Fir Vale School

KS3 (Y7, Y8, Y9)

Get Ready

Revision Pack

Year 9 Pack

Please use this pack to revise for everything you have studied during Term 1-5.

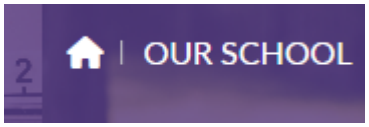
The end of year examinations will take place from Monday 2nd until Friday 13th of June.

If you have any questions regarding this pack come and see Mr.Darazkan or send an email to mdarazkan@firvale.com

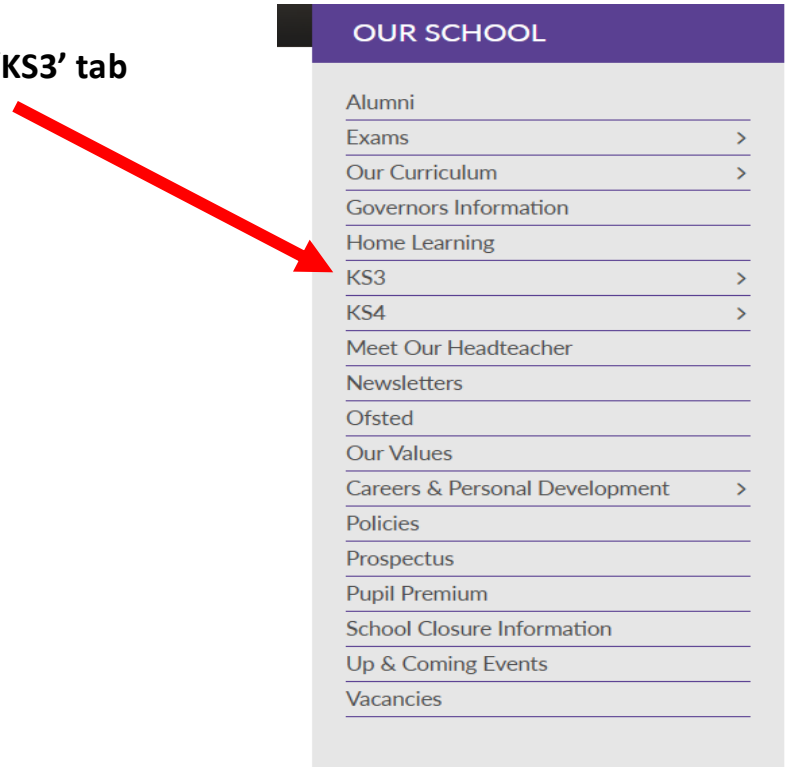
How to find your subjects Knowledge Organisers on Fir Vale School Website

1- **Go to https://www.firvale.com/**

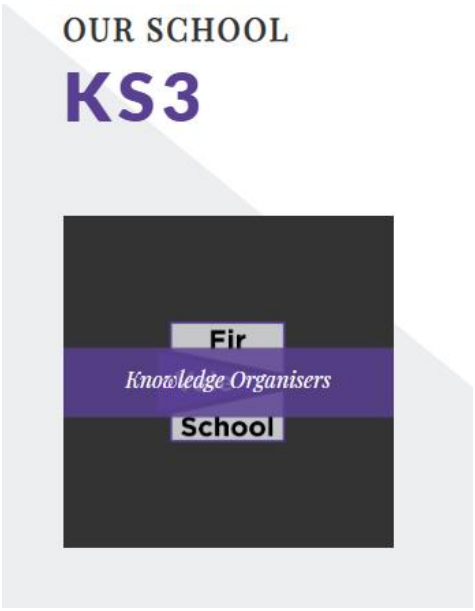
2- **Click on the tab 'Our School'.**



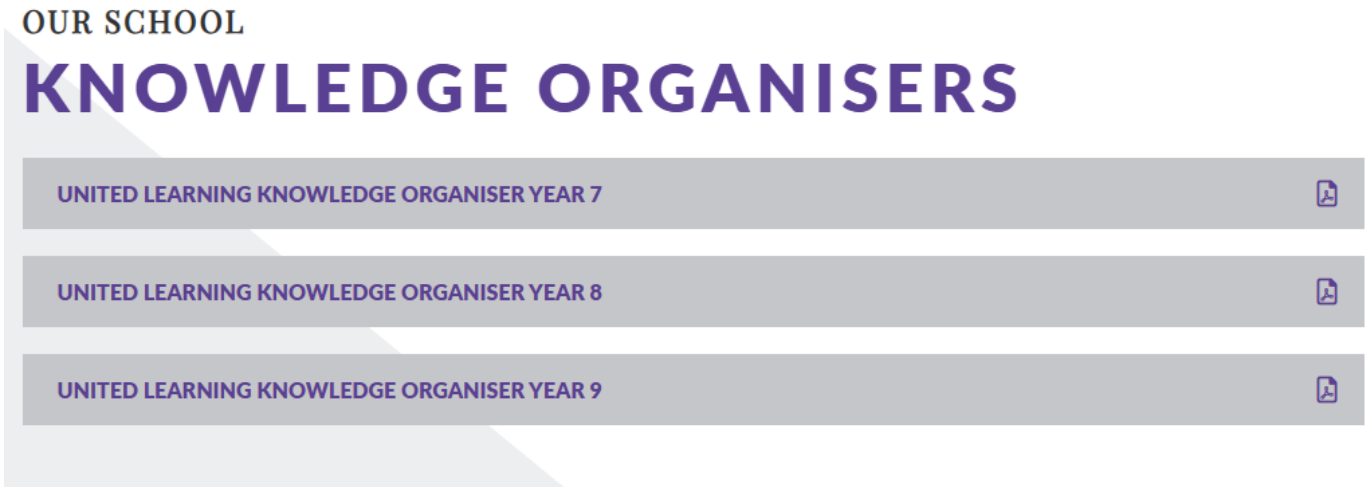
3- **Click on 'KS3' tab**



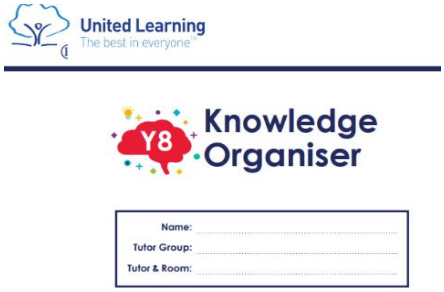
4- **Click on 'Knowledge Organisers'.**

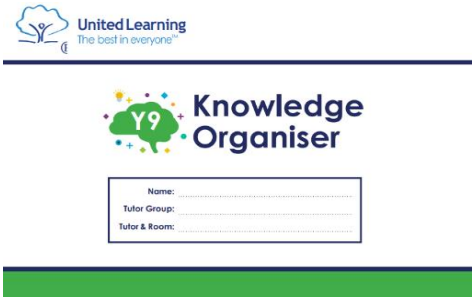


5- **Click on the relevant Knowledge organiser for your year group.**



6- **Once you open the file then you will need to find the subject that you would like to revise for.**





7- **Find the subjects that you would like to revise for in the content table and then scroll down to find the relevant Knowledge Organiser.**

Maths Year 9 End of Year Assessment Topics		Sparx
Decimal Manipulation	Apply all four operations using non calculator methods when working with decimals, this includes both dividing a decimal by an integer and dividing a number by a decimal.	U417, U478, M462, U735, U127, U293, U453, U868, U976
Estimation and Limits of accuracy	Use rounding in order to complete estimations (rounding to both one significant figure and applying sensible rounding), using inequality notation to write error intervals from both rounding and truncation.	U480, U298, U731, U965, U225, U657, U587, U108, U301
Related Calculations	Recognise and use relationships between operations in order to write down the answer to a related calculation from a given calculation.	U735
HCF & LCM of large numbers	Use prime factor decomposition and Venn diagrams in order to find the HCF and LCM of large values.	U211, U751, U529, U236, U739, U250
Fraction Calculations	Apply all four operations using non calculator methods when working fractions and mixed numbers involving different denominators, finding the fraction of an amount, writing one number as a fraction of another and to find the reciprocal of an integer, decimal or fraction.	U736, U692, U793, U475, U224, U544, U538, U881, U916, U163
Algebraic Manipulation	Collecting like terms and simplifying expressions involving all four operations, the identity symbol, adding fractions with algebraic numerators, multiplying and dividing simple algebraic fractions.	M795, U613, M830
Index Laws	Working with the laws of indices, this includes negative and **fractional** indices, using index notation for integer powers of 10, including negative powers.	U105, U622, U103, U437, U685, U457, U824
Standard Form	Converting between ordinary numbers and standard form. Calculating with standard form including multiplication, division, addition and subtraction.	U330, U534, U264, U290, U161
Expanding & Factorising 2	Expanding double brackets, factorising quadratics (where the coefficient of x^2 is 1), difference of two squares.	U179, U365, U768, U178, U963
Forming expressions & substitution	Substitution into algebraic formulae, basic functions - inputs and outputs, use algebra to show expressions are equivalence, know the difference between an equation and an identity.	M175, M428, U201, U585, U144
Direct and Inverse Proportion	Use proportion to answer problems involving exchange rates and best buys. Introduction to inverse proportion, interpret conversion graphs.	U721, U610, U357, U640, U407, U364, U138, U238, U369
Probability 1	Describe probability using the probability scale, calculate expected outcomes, mutually exclusive outcomes, experimental probabilities, probability from two way tables, sample spaces, samples, set notation and Venn diagrams. Product rule for counting.	U408, U510, U683, U166, U104, U476, U748, U296, U280, U580
Solving equations 2	Solve linear equations which contain brackets, fractional coefficients, negative signs, negative solutions. Solving linear equations in one unknown with unknowns on both sides, solving equations that require fraction manipulation.	U755, U325, U585, U144, U870, U599, U505
Inequalities 1	Solve linear inequalities in one variable, represent and interpret solutions sets on a number line, solve two inequalities in one variable and compare to see which value(s) satisfy both.	U759, U509, U738, U145
Sequences	Recognise and use the sequence of triangular, square and cube numbers. Generate terms of a term-to-term sequence. Find the nth term of a linear sequence, use the nth term of a linear sequence to determine whether a given number is in that sequence.	U213, U530, M381, M241, U498, U978, U680, U958
Pythagoras	Use Pythagoras' Theorem to find missing sides in a right-angled triangle and to find the distance between two points.	U851, U385, U541
Interior and Exterior Angles	To calculate interior and exterior angles of (regular) polygons, find the total angle sum of a given polygon.	U447, U390, U730, U628, U732, U329, M985, U427
Vectors 1	To use column vectors, addition and subtraction of column vectors and interpretation of diagrammatic vectors.	U196, U903, U564, U632, U660
Transformations 1	Reflection and rotational symmetry, understand all 4 Transformations - rotation, reflection, translation, enlargement (with a positive scale factor), identify the equation of a line of symmetry	U196, U799, U696, U519

How do I revise for my next English assessment?

