



BOURNEMOUTH SCHOOL

Year 10

Knowledge Organiser 1

Autumn Term

Name: _____ Master 10

Registration Form: - _____

✓Hard Work

✓Discipline

✓Smart Appearance

✓Respect

Year 10 - Autumn Term 1

Welcome back year 10.

- **Please try and spend time on independent study every evening.**
- **Use different learning strategies for different topics but “Think it, Link it” will help with the breadth of knowledge you will need for the exams.**
- **Involve friends or parents where possible to test your knowledge and understanding.**
- **Start using knowledge organisers if you have not already done so. It is not too late.**
- **Use knowledge organisers to learn the key information for the topics you are currently studying.**
- **Remember that knowledge organisers provide the core knowledge you need, but they are only a starting point.**
- **Supplement the information in your knowledge organisers with your own revision and independent study at home.**

Your Knowledge Organiser is the best way of learning important subject material and you will be given lots of advice and support as the year goes on.

Mr Robjohns

Director of Learning – Year 10 and 11

What is a knowledge organiser (KO)?

Below is a reminder of how to use your knowledge organiser. There are videos of examples on the school website. Search “Knowledge Organisers”.

The 4 learning strategies

There are 4 strategies that you can use to revise. They are progressively more challenging, so always start with the first in the list:

1. Look Cover Write Check

- I. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- II. **LOOK** carefully at the subject and section of your KO you want to revise and try to remember as much as you can. Remember this should be a ticked section.
- III. Now **COVER** this information so you can't read it.
- IV. **WRITE** out what you can remember word for word in your Homework Learning Journal.
- V. **CHECK** what you have written by comparing it to your KO. Tick each correct word in green pen and correct any errors you have made.
- VI. Repeat this process until you are confident you can remember everything you need.

AIM: You should be able to repeat the information by rote.

2. Self or peer quizzing

- I. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections.
- II. Write out a list of questions you could ask either yourself or a friend about this section of the KO. Write these in your Learning Journal.
- III. If you are working on your own, cover the KO and write a full answer to each question. If you are working with a partner, swap books and copy down their questions and have a go at answering them.
- IV. Now uncover the KO and use a green pen to tick or correct your work.

AIM: You should be able to repeat the information by rote but with a good understanding

3. Playing with words and sentences

- I. Identify the subject and section of your KO that you want to revise. This should be one of the ticked sections. You now want to check how well you have learnt the information in your KO.
- II. Definitions – look at words that are used in this section. Can you write a definition in your own words?
- III. Rephrasing – can you rewrite the sentences or explanations in your own words?
- IV. Summary – can you summarise the main points of this section of the KO?
- V. Synonyms – can you write synonyms for key words and ideas?
- VI. New Sentences – can you write a sentence that includes the key vocabulary or definitions that you have learnt?

AIM: You should be able to use the information in your KO in a flexible and confident way in your writing.

4. Think it, Link it

This is a technique to use towards the end of the half term when you are revising all of the KO.

- I. Think of the links or connections between different sections of your KO.
- II. Write these out in your own words in your Learning Journal.
- III. Think about the links between a particular section of your KO and what you have learnt in your lessons. Can you expand on this section by linking it to your wider knowledge?
- IV. Write this out in your Learning Journal.

AIM: You should be able to link your home learning and your lessons to show a confident understanding of the work covered.

How to present work in your Learning Journal

1. Always write the subject and the date when you start your home learning.
2. Always write the strategy that you are going to use for your home learning.
3. Always use a ruler to underline titles and dates.
4. Use a blue or black pen to write, or a pencil if you need to draw. Drawing should never be done in pen.
5. Use a green pen to complete corrections of your work.
6. You are expected to complete half a side of your Learning Journal each evening as a minimum.
7. You can work every Monday to Thursday in room 53 until 5pm. This is a quiet room where you can complete your home learning rather than doing it at home.

Checking: Your teachers will check your Learning Journal at least once a cycle. If they are concerned that you aren't doing your home learning thoroughly, they will log a home learning referral on Arbor, and offer you support and guidance. If you don't respond to this guidance, you will be issued with an After-school Detention where you will be expected to complete your home learning.

Do Now tasks: At the start of every lesson, you should expect a Do Now task. This is a low stakes retrieval quiz on what you have learnt in lessons so far.

Maths: Your teacher will set you tasks to complete on Dr Frost Maths.

Rewards at Bournemouth School

At Bournemouth School, we want to recognise the many different ways that students contribute and succeed. Rewards are not just about getting the highest marks. They recognise **achievement, effort, progress, excellent behaviour, attendance and contribution to our school community**.

There are two main ways your success is recognised: the **Bournemouth School 100** and **Achievement Points**.

The Bournemouth School 100

Every term, you will receive a **Bournemouth School 100 score**. This gives you a score out of 100 based on five areas of school life.

Each area is worth up to **20 points**:

Area	What counts?	Maximum
Behaviour	Consistently meeting our expectations and avoiding Behaviour Points	20
Achievement	The Achievement Points you earn in lessons and through wider school activities	20
Progress	The progress you are making across your subjects	20
Attendance	Attending school regularly – 97% or above earns the maximum score	20
Community	Leadership, volunteering, peer support and getting involved in school life	20
TOTAL		100

This means there are lots of ways to build a strong score. You don't have to be the highest-attaining student in your year: excellent behaviour, strong progress, good attendance and making a positive contribution all count.

Keep track of your score

You will receive an update at the end of each half term so that you can see how you are doing and where you could improve.

The full scoring charts for each category will be published in your **Knowledge Organiser** at the start of each half term.

Your Bournemouth School 100 score will also be included in your termly report to parents/carers.

Can you make the top 25%?

At the end of the year, we will calculate your average Bournemouth School 100 score across all three terms.

If your score places you in the **top 25% of your year group**, you will receive a **Bournemouth School 100 badge** to wear during the following academic year.

The challenge is to perform consistently across the whole year and across all five areas.

Achievement Points

Staff award **Achievement Points (APs)** throughout the year to recognise excellent work, effort, improvement and positive contributions to school life.

Your points build up across the year, allowing you to work towards three reward stages.



Bronze — 230 Achievement Points

You will receive:

- a **Bronze certificate** from your tutor
- **one entry into the school raffle**



Silver — 280 Achievement Points

You will receive:

- a **Silver certificate** from your Director of Learning
- **another entry into the school raffle**



Gold — 350 Achievement Points

You will receive:

- a **Gold certificate** from SLT
- **a third entry into the school raffle**
- an **early lunch served by SLT**
- entry into the **Achievement Points Leaderboard**

Reached Gold? Keep going.

Gold isn't the end of the challenge.

Once you reach **350 Achievement Points**, you will compete to finish among the highest Achievement Point earners in your year group.

The **top 30** will be displayed and updated each week.

At the end of the year:

1st place



Achievement Cup for your year group + **gift card**

2nd–10th place



Framed certificate + gift card

11th–30th place



Framed certificate

What should you aim for?

There isn't just one way to be successful at Bournemouth School.

Work hard. Make progress. Meet our expectations. Attend regularly. Get involved. Contribute positively.

Remember our core values: Hard work, discipline, smart appearance, and respect.

Having these aims at the forefront of your mind everyday in school will help you earn recognition — and gives you something to aim for throughout the year.

Media/ materials	Definition – read, cover, write, review	Tick
Biro	a kind of ballpoint pen	
Fine liners	pens with plastic or fine fibre needle-point tips that generally use water-based ink but sometimes use oil-based.	
DPE	A printmaking process in which a design is drawn on a plate with a sharp, pointed needle-like instrument.	
Collagraph	is an expressive, experimental printmaking technique where a collage of textured materials is glued onto a rigid base (the plate)	
Mono Print	a form of printmaking where the image can only be made once, unlike most printmaking which allows for multiple originals.	
Mixed Media	artworks composed from a combination of different media or materials.	
Pastels	These can come in both powder or oil based. Chalk pastels can be blended to create a soft appearance. Oil pastels are a cleaner medium than chalk pastels, but still softer and more blendable than either colored pencils or crayons.	
Watercolour paint	Watercolour is a translucent paint containing pigment and a binder, typically gum-arabic. The gum-arabic holds the paint together and ensures the paint will not flake. The paint has colour pigment suspended in water until the water dries and stains the surface. The paint brushes with fluidity and transparency and dries fairly quickly.	

Success
• effective • successful • balanced • detailed • accurate • expressive • bold • clear • controlled • refined

Technique
• pressure • ink coverage • registration • texture • contrast • line quality • tone • composition • layering • mark making

Improvements
• refine • develop • adjust • simplify • strengthen • increase • reduce • experiment • improve • evaluate



MONO PRINT ARTISTS

Sarah Jameson
Georgine Bown

DRY POINT ETCHING ARTISTS

Otto Dix
Naomi Guppy



Art Vocabulary

- positive space
- negative space
- focal point
- pattern
- repetition
- relief print
- intaglio
- monoprint
- drypoint
- collograph
- lino cut

B3 – Infection and response

Keyword	Learn	✓
Pathogen	Micro-organisms that cause infectious diseases in plants and animals. The four types are bacteria, virus, fungus and protist.	
Bacteria	Causes disease by reproducing rapidly inside the body and releasing toxins which damage tissues and make us feel ill.	
Virus	Causes disease by living and reproducing rapidly inside cells, causing cell damage.	
Antibiotic	Drug which cures bacterial disease by killing pathogenic bacteria. Some antibiotics kill specific types of bacteria.	
Painkiller	Used to treat the symptoms of a disease but do not kill pathogens.	
Resistant strain	A bacteria that is not affected by an antibiotic.	
Vector	An organism which carries something e.g. a disease but isn't affected by it.	
Vaccine	Dead or weakened form of a pathogen injected into the body.	
Antigen	Protein on the surface of a pathogen which the body recognises as a foreign body.	
Antibody	Produced by white blood cells in response to antigen. Binds to the antigens on pathogens and helps them be destroyed.	
Lymphocyte	White blood cells that make antibodies.	
Phagocyte	White blood cells that ingest pathogens.	
Monoclonal antibody	Antibody produced by clones of a single hybridoma cell. They are specific to one binding site on one protein antigen.	

Drug	Learn the origin of these drugs.	
Digitalis	Heart drug, originally from foxgloves (flowers).	
Aspirin	Painkiller, originally from willow trees.	
Penicillin	Antibiotic, originally from the Penicillium mould. Discovered by Alexander Fleming.	

Disease	Pathogen	Symptoms, Transmission and Treatment	✓
Measles	Virus	- Fever and a red skin rash. Can be fatal. - Spread through inhalation of infected droplets from sneezes and coughs. - Most young children are vaccinated against measles.	
HIV	Virus	- Initially flu like, can become AIDS when the body's immune system becomes so badly damaged it can no longer deal with other infections or cancers. . - Spread through sexual contact, exchange of bodily fluids such as blood. - Initially can be successfully controlled with antiretroviral drugs.	
Tobacco mosaic virus	Virus	A 'mosaic' pattern of discolouration on the leaves which affects the growth of the plant due to lack of photosynthesis.	
Salmonella	Bacteria	- Fever, abdominal cramps, vomiting and diarrhoea. - Spread through bacteria ingested in food prepared in unhygienic conditions. - Poultry (chickens and turkeys) are vaccinated against Salmonella to control the spread.	
Gonorrhoea	Bacteria	- A thick yellow or green discharge from the vagina or penis and pain on urinating. - Spread through sexual contact. - Can be treated with antibiotics or prevented by the use of a barrier method of contraception (condom).	
Rose black spot	Fungus	- Purple or black spots develop on leaves, which often turn yellow and drop early. - Spread in the environment by water or wind. - Can be treated by using fungicides and/or removing and destroying the affected leaves.	
Malaria	Protist	- Recurrent episodes of fever and can be fatal. - Uses the mosquito as a vector. - Controlled by preventing the vectors, mosquitos, from breeding and by using mosquito nets to avoid being bitten.	

B3 – Infection and response

Keyword	Learn	✓
Preclinical testing	Testing done in a laboratory using cells, tissues and live animals.	
Clinical trial	Trial using healthy volunteers and ill patients.	
Efficacy	How effective a drug is.	
Dose	How much of the drug to use and how often.	
Toxicity	A check in drug trials for side effects.	
Placebo	A tablet that does not contain any medicine. (A fake drug.)	
Double blind trial	Both doctor and patient don't know whether the patient is taking the drug or a placebo. Avoids bias in a drug trial.	

Human defence system includes the skin, nose, trachea and bronchi and the stomach.

In the immune system, white blood cells help to defend against pathogens by: phagocytosis, antibody production and antitoxin production.

Vaccination – Learn the 4 stages in the correct order.

1. Dead or weakened pathogen injected into the body.
2. Stimulates white blood cells to make specific antibodies.
3. White blood cells remember how to make the correct antibody for that pathogen.
4. If the pathogen re-enters the body, the white blood cells will respond quickly to produce the correct antibodies preventing infection.

Clinical trials – Learn these steps.

Very low doses of the drug are given at the start of the clinical trial.

If the drug is found to be safe, further clinical trials are carried out to find the optimum dose for the drug.

In double blind trials, some patients are given a placebo.

Plant diseases

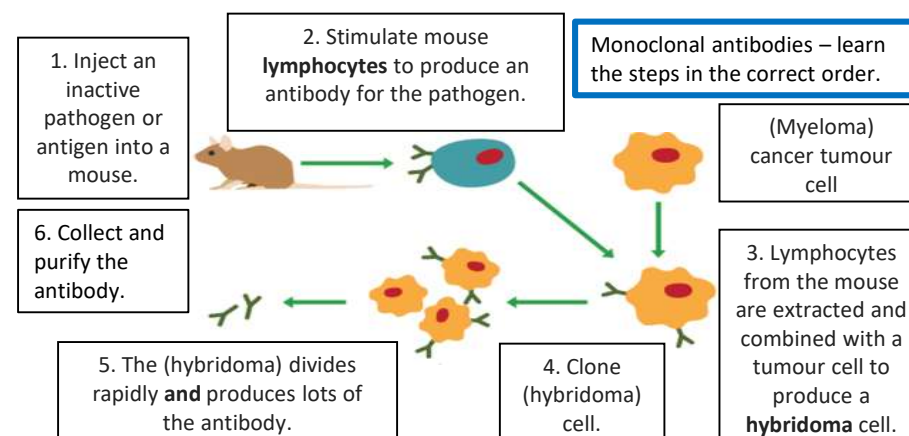
7 symptoms - stunted growth, spots on leaves, areas of decay (rot), growths, malformed stems or leaves, discolouration, the presence of pests (e.g. aphids).

