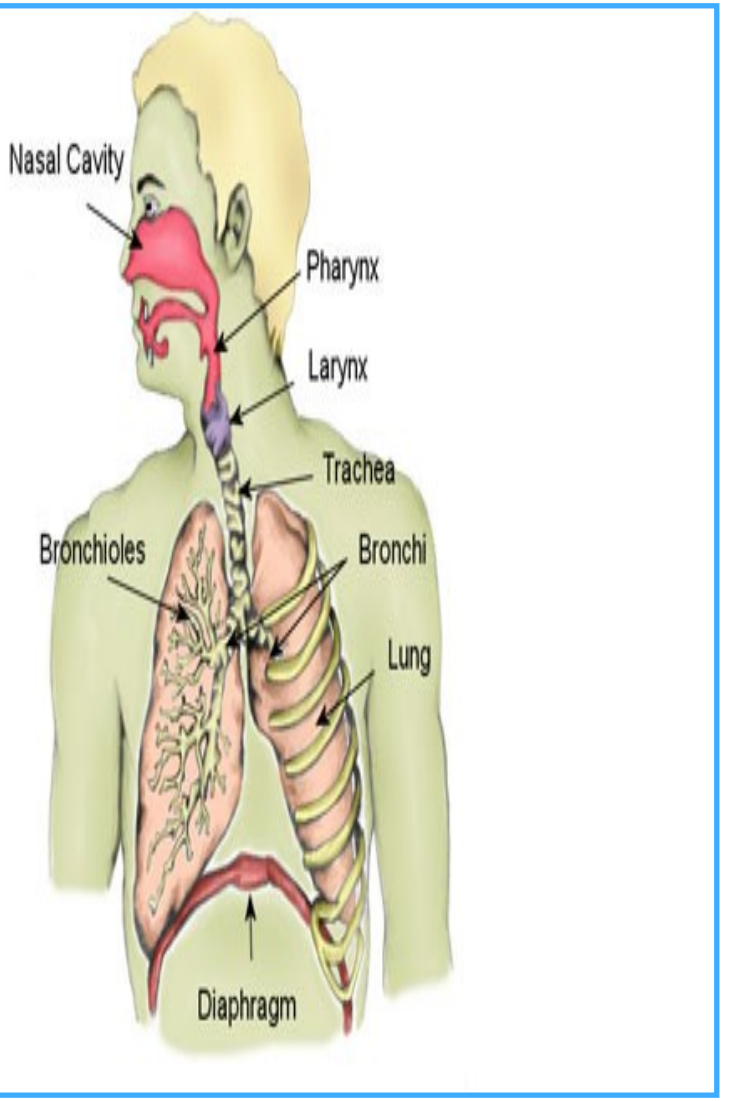
Hip Ball and Socket joint – Flexion, extension, rotation circumduction, abduction and adduction are all available at the hip using the gluteus, and hip flexor muscles.

Year 11 Spring term Knowledge Organiser for BTEC Sport

Structure of the Cardiovascular System



Structure of the Respiratory System



Year 11 ~~Summer~~ term Knowledge Organiser for BTEC Sport Unit 3 Training for Personal Fitness

Training Diary

•Date, time and location for training undertaken.

•Aims and objectives for each session
What are you working on in the session and why?

•Session duration – How long did your session last?

•Type of training undertaken–selected method/ activity.

•Programme details (FITT).

•Log of personal performance and achievements
What weight did you lift? What was your time/ HR during?

•Resources required,
e.g. equipment, cones, ladders, chest press machine.

•The principles of progressive overload and details of how
progressive overload has been achieved over the course of the programme.

•Details of programme intensity using % HR max and RPE.

Measures of Success

•Types of motivation (intrinsic and extrinsic) – How motivated were you during every session? Why was this?

•Benefits of motivation and self-confidence to successfully complete a fitness training programme – Why would motivation have an impact on your session?

•Motivation for training ,including details in the diary of personal feelings before, during and after each training session – Looking at your training diary was your training designed perfectly for you? Did you enjoy it the whole time?

•Details of how the programme has been adapted to ensure continued commitment to training, for example using a variation of activities/training methods – How did you keep yourself interested in the training?

•Achievement against personal aims, goals and objectives ,for example how performance has been taken to a higher level – Have you achieved your goals? If so why, if not why?

Review of Training Programme

•Short term physiological effects, improvements as a result of the programme to meet the activity/ sport goal – Has it improved your component of fitness?

•After each training session – How did you feel after each session/

•Evidence of modifying the programme to achieve planned personal goals – Along the way you may change your programme because of lack of equipment, boredom or a change of goal. This must be included.

•Strengths:
Areas of the programme where and how personal aims and objectives have been achieved with reference to measures of success – What worked really well? What did you enjoy doing the most?

•Improvement:

•When did you not achieve your goal and why?

•Recommendations for improving future training and performance,
For example personal training needs, use of different training methods/activities or strategies, use of psychological training techniques to improve performance.