This sheet will help you understand what kind of questions you will get in your next English test. It will also give you links to on line videos and quizzes you can try at home to help you revise.

Sparx Reader

The best way to revise for any test is to make sure you are always doing your Sparx Reader homework. It gives you short pieces of a story to read and answer questions on, which is exactly what you will be doing in your next English test!

Punctuation and Grammar- In the test you will be asked to correct sentences using capital letters, commas and full stops in the right place. Use this quiz to test how good you are at punctuation!

Sentence types- In the next test, you will be asked about different types of sentences and how we might use them. Use this link that will show you a video and a quiz on what the different types of sentences are!

This video will guide you through verbs, nouns, adjectives and adverbs. You will need to know these for the test. Use this link to find the video: https://youtu.be/7zRih61HCZs

This video will guide you through similes, metaphors and personification. You will need to know these for the test. Use this link to find the video: https://youtu.be/NegoYIuXoEA

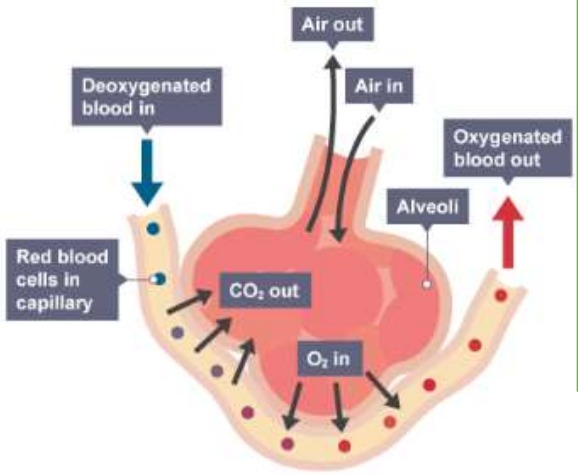
The human gas exchange system

- Oxygen is needed for respiration;
- Carbon dioxide produced in respiration needs to be removed;

Gas exchange is moving oxygen from the air into the blood, and removing waste carbon dioxide from the blood into the air.

The respiratory system contains the organs that allow us to get the oxygen we need and to remove the waste carbon dioxide we do not need:

- Air passes from the mouth into the **trachea** (windpipe);
- The trachea divides into two **bronchi** - one for each lung.
- Each bronchus divides into smaller tubes called **bronchioles**.
- At the end of each bronchiole, there are air sacs (**alveoli**)
- The alveoli increase the **surface** of the lungs.



Features of the alveoli

- Increase surface area of lungs;
- Moist, thin walls (just one cell thick);
- A lot of tiny blood vessels called **capillaries**

The gases move by **diffusion** (from a **high concentration to a low concentration**):

- oxygen diffuses from the air into the blood;
- carbon dioxide diffuses from the blood into the air.

Aerobic respiration

Energy is needed for:

- growth and repair
- movement
- control of body temperature in mammals/birds

The equation for aerobic respiration is:

glucose + oxygen → carbon dioxide + water

- Glucose and oxygen react to produce carbon dioxide and water and release energy;
- It is **aerobic** respiration because oxygen is used;
- Respiration happens in all living cells, including plant and animal cells;
- Takes place in the **mitochondria** of the cell;
- Energy is released from glucose;
- **Do not** confuse respiration with breathing (which is called **ventilation**).

9BB
Biological systems and processes

Anaerobic respiration

In humans:

The equation for anaerobic respiration in humans is:

glucose → lactic acid

- Lactic acid builds up in the muscles;
- Causing pain and tiredness (fatigue);
- Can lead to cramp;
- Lactic acid is broken down when you start aerobic respiration again.

Fermentation

The equation for anaerobic respiration in yeast is:

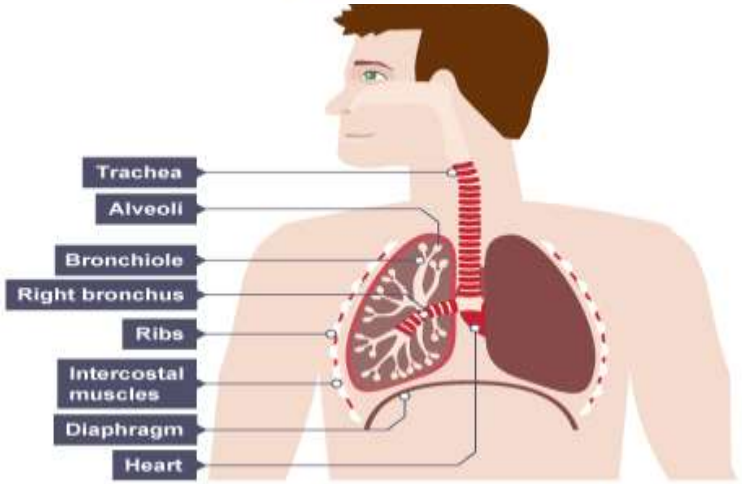
glucose → ethanol + carbon dioxide

- Anaerobic respiration happens in microbes (eg bacteria);
- They need to release energy from glucose;
- Yeast (unicellular fungi) can carry out an anaerobic process called **fermentation;**
- Ethanol (alcohol) is produced;
- The ethanol is used to make beer and wine;
- The carbon dioxide helps bread rise.

	Aerobic	Anaerobic
Needs oxygen?	Yes	No
Needs glucose?	Yes	Yes
Product(s) formed	Carbon dioxide and water	Lactic acid
Energy released	More	Less

Ventilation

- Ventilation is another word for breathing;
- It involves movements of the **ribs**, **intercostal muscles** and **diaphragm** to move air in and out of the lungs:
- **inhale** – breathing in; **exhale** – breathing out;



	Inhaling	Exhaling
Diaphragm	Contracts and moves downwards	Relaxes and moves upwards
Intercostal muscles	Contract, moving the ribs upwards and outwards	Relax, letting the ribs move downwards and inwards
Volume of ribcage	Increases	Decreases
Pressure inside the chest	Decreases below atmospheric pressure	Increases above atmospheric pressure
Movement of air	Moves into the lungs	Moves out of the lungs

Impact of exercise - exercise causes an increase in:

- breathing rate;
- tidal volume (volume of air breathed in/out in one breath);

Regular exercise can increase the:

- strength of the **diaphragm** and **intercostal muscles**;
- vital capacity (volume of air that can be forcibly exhaled after inhaling fully).

Smoking
Smoking is very harmful to health. Smoke contains harmful substances. These include:
- tar
- nicotine
- carbon monoxide

Tar
- causes cancer of the lungs, mouth and throat;
- coats the inside of the lungs causing coughing;
- damages the alveoli, making gas exchange difficult.

Smoke
- Cells in the trachea, bronchi and bronchioles produce **mucus**;
- Mucus traps dirt and microbes;
- Cells with **cilia** move the mucus out of the lungs;
- Smoke and tar damages the cilia;
- Smokers cough to move the mucus and are more likely to get bronchitis.

Nicotine
- Nicotine is **addictive**;
- Nicotine increases heart rate and blood pressure, and makes blood vessels narrower;
- This can lead to **heart disease**.

Carbon monoxide
- Carbon monoxide takes the place of oxygen in red blood cells;
- This reduces amount of oxygen that the blood can carry;
- It means the circulatory system has to work harder, causing heart disease.

Smoking and pregnancy
Smoking can damage the foetus during gestation. For example, it can:
- increase the risk of complications in pregnancy and birth;
- make it less likely to have a healthier pregnancy and a healthier baby
- increase the risk of stillbirth;
- make it more likely to be born too early;
- be more likely to be born underweight.

Drugs
Drugs are a substance that has an effect on the body.
They can be:
- **medicines** are drugs that treat pain or disease;
- **recreational drugs** are taken because people like the effects they have on their bodies.

- Some recreational drugs are legal, eg **caffeine**, **tobacco** & **alcohol**;
- Most recreational drugs are illegal, eg **cannabis**, **ecstasy** and **heroin**;
- Recreational drugs can be classified as a **depressant** or a **stimulant;**
- Most recreational drugs can be **addictive**.

9BB
Biological systems and processes

Asthma
- Asthma affects the bronchioles;
- Airways can become inflamed, swollen and constricted (narrowed);
- excess mucus is produced.

During an asthma attack:
- the lining of airways becomes **inflamed**;
- fluid builds up in the airways;
- muscles around bronchioles contract, which **constricts** airways.

Symptoms are:
- **wheezing**, **tight chest** and **difficulty breathing**.
- treated using drugs called **relievers** which relax and open up the airways.

Relievers are often administered using an **inhaler**, to breathe the medicine in directly into your lungs.

Stimulants
Stimulants speed up messages in the brain and along the nerves.