3 sources of information - reference to a gardening manual or website, taking infected plants to a laboratory to identify the pathogen, using testing kits that contain monoclonal antibodies.

2 types of ion deficiency –
stunted growth caused by nitrate deficiency, nitrate ions are needed for protein synthesis and therefore growth
chlorosis caused by magnesium deficiency, magnesium ions are needed to make chlorophyll

Monoclonal antibodies are used:

- for diagnosis such as in pregnancy tests
- in laboratories to measure the levels of hormones and other chemicals in blood, or to detect pathogens
- in research to locate or identify specific molecules in a cell or tissue by binding to them with a fluorescent dye
- to treat some diseases: for cancer the monoclonal antibody can be bound to a radioactive substance, a toxic drug or a chemical which stops cells growing and dividing. It delivers the substance to the cancer cells without harming other cells in the body.



Methods of production					☒
Definition: The process in which the factors of production are turned into products or services. Deciding on which method is most appropriate for a business will depend on the type of good, finance available and business objectives.					
Method of production	Definition	Advantages	Disadvantages	Examples	
Job production	The business produces bespoke, tailor made products that meet the specific requirements of the customer.	- Higher prices can be charged - Products are likely to be high quality - Variety of work increases staff motivation	- Expensive to produce - Employees need to be skilled and may require training	- Made-to-measure clothes such as suits - Handmade crafts - Wedding cakes	
Flow Production	A business makes large numbers of identical products on a continuous production line.	- Large volumes of products can be produced, reducing unit costs - Employees can specialise in a small number of tasks. This is also known as division of labour	- High initial costs of machinery - A lack of flexibility, as all products need to be identical or fairly similar - Employees may become bored or demotivated due to limited range of tasks	- Chocolate bars - Crisps - televisions - bottled drinks	

Efficiency in production					☒
Efficiency measures how well a business uses its resources to make its products or provide its service. Measured using cost per unit .			Efficiency is impacted by: 1. Employee motivation 3. The quality of the suppliers 5. how the products are made.		2. Skills of the managers 4. investment in technology
Efficiency in production	Definition	Advantages		Disadvantages	
Lean production	This aims to reduce waste and increase efficiency during the production process, whilst maintaining quality.	- Higher productivity. - Fewer defective products. - Less money spent on storage costs		- Higher costs of training staff - No spare stock is held to deal with surges in demand - Delays in delivery can delay production	
Kaizen	Means ‘continuous improvement’ and makes all employees responsible for suggesting ways that the business can improve production processes.	- As the ideas come from the workers themselves, they are more likely to be simpler, and therefore easier to implement. - Increases motivation in staff		For kaizen to work, employees need to be motivated and committed to improving the business.	
Just in time (JIT)	The business only orders raw materials and makes goods once an order has been placed.	- Less money tied up in stock - Less stock that could go out of date will reduce waste - JIT reduces costs of production		- Businesses are unable to use bulk-buy discounts if they only buy in small quantities. - Requires good relationships with suppliers	

Methods of stock control				☒
Method	Definition	Advantages	Disadvantages	
Just in time (JIT)	The business does not store any raw materials. Instead, it has regular deliveries that bring only what is needed before its existing raw materials run out.	- Less money tied up in stock that could go out of date or out of fashion. - Products are fresher due to frequent deliveries - Storage space can be used for other items	- Unable to use bulk-buy discounts if buying in small quantities. - Requires good relationships with suppliers - Hard for businesses to react to unexpected changes in demand	
Just in case (JIC)	Involves producing or purchasing stock with excess, or buffer stock in place.	- Increases the level of customer satisfaction - Reduce the chance of running out of stock - Benefit from bulk-buy discounts (economies of scale)	- Buffer stock space requires more storage space at more cost to the business - Products kept in stock for a long time may lose their freshness - High amounts of cash tied up in stock	

Factors affecting choice of suppliers		☒
Factor	Explanation	
Price	- If a business can get supplies cheaply, this keeps its variable costs low, allowing it to maintain higher profit margins. - Cheaper goods may mean lower quality items.	
Quality	- Quality needs to be consistent. - Quality needs to meet customer expectations for price paid – value for money. - Customer will associate poor quality with the business, not the supplier.	
Reliability	A business needs to be able to trust that their products will be delivered on time, and that suppliers are consistently going to have enough stock available to meet the demands of their customers.	

Definitions		☒
Procurement	Procurement means getting the right supplies from the right supplier, at the right price and at the right time.	
Logistics	Logistics means making sure the correct products are procured and that they will arrive when needed. Logistics involves three main elements, transportation, storage and distribution.	
Supply chain	The process of developing, sourcing, producing and providing goods and services to consumers. A supply chain can involve working with, and relying on a range of other businesses such as suppliers and shipping companies.	

Benefits of effective supply chain management		☒
- Working with suppliers to ensure that key processes are running efficiently and cost effectively - Getting goods and services for the best price and value - Cut waste and unnecessary costs to create a streamlined process and fast production - More satisfied end consumers, resulting in less complaints and lower returns rates		

Chapter 3 – Quantitative Chemistry

Key term	Definition	✓	Key equations	✓
Conservation of mass	No atoms are lost or made during a chemical reaction so mass of products = mass of reactants		Moles = $\frac{\text{mass (g)}}{M_r}$	
Relative atomic mass (A_r)	The relative mass of one atom of a substance, i.e. the big number on periodic table		Moles = concentration (mol/dm ³) x volume (dm ³)	
Relative formula mass (M_r)	Sum of the relative atomic masses of the atoms in the numbers shown in the formula		Concentration (g/dm ³) = concentration (mol/dm ³) x M_r	
Avogadro's constant	Number of particles in one mole of substance $N_A = 6.02 \times 10^{23}$		% yield = $\frac{\text{actual mass}}{\text{expected mass}} \times 100$	
Mass of one mole (g)	Numerically the same as the relative formula mass eg the mass of 1 mole of CO ₂ = (12+ 16+16) = 44 g		% atom economy = $\frac{\text{Mr of desired product}}{\text{sum of Mr of all reactants}} \times 100$	
Limiting reactant	The reactant that is completely used up in a chemical reaction and limits the amount of product formed		Gas volume (dm ³) = moles x 24	
Atom economy	A measure of the amount of starting materials that end up as useful products			
Uncertainty	The interval within which the true value of a value can be expected to lie.			

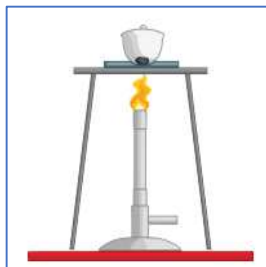
Calculating unknown mass or concentration

1. Work out moles of known substance using $n = m/M_r$ or $n = c \times v$
2. Use the equation ratio to work out the moles of the unknown substance
3. Calculate mass or concentration of the unknown substance using $m = n \times M_r$ or $c = n / v$

During a reaction, the mass may appear to increase if one of the reactants is a gas.

magnesium + oxygen → magnesium oxide

Oxygen from the air is added to the magnesium so the product will be heavier in mass.



During a reaction, the mass may appear to decrease if one of the products is a gas.

copper carbonate → copper oxide + carbon dioxide

Carbon dioxide gas is produced and released into the atmosphere, so the product is lighter in mass.

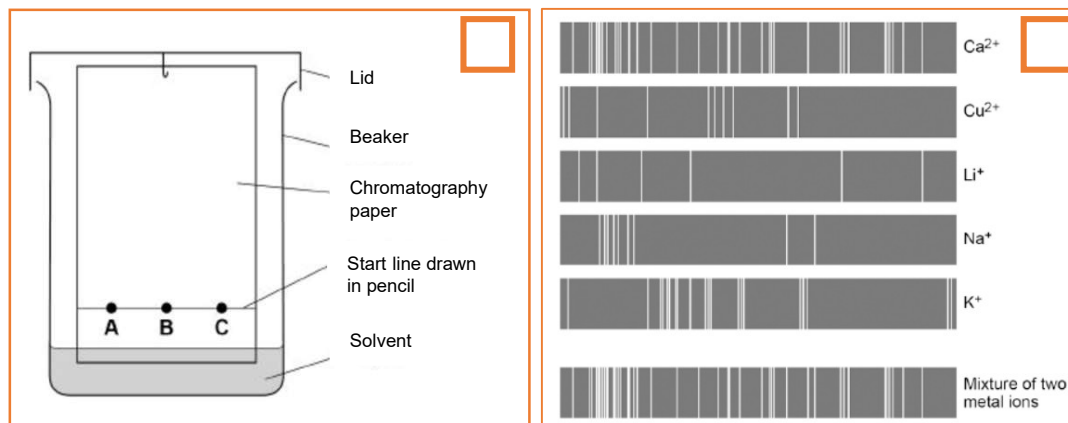


Chapter 8 – Chemical Analysis

Test	Results	✓
Flame test: Dip a nichrome wire loop into the substance. Hold the metal loop in a blue flame.	Sodium ion = orange Potassium ion = lilac Calcium ion = orange-red Copper ion = green Lithium ion = crimson	
Sodium hydroxide test: Add sodium hydroxide to the substance	Iron (II) ion = green precipitate Iron (III) ion = brown precipitate Copper (II) ion = blue precipitate Magnesium ion = white precipitate Calcium ion = white precipitate Aluminium ion = white precipitate (dissolves in excess NaOH)	
Halide ion: Add dilute nitric acid and silver nitrate	Chloride = white precipitate Bromide = cream precipitate Iodide = yellow precipitate	
Carbonate ion: Add dilute acid	Effervescence (fizzing). Carbon dioxide gas is produced	
Sulfate ion: Add dilute hydrochloric acid and barium chloride	White precipitate forms. BaSO ₄ is produced which is insoluble	

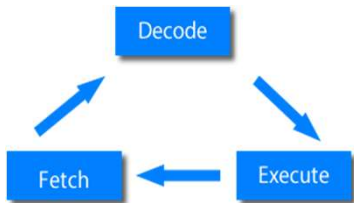
Gas	Test	✓
Oxygen	Relights a glowing splint	
Hydrogen	Lit splint makes a squeaky pop noise	
Chlorine	Bleaches damp blue litmus paper	
Carbon dioxide	Turns limewater (calcium hydroxide solution) cloudy	

Key term	Definition	✓
Pure substance	Made up of one element or compounds Melt or boil at specific temperatures	
Formulation	A mixture that has been designed for a specific purpose. The components are mixed in carefully measured quantities.	
Chromatography	A technique used to separate mixtures. Separation depends on the distribution of substances between the stationary and mobile phase	
Mobile phase	The solvent which moves up the paper	
Stationary phase	The chromatography paper	
Rf value	$\frac{\text{Distance moved by substance}}{\text{Distance moved by solvent}}$	



Flame emission spectroscopy – instrumental method		✓
Method	Sample is put into a flame and light given out is passed through a spectroscope. The output is a line spectrum	
Advantages	Quicker, more accurate, more sensitive	
Application	Can identify which metal ions are present and measure their concentrations.	

1.1 Systems Architecture

Keyword	Definition	✓
Hardware	The physical components that make up a computer system.	
Software	The computer code, programs and algorithms that give instructions to the hardware.	
Central Processing Unit (CPU)	The CPU's job is execute instructions and perform calculations by performing the FE cycle.	
Control Unit (CU)	Controls the flow of data in and out of the CPU. Manages the fetching, decoding and execution of instructions.	
Arithmetic Logic Unit (ALU)	Performs the calculations and logical operations required by programs.	
Von Neumann Architecture	A design for a computer system where data and instructions are both stored in memory.	
Program Counter (PC)	Stores the memory location (address) of the next instruction in a program to be executed.	
Accumulator (ACC)	Stores the results of calculations made by the ALU.	
Memory Address Register (MAR)	Stores the memory location (address) for data that needs to be fetched from memory or stored into memory.	
Memory Data Register (MDR)	Stores data that has been fetched from or is waiting to be sent to memory.	
Fetch Execute Cycle (FE Cycle)	 <pre> graph TD Fetch[Fetch] --> Decode[Decode] Decode --> Execute[Execute] Execute --> Fetch </pre>	

1.2.1/1.2.2 Primary & Secondary Storage

Keyword	Definition	✓
Primary storage	Memory that the CPU can access quickly.	
Secondary storage	Non-volatile storage where programs and data are kept permanently.	
Volatile	Power is required for the component to retain data.	
Non-volatile	Retains data without power.	
Random Access Memory (RAM)	Volatile primary storage that holds the programs and data currently running on the computer.	
Read Only Memory (ROM)	Non-volatile, read only primary storage that hold the firmware such as BIOS.	
BIOS	Used to boot up the computer system after it is turned on. Initialises and tests the hardware for error before loading the operating system.	
Magnetic storage	Uses different patterns of magnetisation to store data, e.g., hard disk Drive (HDD).	
Optical storage	User lasers to read/write data from optical disks, e.g., CDs & DVDs.	
Solid State Storage	Contains no moving parts like RAM but is non-volatile. Includes solid-state drives (SSDs) and USB memory sticks.	

Production technique	Description	Examples	Advantages
Lean manufacturing	A strategy used to reduce waste in design, manufacture and distribution. Multi-skilled teams used to oversee production of individual parts.	Car manufacturing	- Collaboration amongst staff and departments - Efficiency improved - Higher quality products - Waste is reduced = more profits
JIT production	Uses computerised stock control and ordering so that parts only arrive at each stage of the production line as they are needed.	Car manufacturing	- Increases efficiency - Cost saving no storage needed - Reduces waste
Standardised components	Same components/modular systems in design. Manufactured in large numbers.	- Clock parts - Drawer runners - Hinges	- QC checks are carried out by the manufacturer - Consistency in products - Can buy in bulk for cheaper

Create a mindmap to show the pro's and con's of each of these production/manufacturing strategies!

You must be able to state the benefits and also downsides to these two web based technologies...

Tick	Term	Definition/how it links to new technologies
	Internet of Things (IoT)	The system of interrelated devices that are connected via the internet i.e. a home's heating can be remotely turned on via an app.
	Video conferencing	A two-way audio video telecommunication to allow people to connect from 2 or more sites for a meeting.

