My Knowledge Organiser and Planner

Autumn 2 - 2019

Year 10

Basic *Expectations* *Every Day*

Right Uniform

Right Equipment

On time

No Disruption

Best Effort

College *Day*

8:40 to 9-00	Tutor time
9 to 9:55	Period 1
9-55 to 10:50	Period 2
10-50 to 11:25	BREAK
11-25 to 12-20	Period 3
12-20 to 1-15	Period 4
1:15 to 1-50	LUNCH
1-50 to 2-45	Period 5
2-45 to 3-05	KS3 DEAR time. KS4 and 5 extension /homework

Literacy mat

My work

Can I write in paragraphs?

The **TIPTOP** rule
You move onto a new paragraph when you change time, place, topic or person.

1. I always start an essay with **an introduction** which addresses the question.
2. I finish an essay with **a conclusion** to summarise the main points of my argument and to address the question again.
3. I use **connectives** in each paragraph to link my ideas and to put them in a logical order.

○Furthermore	○But	Meanwhile
○Whereas	○Since	Nonetheless
○Nevertheless	○Yet	However
○Alternatively	○Therefore	Although
○Consequently	○Besides	Moreover

Have I used the correct grammar?

I am aware that I must use language that is appropriate to my reader.

- ❖ No slang *that lesson was ~~bangin'~~*
- ❖ No informal language *I'm ~~gonna~~ do my homework now*

❖Other things to consider:

- ✓ I am clear about the purpose of this piece of writing
- ✓ I know who my audience is
- ✓ I will use a suitable layout and text type

I am proud of my work because...

- I have written clearly so that my reader can understand my writing easily.
- I have checked my **spelling** and corrected any errors.
- I have used full sentences with a subject and a verb.
- I have used correct **punctuation** and **grammar**.
- I have paragraphed my work using **TIPTOP**.
- My writing is suitable for the person I am writing for.

Can I spell familiar words accurately?

Common contractions

We must use an apostrophe to replace any letter(s) we have left out.

11 o'clock	I'd	They're	Who'll
Aren't	I'll	Wasn't	Who's
Can't	I'm	We'd	Why'd
Couldn't	Isn't	We'll	Why'll
Didn't	It'd	We're	Why's
Doesn't	It'll	Weren't	Won't
Don't	It's	What'd	Wouldn't
Hadn't	Mightn't	What'll	You'd
Hasn't	Mustn't	What's	You'll
Haven't	Shan't	When'd	You're
He'd	She'd	When'll	
He'll	She'll	When's	
He's	She's	Where'd	
How'd	Shouldn't	Where'll	
How'll	They'd	Where's	
How's	They'll	Who'd	

Can I use different sentence types?

Simple sentences: contains a subject and a verb and can contain an object

- Sarah likes to read in the library.
- Tom enjoys reading at home.

Compound sentences: joins two simple sentences using the connectives: *for, and, nor, but, or, yet, so.*

- Sarah likes to read in the library but Tom prefers to read at home.

Complex sentences: A complex sentence contains a conjunction such as *because, since, after, although,* or *when* .

- Because Robert felt tired, he only studied for an hour.
- Although the rain had stopped, the pitch was still water-logged.
- Paul enjoys Music, however, he is more proficient in Art.

Homophones

I have checked that I have not mixed up my homophones.

	Meat/meet
Affect/effect	One/won
Bare/bear	Passed/past
Brake/break	Peace/piece
Buy/by	Practice (n)/practise (v)
For/four	Read/red
Flour/flower	Sea/see
Grate/great	Sight/site
Hair/hare	Son/sun
Hole/whole	To/too/two
Hour/our	Wait/weight
Knight/night	Weak/week
Know/no	Wear/where

What traffic light am I?
Is my punctuation accurate?

Literacy mat

Basics:

- Every sentence must start with a capital letter.
- Every sentence must finish with some form of punctuation: .?!
- Proper nouns need capital letters. These are **unique** people, places or things *e.g. there are many cities so 'city' doesn't take a capital letter. However there is only one London, therefore it takes a capital letter.*
- When writing titles of works such as books, films or plays:
  - Capitalise the first word
  - Capitalise any main/important words
  - Don't capitalise minor words such as 'and', 'of' or 'the' *e.g. The Sound of Music, The Wizard of Oz, Harry Potter and the Goblet of Fire*
- When writing speech:
  - ✓Go to a new line when a different person speaks *e.g. "Good morning" said the Headteacher.*
    "It's the afternoon!" replied the student.
  - ✓Each person's speech is marked with speech marks *e.g. "Walk on the left" said Mr Mathews.*

Can I spell accurately?