Legal Stimulants
- **Nicotine** and **caffeine** are legal stimulants;
- Caffeine is found in cola drinks, coffee and tea;
- Caffeine makes you feel more alert, but it can cause insomnia (difficulty in sleeping), headaches and nervousness;

Illegal Stimulants
- **Cocaine**, **ecstasy** and **amphetamines** are all illegal stimulants;
- Cocaine, ecstasy and amphetamines make you feel more energetic and confident, but damage the **liver** and **heart;**
- They cause loss of memory and concentration, and increase risk of mental illness;

Depressants
Depressants slow down messages in the brain and along the nerves;
- **alcohol**, **heroin** and **solvents** are depressants

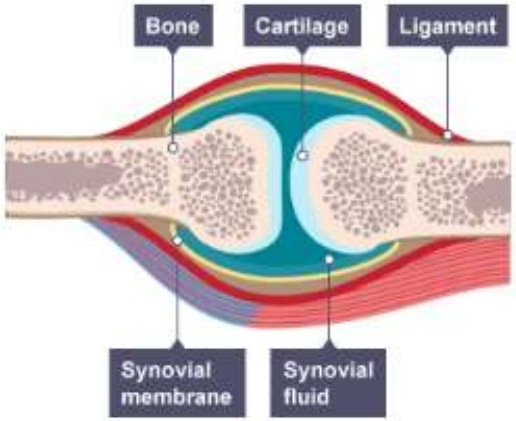
Here are some of the typical effects depressants have on the body:
- feelings of well-being;
- lowered inhibition;
- slowed thinking;
- slowed muscular activity;
- a distorted view of the world, or hallucinations.

Long-term effects of depressants:
- damage to the liver, brain and heart;
- alcohol can cause weight gain;
- solvent abuse causes a rash around the nose and mouth;
- loss of memory and concentration;
- increased risk of mental illness.

- Any drug that is misused can cause damage to the body, as well as personal and social problems.
- Injecting drugs with syringes that someone else has used may lead to diseases such as **HIV** and **hepatitis**.

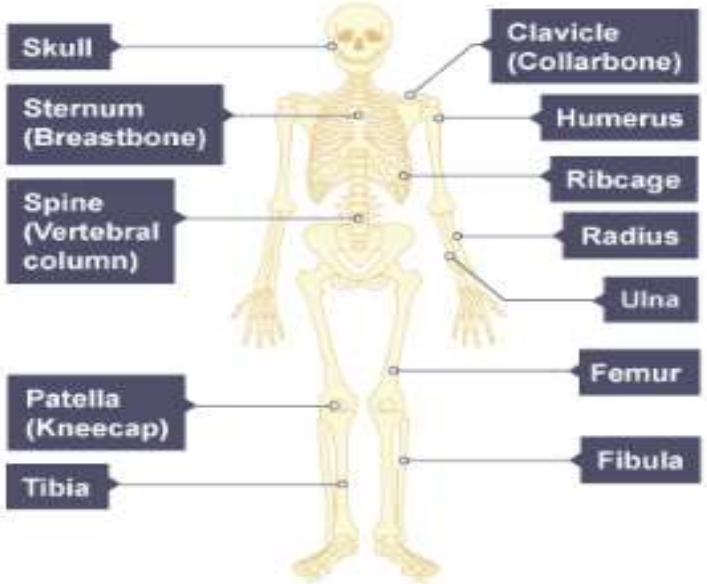
Joints

- Most joints allow parts of the skeleton to move;
- The human skeleton has joints called **synovial joints.**



The synovial joint

- The ends of the bones in a joint are covered with a tough, smooth substance called **cartilage**.
- This is kept slippery by a liquid called **synovial fluid**.
- Tough **ligaments** join the two bones in the joint;
- If two bones moved against each other, without cartilage they would eventually wear away;
- This is called **arthritis**.



The skeleton

- Bone is a living **tissue** with a blood supply.
- It is constantly being dissolved and formed
- It can repair itself if a bone is broken.
- Calcium and other minerals make bone strong but slightly flexible.

Four functions of the skeleton:

1) Support the body

The skeleton supports the body. For example, without a backbone we would not be able to stay upright.

2) Protection of vital organs

- the skull protects the brain
- the ribcage protects the heart and lungs
- the backbone protects the spinal cord

3) Movement

- Bones are linked together by joints;
- Some are **fixed joints** – eg in the skull;
- Some are **flexible joints** – eg the knee;
- Muscles move bones attached by joints.

4) Making blood cells

Two main types of blood cell:

- **red blood cells**, which carry oxygen;
- **white blood cells**, which destroy **harmful microbes** (pathogens);
- Both are made in the **bone marrow** - soft tissue inside large bones protected by the hard part of the bone around it.

Muscles and movement

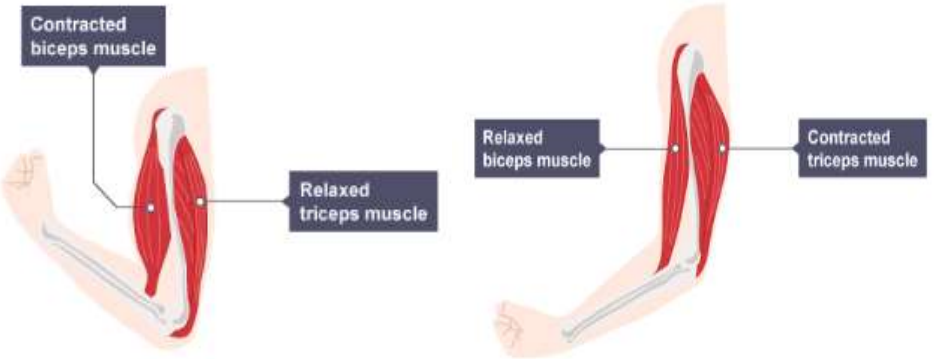
- Muscles work by getting shorter - they **contract**;
- Muscles are attached to bones by strong **tendons**.
- During muscle contraction, it pulls on the bone, moving it.

Antagonistic muscles

- Muscles can **only** pull, they **cannot push**;
- Muscles work in pairs, called **antagonistic muscles**;

Your elbow joint has two muscles that move your forearm up or down. These are the **biceps** and the **triceps:**

- to raise the forearm, the biceps contracts and the triceps relaxes;
- to lower the forearm again, the triceps contracts and the biceps relaxes.



- Muscles exert a force on bones when they contract.
- You could work out the force exerted by the biceps muscle using the idea of **moments**.
- The way in which muscles and bones work together to exert forces is called **biomechanics**.

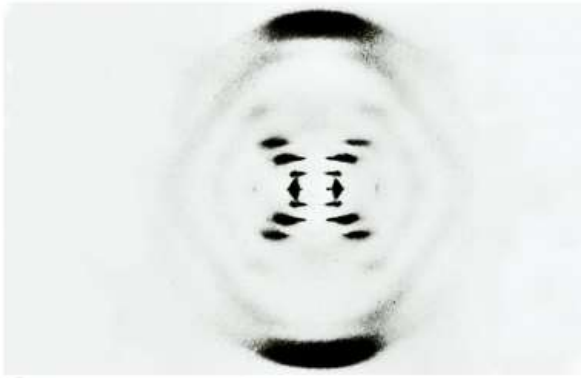
9BB
Biological systems and processes

Type of joint	Examples	Movement allowed
Hinge joint	Knee, elbow	The same as opening and closing a door, with no rotation (turning)
Ball and socket	Hip, shoulder	Back and forth in all directions, and rotation

Structure of DNA
Genetic information is passed from one generation to the next.
This is called **heredity** and why we resemble our parents.

The genetic information itself is contained in a complex molecule called **DNA**.

Scientists worked out the structure of DNA in the 1950s. Rosalind Franklin made 'X-ray diffraction' images of DNA.



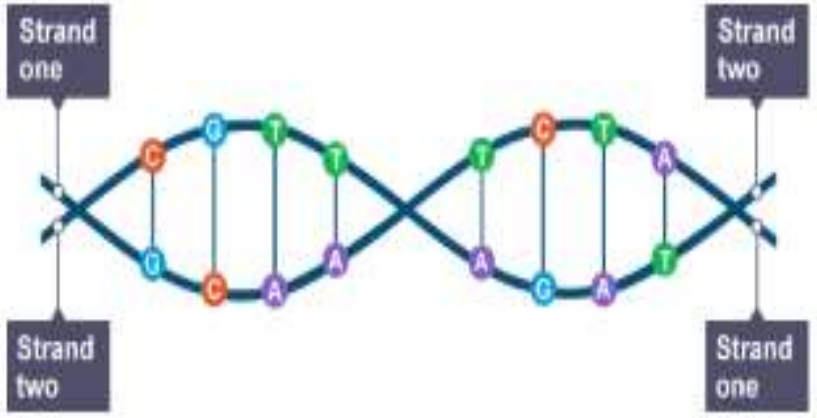
An X-ray diffraction image of DNA

James Watson and Francis Crick used information from one of her images to work out a model for the structure of DNA.

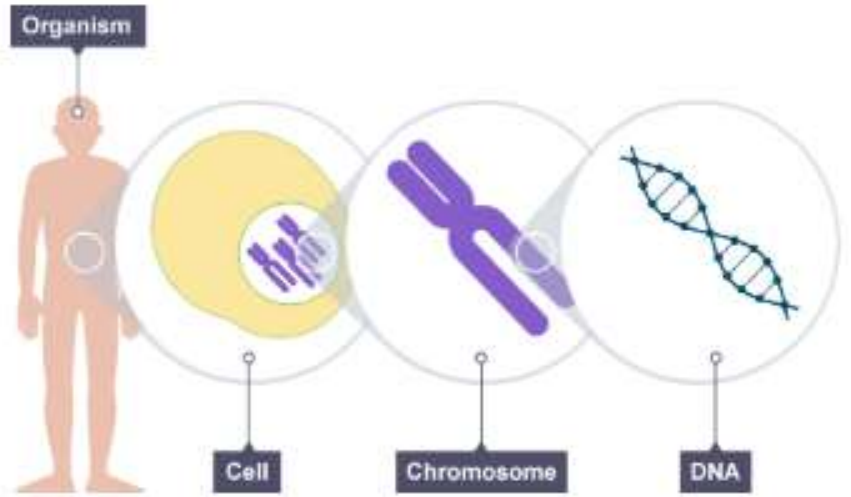
Work by Maurice Wilkins, a colleague of Franklin, supported their model.