Tick	Quantity production	Description	Examples	Advantages
	One-off	A single, unique product is made by skilled workers.	Custom built products: - Engagement ring - Buildings - Built in furniture	- High quality products - Bespoke to the client/special (fits their exact specification)
	Batch	A set quantity of the same product is made, for a limited time.	- Olympic medals - Books with a limited print run - White goods - Fashion	- Reduces inventory/storage - Can use manufacturing aids i.e. jigs
	Mass	When 1000s of the same product are made.	- Cars - Toys - Apple products	- Lots of automation - Cheap to produce - Quick to make
	Continuous	When products are constantly manufactured 24 hours a day.	- Sheet materials i.e. paper - Standard/ everyday components (i.e. screws, bolts etc.)	- Lots of automation - Cheap to produce once set up - Quick to make - Good profit

Create a word game to match these key terms to their description...

Use LCWC to ensure you are familiar with these terms

Mass and Continuous are high volume...why would you choose each?

Tick	Term	Definition/how it links to new technologies
	Small enterprise	An enterprise is a business which is started by a person(s) who has shown the initiative for a new product.
	Crowd funding	This is the method of raising money/funds from many people for an enterprise – usually via online platforms.

GCSE Design Technology: CORE 1.02 Evaluating new and emerging technologies

Tick	Term	Definition
	Sustainability	Meeting the needs of the present without compromising the ability/needs of future generations.
	Carbon footprint	This is the amount of harmful gases released during the life of a product, from raw material extraction to end of life.
	LCA (Life Cycle Analysis)	These are used to predict and evaluate how much of an impact a product has on the environment. The 5 parts to an LCA are: 1. Raw material extraction 2. Manufacturing 3. Assembly 4. Usage 5. End of life

Tip: The above Key Terms link to Unit 1.14

Try using the LCWC revision strategy with these terms (which you will also cover in your Science lessons.

GCSE Design Technology: CORE 1.03 Energy sources

Good revision links for GCSE Design and Technology are: BBC Bitesize and Designandtechbase.com - remember, we use Edexcel as our exam board.

Tick	Source	How it is used	Advantages
	Biomass	Organic matter such as wood and crops are burnt to produce heat or converted to electricity	• Uses waste products
	Biodiesel	Made from plants, vegetables and fermented waste cooking oil	• Uses waste products • Does not give off harmful chemicals
	Tidal	Turbines turned by tidal movement of water, generating electricity	• No emissions • Very powerful • Predictable & stable
	Wind	Wind turns the turbines which creates electricity through a generator	• Freely available • Can be used in remote areas • No emissions
	Solar	Photovoltaic cells convert sunlight into electricity	• Reliable source in warmer countries • Can be small scale for homes • More electricity in stronger sunshine
	Hydroelectric	Dams are built to trap water, which turns turbines and generators	• Large amount of low-cost power • Can be used as water reserve

Many of these Key terms are also part of the Geography curriculum...

Tick	Type	How it is used	Advantages
	Coal	The coal is burnt, this heats water, which creates steam, which is used to turn a turbine, which creates high voltage electricity.	• Generates large-scale electricity • Cheap to extract and convert • Reliable
	Oil	Oil is burnt to heat water into steam, which turns turbines to produce electricity.	• Generates large-scale electricity • Relatively cheap to extract and convert
	Gas	Gas is burnt, which powers turbines to then create electricity through a generator. Waste heat is also used to heat water, turning it into steam to then turn other turbines generate more electricity.	• Generates stable, large-scale and high-powered electricity • Relatively cheap to extract and use as ready-made fuel • Cleaner than oil or coal

Character	Character notes	✓
Inspector Goole	Priestley's mouthpiece, advocates social justice and acts as the Birlings' conscience. Sardonic, omnipotent, righteous, mysterious, imposing, authoritative.	
Mr Arthur Birling	Capitalist businessman. Arrogant, foolish, ignorant and selfish; Priestley uses him to criticise capitalist attitudes.	
Mrs Sybil Birling	Husband's social superior. Cold-hearted, conformist, remorseless, controlling, deluded and prejudiced; obsessed with reputation and class.	
Sheila Birling	Daughter: naive, young and spoilt at first, but changes to show remorse and pity. Privileged and protected, yet transformative, empowered, astute and teachable.	
Eric	Son: young and spoilt; exploits Eva and feels regret. Reckless, rebellious and irresponsible, but also transformative and remorseful.	
Gerald Croft	Politically closest to Birling and engaged to Sheila. Aristocratic, evasive, secretive, disingenuous and privileged.	
Eva Smith / Daisy Renton	Never seen in the play. Stands for the victims of Edwardian society. Suffragette, victim, motif of suffering, emblematic, allegorical and vulnerable.	

Context	Notes	✓
J B Priestley	- Often labelled a socialist because he believed society should be fairer and more responsible. 1934: writes <i>English Journey</i>, exploring poverty and inequality in parts of England 1945: writes <i>An Inspector Calls</i> to criticise selfish capitalism and promote social responsibility.	
1912 England	- Many wealthy people believed in looking after themselves rather than helping others. - Britain had strong class divisions; workers had limited rights and there were many strikes. - Women could not yet vote equally with men; the Suffragette movement campaigned for women's rights. - The play is set just before the First World War.	
1945 England	- Clement Attlee's Labour Party won a landslide election in 1945, reflecting support for fairness and communal responsibility. - After two world wars, many people wanted a fairer society and greater social levelling. - Workers' rights, trade unions and women's rights became more important. - The welfare state developed after the Beveridge Report, which proposed social intervention to protect citizens from the cradle to the grave. - The NHS was created in 1948.	
Class	- Before the First World War, there were strong distinctions between upper, middle and working classes. - Working-class people had fewer rights and opportunities; women were often expected to be obedient and dependent on men. - After the Second World War, there was more desire for equality and social change. - Priestley uses the Birlings to criticise class privilege.	
Titanic	- British passenger liner, sank in the North Atlantic Ocean on 15th April 1912. - More than 1,500 people died. - Birling's confidence that the Titanic is "unsinkable" makes him look foolish to Priestley's audience. - This is an example of dramatic irony.	

Dramatic Form

Form	Definition / effect	✓
Morality play	Popular during the 15th and 16th centuries. Taught the audience lessons, often focusing on sin, morality and social conduct.	
Crime Thriller	A gripping tale based around a crime. The audience receives clues and must guess what has happened; all is revealed by the climax.	
Three Unities	Unity of action: one main plot. Unity of time: action occurs over a short period. Unity of place: one location, the dining room. Makes the social message easy to understand.	

Dramatic Device

Device	Definition / effect	✓
Dramatic irony	When the audience knows more than the characters for dramatic effect.	
Cliff-hanger	The audience must wait to find out what happens, even though they may have anticipated it.	
Setting	The Birling home is "substantial and heavily comfortable, but not cosy and home-like", reflecting the lack of warmth and kindness in the family.	
Foreshadowing	Giving a hint or clue of what might happen later in the text.	
Photograph	The Inspector only shows the photograph to one person at a time, creating mystery and tension.	
The 4th Wall	As the Inspector gives his final speech, he breaks the fourth wall and speaks directly to the audience.	
Sounds	The sharp doorbell interrupts Birling, linking the Inspector's arrival to Birling's capitalist ideology.	
Lighting	Priestley uses a lighting change: "pink and intimate" before the Inspector, then "brighter and harder" to change the atmosphere.	
Dramatic timing	Entrances and exits are placed at dramatic points to create tension. The 1912 setting and 1945 writing date allow dramatic irony.	

Themes - a key idea that runs throughout the play

Theme	Explanation	✓
Age and change	Older characters represent outdated thinking; younger characters represent new attitudes towards caring about others in society.	
Responsibility and Guilt	All of the family are forced to reflect upon how responsible they are for Eva's death.	
Class and gender	Eva's position is weakened because she is working class and a woman. Class and patriarchy biases mean characters dismiss and treat others in a derogatory manner.	
Capitalism versus socialism	Socialism values social ownership, democratic control and equality. Capitalism is where production is privately owned by groups or individuals.	
Social responsibility	Priestley wanted his audience to be responsible for their own behaviour and for the welfare of others.	
Hypocrisy	The hypocrisy of middle-class Edwardian society is uncovered: appearance and reputation matter more than reality and morality.	

Plot structure

Act	Summary	✓
Act 1	April 1912: the Birlings and Gerald celebrate Sheila's engagement. Inspector Goole arrives to investigate a young woman's suicide. Birling remembers firing Eva in 1910. Sheila admits having Eva sacked from a department store. The Inspector reveals Eva became Daisy Renton; Gerald admits an affair with Daisy.	
Act 2	Gerald explains his affair and Sheila returns the ring. Mrs Birling admits Eva approached her charity while desperate and pregnant, but help was refused. Mrs Birling says the father should be held entirely responsible and made an example of.	
Act 3	Eric is revealed as the father and admits stealing money to support Eva. The Inspector gives his final speech. After he leaves, the older generation and Gerald suspect a hoax. Sheila and Eric remain disturbed. The phone rings: a girl has died and a police inspector is coming.	

Protein 3.2.1.1

Amino acids: 20 total; 9 essential (must come from diet).

HBV (High Biological Value): Contains all 9 essential amino acids e.g. meat, fish, poultry, eggs, dairy, soya and quinoa.

LBV (Low Biological Value): Lacks one or more essential amino acid. Pulses, beans, lentils, nuts, seeds and cereals.

Protein complementation: Combining 2 LBV to provide all essential amino acids e.g. beans on toast.

Alternatives: Tofu, Mycoprotein (Quorn), TVP (Textured Vegetable Protein).

Functions	Deficiency	Excess
Growth, cell repair, secondary energy source. Making enzymes, hormones, antibodies.	Stunted growth, hair loss, poor skin, slow healing, Kwashiorkor (severe).	Stored as fat (weight gain). Excess pressure on kidneys and liver.

DRV: 15% of daily energy intake (~0.75g per kg of body weight daily).

Fats 3.2.1.2

Key Concepts

Structure: 1 Glycerol molecule bound to 3 Fatty Acids.

Saturated Fats: On single carbon bonds. Animal sourced (butter, lard). Linked to high LDL cholesterol and CHD.

Monounsaturated Fats: 1 double bond e.g. olive oil, avocado

Polyunsaturated Fats: 2+ double bonds e.g. sunflower oil, oily fish.

EFAs (Essential Fatty Acids): Omega-3 and Omega-6 cannot be made by the body.

Functions	Deficiency	Excess
Concentrated energy, body insulation, organ protection, carries fat-soluble vitamins (A,D,E,K).	Weight loss, poor body insulation (feeling cold), fat-soluble vitamin lack.	Obesity, Type 2 diabetes, high cholesterol, blocked arteries (CHD).

DRV: Max 35% of daily energy (Saturated fat max 11%).

Carbohydrates 3.2.1.3

Key Concepts

Monosaccharides: single sugar molecule e.g. glucose, fructose and galactose. Fast energy.

Disaccharides: two sugar molecules joined together e.g. sucrose, lactose and maltose.

Polysaccharides: Complex carbohydrates e.g. starch, pectin, dextrin and dietary fibre. Slow release energy.

Non-starch polysaccharides: Dietary fibre. Indigestible plant material.

Free Sugars: Added sugars e.g. syrups, fruit juice.

Functions	Deficiency	Excess
Main energy source, protein-sparing. Fibre prevents constipation & lowers blood cholesterol.	Fatigue, poor concentration, weight loss, constipation (lack of fibre).	Stored as body fat (obesity), tooth decay (free sugars), Type 2 diabetes risk.

DRV: 50% of total energy (Max 5% free sugars). Fibre: 30g daily for adults.

Vitamins 3.2.2.1

Fat-soluble vitamins (stored in body tissue)

Vitamin A (Retinol/Beta-carotene): Night vision, skin integrity, immune support. Found in liver, carrots.

Deficiency: night blindness. **Excess:** Toxic to liver.

Vitamin D (Cholecalciferol): Aids calcium absorption for strong bones. Found in sunlight, oily fish, eggs.

Deficiency: Rickets (children), Osteomalacia (adults).

Water-soluble vitamins (not stored, lost via heat/water)

B Group (B1, B2, B3, B9 Folate, B12): Cellular energy release, neural pathway maintenance. Found in wholegrains and dairy. **B9 (Folic acid)** prevents Spina bifida. **Deficiency:** Fatigue, anaemia.

Vitamin C (ascorbic acid): Assists iron absorption, wound healing, antioxidant. Found in citrus fruit, peppers, potatoes. **Deficiency:** Scurvy

Minerals 3.2.2.2

Mineral	Functions & Sources	Deficiency / Excess Impact
Calcium	Strong bones/teeth, blood clotting, muscle function. Milk, cheese, tofu, leafy greens.	Deficiency: Rickets, Osteoporosis (porous, brittle bones later in life).
Iron	Forms haemoglobin in red blood cells to carry oxygen. Red meat, liver, spinach.	Deficiency: Iron-deficiency anaemia (fatigue, pale skin, weakness). *Vitamin C required.
Sodium (Salt)	Regulates fluid balance, nerve transmission. Processed foods, table salt.	Excess: High blood pressure (hypertension), leading to strokes and CHD. DRV: Max 6g/day.

Water 3.2.2.3

Key Functions

Elimination of waste: Toxic excretion through urine and sweat.

Temperature regulation: Cools core body temperature via perspiration.

Digestion and Transport: Forms blood plasma base to distribute nutrients, joint lubrication, fluid medium for cellular chemical reactions.