- Sound out the word
- Think about how it looks
- Think about a similar word
- Is there a memory sentence for this word? (e.g. big elephants cannot always use small exits)
- Find the word in a list –
  - Key words list
  - Frequently used words list
  - Your own word bank
- Look it up in a dictionary/spellchecker
- Ask a friend or teacher
- To learn it: look, cover, write , check
- Once you've solved it, add the correct spelling to your own word bank.

Can I use punctuation?

The Apostrophe

I always aim to use apostrophes correctly.

There are two main reasons why we use apostrophes: for possession and to replace a letter or letters

Note: Apostrophes are NEVER used to denote plurals

Full stop	.	indicates that a sentence has finished
Comma	,	indicates a slight pause in a sentence, separates clauses in a complex sentence and items in a list
Question mark	?	goes at the end of a question
Exclamation mark	!	goes at the end of a dramatic sentence to show surprise or shock
Apostrophe	'	shows that letter(s) have been left out or indicates possession
Speech marks	""	indicate direct speech, the exact words spoken or being quoted
Colon	:	introduces a list, a statement or a quote in a sentence
Semicolon	;	separates two sentences that are related and of equal importance
Dash / hyphen	-	separates extra information from the main clause by holding words apart
Brackets	( )	can be used like dashes, they separate off extra information from the main clause
Ellipsis	...	to show a passage of time, to hook the reader in and create suspense

Apostrophe for Possession

(To show that something belongs to another)

If a single thing/person owns anything, add an apostrophe + 's'.

- The dog's bone
- The boy's homework
- Jones's bakery
- Yesterday's lesson

However, if it is plural (more than one), an apostrophe comes after the 's'.

- The dogs' bones
- The boys' homework
- Joneses' bakeries (lots of Jones families)
- Many websites' content is educational

There/ their/ they're

Note: special care must be taken over the use of **there, their** and **they're** as they sound the same but are used quite differently:

- **There** shows position *Your seat is over there*
- **Their shows that 'they' own something** *Their blazers are navy blue*
- **They're** is short for **they are** as in *They're revising every day*

ITS

Note: its, which shows that something owns something (like our, his etc), does not take an apostrophe: *the dog ate **its** bone and we ate **our** dinner*

Your/ you're

Note: special care must be taken over the use of **your** and **you're** as they sound the same but are used quite differently:

- **Your** is possessive as in *this is your pen*
- **You're** is short for you are as in *you're coming over to my house*

Art and Design – Fine Art Portfolio 2

Proportion – the size of objects/shapes when compared to each other.

Media/medium – the materials and tools used by an artist to create a piece of art.

Technique – the skill in which an artist uses tools and materials to create a piece of art.

Abstract – a piece of art that is not realistic. It uses shapes, colours and textures.

Composition – the arrangement and layout of artwork/objects.

Highlight – the bright or reflective area within a drawing/painting where direct light meets the surface of the object or person.

Shadow, shade, shading – the darker areas within a drawing or painting where there is less light on the object or person.

ASSESSMENT OBJECTIVES

AO1 – Critical Understanding
Develop ideas through investigations, demonstrating critical understanding of sources.

AO2 – Creative Making
Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.

AO3 – Reflective Recording
Record ideas, observations and insights relevant to intentions as work progresses.

AO4 – Personal Presentation
Present a personal and meaningful realises that realises intentions and demonstrates understanding of visual language.

Art studios are open at break time and lunch time daily and are also staffed after College on a Tuesday

You need to think of ways you could use all of the different disciplines we have studied. Fine Art (drawing and/or painting), Mixed media, Photography and Textiles. You **are** allowed to mix these up so you could, for example, choose to use Textiles and 3D in an outcome

Explore Materials:
Water colour paint, Inks, Stencils, Acrylic, Pencil and pen, Fabric, Photoshop, DSLR Camera, Pinhole Camera, Mono printing/collagraph equipment, clay, wax.