Watson and Crick were able to work out how DNA was arranged.
They worked out that:
- DNA has two strands;
- the strands are twisted to form a **double helix;**
- the strands are held together by **bonds** between **base pairs**.

Key terms	Definition
Base Pair	the pair of nitrogenous bases that connects the (complementary) strands of DNA;
Bond	the chemical link that holds molecules together;
Chromosome	strands of DNA;
DNA	Deoxyribonucleic acid. The chemical carrying the genetic code;
Double helix	the shape of DNA molecule, two strands twisted in a spiral;
Gene	a section of DNA which we inherit from our parents, and which controls part of a cell's chemistry (protein production);
Heredity	genetic information that determines an organism's characteristics, passed on from one generation to another.
Nucleus	controls what happens inside the cell, and contains chromosomes



A DNA molecule showing its base pairs, G–C and A–T



Each cell with a nucleus contains chromosomes, which are made from DNA

9BB
Biological systems and processes

Chromosomes, DNA and genes
The DNA in all of your cells is approximately two metres long, except for:
- Red blood cells which have none;
- Sperm or eggs only have about one metre.

- It is coiled into structures called chromosomes.
- Chromosomes are found in the nucleus of each cell.

- Human body cells each contain **23 pairs of chromosomes**;
- Half of which are from each parent;
- Human gametes (eggs and sperm) each contain 23 chromosomes;
- When an egg is fertilised by a sperm, it becomes a cell with 23 pairs of chromosomes;
- We each have half of our chromosomes and DNA come from each parent;
- DNA makes up genes, which makes up chromosomes.
- One copy of all your chromosomes is called your **genome**.

9CE Energetics and rates

Rate of reaction

Reacting particles must **collide** with a minimum amount of energy **(activation energy)** for a chemical reaction to happen.

How quickly a reaction happens is called the **rate of reaction,** and always involves a **time measurement.**

We can **increase reaction rate** by:

1) **Increasing the concentration of liquid reactants** as it **increases the frequency of collisions**
2) **Increasing the surface area of solid reactants** as it **increases the frequency of collisions**
3) Using a **catalyst** as it **decreases the energy that particles need to collide with for a successful reaction**

Some ways to measure the rate of a reaction

- Time taken for a reactant to disappear
- Time taken for the reaction mixture to change colour
- Measure the number of bubbles produced in a certain time
- Measure the volume of gas produced in a certain time.
- Measure the change in mass in a certain time

Exothermic and Endothermic reactions

- **Exothermic** reaction - **releases** energy to the surroundings.
- Causes a **rise** in temperature (**positive** temperature change)

- **Endothermic** reaction - **take in** energy from the surroundings.
- Causes a **drop** in temperature (**negative** temperature change)

Catalysts

- Speed up reactions
- Are not used up during reactions
- Are chemically unchanged after the reaction completes
- Work by reducing the energy needed to start a reaction (**activation energy**).

In industry, using catalysts often results in **lower temperature** being used in industry, **saving money** and **cutting** the **use of fossil fuels** and their subsequent **emissions**

Car exhausts have **catalytic converters**.

- They reduce amount of toxic gases released
- They contain platinum and rhodium as catalysts.

Oxidation

In oxidation reactions, a substance **gains oxygen**. Metals and non-metals can take part in oxidation reactions (be **oxidised**).

Examples:

- Magnesium reacts with oxygen to produce magnesium oxide

magnesium + oxygen → magnesium oxide

$2Mg + O_2 \rightarrow 2MgO$

- Carbon reacts with oxygen to form carbon dioxide:

carbon + oxygen → carbon dioxide

$C + O_2 \rightarrow CO_2$

Combustion

- **Combustion** is another name for burning fuels.
- It is an **exothermic** reaction
- It is an example of an **oxidation** reaction.

Complete combustion

- **Fuels** contain **hydrocarbons** which react with oxygen when they **burn**
- With enough oxygen, **complete combustion** happens:
  - the hydrogen atoms combine with oxygen to make water vapour, H_2O
  - the carbon atoms combine with oxygen to make carbon dioxide, CO_2
  - the **maximum amount of energy** is released.

The equations for the complete combustion of **methane.**

methane + oxygen → water + carbon dioxide

$CH_4 + 2O_2 \rightarrow 2H_2O + CO_2$

Incomplete combustion

- **H**appens when there is **not enough oxygen.**
- Water vapour and carbon dioxide are still produced;
- Two other products are also produced:
  - **carbon monoxide**, CO; colourless toxic gas.
  - particles of **carbon** (soot/smoke); causes breathing problems.
- the **maximum amount of energy** is **NOT released.**

Thermal Decomposition

This is the **breaking down of a substance using heat**, to form two or more products.

Many **metal carbonates** take part in thermal decomposition reactions.

For example, copper carbonate:

- copper carbonate is green; copper oxide is black.

copper carbonate → copper oxide + carbon dioxide

$CuCO_3 \rightarrow CuO + CO_2$

Other metal carbonates decompose in the same way. When they do, they follow this equation:

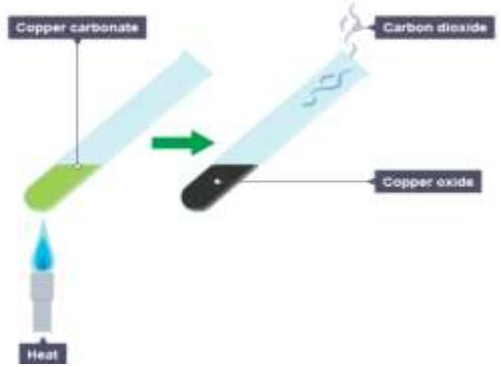
metal carbonate → metal oxide + carbon dioxide

For example, calcium carbonate:

calcium carbonate → calcium oxide + carbon dioxide

$CaCO_3 \rightarrow CaO + CO_2$

Thermal decomposition is an example of an **endothermic** reaction. Energy must be supplied **constantly** for the reaction to keep going.



Identification tests

Lime water – colour change from colourless to **cloudy when carbon dioxide**
Glowing splint – will relight when placed in **oxygen.**
Blue cobalt chloride paper– colour change from blue to pink with **water**
Cobalt chloride paper – colour change from blue to pink with **water**

Conservation of mass

Atoms are not destroyed nor created during chemical reactions, so in any reaction:

Total mass of reactants = total mass of products

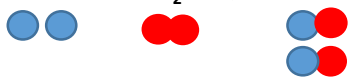
Word equations to symbol equations:

- replace names of each substance symbols or formula
- use numbers to balance the equation

Example:

copper + oxygen → copper oxide

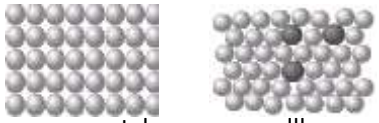
2Cu + O_2 → 2CuO



Two copper atoms (2Cu) react with **one oxygen molecule (O_2)** to produce **two units of copper oxide (2CuO)**

Typical properties of metals	
Appearance	Shiny
State at room temperature	Solid (except mercury, a liquid)
Density	High
Strength	Strong
Malleable or brittle	Malleable
Conduct heat?	Good
Conduct electricity?	Good
Magnetic material	**Only** iron, cobalt & nickel
Sound when hit	Make a ringing sound (**sonorous**)

Pure metals Vs Alloy



pure metal

allloy

The rows of atoms in a pure metal can slide over each other easily.
In an alloy, the different sized atoms disrupt the layers so the atoms can't slide.
This makes alloys more useful than pure metals.

Bases v alkalis

A **base** is a substance that can react with acids and **neutralise** them. Many bases are insoluble in water. If a base does dissolve in water it is called an **alkali**

Bases are usually:

- **metal oxides**, such as copper oxide
- **metal hydroxides**, such as sodium hydroxide, or
- **metal carbonates**, such as calcium carbonate

General word equations for neutralisation reactions:

Metal oxide + acid → salt + water
Metal hydroxide + acid → salt + water
Metal carbonate + acid → salt + carbon dioxide + water

The lab test for carbon dioxide

Bubble the gas through lime water and watch for it turn from colourless to a cloudy milky colour.

Acids and metals

Acids react with most metals to produce a salt and hydrogen. This is the general word equation :

metal + acid → salt + hydrogen

The lab test for hydrogen

Place **lighted splint** put in the test tube and listen for the gas to burn with a squeaky pop

Naming salts

Hydro**chloric** acid → metal **chlorides**
Sulfuric acid → metal **sulfates**
Nitric acid → metal **nitrates**

Calculating relative formula mass

Formula mass is calculated by adding together the mass number of each atom in a compound's chemical formula.

E.g. $MgCl_2$ A_r **Mg = 24** A_r **Cl = 35.5**

Formula mass = 24 + (2 x 35.5) = 95

There are 2 chlorines in the chemical formula

Reactivity Series

The **reactivity series** is a list of elements in order of their reactivity:

Most reactive

Potassium
Sodium
Calcium
Magnesium
Aluminium
Carbon
Zinc
Iron
Tin
Lead
Hydrogen
Copper
Silver
Gold
Platinum

Least reactive

If a metal loses its outer electrons more easily, it will be more reactive.