Requirements and Hydration Balance:

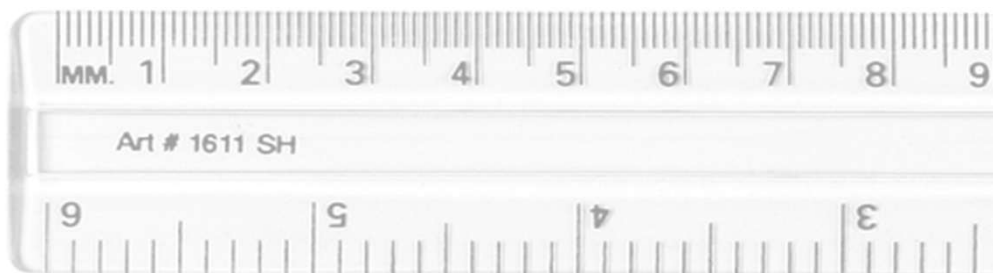
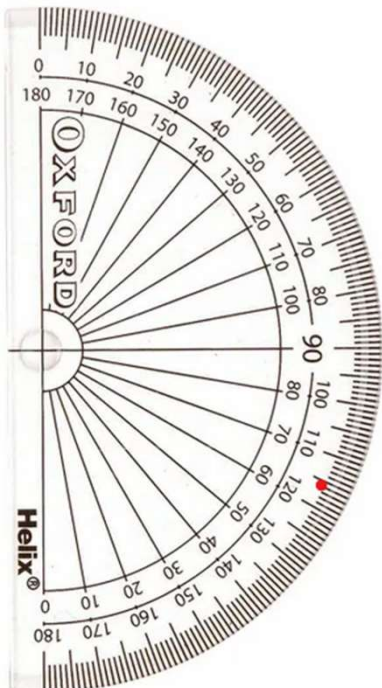
Daily loss channels: exhalation, perspiration, urination and faeces.

Recommended Intake: 2litres/6-8 glasses daily. Needs scale up with exercise, hot climates or high fever.

Dehydration (deficiency): Mild brings headaches and dark urine. Severe cases kidney failure and life-threatening heat stroke.



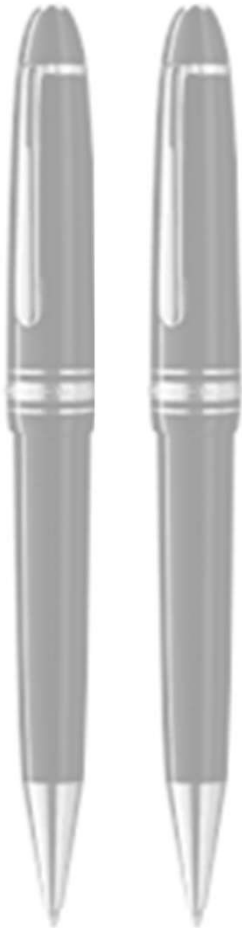
Equipment



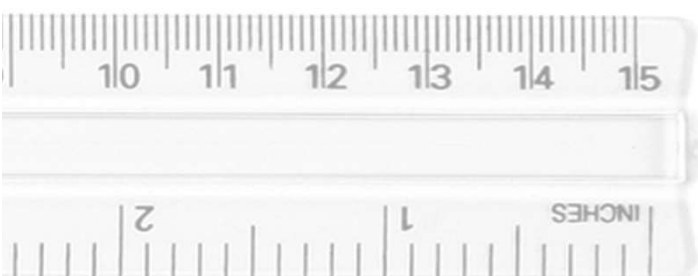
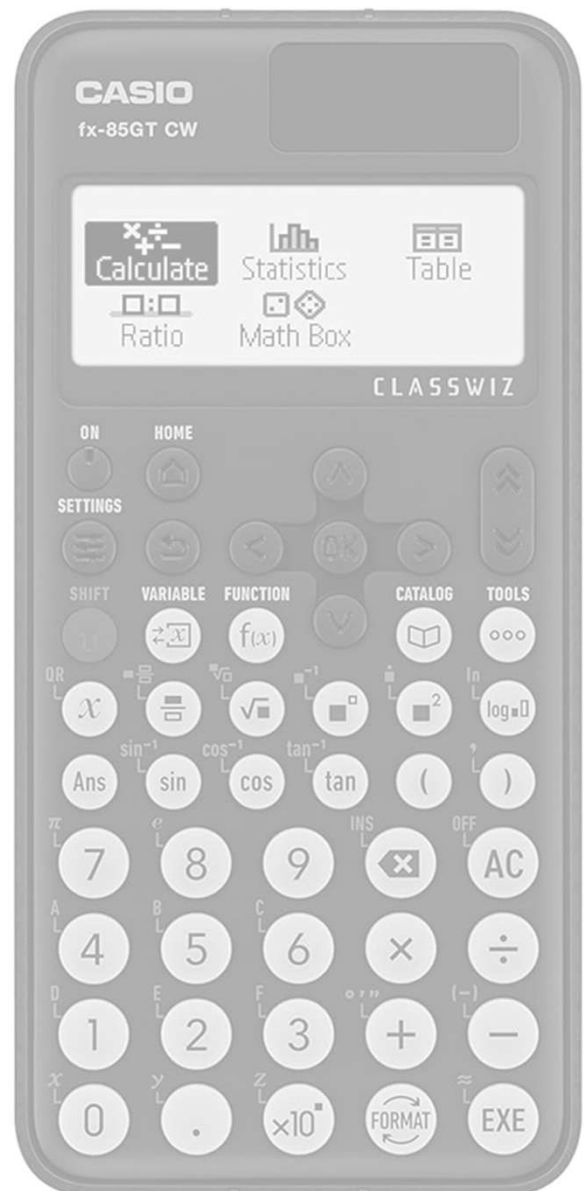
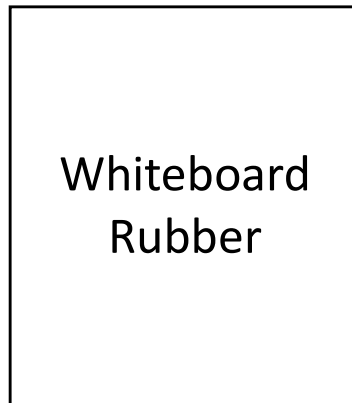
Check



- ID card
- Green and purple pens
- Whiteboard pens
- Black/blue pens
- Glue stick
- Pencil
- Ruler
- Calculator
- Whiteboard rubber



Whiteboard
Rubber



Le règlement scolaire		
Selon les règles	According to the rules	
il faut	you must	
il ne faut pas	you must not	
Il ne faut jamais	You must never	
il est interdit de	it is forbidden to	
il est important de	It is important to	
il est essentiel de	It is essential to	
on doit	You/we must	
avoir le droit de	To have the right to	
harceler	to bully	
tricher dans un contrôle	to cheat in a test	
utiliser son portable en classe	to use your phone in class	
arriver à l'heure	to be on time	
être en retard	to be late	
faire ses devoirs	To do your homework	
manger en classe	To eat in class	
s'asseoir à sa place	To sit in the seating plan	
respecter les autres	To respect others	
écouter le prof	To listen to the teacher	
aller aux toilettes pendant un cours	To go to the toilet during a lesson	

Opinions of school rules		
Quel est ton avis sur les règles?	What is your opinion of the rules?	
À mon avis...	In my opinion	
C'est juste/injuste	It's fair/unfair	
C'est trop sévère/stricte	It's too strict	
Il faut respecter les autres	You must respect others	
Tu es d'accord?	Do you agree?	
Oui je suis d'accord	I agree	
Non, je ne suis pas d'accord	I disagree	
C'est raisonnable	It's reasonable	
Je pense que	I think that	

Mon uniforme scolaire		
à l'école je porte	At school I wear	
porter l'uniforme scolaire	Wearing school uniform	
un pantalon gris	grey trousers	
une jupe	a skirt	
une veste grise	a grey jacket	
une cravate	a tie	
des baskets	trainers	
une chemise blanche	a white shirt	
un pull gris	a grey jumper	
des chaussures noires	black shoes	
Des chaussettes noires	Black socks	
un short	shorts	

More on rules		
Le directeur/la directrice	The headteacher	
Les élèves	The pupils	
Un problème de comportement	A behaviour problem	
C'est important pour les examens	It's important for the exams	
C'est essentiel pour le travail scolaire	It's essential for school work	
J'ai toujours faim en classe	I'm always hungry in class	
Des manifestations	Protests	
Un risque de harcèlement	A risk of bullying	
Refuser de	To refuse to	
En été, il fait trop chaud	In summer, it is too hot	
Le pouvoir	The power	
Partager des vidéos	To share videos	

Past tense essentials		
L'année dernière	Last year	
Récemment	recently	
Je suis allé/nous sommes allés	I/we went	
Je suis resté/nous sommes restés	I stayed/we stayed	
J'ai appris	I learnt	
J'ai pris	I took	
J'ai reçu de bonnes notes	I got good grades	

C'était	It was	
Il y avait	There was/were	
Il faisait + weather	It was + weather	
J'ai fait	I did	
J'ai lu	I read	
J'ai bu	I drank	
J'ai écrit	I wrote	
J'ai couru	I ran	
Je me suis bien amusé	I had fun	
Nous nous sommes bien amusés	We had fun	
Je l'ai trouvé	I found it	
Ce que j'ai aimé le plus était...	What i liked the most was..	
Le pire, c'était..	The worst thing was..	
Le mieux, c'était...	The best thing was...	

Quels sont tes projets pour après les GCSEs?		
Après mes GCSEs/mes examens	After my GCSEs /exams	
À l'avenir	In the future	
Je ferai mon Bac	I will do my A levels	
Je voudrais étudier ..	I would like to study	
une année sabbatique	a gap year	
un apprentissage	an apprenticeship	

Quelles matières est-ce que tu étudies?		
j'étudie ...matières	I study subjects	
ma matière préférée est..	My favourite subject is	
j'apprends...	I learn...	
mon prof préféré est..	My favourite teacher is	
mon emploi du temps	My timetable	
mon jour préféré est le...	My favourite day is..	

Les matières		
le français	French	
l'anglais	English	
le théâtre	Drama	
l'informatique (f)	ICT	
l'EPS (f)	PE/sport	
la musique	Music	
les maths (f)	Maths	
les sciences (f)	Science	

Souvenirs d'école – imperfect tense		
quand tu étais petit tu étais comment?	when you were little, what were you like?	
quand j'étais petit ...	when I was little..	
j'étais/je n'étais pas...	I was/I wasn't...	
travailleur/travailleuse	hard-working	
l'enfant le plus sportif de la classe	the sportiest child in the class	
j'aimais	I used to like	
je jouais	I used to play/was playing	
je lisais	I used to read/was reading	
je mangeais	I used to eat/was eating	
j'allais	I used to go/was going	
je faisais mes devoirs	I used to do my homework	
je regardais	I used to watch/was watching	

Adjectives		
intéressant (e) (s)	interesting	
utile (s)	useful	
fascinant (e) (s)	fascinating	
inspirant (e) (s)	inspiring	
drôle	funny	
sympa	nice	
passionnant (e) (s)	exciting	
génial	great	
facile (s)	easy	
ennuyeux/euse	boring	
sévère	Strict/harsh	
difficile (s)	difficult	
stressant(e)	stressful	

Une journée typique		
les cours commencent à	lessons start at	
le collège commence/fini à	school starts/finishes at	
on n'a pas de cours le samedi	we don't have school on Saturdays	
ils ont cours le samedi	they have school Saturday	
je me réveille	I wake up	
je m'habille	I get dressed	
je me lave	I wash myself	
le me lève	I get up	

Adverbs		
totalelement	totally	
extrêmement	extremely	
trop	too	
vraiment	really	
complètement	completely	
assez	quite	

Opinion structures		
à mon avis	In my opinion	
je pense que..	I think that..	
je trouve..	I find...	
je suis fort (e) en	I'm good at...	
je suis faible en	I'm bad at..	
j'ai horreur de	I hate...	
il me semble que	It seems to me that	
j'apprécie	I appreciate/like	
selon moi	according to me	
selon mes amis	according to my friends	
pour moi/ personnellement	Personally	
je suis créatif/créative	I am creative	
sportif/ive	sporty	

Comparatives		
plus ...que	more..than	
moins ... que	less ...than	
aussi ...que	as...as	

Comparative sentences		
la journée scolaire est plus courte	the school day is shorter	
la pause déjeuner est plus longue	the lunch break is longer	
qu'ici	than here	
qu'au Canada	than in Canada	
qu'en France	than in France	
qu'à la Martinique	than in Martinique	

Interesting idioms		
c'est mon kif	it's my 'thing'	
c'est mon truc	it's my 'thing'	



YEAR 10 GEOGRAPHY

UK Physical Landscapes

Week 2:

There are three types of rocks:
Igneous rock forms from volcanic activity. The molten rock crystallises as it cools, which can produce sparkly quartz within the rock. Igneous rocks are extremely resistant to erosion.
Metamorphic rock is formed from existing rock changing shape and characteristics through heat and/or pressure. Metamorphic rocks are often banded, with similar types squashed into layers within the rock. This means that though metamorphic rocks do not erode quickly.
Sedimentary rocks are small, eroded particles/remains of plants and animals deposited in layers that turn into rock over time and under pressure, for example, chalk, carboniferous limestone, clay. The layered structure creates lines of weakness between layers. Sedimentary rocks consolidate over time, so younger rocks are less resistant to weathering and erosion.

Week 5:

Weathering - Weathering is when rocks are broken down by mechanical and chemical processes caused by the weather (e.g. freeze-thaw, acid rain or plant roots).
Mass movement - Mass movement is when rocks loosened by weathering move down slope under the influence of gravity (e.g. rock fall, landslide or slumping)

Human activity has helped create distinctive UK landscapes through:
Forestry: Large areas of woodland have been planted and managed for timber production, creating distinctive conifer plantation landscapes across the UK.
Agriculture: Farming has shaped the countryside through field patterns, hedgerows, stone walls, and grazing land, creating varied rural landscapes.
Settlements: The expansion of villages, towns, and cities has transformed landscapes with housing, transport networks, industry, and infrastructure.

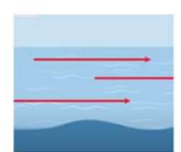
Week 3:

To the north and west are the uplands of England, Wales and Scotland
Most rocks are older
Most resistant igneous and metamorphic rocks found here
More faults, where upland areas were uplifted by tectonic activity.

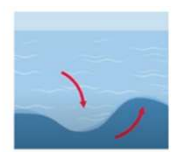


To the south and east are the lowlands of central and southern England.
Younger rocks
Weaker sedimentary rocks
Limestones found here too but younger and less resistant than Carboniferous limestones in the north/west

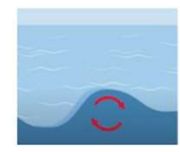
Week 6:



Waves are formed by wind blowing across the surface of the ocean

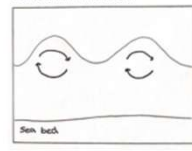


The wind pushes some parts of the water down, which in turn pushes other parts up.