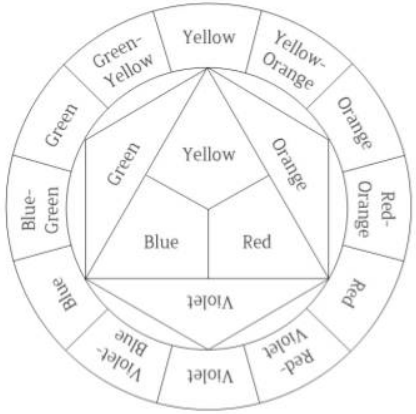
Explore Processes:
Mono printing, Collagraph printing, Paint Techniques, Mark making, Fabric transfer, Mixed media, Collage, Photoshop, DSLR, Pinhole, Paper cut outs, Ceramics, Sun prints, Wax resist.

FORMAL ELEMENTS;
COLOUR, SPACE, LINE, PATTERN, TEXTURE, SHAPE, FORM, TONE

Art and Design – Graphics Portfolio 2

Explore Processes. AO2
Mono Printing, Paint Techniques, Mark making, Observation Photography and studies, Collage, Photo shop, DSLR, Pinhole.

Explore Materials: AO2
Water colour Paint, Inks,, Stencils, Pencil and pen, Photoshop, DSLR Camera, Pinhole Camera, Mono printing equipment, .



Assessment Objectives.

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Develop ideas through investigations, demonstrating critical understanding of sources.

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Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.

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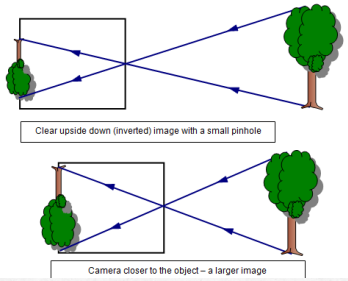
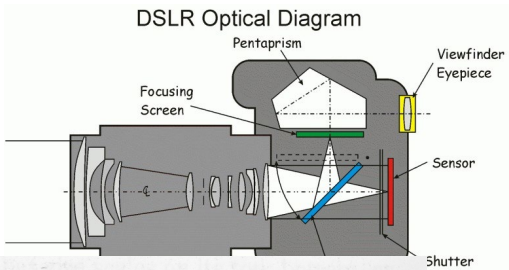
Record ideas, observations and insights relevant to intentions as work progresses.

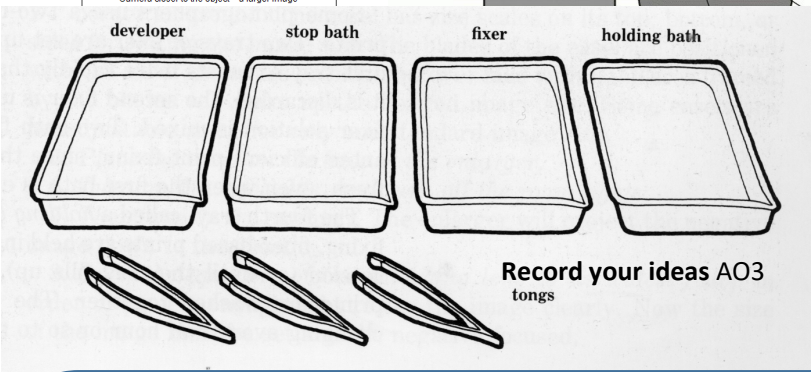
AO4
Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.

FORMAL ELEMENTS;

COLOUR, SPACE, LINE, PATTERN, TEXTURE, SHAPE, FORM, TONE







Record your ideas AO3

Project Outcome: AO4

Produce an Album Cover for an existing band or invent your own. Including Band name, Album name, song list with running times, record label and artwork that reflects the bands music. Extension explore and make potential merchandise: suggestions are; T shirt, Wrist band, Ticket, Flyer, Water bottle.

Components of the Project that need to be evidenced in the Graphic Media Folder.

- ☐ Mind Map of music styles and imagery.
- ☐ Artist Research Davis Carson, Zoe de la Cases, Dan Mountford, Paula Scher.
- ☐ DSLR Photoshoot and Techniques.
- ☐ Album cover analysis X3
- ☐ Design Ideas –layout, key elements.
- ☐ Typography and font styles.
- ☐ Paint techniques
- ☐ Collage
- ☐ Pen and ink techniques
- ☐ Using Photoshop- layering, colour, filter.
- ☐ Plan Outcome
- ☐ Review and refine Outcome x 3
- ☐ Apply details to Merchandise
- ☐ Evaluation

Key Words:

Proportion – the size of objects or shapes when compared to each other.
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Abstract – a piece of art that is not realistic. It uses shapes, colours and textures.
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Highlight – the bright or reflective area within a drawing/painting where direct light meets the surface of the object or person.
Shadow, shade, shading – the darker areas within a drawing or painting where there is less light on the object or person.
Tone: a range from dark to light
Contrasting - Dramatic change from light to dark.
Perspective – a way of making things look near or far.
Scale – the size of an object next to others.