Reactivity

Extracting copper from copper oxide

Copper is so unreactive, it does not react with cold or hot water, so it is used for water pipes

To extract copper:

- mix **copper oxide** powder with **carbon powder**;
- heat the mixture strongly in a **crucible**;
- keep the lid on the crucible, to stop carbon reacting with oxygen in the air;
- the **carbon dioxide** formed in the reaction escapes into the air;
- let the crucible cool down, you tip the mixture into cold water.
- brown copper sinks to the bottom, leaving unreacted powder suspended in the water.

These equations represent the reaction:

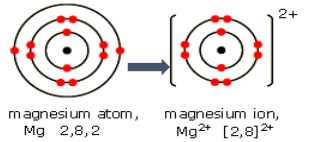
copper oxide + carbon → copper + carbon dioxide

$2CuO + C \rightarrow 2Cu + CO_2$

Why do metals react?

Metals react because they want to gain a full outer shell and become stable. They do this by losing their outer electron(s) to become positively charged ions

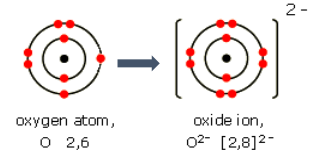
For example:
Magnesium loses its 2 outer electrons to become a +2 ion



Why do non-metals react?

Non-metals react because they want to gain a full outer shell and become stable. They do this by gaining electrons into their outer shell to become negatively charged ion.

For example:
Oxygen gains 2 electrons into its outer shell to become a -2 ion



Displacement Reactions:

This is when a more reactive metal **displaces** a less reactive metal from its compound.

For example:

magnesium + copper sulfate → magnesium sulfate + copper

If the more reactive metal is already in the metal compound, nothing happens. For example:

magnesium sulfate + copper → no reaction

Carbon and metal extraction

Some metals can be extracted from their metal oxides using carbon **if the metal is less reactive than carbon**.

The metal is reduced – it has lost its oxygen

metal oxide + carbon → metal + carbon dioxide

The carbon is oxidised – it has gained oxygen

This works for **zinc**, **iron**, **tin**, **lead** and **copper** because they all less reactive than carbon.

Forces in action

Hooke's Law

Hooke's Law says that **the extension of an elastic object is directly proportional to the force applied**. In other words:

- the extension doubles, if the force is doubled;
- there is no extension, if no force is applied.

You can investigate Hooke's Law using a spring:

- hang the spring from a stand and clamp;
- measure its length with a ruler;
- hang a mass from the spring and measure the new length of the spring;
- Work out: **extension = new length – original length**;
- keep adding more masses, measuring the new length each time;
- Work out extension for each mass.

You can then plot a force-extension graph:

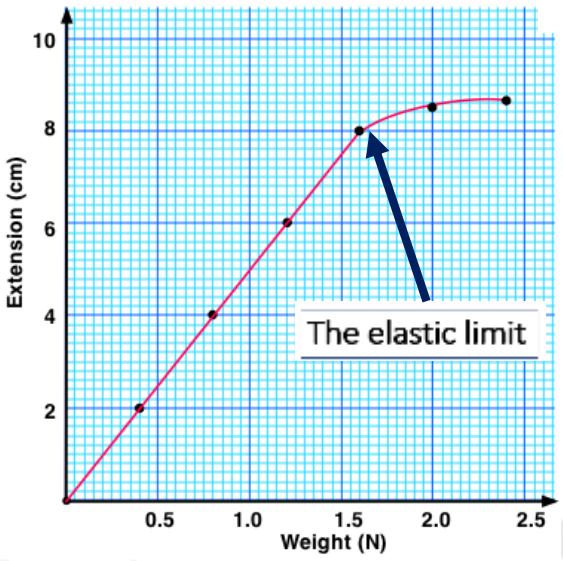
- plot force on the vertical (y) axis
- plot extension on the horizontal (x) axis

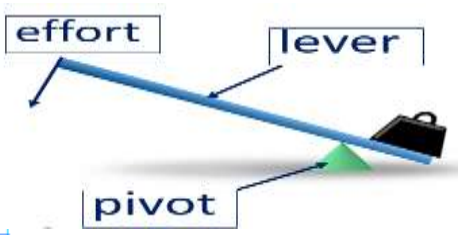
Force Applied (N) = spring constant (N/m) x extension (m)

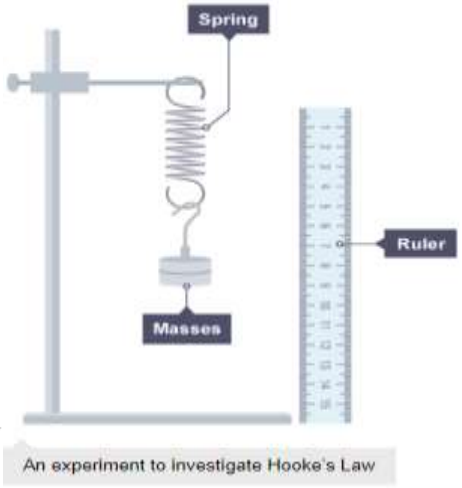
Using Hooke's Law

In a force-extension graph:

- the steeper the line, the stiffer the spring
- the area under the line is the **work done** (energy needed) to stretch the spring.







An experiment to investigate Hooke's Law

Moments

- A **moment** is a turning effect of a force.
- Forces can make objects turn if there is a **pivot**.
- When the turning forces are **balanced** - the moments are **equal and opposite.**

Calculating moments

To calculate a moment, you need to know:

- the distance of the force from the pivot;
- the size of the force.

Moment	=	Force	x	Perpendicular distance
(Nm) (Ncm)		(N)		(m) (cm)

Force multipliers

- Increasing the distance will increase the moment for the same force;
- This is why a longer spanner will loosen a tight nut;
- And a crowbar or long lever can be used lift heavy objects.

÷100 centimetres – metres x100

÷1000 metres – kilometres x1000

Work Done (J) = Force (N) x Distance (m)

Deformation

Elastic materials:

- **change shape** when a force is exerted on them;
- **return to their original shape/size** when the force is removed.

Deformation is a change in shape. There are two types of deformation:

- **Stretching** is when the object/material is pulled;
- **Compression** is when the object/material is squashed.

The greater the force exerted, the greater the amount of deformation.

If the force is large enough, the object/material may no longer return to its original size. Until you reach this point, a special case called **Hooke's Law** applies.

Simple machines

Example of simple machines are **see-saws, wheelbarrows** and **forceps**. **Simple machines give a bigger force but with a smaller movement**

See –saw

A force is exerted in one place, causing movement and a force at another place in the see-saw. A see saw will **balance** when:

Clockwise moment = Anticlockwise moment

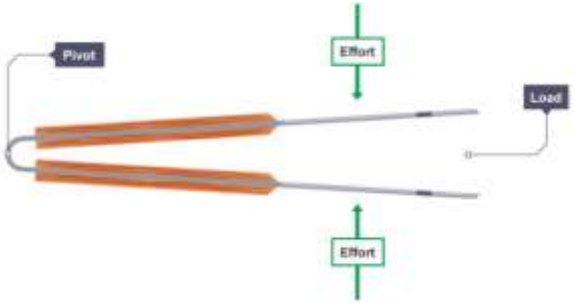
Force (N) x distance (cm) = Force (N) x distance (cm)

Wheelbarrows

Wheelbarrows is a simple machine with the load near the pivot (the wheel) and the effort on the handles far from the pivot.

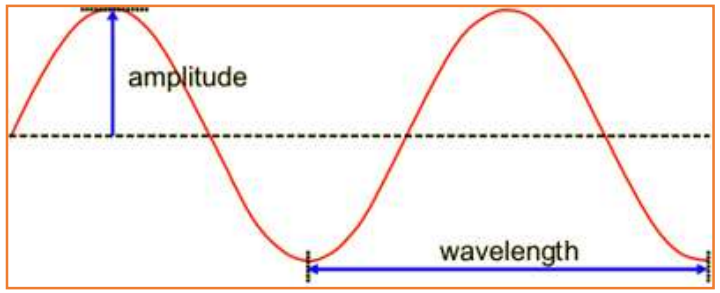
Forceps

With forceps, fingers provide the effort force, and this is nearer to the pivot than the load (the object you are picking up):



- Some machines give a smaller force but with a bigger movement;

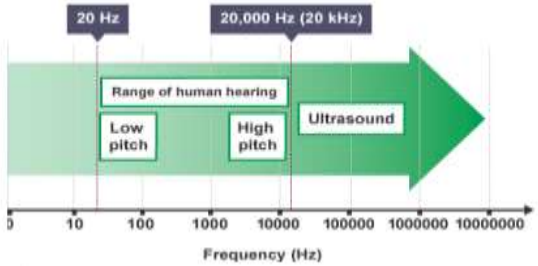
This is the opposite to the see-saw and wheelbarrow, but again if you multiply the force by the distance travelled, you get the same value for the effort and for the load.



- **Amplitude:** the maximum height of the wave from its resting position:
  - the greater the amplitude, the louder the sound
- **Wavelength:** the distance between two **crests** (tops) next to each other (or any other two identical point on waves next to each other)
- **Frequency:** the number of **waves per second** (**Hertz** - **Hz**): the higher the frequency, the closer together the waves are, the higher the pitch

Ultrasound

Human beings can generally hear sounds as low as 20 Hz and as high as 20,000 Hz (20 kHz**).**



Ultrasound is:

- any sound with a frequency of **more than 20,000 Hz.**
- Too high pitched for humans to hear
- Other animals (eg dogs, cats and bats) can hear it.
- Ultrasound can be used to check on the health of unborn babies, clean jewellery and in physiotherapy.

Types of waves

All waves transfer energy from place to place.

There are two types of wave: **longitudinal** and **transverse**:

Longitudinal waves

Sound waves are **longitudinal waves.**

The vibrations are **parallel to the direction of travel.**

Transverse waves

Light waves (and water waves) are **transverse waves.**

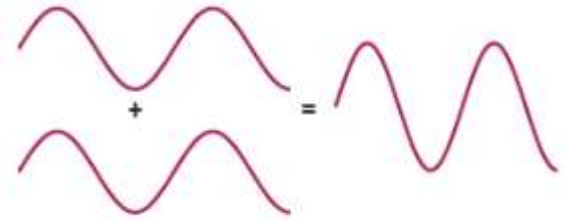
The vibrations are **perpendicular to the direction of travel**.