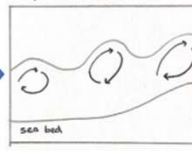
These areas start spinning in a cycle which begins to form a wave

Circular motion

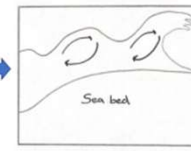


Waves in deep water move as a circle

Elliptical motion



As wave moves to shore, there is friction with the sea bed causing an elliptical motion



The top of the wave moves faster than the base, causing it to break

Week 4:

The UK has a temperate climate. In general, this means that Britain gets cool, wet winters and warm, wet summers.
There are a range of factors that influence UK weather:

- Ocean currents bring warmth from the Gulf of Mexico
- Air masses remain over a place for a period of time and will pick up the key temperature and moisture characteristics of that area. There are 5 key air masses influencing UK climate.
- Altitude has a significant impact on climate, primarily through its effect on temperature and precipitation. Generally, as altitude increases, temperatures decrease, and precipitation tends to increase, especially in mountainous regions.
 - There are three types of rainfall: convectional, relief and frontal.

Week 7:

Erosion	Transport
• Hydraulic action • Abrasion • Attrition • Solution	• Solution • Suspension • Saltation • Traction



Landforms of coastal erosion:

- Headlands and bays
- Cave, arch, stack, stump
- Coves
- Wave-cut platform, wave-cut notch, cliff

Landforms of coastal deposition:

- Beach
- Spit
- Bar
- Sand dunes





lernen - to study/learn		
ich lerne	I learn	
du lernst	you learn	
er/sie lernt	he/she learns	
wir lernen	we learn	
ihr lernt	you learn	
Sie/sie lernen	you/they learn	

Strong verbs in German change the vowel in the “du & er/sie/es/man” forms		
fahren (fährst/fährt)	to travel	
tragen (trägst/trägt)	to wear	
essen (isst/isst)	to eat	
sehen (siehst/sieht)	to watch	
lesen (liest/liest)	to read	
Verbs with a stem end in –d or –t add an extra “e” in these forms		
finden (findest/findet)	to think/find	

Modal verb: müssen – to have to		
ich muss	I have to	
er/sie/man muss	he/she/one has to	
wir müssen	we have to	
Modal verb: dürfen – to be allowed to		
ich darf (nicht)	I’m (not) allowed to	
er/sie/man darf (nicht)	he/she/one is (not) allowed to	
wir dürfen (nicht)	we are (not) allowed to	
Modal verb: sollen – to ought to		
ich soll	I ought to	
er/sie/man soll	he/she/one ought to	
wir sollen	we ought to	

Modal verbs are followed by an infinitive
 “Ich muss nicht” means I don’t have to
 “ich darf nicht” means I’m not allowed to

sich freuen auf - to look forward to			
ich freue mich auf	I am	looking forward to	
du freust dich auf	you are		
er/sie freut sich auf	he/ she is		
wir freuen uns auf	we are		
ihr freut euch auf	you are		
Sie/sie freuen sich auf	you/they are		

Schulregeln		
im Klassenzimmer	in the classroom	
im Computerraum	in the computer room	
im Gang	in the corridor	
im Unterricht	during lessons	
in der Bibliothek	in the library	
in der Schule	at school	
draußen	outside	
ruhig/leise sein	be quiet	
laufen	walk/run	
langsam gehen	walk slowly	
plaudern	chat	
Respekt zeigen	show respect	
seine Hausaufgaben vergessen	forget your homework	
Ich denke/glaube, dass	I think/believe that	
Ich bin der Meinung, dass diese Regel ... ist	I am of the opinion that this rule is ...	
falsch/richtig	wrong/right	
notwendig/nötig	necessary	
weil ich nicht genug Freizeit habe	because I don’t have enough free time	
weil es in der Kantine nicht genug Platz gibt	because there isn’t enough room in the canteen	

To talk about actions in the past use the perfect tense. A part of haben or sein plus a past participle		
Ich habe/er, sie hat/wir haben	I/he, she/we	
gespielt/gelernt/ geplaudert/gemacht/ gezeigt/gehört/ gekauft/geschlafen/ gegessen/verbracht	played/learnt/ chatted/did/ showed/listened/ bought/slept/ ate/spent	
Ich bin/er, sie ist/wir sind	I/he, she/we	
gefahren/gegangen/ geflogen/gekommen geschwommen/geblieben	travelled/went/ flew/came/ swam/stayed	
Important imperfect tense verbs: ich war, er/sie/es war – I was, /he/she/it was wir waren – we were Ich hatte, wir hatten – I had, we had es gab – there was		

In der Pause – at break		
Was machst du normalerweise in der (Mittags)Pause?	What do you normally do in your (lunch) break?	
Ich esse (mein Pausenbrot)/ ich trinke	I eat (my snack)/ I drink	
ich spreche/plaudere mit meinen Freunden/ Freundinnen	I speak/chat to my friends	
Ich verbringe Zeit mit Freunden	I spend time with friends	
ich mache Sport/meine Hausaufgaben	I do sports/my homework	
Ich gehe in einen Klub	I go to a club	
Ich spiele	I play	
Ich habe keine (Mittags)Pause	I don’t have a (lunch) break)	
jeden Tag	every day	
letztes Jahr	last year	
gestern	yesterday	
nach der Schule	after school	



Half Term 1

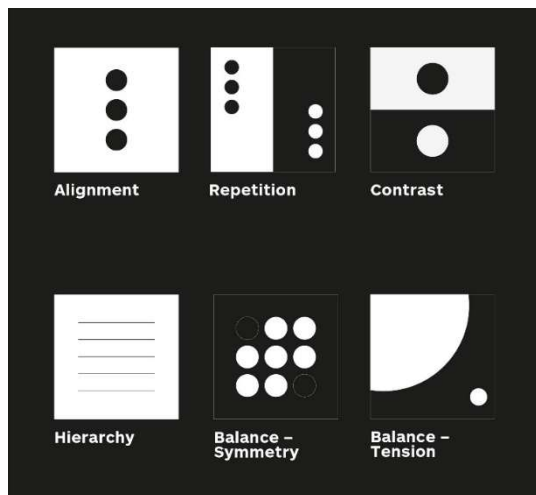
Die Schule

Year 10 German

Die Schulfächer		
Ich lerne ... Fächer	I study subjects	
Geschichte	History, story	
(Natur)Wissenschaften	Sciences	
Kunst	Art	
Mathe	Maths	
Musik	Music	
Deutsch	German	
Sprachen	Languages	
Theater	Drama	
Religion	RS	
Sport	PE, sport	
Mein Stundenplan – My timetable		
Was hast du am ...	What do you have on ...	
Montag	Monday	
Dienstag	Tuesday	
Mittwoch	Wednesday	
Donnerstag	Thursday	
Freitag	Friday	
in der ersten/zweiten/ dritten Stunde	in first/second/third lesson	
Wie oft hast du ...?	How often do you have...?	
Ich habe ... einmal/ zweimal/dreimal pro Woche/pro Tag	I have ... once/twice/ three times per week/per day	
Wie viele Stunden hast du ...?	How many lessons do you have ...?	
am Nachmittag	in the afternoon	
nach der Pause	after break	

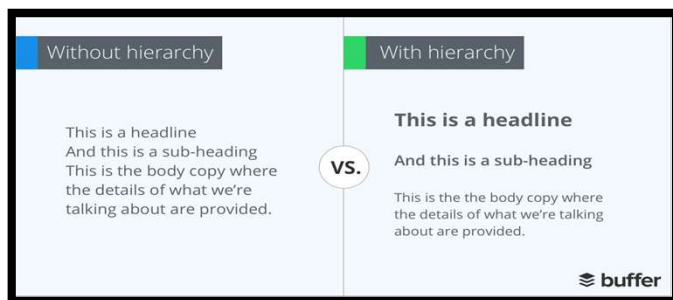
Was ist dein Lieblingsfach? What's your favourite subject?		
Mein Lieblingsfach ist ...	My favourite subject is	
Ich studiere/lerne gern/nicht gern ...	I like/don't like learning ...	
Wie findest du ...?	How do you find ...?	
Welches Fach magst du (nicht)?	Which subject do you (not) like?	
Ich mag + subject, weil	I like ... because	
Ich liebe ..., weil	I love ... because	
einfach/leicht	easy	
schwer/schwierig	difficult/hard/tough	
ermüdend/kompliziert	tiring/complicated	
interessant/langweilig	interesting/boring	
nützlich/praktisch	useful/practical	
weil ich schwach in ... bin	because I'm weak in	
weil ich sportlich bin	because I'm sporty	
weil ich Sprachen liebe	because I love languages	
Picture description		
Auf dem Bild/Im Foto	On the photo	
Ich/man kann ... sehen	I can see/you can see	
Im Bild gibt es	In the picture there is	
man sieht	you (can) see	
Auf der linken/rechten Seite	On the left/on the right	
Im Hintergrund V2	In the background	
Im Vordergrund V2	In the foreground	
Das Foto wurde ... gemacht	The photo was taken	
Sie spielen, essen , tragen, sprechen (miteinander)	They are playing, eating, wearing, talking (to each other)	
USE PRESENT TENSE TO SAY WHAT PEOPLE ARE DOING – “NO IS-ING” “AM-ING” OR “ARE-ING”		

Was trägst du in der Schule?– What do you wear to school?		
In der Schule trage ich...	At school I wear	
eine (graue) Hose	(grey) trousers	
ein (weißes) Hemd	a (white) shirt	
eine (graue) Jacke	a (grey) jacket	
eine (blaue) Krawatte / einen (blauen) Schlips	a (blue) tie	
(k)eine Schuluniform	no/a school uniform	
einen (grünen) Pullover	a (green) jumper	
(schwarze) Schuhe	(black) shoes	
ein (rotes) Kleid	a (red) dress	
ein (gelbes) T-Shirt	A (yellow) t-shirt	
(eine) (dunkelblaue) Jeans	(a pair of) (dark blue) jeans	
(braune) Shorts	(brown) shorts	
(hellblaue) Sportschuhe	(light blue) trainers	
orange/rosa(rot)	orange/pink	
Wie findest du Schuluniformen? – How do you find school uniforms?		
Ich finde ... sehr praktisch	I find ... very practical	
Auf der anderen Seite sind sie	On the other hand, they are	
langweilig	boring	
teuer	expensive	
unbequem	uncomfortable	
der Vorteil/Nachteil ist	the advantage/ disadvantage is	
ein Mädchen/ein Junge	a boy/a girl	
ein Schüler/eine Schülerin	a pupil	



A **zine** is a small-circulation self-published work of original or appropriated texts and images, usually reproduced via a copy machine. Zines are the product of either a single person or of a very small group, and are popularly photocopied into physical prints for circulation.

https://www.youtube.com/watch?v=7r5Pu0ecHdY&ab_channel=4TheCreatives

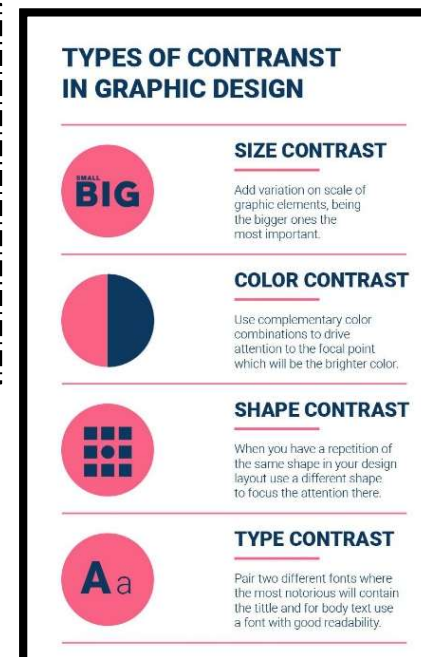


Keyword	Principles of Design – read, cover, write, review
Balance	This refers to the distribution of the graphic design elements, such as shapes, text boxes and images, of a design evenly throughout a certain layout. Designers can choose between a balanced (stable) design or off-balanced (dynamic) layout.
Emphasis	Refers to a design's focal point and the importance of each element within it
Alignment	Having a strong point of alignment within design allows our eyes to seamlessly flow through the visual message. Aligning elements with one another so that every item has a visual connection with something else on the page, tightens a design and eliminates the haphazard, messy effect which comes from random placement of elements.
Contrast	The contrast principle of design generates space and distinction between elements, and is the most effective way to create emphasis and impact with your design.
Repetition	Repetition strengthens a design by tying together otherwise separate parts, and as a result, creates associations.
Proportion	The visual size and weight of parts in composition and their correlation is referred to as proportion.
Movement	Controlling the elements in a composition such that the eye is led from one to the next and the information is transmitted appropriately to your audience is known as a movement.
White space/negative space	The empty space around the parts in your composition/layout is known as white space.
Hierarchy	Hierarchy creates organisation, typographic hierarchy is an essential part of any design or layout and even if you're not familiar with the term, you'll be sure to have seen hierarchy in action on any website, newspaper or magazine.

Balance In the context of graphic design, balance is of three types.

- Symmetrical** – This type of design is formed along a vertical axis and or horizontal axis, where the weight of the elements is evenly divided into both sides of the layout.
- Asymmetrical** – This type of balance employs scale, contrast and colour to even out the flow of a layout. It is usually found in websites, where two sides of a webpage differ from each other but contain similar elements.
- Radial**– Here, the elements of a design are placed in a circular pattern on the layout. This provides a sense of movement and dynamism to the eyes of the viewer.

Keyword	Definition
Typography	Typography is the visual component of the written word, ". All visually displayed text, whether on paper, screen or billboard, involves typography.
Kerning	Kerning refers to the space between two specific letters (or other characters: numbers, punctuation, etc.) and the process of adjusting that space improves legibility.
Tracking	Tracking is similar to kerning in that it refers to the spacing between letters or characters. However, instead of focusing on the spacing between individual letters (kerning), tracking measures space between groups of letters.





Timeline of key events:

1949-61: 4m East Germans fled West
1958: Khrushchev's Berlin Ultimatum
1959: Cuban Revolution: Fidel Castro replaced US - backed General Batista
Late 1959: Khrushchev sending weapons to Cuba
5th May 1960: American U2 spy plane shot down over USSR airspace
14th May 1960: date for Paris summit meeting (cancelled by Khrushchev)
Jan 1961: up to 20,000 refugees going through East Berlin to the West
April 1961: Bay of Pigs failed invasion
June 1961: Vienna summit meeting
July 1961: USA & USSR both announce increases in defence spending
13th August: Khrushchev closed the border between East and West Berlin
October 1961: Stand-off at Checkpoint Charlie in Berlin
14 – 28th October 1962: 13 days of the Cuban Missile Crisis
June 1963: Kennedy visits Berlin
1963: Hot Line set up
August 1963: Limited Test Ban Treaty
1968: Outer Space Treaty & Nuclear non - Proliferation Treaty signed
Spring 1968: Dubcek's Prague Spring in Czechoslovakia
21st August 1968: Soviet invasion of Czechoslovakia
Autumn 1968: Brezhnev Doctrine
January 1969: Jan Palach set fire to himself

Term	Definition
Berlin Ultimatum	Khrushchev's accusation that the Allies had broken the Potsdam Agreement of 1945
Blockade	A naval quarantine around Cuba to prevent soviet ships delivering military materials
Boundary	The dividing line in East Berlin marking where the barrier was created to encircle West Berlin from East Berlin and the GDR, where the Berlin Wall was then built.
Brain-drain	The term to describe the large numbers of professional and skilled people leaving through East Berlin for a new life in the West
Brezhnev Doctrine	Soviet foreign policy from 1968 which meant military intervention by Warsaw Pact forces if another member of the Warsaw Pact tried to leave the Soviet sphere of influence
Brinkmanship	A term used to describe pursuing a dangerous policy to the limits of safety; associated with the 13 days of the Cuban Missile Crisis
Checkpoint Charlie	The best-known Berlin Wall crossing point between East Berlin and West Berlin. The scene of a famous stand-off between the superpowers.
CIA	Central Intelligence Agency: used by USA to gather/analyse intelligence for national security
Cuban exiles	Pro-American Cubans who fled to the USA after the Cuban Revolution. Called 'La Brigada 2506'
Cuban Revolution	The overthrow of General Batista by Fidel Castro
De-Stalinisation	The elimination of the influence of Stalin, led by Nikita Khrushchev after the death of Stalin
Defectors	A person who abandons their country for another country with an opposing ideology
Defence spending	The amount both the USA and the USSR were spending on military hardware
Detente	A French term meaning a 'relaxation of tension' between the USA and the USSR
EEC	The European Economic Community: an organisation to foster economic integration created in 1957
Espionage	Spying on each other: a main feature of the Cold War, increasing rivalry and mistrust
Hot Line	A direct line of communication set up between Washington and Moscow
Jupiter missiles	US nuclear warheads stationed in Italy and Turkey as a forward strike capability
NATO	North Atlantic Treaty Organisation formed to provide 'collective security' against the USSR
Non-Proliferation Treaty	Signed by major nuclear and non-nuclear powers pledging their cooperation to stop the spread of nuclear weapons and to stop developing them
Outer-Space Treaty	A promise made by the superpowers and also Britain, to use outer space for peaceful purposes and not place nuclear weapons in orbit
Peaceful co-existence	A belief originating from Khrushchev that despite ideological differences the superpowers could exist peacefully together
Potsdam 1945	The last wartime conference led by Truman, Attlee and Stalin in July 1945
Prague Spring	Series of liberalising reforms introduced by Dubcek in Czechoslovakia
Thermonuclear	A military conflict deploying nuclear weapons, likely to lead to MAD (mutually assured destruction)
Warsaw Pact	A military treaty including the USSR and the European satellite states



Timeline of key events:

May 1972: SALT I signed

May 1972: President Nixon visits Moscow

Oct 1973: Arab-Israeli War (Yom Kippur)

Jan 1973: Peace in Vietnam after 11 years

July 1974: Nixon visits Moscow (2nd time)

July 1975: Space link-up

July 1975: Helsinki Agreements

27th April 1978: Communist PDPA led by Taraki takes power in Afghanistan

Sept 1979: Amin seizes power from Taraki

Nov 1979: US hostage crisis in Iran

25th Dec 1979: Soviets invade Afghanistan. SALT II not ratified

27th Dec 1979: Amin shot and replaced by Kamal

Jan 1980: Carter Doctrine: end of Detente

Summer 1980: USA boycott Moscow Olympic Games

Nov 1980: Reagan elected President

1981: Reagan announces significant increases in US defence spending: 2nd 'Cold War'

1982: Lech Walesa imprisoned in Poland

Nov 1982: Brezhnev dies; replaced briefly by Andropov

June 1982: Reagan's 'evil empire' speech

23rd March 1983: Strategic Defence Initiative ('Star Wars')

Feb 1984: Chernenko replaced Andropov

Summer 1984: USSR boycotts Olympics

March 1985: Gorbachev new Soviet leader

Nov 1985: 1st summit meeting in Geneva

Oct 1986: 2nd summit in Reykjavik

Dec 1987: INF Treaty signed

1988: Gorbachev rejects Brezhnev Doctrine

1988 – 91: Collapse of Soviet control in Eastern Europe

9th Nov 1989: Berlin Wall pulled down

1990: Germany reunifies

July 1991: Warsaw Pact formally ends

Dec 1991: end of Gorbachev and USSR

Term	Definition
Détente	French term: 'relaxation in tension' associated with 1970's USA/USSR relations
Six Day War	1967: a war between Israel and its Arab neighbours lasting 6 days in June 1967
Vietnam War	Conflict: 1954-1975 between the communist backed North and the US backed South
SALT I & SALT II	Strategic Arms Limitation Talks (I: May 1972; and II: not ratified in 1979)
AMB / SLBM / ICMB / MIRVs	Anti-ballistic missile system / submarine-launched ballistic missiles / intercontinental ballistic missiles / multiple independently targetable re-entry vehicles
Disarmament	The term given to describe the reduction or withdrawal of military forces / weapons
Cosmonauts	Name given to soviet individuals who travelled in space
Apollo-Soyuz	First international space mission including USA and USSR crew, symbolising Detente
Helsinki Declaration	The results of agreements on international Security, Cooperation and Human Rights
Dissident	Term to describe a person who opposes official policy, especially authoritarian states
US Congress	The law-making branch of the USA's Federal Government
DPDA	A communist party in Afghanistan: the People's Democratic Party of Afghanistan
Mujahideen	A guerrilla movement in Afghanistan wanting to overthrow the government of Amin
Hostage crisis	Militant Islamic students seized US embassy staff; made Carter look weak by late 1979
Carter Doctrine	US foreign policy whereby US would use force if necessary in Persian Gulf area
Boycott	The term given to avoid something, such as the Olympic Games in 1980 & 1984
'2 nd Cold War'	A term used to describe a more hard-line approach by Reagan towards the USSR
Deployment	Term given to describe the placement of military and nuclear weapons and troops
NUTS	'Nuclear Utilization Target Selection': specific targets could be identified
MAD	'Mutually Assured Destruction': an attack by either side would result in devastation
'Zero option'	US proposal to withdraw all Soviet and USA nuclear weapons from Western Europe
Solidarity	Polish Trade Union movement led by Lech Walesa in 1980 demanding political change
SDI / 'Star Wars'	'Strategic Defence Initiative': a US plan for ground and space-based laser armed anti-ballistic missiles designed to destroy in-coming missiles from the USSR from space
New Thinking	Term given to describe Gorbachev's plans to reform and modernise communism
Glasnost	The name given to Gorbachev's policy of openness, ending censorship and encouraging free expression
Perestroika	The name given to Gorbachev's policy of restructuring the soviet economy
Uskoreniye	A Russian term for 'acceleration' of economic development
Summit meetings	A series of meetings in 1985, 1986 and 1987 designed to reduce nuclear weapons
INF Treaty	Intermediate-Range Nuclear Forces Treaty eliminating many nuclear weapons
Gorbymania	The term given in the West to describe the popularity of Gorbachev
Sinatra Doctrine	A rejection of the Brezhnev Doctrine: the USSR would no longer interfere in any changes Warsaw Pact countries made regarding their internal affairs
Malta Summit	Declaration made in 1989 by Gorbachev and Bush that the Cold War was over

Unit 9: Equations and Inequalities

Keyword	Definition
Factorising	A formal way of representing a solution to an inequality.
Set notation	A method which turns an expression into the product of two or more brackets (factors). It is a technique we can use to solve some quadratic equations.
DOTS	Difference of Two Squares: $a^2 - b^2 = (a + b)(a - b)$
Roots	The roots of a quadratic function are its solutions when it is equated to zero.
Quadratic expression	Any expression of the form $ax^2 + bx + c$
Quadratic formula	A formula for solving any quadratic equation of the form $ax^2 + bx + c$, used when factorising doesn't work. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Perfect squares	Linear expressions raised to a power of 2.
Completing the square	Process of expression $x^2 + bx + c$ in the form $\left(x + \frac{b}{2}\right)^2 - \left(\frac{b}{2}\right)^2 + c$
Simultaneous equations	A pair of equations involving two variables, requiring a common solution. Solved by Elimination or Substitution.
Elimination	Make the coefficients of one variable the same in both equations, and then either add or subtract the equations to eliminate this variable.
Substitution	Substituting an expression for x or y from one equation into the other equation.

Unit 10: Probability

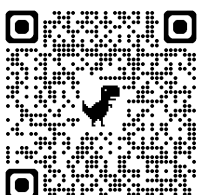
Keyword	Definition
Sample space diagram	The set of all possible outcomes of an experiment.
Two-way table	A table used to organise data according to two different categories.
Mutually exclusive events	Events that cannot happen at the same time.
Exhaustive outcomes	A set of outcomes that includes every possible result.
Experimental probability	A probability calculated using the results of an experiment or survey.
Theoretical probability	A probability calculated using what should happen mathematically.
Frequency tree	A branching diagram that shows frequencies from a set of data or an experiment.
Probability tree	A branching diagram that shows the possible outcomes of a sequence of events and the probability of each outcome.
Independent events	Events where the outcome of one event does not affect the probability of the other event occurring.
Dependent events	Events where the outcome of one event affects the probability of the other event occurring.
Conditional probability	The probability of an event occurring given that another event has already occurred.
Set notation	A system of symbols used to describe sets and events in probability, such as unions ($\cup$), intersections ($\cap$), and complements ($'$).



Self & Peer Assessment Revision Links:



Simultaneous equations (linear)



Simultaneous equations (non-linear)



Solving by factorising

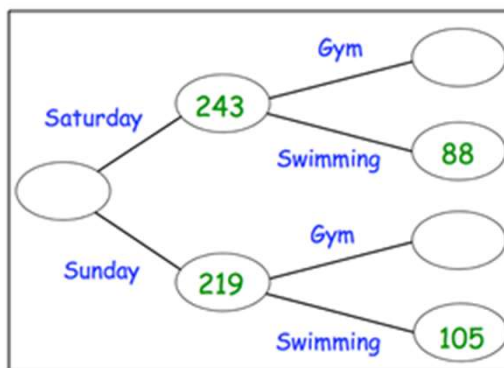


Solving by quadratic formula

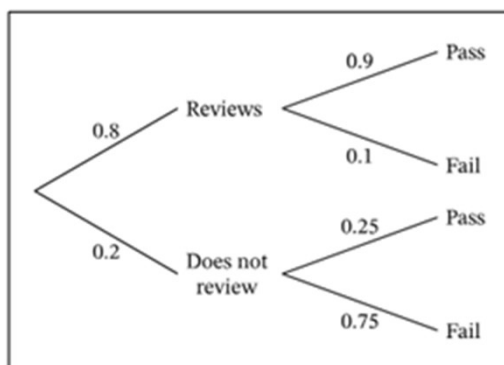


Completing the square

Frequency Diagram



Probability Tree Diagram



Sample Space



Tree Diagrams



Independent Events



Conditional Probability

Think it, Link it:

Y7 Unit 4, Working with inequality symbols.
Y7 Unit 5, Working with formulae.
Y7 Unit 13, Factorising and expanding single brackets
Y7, Unit 6 - Working with fractions
Y7, Unit 9 – Probability and data



Background

Anthem—song with a strong memorable melody with rousing and uplifting characteristics.

Baroque pitch—before A=440 was introduced, pitch was more variable and generally lower. Playing at this pitch on reproduction or period instruments is known as Baroque pitch. Approx one semitone lower than standard pitch.

Glam Rock— style of rock known for its over the top and glamorous dress sense

Incidental music—music written to go with a play, but where the play is not primarily musical. Often used for transitions etc

Lament—song with sorrowful mood. Often slow and in the minor key

Stadium Rock - rock music intended for larger venues

Rhythm

Compound metre—a metre in which the beat subdivides into three

Constant quavers—when a part moves only in quavers e.g. the ground bass

Quadruple metre—4/4—4 crotchets in each bar

Swing rhythm—often in jazz—rhythm where the first of a pair of quavers is played longer than the second.

Texture

Arpeggiation - when a chord is played by spreading the notes playing (usually) from bottom to top.

Basso continuo—literally continuous bass line. Accompaniment played by a melodic bass instrument, often a cello, and a chordal instrument such as harpsichord, lute or organ

Counterpoint—literally tune against tune—2 rhythmically independent melodies playing at the same time

Homophonic a texture comprising of a melody and an accompaniment

Melody dominant homophony—texture with one clear melody and an independent accompaniment.

Vamp—a short repeated accompanying phrase

Structure

Chorus—section in which the lyrics and the music remains the same. Often catchy and memorable, with a lift in mood from the verse. Alternates with the verse

Da Capo aria—ABA or ternary form. Da Capo means again from the beginning.

Ground bass—a repeating bass line pattern played throughout the piece

Intro—opening section of the song before the main parts

Outro—final ending section, like a coda in classical music

Solo—an extended often improvised melodic line played by an instrument. Usually in the middle of the song.

Verse—section in which the lyrics change but the music remains broadly the same each time it is heard

Melody

Dominant—5th degree of scale

Grace note—an additional note or notes played or sung before the main melodic note.

Melisma—vocal setting where more than one note per syllable is used

Mordent—ornament where the main note is played followed rapidly by the one above and then the main note.

Passing note—a stepwise note between two harmony notes a 3rd apart

Range—the interval between the highest and lowest notes in any given part.

Sequence—melodic device where a short section is immediately played again at a higher or lower pitch. Used in the ground bass.

Slide—when a performer doesn't move cleanly from one pitch to another, instead sliding through all frequencies in between the two pitches

Syllabic—vocal setting with one note per syllable.

Tessitura—the range of the instrument/voice in which the melody is set

Tonic—1st degree of scale

Trill—rapid alternation of written note and the note above

Word painting—depicting a word in music to imitate its meaning.