Water waves

- Water waves move with a transverse motion
- The **undulations** (up and down movement) are at 90° to the direction of travel.
- Water waves, like all waves, can be **reflected**, **refracted** and **diffracted**.

Superposition is where two waves meet and they affect each other: **adding** or **cancelling**.

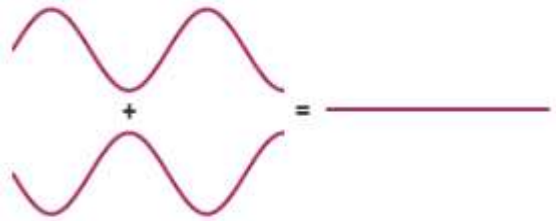
Adding (constructive interference)



If two waves meet each other **in step**, they add together and reinforce each other. They produce a much higher wave, a wave with a greater **amplitude**.

Cancelling (destructive interference)

If two waves meet each other **out of step**, they cancel out.



9PS Sound

Ears

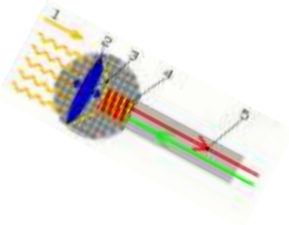
- An ear has an **eardrum**, connected to **three small bones**
- Vibrations in air make the eardrum vibrate
- which in turn vibrates the three small bones (called **ossicles**) to a spiral structure called the **cochlea**
- Signals are passed from the cochlea to the brain
- through the **auditory** nerve.

Reflection

- Sound waves can reflect off surfaces
- These reflections as heard as **echoes**
- **Hard, smooth surfaces** are good at reflecting sound (more echoes)
- **Soft, rough surfaces** are good at absorbing sound (less echoes)

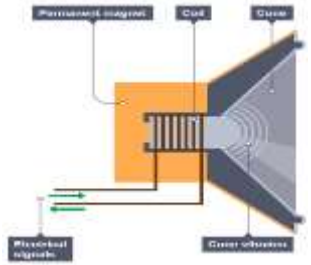
Microphones

- Microphones contain a **diaphragm**, which does a similar job to an eardrum
- The vibrations in air make the diaphragm vibrate. These vibrations are changed to electrical impulses.



Loudspeakers

- Loudspeakers work by converting electrical current into vibrations
- This moves the cone which creates the sound waves.



The speed of sound is **330 m/s**

Properties of sound waves

- When something vibrates, it produces sound
- These sound waves are carried by vibrating particles
- Sound can only travel through solids, liquids or gases
- They cannot travel through empty space (a **vacuum**).

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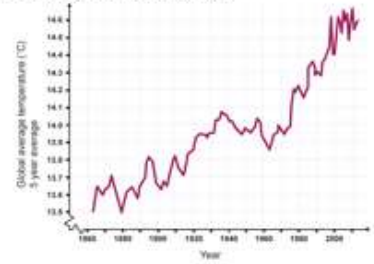
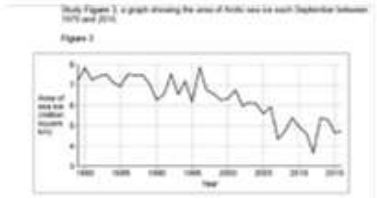
Year 9 Climate Change – subject summary

KPI 9.1.1

Evidence of climate change:





What is the evidence for climate change?

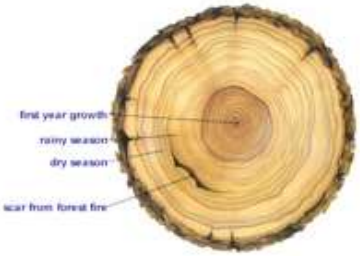
1. The world's climate has always changed. During the Medieval Warm Period grapes were grown in London but during the time of the Stuarts, the River Thames would freeze.
2. **Since 1880** the Earth's climate has increased by approx. **0.8 degrees**.
3. However, the increase in temperature has **not been steady**. The first graph shows that this increase **fluctuates.**
4. 16 out of the 17 warmest years in the last 136 years have all occurred since 2001.
5. Also, since the 1980s the **Arctic sea ice has been in decline**. fluctuated, with the

Methods to find out what the climate was like in the past:

Ice cores

1. **Ice sheets** are huge blocks of ice made up of **layers**. A new layer forms each year.
2. **Gases trapped in the ice** give information about the **temperature** when they were trapped.
3. One ice core from Antarctica shows the temperature change over 400,000 **years.**

Tree Rings



1. As a tree grows, a **new outer layer (or ring)** is formed each **year**.
2. These are thicker in warm, wet conditions.
3. Tree rings can go back **10,000 years**.

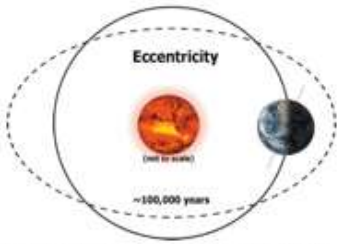
Temperature records

1. Since the 1850s, global temperature has been measured.
2. **Thermometers** are used to measure temperature and are very **accurate**.

KPI 9.2.1

Physical cause of climate change

Orbital change

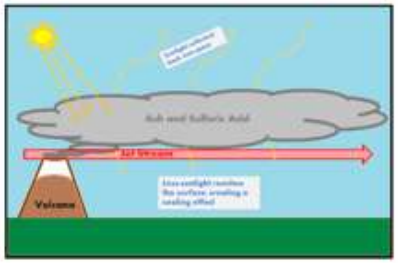


1. **Orbital change** is about how close the Earth is to the sun. Every 100,000 years the proximity of the **Earth's orbit** will move from **circular to elliptical (oval)**.
2. The further the Earth is from the sun, the colder the temperature. A more eccentric **(elliptical)** orbit makes the distance from the Earth to the sun fluctuate.

Sunspots

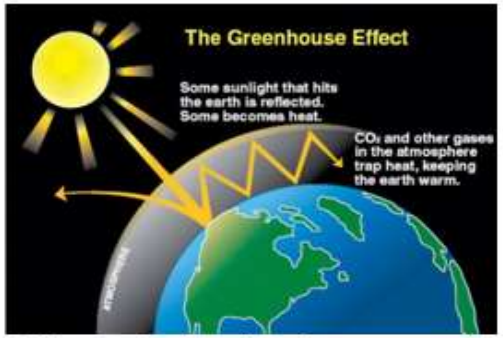
1. These are **dark spots** that appear on the surface of the sun.
2. The **more** the sunspots, the **greater** the **heat** produced.
3. They come and go in **11-year cycles**.
4. This is known as the **sunspot cycle**.

Volcanic eruptions



1. Lots of **material** is released into the **atmosphere** during a volcanic eruption.
2. This **reflects the sun rays back out** (so they do not reach the Earth).
3. This leads to **cooling** e.g. after the Mt Pinatubo eruption (1991), global temperature fell.

Manmade greenhouse effect



1. **Sun rays** travel through the **atmosphere** to Earth.
2. As they **reflect** off the **Earth,** some of the outgoing rays **escape** back out of the atmosphere.
3. **Some** are **trapped.**
4. This balance is needed to keep the Earth warm enough for life.
5. The atmosphere is made up of many gases, two important gases are carbon dioxide **(CO_2)** and **methane**.
6. **Human activity** e.g. driving cars and using electricity often requires the burning of **fossil fuels** such as oil and coal, which give off **CO_2**.
7. These **greenhouse gases** are released into the **atmosphere** and they trap more and more rays that would normally escape into space.
8. So, the **global temperature increases.**

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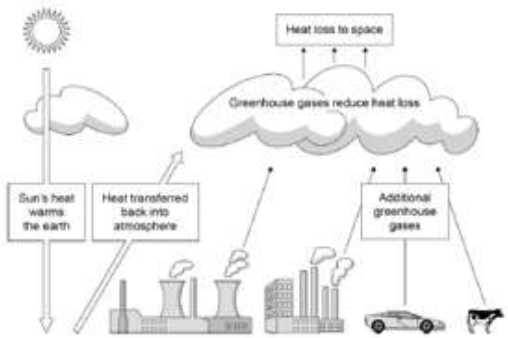
Year 9 Climate Change – subject summary

KPI 9.1.4

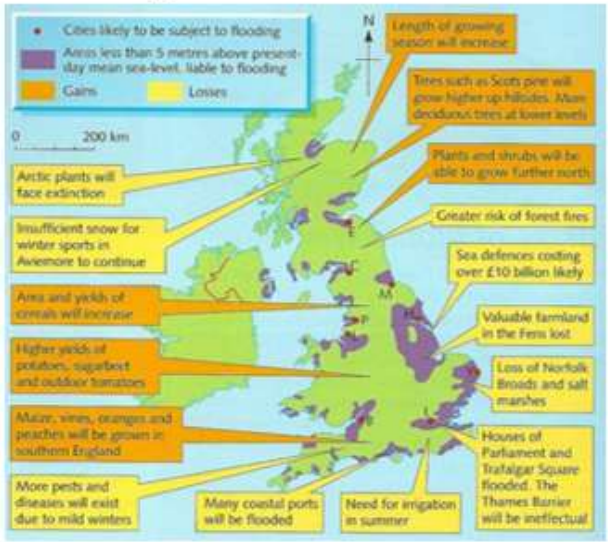
Human factors causing climate change:



1. **Cars (and other transport)** burn fossil fuels increasing CO_2 into the atmosphere.
2. **Coal and gas power plants** give off CO_2 whilst burning fossil fuels to make electricity.
3. **Building factories** means more electricity is needed.
4. **An increase in the standard of living** means more electricity used in homes so more CO_2 is released.
5. **Increased farming** (pastoral) means more dung so more methane.
6. **Deforestation** means less trees to absorb CO_2

Developed countries are the biggest contributors to the greenhouse effect. This is because they have more technology and money to do the things above.