This QR code will take you to a Spotify playlist with audio examples of many of the concepts covered on this sheet and in lessons. You will find it helpful to listen to these as you learn.

Year 9

Unit: Music theory



Rhythm

Note	Rest	English	American
		Semibreve	Whole note
		Minim	Half note
		Crotchet	Quarter note
		Quaver	Eighth note
		Semiquaver	Sixteenth note

Rhythm dot adds half the value of the initial note

Triplet three notes taking the usual value of two

Tie one note with the value of both symbols

Time signatures (metre)

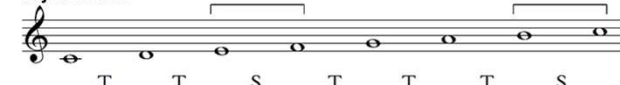
4 – the top number tells us how many beats
4 – the bottom number tells us the type of beats

The bottom number relates to the American time names:

2 = minim beats (half notes)
4 = crotchet beats (quarter notes)
8 = quaver beats (eighth notes)

In **simple metre** the beat divides into two
In **compound metre** the beat divides into three
To work out the time signature in a compound time, divide the top number by 3 to work out the number of beats. The bottom number gives you the value of $\frac{1}{3}$ of a beat.

Major scales



All major scales follow this pattern of tones and semitones.

Key signatures

Sharps always go in the order:

Father **C**harles **G**oes **D**own **A**nd **E**nds **B**attle

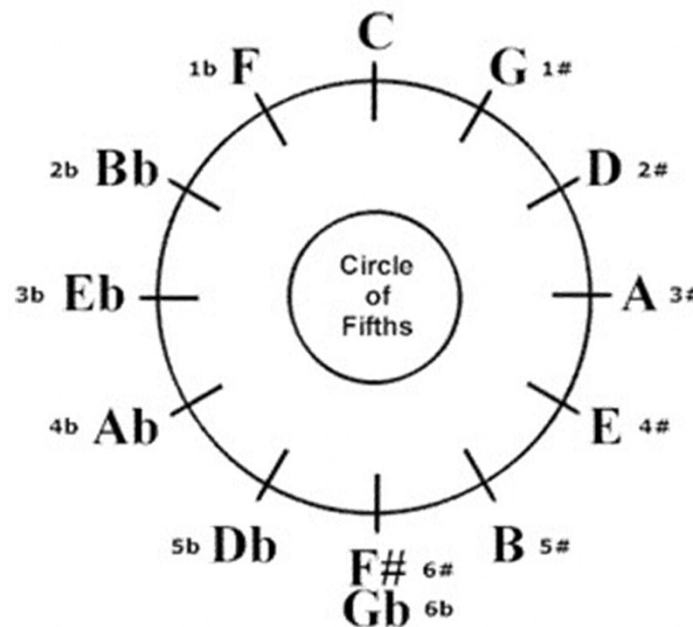
Flats always go in the order:

Battle **E**nds **A**nd **D**own **G**oes **C**harles' **F**ather

Minor scales

Every major scale has a minor scale which shares the same key signature – the **relative** minor.

In the **harmonic minor** scale we raise the 7th note of the scale by a semitone.



Intervals

An interval is the distance between two notes.

An interval is described by a number and an adjective.

To find the number, count the note names between the bottom and top notes, including both the notes themselves.

Once you have found the number, you need to be able to describe it using one of the following words.

Second, third, sixth, seventh: **major** or **minor** (semitone lower than major)

Fourth, fifth, octave: **perfect**

All intervals: **augmented** (semitone higher than major or perfect) or **diminished** (semitone lower than minor or perfect)

To work out the type of interval, start from the bottom note. Using the major scale of that note, go up the scale and see if you come to the top note. If you do the interval is **major** or **perfect**. If the note is not part of the major scale, work out whether it is higher or lower than the note in the major scale. If it's higher, the interval is **augmented**; if lower, it's **minor** or **diminished**.

Chords and cadences

In any major scale, we can build up chords on each of the notes of the scale. As well as giving them names (e.g. C, Dm) we also refer to them by their number within the scale:



Cadences are two chords which occur at the end of a phrase or section of music.

They act like musical punctuation. Some sound finished (like a full stop); some leave the music sounding like it wants to carry on (like a comma).

Finished cadences: **Perfect** (V-I; stronger); **Plagal** (IV-I; weaker)

Unfinished cadences: **Imperfect** (ends on V); **Interrupted** (V-vi)



Coercion – The action or practice of persuading someone to do something by using force or threats.

Controlling relationship – A relationship with someone who controls your actions, in a variety of ways, for their own benefit.

Exploitation - the act of treating someone unfairly in order to gain some benefit from them.



Trigger / content warnings a statement at the start of a piece of writing, video, etc. alerting the reader or viewer to the fact that it contains potentially distressing material (often used to introduce a description of such content).

Trauma - a deeply distressing or disturbing experience.

Resilience - the capacity to withstand or to recover quickly from difficulties; toughness



Hate Crime - a crime motivated by racial, sexual, or other prejudice, typically one involving violence.

Inciting Hatred – a crime under UK law, deliberately provoking hatred of a group – this is specifically used for ‘racial hatred’.

Signposting support:

Useful helplines and charities:

[Young Minds](#). Child and adolescent mental health charity for teens struggling with

any subject. Call: 0808 802 5544

[Teen Line | Teens Support hotline - Connect, talk, get help!](#) Teen Line's highly trained teen listeners provide support, resources and hope to any teen who is struggling.

[SANE](#). National out-of hours mental health charity offering emotional support, guidance and information. Call: 0300 304 7000 (4.30pm to 10.30pm)

<https://www.themix.org.uk/sex-and-relationships>
Relationships advice for young people

National Domestic Abuse Helpline - 0808 2000 247
Refuge's 24-hour domestic abuse hotline

<https://www.womensaid.org.uk/information-support/> Women's Aid help and support website.



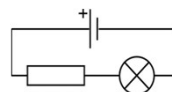
Autumn Term 1

Components of Fitness:		3.1.3.1 The relationship between health and fitness and the role that exercise plays in both & 3.1.3.2 The components of fitness, benefits for sport and how fitness is measured and improved	Reasons for Fitness Testing:
1) Cardiovascular endurance: the ability of the heart and lungs to supply oxygen to the working muscles. 2) Agility: The ability to move and change direction quickly (at speed) whilst maintaining control. 3) Balance: maintaining the centre of mass over the base of support. 4) Co-ordination: the ability to use different (two or more) parts of the body together smoothly and efficiently. 5) Flexibility: the range of movement possible at a joint. 6) Muscular endurance: Ability of a muscle or muscle group to undergo repeated contractions avoiding fatigue. 7) Power / Explosive strength: the product of strength and speed (strength x speed). 8) Reaction Time: the time taken to initiate a response to a stimulus. 9) Speed: the maximum rate at which an individual is able to perform a movement or cover a distance in a period of time (speed = distance divided by time) 10) Strength: the ability to overcome a resistance a) Maximal – the largest force possible in a single maximal contraction b) Dynamic – repeated contractions c) Explosive – (see POWER) d) Static – the ability to hold a body part in a static position.			• To identify strengths and weaknesses, this allows them to work on weaknesses • To allow you to plan your training • To show a starting level of fitness • To monitor improvement • To monitor the success of a training programme • To compare against normative data • To motivate and set goals
When asked to explain remember to give specific sporting examples:			Limitations with Fitness Testing:
• Power is needed in football to kick the ball harder when shooting so it is more difficult for the goalkeeper to save. • A gymnast uses power gain height when jumping. This will give them more time to complete the move. • Cardiovascular fitness is important in hockey as each game lasts a long time therefore they need to be able to transport oxygen around the body effectively for the duration of the match. This will help them maintain the quality of performance throughout game.			• Tests are often not sports specific (give an example) • They do not replicate the movements in a sport • They don't replicate the high-pressure environment of sporting activities/non-competitive • Some are not reliable • Some are maximal which means the performer is required to try their best Protocols MUST be followed or else the tests are invalid
Health: State of complete mental, physical and social wellbeing and not merely the absence of disease or infirmity.		Fitness Tests	
Fitness: Ability to meet the demands of the environment		Agility = Illinois agility run: Cones arranged in 10m x 5 m rectangle with 4 cones down the middle, performer starts face down, performer runs around the cones as fast as possible, performer is timed, compare results to national averages. Balance = Stork Balance Test: start balanced on 2 feet, hands placed on hip, one leg lifted so that the toes of the lifted leg touch the inside of the planted leg, timekeeper tells the individual to raise the heel on the planted leg and starts the stopwatch, individual balances for as long as possible, timer stops clock when the individual loses their balance, compare to national averages. Cardiovascular endurance = multi-stage fitness test: Cones set out 20m apart, test gets progressively harder, individual runs 20m in time with 'bleeps', time between bleeps gets shorter as levels increase, performer runs for as long as possible, score recorded as a level when performer finishes e.g. level 8 bleep 4, compare to national averages. Co-ordination = wall toss test: tennis ball starts in one hand, stand 2m from wall, on 'GO' the performer works for 30 seconds, performer throws ball against wall and catches it with opposite hand, if ball is dropped the time continues, compare to national averages. Flexibility = sit and reach test: Remove shoes, sit on floor with feet flat against sit and reach board, performers legs must be straight, performer pushes forward slider as far as possible, score is recorded in centimetres, compare to national averages. Muscular endurance = abdominal curl conditioning test: Performer lies on mat in a sit-up position, partner holds ankles, performer sits up on bleep and down on bleep (staying in time), the test gets progressively harder as bleeps get faster, score is how many sit ups you did, compare to national averages Power / Explosive strength = vertical jump test: with flat feet, stand and push the wall ruler with fingertips as high as possible, apply chalk to finger tips, from a standing position jump as high as possible marking the ruler with chalk, record height jumped, compare to national averages. Reaction time = ruler drop test: Place thumb and index finger together of dominant hand, partner holds metre ruler above, without warning partner drops ruler, individual being tested must catch the ruler, measure in 'cm', compare to national averages Maximal Strength test = one rep max: lift weight once using the correct technique, if completed attempt a heavier weight until heaviest weight is discovered, take 1 rep max weight and divide it by body weight, compare to national averages. Strength = handgrip dynamometer test: hold dynamometer in dominate hand, bend elbow at 90 degrees and place against body, squeeze with maximum effort, record best score, compare to national averages. Speed = 30m speed test: set up two cones 30m apart, use a flying start, individual is timed running as fast as they can for 30m, compare to national averages.	

Physics: Electricity

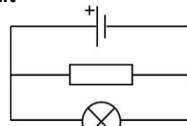
Keyword	Learn	✓
Current, I	The rate of flow of electrical charge measured in amperes, A. 1 ampere = 1 coulomb (of charge) per second.	
Potential Difference, V	The work done (or energy transferred) per unit of charge measured in volts, V. 1 volt = 1 joule (of energy) per coulomb (of charge).	
Resistance, R	A measure of how difficult it is to get a current to flow through a component, measured in ohms, W.	
Power, P.	The rate at which energy is transferred, measured in watts, W. 1 watt = 1 joule per second.	
Ohms law	The current flowing through a resistor is directly proportional to potential difference and inversely proportional to the resistance. $I = V/R$	
Series Circuit	A circuit (or section of circuit) where there is only one route for the current to take.	
Parallel Circuit	A circuit (or section of circuit) where the charge can flow through more than one route.	
Alternating Potential Difference	The potential difference alternates between a positive and negative value causing an Alternating Current (AC) that changes it's direction of flow.	
Direct Potential Difference	The potential difference has a constant value causing a Direct Current (DC) that always flows in one direction.	
LDR	Light dependent resistor ; A resistor whose resistance depends on the intensity of the light.	
Thermistor	A resistor whose resistance depends on the temperature. Generally, the higher the temperature the lower the resistance.	
Transformer	A step-up transformer increases the PD (and reduces the current). A step-down transformer decreases the PD (and increases the current).	

Series Circuit

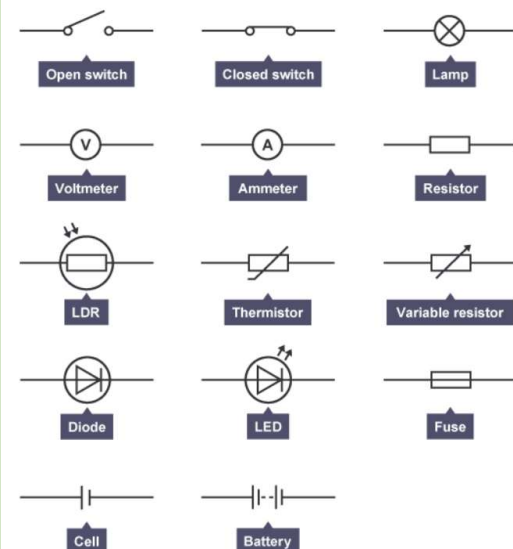


Current is the same at all points. Potential Difference is shared across each component. Total Resistance is the sum of the resistances.

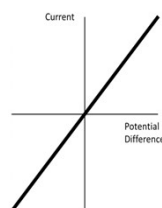
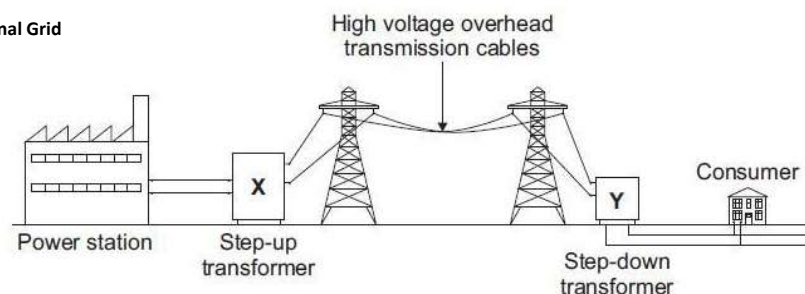
Parallel Circuit



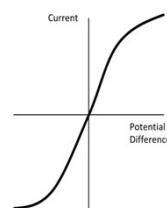
Potential Difference across each branch is the same. Current is divided between each branch. Total Resistance is less than the smallest resistor.



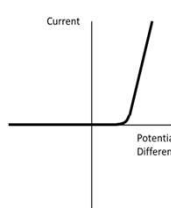
The National Grid



Ohmic resistor
A device that obeys Ohm's Law.



Filament Lamp
As the current increases the filament heats up and this increases the resistance.