KPI 9.1.3



Social impacts of climate change

1. **Temperature rise** so there are more **droughts & deaths** from dirty water in places like the Sahel.
2. **Rising sea levels** means coastal areas are flooded, leading to migration. For example, **Shanghai** is at risk with 24.5 million people.
3. **Lower yields of crops** (e.g. Maize) due to warmer temperatures means farmers go bankrupt.
4. Droughts cause **crop failure**, which can cause famine and starvation.
5. **Sea temperatures increase**, causing more **tropical storms**, causing death / homelessness.

Environmental impacts of climate change

1. **Warmer climate** means glaciers and **ice sheets melt** (e.g. Greenland) so sea levels will rise.
2. **Sea ice shrinking** means lost habitats e.g. **polar bears** risk **extinction.**
3. **Rising sea levels** means coastal areas flood which **destroys habitats** e.g. Norfolk Broads.
4. **Sea temperatures rise** so **coral reefs are bleached** and habitats are lost e.g. the Great Barrier Reef.

Mitigation vs Adaptation – dealing with climate change

Mitigation:

International agreements:

Countries agree to reduce their carbon emissions (carbon footprint) by setting emission targets.

1. Good – reduces CO_2, so stops the negative impacts e.g. flooding
2. Bad – not all countries agree to this e.g. USA pulled out of the Paris Acord. China has not engaged = CO_2 still increases as these are the biggest contributors.

Alternative energies:

Using wind farms, solar energy, nuclear and tidal.

1. Good – reduced CO_2 and associated effects, also they will not run out (infinite).
2. Bad – unreliable so will need to use fossil fuels when they are not working. Also, expensive initially, so higher bills.

Carbon Capture:

Some power plants are designed to capture the CO_2 they create when they burn fossil fuels. Once caught, it is stored underground.

1. Good – reduces CO_2, so reduces consequences e.g. flooding.
2. Bad – expensive = higher bills. The ground could crack causing CO_2 to escape.

Adaptation:

Coping with rising sea levels:

Sea levels are predicted to rise by 82cm by 2100. Physical barriers – flood embankments (levees) could be built e.g. The Thames Barrier.

1. Good – these will hold the water back.
2. Bad – very expensive, so developing countries will unlikely be able to prevent floods and the people will be forced to move.

Changing agricultural systems:

Crop patterns are charging. In Kenya drought resistant crops are being used to provide food even when rainfall is low.

1. Good – reduces the risk of starvation.
2. Bad – can be expensive, so the cost of food increases, resulting in the poor going without.

Managing water supply:

Areas will get drier, so adding water meters may reduce use. Also, using water storage facilities.

1. Good – people will have clean water during times of low rainfall.
2. Bad – water meters may not change usage in wealthy countries. Both have little impact if there is not enough rain, so the impacts of droughts e.g. drinking dirty water will remain.

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Year 9 Life in an emerging country – subject summary

9.3.1 Describe the location of the newly emerging countries and the characteristics of them.

Who are the emerging countries?

A map showing the BRIC countries (Brazil, Russia, India China)

1. The **BRIC** countries are the countries with the **fastest growing economies** world-wide.
2. They are located in South America (Brazil) and Asia (Russia, India, China).
3. They have a **large land mass**.
4. They tend to be rich in **natural resources**.
5. They have **large populations**, which are generally young.
6. They play a key role in **world trade**, with China being the world's biggest exporter.

A map showing the MINT countries (Mexico, Indonesia, Nigeria, Turkey)

1. The **MINT** countries are another four recently emerging countries.
2. One is located in South America (Mexico), two in Asia (Indonesia and Turkey), and one on the east coast of Africa (Nigeria).
3. Similar to the BRIC countries, they have **large land masses** and a young population.
4. **Nigeria's** growth has been based on exporting **oil**.
5. Mexico is home to many **TNCs** (see below), such as Fiat, therefore **exporting secondary products world-wide**.

9.3.1 Describe the location of the newly emerging countries and the characteristics of them.

Is the Brandt line still relevant?

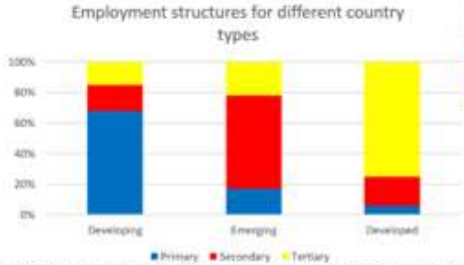
1. The **Brandt line** suggests that there are just two categories of countries, developed and developing.
2. This was created in the 1980s and was based purely on GDP.
3. The rise of the **BRIC and MINT countries** does **undermine** the line.
4. 7 of the countries are found south of the line.
5. Today many countries are seeing a rapid increase in their GDP per capita.

Key Terms:

1. **Imports** – Goods brought into a country.
2. **Exports** – Sending goods to another country for sale.
3. **Trade unions** – An organisation of workers who work to protect the rights of those employed.
4. **Tax Breaks** – This reduces the amount of tax a company must pay (normally for a fixed period), therefore increasing profit.
5. **Subsidies** – Money given by a government to help an industry keep down the cost of exports.
6. **Human development index (HDI)** – A development measure which combines GDP per capita, life expectancy and literacy rate.
7. **Urbanisation** – The growth in the number/ proportion of people living in towns and cities.

9.3.1 Describe the location of the newly emerging countries and the characteristics of them.

The key features of emerging countries:



	GDP	Life expectancy	Infant mortality	HDI
Somalia	$550	50	117 per 1000	0.26 (v. low)
Mexico	$13, 150	72	19 per 1000	0.81 (high)
UK	$36, 250	77	6 per 1000	0.95 (v. high)

1. The graph shows the 'general' employment structures for a developing, emerging, and developed country.
2. **Emerging countries** are characterised by having a **large % of workers in secondary** industries (manufacturing).
3. Emerging countries have seen **mechanisation of primary activities** such as farming, in rural areas, so a reduction in jobs in the primary sector.
4. This has allowed people to move to cities, to work in the **manufacturing sector**, where wages are often higher.

Development indicators in an emerging country:

1. Emerging countries are categorised as having a **rapidly improving quality of life**.
2. In general, the **population is getting richer**, due to higher wages.
3. This means the **governments** of these countries have more money to **invest in infrastructure** such as schools and hospitals, which also improves quality of life.
4. From the table it is clear to see that **Mexico** (an emerging country), has **significantly improved development indicators**.
5. This has resulted in a HDI score for Mexico, which is much closer to the UK.

How China became an emerging country:

1. China had a very **low minimum wage** compared to developed countries, this encouraged companies to set-up, as products could be made cheaply, leading to **greater profits**.
2. **Trade unions were weak** in China, resulting in many companies attempting to pay below the minimum wage and making **workers work long hours**. This led to **greater production and profits**.
3. Companies such as **transnationals were given tax breaks**, this encouraged companies to set-up.
4. There were **fewer environmental laws** in China, this meant that **industries could operate more cheaply**, resulting in bigger profits.
5. The **government placed subsidies on exports**; $1 billion was set aside each year to reduce the cost of the goods exported, resulting in **more being sold** and therefore increasing job opportunities.

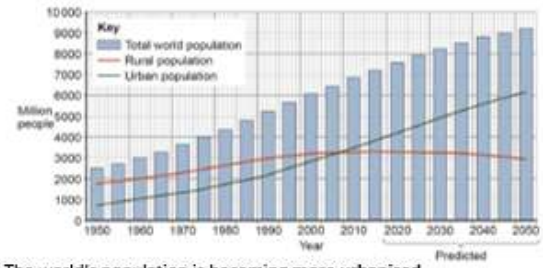
NB: The points are historic and have been generalised for revision purposes.

United Learning
The best in everyone

Year 9 Life in an emerging country – subject summary

9.3.2 Explain why rural to urban migration is a key feature of life in emerging countries.

Urbanisation is a key feature of emerging countries:



1. The world's population is becoming **more urbanised**.
2. The **fastest rates** of urbanisation are taking place in the **emerging countries.**
3. People are moving from the rural areas to the urban areas; the pace of this movement is rapid.

Push and pull factors to urban areas are a key feature in emerging countries:

Possible push factors from rural areas:

1. **Mechanisation** of primary industries (farming) means few jobs.
2. **Potential drought**, lack of food and clean water.
3. **Lack of schools**, meaning less chance of children getting an education.
4. **Difficult to access medical care**, meaning illness and disease may go untreated.

They are pulled to the city as there are many jobs in the manufacturing industries, with improved wages.
As well as a reliable food and water source, access to medical care and education.

KPIs:
9.3.1 Describe the location of the newly emerging countries and the characteristics of them.
9.3.2 Explain why rural to urban migration is a key feature of life in emerging countries.
9.3.3 Assess the opportunities and challenges faced by people living in a city in an emerging country.
9.3.4 Evaluate the social, environmental, economic and political impacts of a TNC(s) in an emerging country.

9.3.3 Assess the opportunities and challenges faced by people living in a city in an emerging country.

The opportunities and challenges of living in a city in a newly emerging country (Rio):

1. Rio is a city in an emerging country (Brazil) which has seen rapid rates of urbanisation.
2. Some people live in **modern apartments** and housing, whilst others live in **favelas** (shanty settlement/ illegal) on the edges and hillsides of the city.

What are shanty settlements (favelas) like?

1. **Houses** are **densely packed** together.
2. They are **built illegally** and could be knocked down by the authorities.
3. They are usually built on land which developers do not want to use e.g. **hillsides**, near railway tracks, on marsh land, on the outskirts of cities etc.