Diode
Only allows the current to flow in one direction.

Key equations: $I = Q/t$, $V = E/Q$, $P = IV$, $P = I^2R$, $V = IR$



Key words:

- **Tawhid:** Oneness in reference to God.
- **Prophethood or Risalah;** Terms used for messengers of God. Begins with Adam and ends with the Prophet Muhammad.
- **Halal:** Permitted within Islam for example eating permitted foods.
- **Haram:** Forbidden actions or things. Eating forbidden foods.
- **Jihad:** Means 'to strive'. Two forms of daily inner struggle and lesser physical struggle or just war.
- **Mosque or Masjid:** 'Place of prostration'. It is a communal place of worship.
- **Shari'ah:** Straight path. Muslims believe God has set out a clear path for how Muslims should live.
- **Ummah:** Means community and refers to worldwide community of Muslims who share a religious identity.

Key quotes:

- ☐ - 'There is no God but Allah and Mohammad is his messenger.'
- ☐ 'Hurry towards the reminder of God'
- ☐ 'Call on me and I will answer you.'
- ☐ God is well aware of whatever you do.'
- ☐ 'Riches do not lie in the abundance (having a lot) of wealth'.
- ☐ 'You who believe, fasting is prescribed for you ... that you may learn self-restraint.'
- ☐ 'Lailat al-Qadr is better than a thousand months'.
- ☐ 'Pilgrimage to the House is a duty owed to God by people who are able to undertake it.'
- ☐ You who believe be mindful of God and struggle (jihad) for His cause'.
- ☐ 'Fight in the cause of God those who fight you, but not go beyond the limits'.
- ☐ 'He is God the One, God the eternal'
- ☐ Allah 'regulates all things'.

☐ **The Shia 10 Obligatory Acts**

The 5 pillars minus Shahadah + Jihad, Khums, associate with good people, don't associate with bad people, do good, avoid evil.

☐ **The 6 articles Sunni-** Allah, Malaikah, Holy books, Risalah, Akhirah, Al-Qadr.

☐ **The 5 roots (Usul ad-Din) in Shia-** Oneness, Justice, Prophethood, Leadership and resurrection

Key beliefs:

The Sunni 5 pillars:

- ☐ The 5 Pillars are: -
- ☐ The Shahadah - The basic statement of Muslim faith.
- ☐ Salah – Five daily prayers.
- ☐ Zakat - 2.5% of wealth to be given to charity.
- ☐ Sawm - Fasting during the month of Ramadan.
- ☐ Hajj - Annual pilgrimage (journey) to Mecca.

Shahadah:

- ☐ Said during prayers, first thing a baby has whispered into their ear when they're born, last thing a dying person hears.
- ☐ Shi'a Muslims add 'and Ali is the friend of God' onto the end.

Salah:

- ☐ Muslims pray 5 times per day. Perform wudu/ablution/washing before prayer.
- ☐ Friday Midday prayers are called Jumma prayer, all male Muslims are expected to leave work and go to the Mosque. T
- ☐ hey prostrate (bow) towards God as a reminder of God's greatness and importance.
- ☐ All Muslims face Mecca when they pray, uniting all Muslims around the world.
- ☐ Shi'a Muslims group prayers together and so say all 5 prayers but at 3 times throughout the day.

Zakah/Almsgiving:

- ☐ 2.5% of savings is donated to charity every year.
- ☐ Muslims also donate time to charitable causes and may donate additional money - this is called sadaqah.
- ☐ Shi'a Muslims have an additional 20% tax on all excess income called Khums.

Sawm:

- ☐ The Qur'an began to be revealed to Muhammad during the 9th month of the Islamic calendar (the month of Ramadan).
- ☐ Muslims focus on fasting, charity and pleasing God during this month. They do not eat or drink during daylight hours, and smoking and sex is also banned.
- ☐ Purity of thought is required to focus on God and to cleanse the soul and free it from harm.
- ☐ Fasting requires considerable self-discipline, but it allows Muslims to show they can sacrifice their physical needs as evidence of their submission to God.
- ☐ The Night of Power (Lailat al-Qadr) takes place during the month where some Muslims will stay awake reading the Qur'an and devoting themselves to prayer.

**Key to success:**

- ☐ The word Islam means submission. Why do Muslims believe they have to live their lives in submission to God?
- ☐ Is belief in Angels still important for Muslims today?
- ☐ What issues do you think Muslims face living in Britain today?
- ☐ Why is the Prophet Muhammad known as the seal of the Prophets?
- ☐ Does belief in Al-Qadr (predestination) mean people are not responsible for their actions?
- ☐ Which is the most important Muslim festival?
- ☐ What is the difference between Sunni and Shia?
- ☐ What is lesser and greater jihad?

Key exam questions:

- A. Explain what is meant by the term Halal (2)
- B. Describe how Muslims celebrate Ashura. (5)
- C. Explain the different types of Jihad for Muslims. (8).
- D. Hajj is the most important Pillar for Muslims'. Show that you have considered more than one viewpoint. (15).

Key beliefs: Predestination: Al- Qadr

- ☐ Some Sunni Muslims believe God has already determined everything that will happen in the universe and written this down in the 'book of decrees'. God creates all things, including the actions of his creatures, so they must act according to his will.
- ☐ Shi'a Muslims believe that God knows everything that is going to happen, but this does not mean that he decides what is going to happen. This means humans still have free will, so they can make their own choices.

Key beliefs: Ashura:

- ☐ Ashura – commemorates the death of Husayn, Ali's son, the third Imam.
- ☐ He was martyred at the battle of Karbala when challenging the Sunni leadership.
- ☐ A day of great sorrow, a symbol of the struggle against injustice, tyranny and oppression.
- ☐ During the day Shi'a Muslims take part in a public expression of grief and mourning. Some even go as far as to beat themselves on the back with chains, pound their head or cut themselves in an attempt to connect with Husayn's sufferings and death.
- ☐ For Sunni Muslims, Ashura is a day when many fast voluntarily. Many give to charity, show kindness to their family and the poor, recite prayers and learn from Islamic scholars.

Key beliefs:**Hajj:**

- ☐ During the Hajj, at Mina: A representation of the devil is stoned, an animal is sacrificed for Id-ul-Adha and the head is shaved.
- ☐ During the Hajj, at Mecca: Ihram is put on, pilgrims run between Safa and Marwa and pilgrims visit the Zamzam well.
- ☐ During the Hajj, at Arafat: Pilgrims pray on the hill for a long period of time and believe that Allah forgives them of all their sin.
- ☐ During the Hajj, at Muzdalifah: Pilgrims sleep in the open as one Ummah and pilgrims collect stones ready to stone the devil at Mina.
- ☐ The Ka'bah is important because it was built by Ibrahim, because the Prophet cleared the idols away from it and because it is the direction Muslims pray to.

Eid-ul-Adha:

- ☐ Celebrated at the end of Hajj.
- ☐ Celebrates the prophet Ibrahim's willingness to sacrifice his son for God.
- ☐ People visit family and friends, enjoy festive meals, prayer in the mosque.
- ☐ Animals are slaughtered on Hajj to remember Ibrahim's sacrifice.

Eid-ul-Fitr:

- ☐ Celebrated at the end of Ramadan.
- ☐ Festival of breaking the fast.
- ☐ They are thanking God for the strength and help he has given them to fast for a month, and providing guidance and wisdom in the Qur'an, the first revelation of which was made during the month of Ramadan.
- ☐ They celebrate with special clothes and food.

Greater jihad:

- ☐ The inner struggle to fight evil in your life. This could involve the struggle to fast, complete Hajj, etc

Lesser jihad:

- ☐ The outer struggle to fight evil in society.
- ☐ If it involves war, it must (a) be for a good cause, (b) be self-defence, (c) not carry on after victory (e.g. no destruction of their cities).

Los miembros de la familia – family members		
mi padre / madre	my father / mother	
mi padrastro / madrastra	my stepfather / stepmother	
mi hermano / hermana	my brother / sister	
mi hermanastro / hermanastra	my step-brother / step-sister	
primo / prima	cousin	
hijo único / hija única	only child (boy / girl)	
abuelo / abuela	grandfather / grandmother	
gemelos	twins	
tío	uncle / aunt	
bebé	baby	

¿Cómo eres? – What do you look like?		
Soy...	I am	
Es...	He / she is	
alto / bajo	tall / short	
más alto que...	taller than...	
rubio	blonde	
moreno	dark-skinned	
pelirrojo	red-haired	
Tengo el pelo...	I have ... hair	
castaño	brown	
negro	black	
largo / corto	long / short	
Tengo los ojos...	I have ... eyes	
azules	blue	
marrones	brown	
verdes	green	
Llevo gafas	I wear glasses	

¿A quién sigues? – Who do you follow?		
Sigo	I follow	
a artistas	artists	
a cantantes latinos	South American singers	
canales de...	channels	
cocina	cookery	
videojuegos	videogames	
mis deportistas favoritos	my favourite athletes	
videotutoriales de dibujo	art video tutorials	
vlogs de estilo de vida	lifestyle vlogs	

¿A quién admiras? – Who do you admire		
Admiro a...	I admire	
Lo / la sigo / admiro porque	I follow / admire him / her because	
apoya a otras personas	He / she supports others	
es un buen modelo de conducta	he /she is a good role model	
es una inspiración para otros	he / she is an inspiration to others	
lucha / luchó por	he fights / fought for	
los derechos de otras personas	the rights of others	
la igualdad de oportunidades	equality of opportunity	
fue la primera persona en	he / she was the first person to	
participar en	participate in	
ganar	win	

¿Qué es lo más importante para ti?		
Lo más importante es...	The most important thing is...	
mi familia	my family	
mi educación	my education	
mi cultura	my culture	
mis amigos	my friends	
la amistad	friendship	
mi religion / mi fe	my religion / my faith	
la paz	peace	
el amor	love	

¿Cómo es un buen amigo? – What is a good friend like?		
Un buen amigo...	A good friend	
te comprende	understands you	
te conoce bien	knows you well	
te hace reír	makes you laugh	
te respeta	respects you	
te acepta como eres	accepts you as you are	
te ayuda cuando tienes problemas	helps you when you have problems	
te apoya en lo bueno y lo malo	supports you in the good and the bad	
te da buenos consejos	gives you good advice	
no te critica	doesn't criticise you	
es fiel	is loyal	
puede guardar un secreto	he / she can keep a secret	

¿Cómo es tu relación con tus amigos?		
me llevo	I get on	
nos llevamos	we get on	
me peleo con	I argue with	
nos peleamos	we argue	
me divierto	I have fun	
nos divertimos mucho	we have a lot of fun	
me hace reír	he / she makes me laugh	
me conoce bien	he / she knows me well	
puedo confiar en él / ella	I can trust him / her	
siempre estamos juntos	we are always together	
casi nunca nos peleamos	we never argue	
puedo contar con él / ella	I can count on him / her	
tenemos los mismos intereses	we have the same interests	

¿Qué piensas de las redes sociales?		
Son buenas / útiles para	They are good / useful for	
compartir fotos	sharing photos	
buscar información	looking for information	
estar en contacto con tus amigos	being in contact with your friends	
participar en la comunidad	participating in the community	
expresarse	expressing yourself	
chatear con...	chatting with...	
Lo malo es que...	The bad thing is that...	
causan	they cause	
adicción / presión / acoso	addiction / pressure / bullying	
problemas para dormir	problems sleeping	
son una gran distracción	they are a big distraction	

¿Qué puedo hacer? – What can I do?		
Mi problema es que	My problem is that	
me siento / estoy	I feel / I am	
diferente / triste / solo	different / sad / alone	
muy mal	very bad	
no me relaciono con nadie	I don't relate to anyone	
ignora todos mis mensajes	he / she ignores all my messages	
es muy negativo	he / she is very negative	
me peleo mucho con él / ella	I argue with him / her a lot	
siempre me crítica	he / she always criticises me	

Giving advice		
Deberías	You should	
Podrías	You could	
Es importante / necesario	It is important / necessary	
limitar el tiempo en línea	to limit your time online	
organizar actividades	to organise activities	
apoyar a tu familia	to support your family	
explicarles cómo te sientes	to explain to them how you feel	
expresar tus sentimientos	to express your feelings	
hablar con él cara a cara	to talk to him face to face	
crear nuevas rutinas	to create new routines	
quieres que ser fuerte	you have to be strong	

Describing a photo		
En la foto	In the photo	
Hay	There is/are	
Puedo ver	I can see	
Puedes ver	You can see	
A la izquierda	On the left	
A la derecha	On the right	
En el centro	In the centre	
En el fondo	In the background	
En primer plano	In the foreground	
Al lado de	Next to	

Adding more detail to a photocard description		
está ...	he/she is ...	
están ...	they are ...	
sonriendo	smiling	
corriendo	running	
comiendo	eating	
bebiendo	drinking	
chateando	chatting	
jugando	playing	
en un campo	in a field	
en una cocina	in a kitchen	
en un salón	in a lounge	
en la playa	on the beach	
en el cine	in the cinema	

Ser and Estar	
Use the verb estar for talking about location .	
Estoy/Están en el jardín. I am / They are in the garden.	
Use the verb ser when talking about physical description .	
Soy/Es moreno/a. I am / He/She is dark-haired.	

Possessive adjectives		
Most possessive adjectives have two forms, singular and plural		
-In addition, <i>nuestro</i> (our) and <i>vuestro</i> (your, plural) also have masculine and feminine forms:		
<i>Nuestro</i> hermano	Our brother	
<i>Nuestras</i> hermanas	Our sisters	
	Singular	Plural
my	mi	mis
your	tu	tus
his/her/its	su	sus
our	nuestro/a	nuestros/as
your (plural)	vuestro/a	vuestros/as
their	su	sus

Desde hace
To say how long you have been doing something, use desde hace + <u>period of time</u> and the present tense of the verb.
<i>Sigo muchas canales en YouTube desde hace meses / un año.</i> <i>I have been following lots of YouTube channels for months / a year</i>
Notice that seguir is a stem-changing verb in the present tense (<i>sigo, sigues, etc</i>)

Personal 'a'
Use the personal a when the object of the verb is a person.
<i>Admiro a esta persona desde hace mucho tiempo.</i> <i>I have admired this person for a long time.</i>
Do not use it when the object is not a person.
<i>Veo videotutoriales sobre cocina.</i> <i>I watch video tutorials about cooking</i>

Time table

[illegible]