Opportunities of living in Rocinha (a favela in Rio):

1. Located in **Rio** which has the **highest income per head** in the country, so jobs could lead to wages for food, medicines and sending children to school.
2. **88%** of housing is connected to the main **water supply**, so less diseases e.g. cholera.
3. **Housing has electricity**, which means an improved quality of life e.g. being able to heat and light the home.

Challenges of living in Rocinha (a favela in Rio)

1. **12%** of the population **do not have** access to **clean water**, so might be forced to drink dirty water with the risk of getting diseases.
2. **Unemployment** in favelas is **20%,** so many people do informal, cash in hand jobs. Pay can be low, so they might not be able to afford basic medicines and food.
3. Only **50% of waste is collected**, so waste builds up in the streets, sometimes leading to vermin and mosquitos, which can increase the risk of diseases, such as malaria.
4. **Crime** can be a problem in the area.

9.3.4 Evaluate the social, environmental, economic and political impacts of a TNC(s) in an emerging country.

The role of TNCs in emerging countries

A **transnational corporation** is a company which has its **headquarters** in one country (normally a **developed country**), and its **factories elsewhere** (normally an emerging or developing country).

TNCs as a route out of poverty:

1. South Korea is a good example of a country which historically used TNCs to help it develop.
2. During the 1960s they encouraged companies to set-up within the country.
3. They promoted their cheap labour force, and ensured workers worked long hours.
4. Companies such as Ford set-up in S. Korea.
5. **The S. Korean's used taxes to improve schools** and develop their own industries.
6. **Today S. Korea** is home to some of the **biggest companies in the world**, including Samsung, LG, and Hyundai.
7. The South Korean example demonstrates that TNCs can significantly help a country develop

Foxconn (Apple in China) – opportunities and challenges

Foxconn has factories in Shenzhen, China. Inside the factory electronic items are manufactured, including the **iPhone**, an Apple product from California.

Opportunities:

1. **Wages** in the factory are just above the minimum wage at **£152 per month**, which means people have money which they can spend on other things, which can lead to a positive multiplier effect.
2. In total **300, 000 people are employed** at the Foxconn sites at Shenzhen, this means an increase in taxes for the government and therefore increased spending on schools and hospitals.
3. **Workers are learning new skills**, this means they may start developing their own companies. Many Chinese companies are now big global brands e.g. Huawei.

Challenges (some are perceived and in the past):

1. Workers work **extremely long hours** sometimes without breaks (up to 60 hrs per week), this means they may not see their family, reducing quality of life.
2. **Rules** inside the factories can be **strict**, in the past there have been reports of financial punishments.
3. Foxconn is said to **pay a relatively small amount of tax** to the Chinese government.
4. The **company is footloose**, meaning it can leave at any time, therefore workers worry that the company will close, and they will become unemployed.

History

Year 9: End of WW1 and the rise of Adolf Hitler

This topic is about how WW1 ends and the punishments for Germany. This had a massive effect on Germany and ultimately led to the rise to power of Adolf Hitler and the Nazi party which changed the world!

When?
1919-39.
20th Century

Keywords

Treaty of Versailles - made by Britain, USA and France to punish Germany
Reparations – the £6.6billion fine given to Germany to pay for the war damage to the winning countries
Hyperinflation – when the prices in Germany went crazily high in 1923
Putsch – uprising or revolt
Mein Kampf – the name of Adolf Hitler's book, written in prison. It set out his aims for leadership.
Electoral appeal – trying to look good to get people to vote for you in the election.
Brainwash – to be persuaded so much that you believe in it totally
Anti-Semitism – hatred towards Jewish people
Persecution – to be picked on for a specific reason

The Treaty of Versailles (ToV)

A agreement signed in June 1919 to end WW1. Germany were punished by having only 100,000 in their army and having to pay a £6.6 billion fine. They also had 13% of their land taken from them which meant the loss of 6 million people. The German people hated the ToV as it left them weak and vulnerable

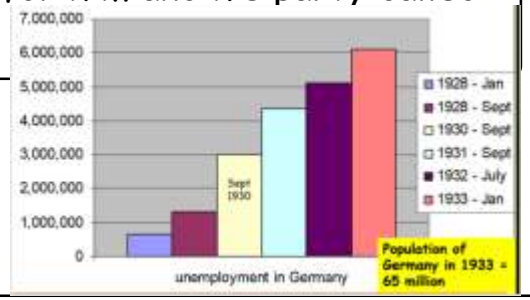

TREATY SIGNED; WAR OVER
The Evening World. FINAL
WILSON LEAVES PARIS; SAILS SUNDAY
GERMANS PLEDGED TO ACT IN GOOD FAITH

Hyperinflation 1923.

As the German government couldn't pay the Reparations fine – France invaded an industrial area of Germany called the Ruhr. Their plan was to take goods. The German government told the workers to burn their factories and go on strike to stop the French from taking the goods. This meant the Germans had to print money to pay people – a loaf of bread cost billions! The economy crashed!

Would you vote for Hitler?

After another economic crash in 1929 in USA which led to the Great Depression all around the word – Adolf Hitler began to take advantage and promised people 'Bread and Jobs' and to make lives better if they voted for him and his party called The Nazis.



The Holocaust

– Jewish people were persecuted in Nazi Germany. Rights such as going to school, own a business & live in their own house. Kristallnacht in 1938 was a major event in how Jews were treated. After WW2 started Jews from across Europe has to live in ghettos and then were sent to 'Extermination' camps like Auschwitz. Fitter and younger Jews had to work, usually until their death and the old and young were mainly sent to the gas chambers to die immediately.

Hitler's treatment of young people and women

Women were encouraged to stay at home and became a perfect housewife and mother. There were even rewards on Hitler's Mum's birthday given to women with big families. Young people were told to joint he Hitler Youth and learn how to become good soldiers and housewives. They were brainwashed to believe they were the most important people in society.

Music

KS3 Music	Topic	Revision Completed
Notation & Theory	1.1 Note names and duration	
	1.2 The 8 elements of music	
Film Music	2.1 Orchestral instruments	
	2.2 Creating a character theme	
Keyboard Skills	3.1 Keyboard note names (letters)	
	3.2 Score reading (key terms & symbols)	
World Music	4.1 World instruments	
	4.2 World rhythms	
The Guitar/Bass	5.1 Hooks & riffs	
	5.2 The evolution of strings	
Music technology	6.1 Music technology through time	
	6.2 Popular effects	

You will be given knowledge organisers for these topics. Please collect these from your music teacher.

Y7 (plus 8 and 9 groups 3 and 4)

- Unit 1 – The basics (name and age; nationality and languages; birthdays; free time activities)
- Unit 2 – My family (family and ages; physical description; personality; free time activities; opinions; animals)
- Unit 3 – School (subjects and teachers; opinions with reasons; rooms in school; activities in the future)

Y8 (groups 1 and 2 only)

- Unit 5 – Holidays (past holidays and activities; usual holidays and opinions; future plans)
- Unit 6 – Going out and staying in (free time activities in present, past and future; clothes and food in a party; tv and films; music)
- Unit 7 – Daily routine, health and fitness (daily routine in present and past; healthy life; health and fitness advice; illness and advice)

Y9 (groups 1 and 2)

- Unit 9 - Relationships (physical and personality descriptions; relationships; free time activities; ideal partner and friend; future plans; past activities)
- Unit 10 – Festivals and celebrations (food and times; opinions; festivals and celebrations; a festival in the past; what festival you would like to visit)
- Unit 11 – City or region in a Spanish-speaking country (my city and region now and in the past; a city in Spain now and in the past; comparisons; a shopping trip in the past; what country you would like to visit in the future)

RELIGIOUS STUDIES:

Y7: CHRISTIANITY

• The Nativity	
• Jesus' ministry	
• Sermon on the Mount	
• The Resurrection	
• Original Sin	

Y8: PHILOSOPHY

• Ways to describe God (Omni- words)	
• William Paley's Design Argument	
• Criticisms of William Paley's Design Argument	
• Thomas Aquinas' Cosmological Argument	
• Theodicies	

Y9: ISSUES OF LIFE AND DEATH

• Different views on life – sanctity and quality	
• Thomas Aquinas' Natural Law Theory	
• Joseph Fletcher's Situation Ethics Theory	
• Abortion	
• Euthanasia	

Y9 Drama Revision

A3 Assessment:
Performing a Piece of Devised Drama

The Assessment

The assessment will be to **perform** a devised piece of drama. You will try to achieve the following **I Can** statements;

- I can remain in character when entering and exiting the stage
- I can perform smooth transitions
- I can conduct myself in a professional manner, before, during and after a performance

Checklist

To revise for this assessment you should check that you understand the vocabulary that will be used.

- Performance
- Character
- Entering and exiting the stage
- Transitions
- Professional

Glossary	
Performance	To present a play to an audience. To act out the storyline.
Character	A **character** is a person in a play or a film. We will perform characters who are different to our real self. We should try to show how these characters are different by using our physical and vocal acting skills.
Entering and Existing the Stage	As soon as you enter the stage you should be ***'in character'*** which means using your acting skills to show that you are pretending to be another person. This should start as soon as you appear on the stage. You need to ***remain*** in character at all times until you exit or leave the stage. You can also think about making a ***dramatic*** entrance or exit and creating an ***impact*** with the audience when your character enters or exits.
Transitions	A transition occurs when a ***scene changes*** and actors leave and re-enter the stage.
Professional	To conduct yourself in a ***professional manner*** means to behave in such a way that others think of you as competent, reliable and respectful. You want to show others that you know what you are doing. In drama this means that your performance is well planned and rehearsed. You know what production choices (below) you have made in advance e.g. what props will you need and where should they go? When the time comes for you to perform you are organised and ready with no need for additional discussion with your group.

<u>Production Choices</u>