3.3.1 and 3.3.2

What we have already covered:

1. Production Process
   a) Job
   b) Flow
   c) Batch
2. Lean Production
   a) Kaizen
   b) Cell
   c) Just in Time [JIT]
3. Procurement
4. Logistics
5. Exam Questions

REMEMBER: Always think "why" or "how" when explaining any points you have made.

Key Subject Vocabulary

Job Production
A method of creating a single product to meet an individual order.

Flow Production
Using a production line to make goods continuously and in large numbers.

Batch Production
Batch production occurs when many similar items are produced together. Each batch goes through one stage of the production process before moving onto next stage.

Efficiency
Achieving maximum productivity with minimum wasted effort or expense.

Productivity
The amount produced by a worker/machine/factory in a given time; the ability to produce more output with fewer resources.

Procurement
The process of buying goods and services including dealing with: demand, selection of suppliers, analysing and negotiating prices, making the purchase, managing payments.

Logistics
Managing the movement of supplies and products to ensure the timely delivery of supplies to the production process and finished products to customers.

Stock Control
The fact or process of ensuring that appropriate amounts of stock are maintained by a business, so as to be able to meet customer demand without delay while keeping the costs associated with holding stock to a minimum.

Kaizen
A Japanese business philosophy of continuous improvement of working practices, personal efficiency, etc.

Cell Production
This is a form of team work where the entire process of production is split into small groups called cells. Each cell is responsible for a complete unit of work.

Just in Time Production [JIT]
Organising the ordering of raw materials and components to be delivered just before they will be used, reducing the need for storage.

Production Processes

Job

Flow

Batch

Computer Science

KEY VOCABULARY	
Variable	A piece of stored data, used in a computer program, which can be changed or altered by the program
Constant	A piece of stored data which cannot be changed by the program or user
Operator	An operator is a mathematical symbol, used to work with data in a program
Input	Data, entered into a program, by the user
Output	The returned result of an algorithm
Algorithm	A set of instructions to carry out a process or problem-solving operation, especially by a computer
Loop	A piece of repeating code – either condition controlled (WHILE) or count controlled (FOR)
Iteration	A type of **LOOP** which repeats a series of steps with a finite number of variable changes
Selection	IF statement – selecting to do something depending upon the input. A method of controlling the information flow through branching steps – the code checks if something is True, then carries out one set of instructions if it is, and a different set of instructions if it is False.
Sequence	A series of coded instructions for a computer to follow, step by step
String	A character, or characters, stored as a list, within " ".
Integer	A whole numbers, stored as its value
Real	A decimal number, stored as its value
Boolean	True or False. Stored as 1 or 0.

KEY VOCABULARY	
Declaration	Assigning a value to a variable
Casting	Converting variable as integer, Bool, Float or String
Data Arrays	'Lists' of data, stored in an indexable table format

1 D ARRAY:

C	O	D	I	N	G	E	E	K
0	1	2	3	4	5	6	7	8

single row of elements

2D Arrays

A data structure which has more than 1 'row' of data.
2D arrays use 2 indexes to identify data
IMPORTANT!!!
2D arrays use the Y axis first in the co-ordinates, then the X axis. This is the opposite way around to most other co-ordinates!

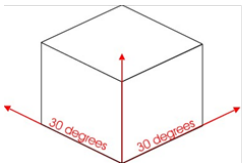
	Column 1	Column 2	Column 3	Column 4
Row 1	a[0][0]	a[0][1]	a[0][2]	a[0][3]
Row 2	a[1][0]	a[1][1]	a[1][2]	a[1][3]
Row 3	a[2][0]	a[2][1]	a[2][2]	a[2][3]

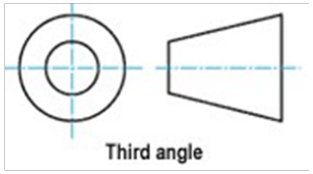
TESTING DATA	
Data Range	The data that will be used to check the code works correctly
Valid Data	Obvious data which should definitely pass
Valid Extreme	Unusual data – the highest and lowest data – on the very edge of what should pass
Invalid Extreme	Data, of correct type, which is on the very edge of what should fail
Invalid Data	Data, of the correct type, that should definitely fail
Erroneous Data	Data that is the wrong type and should fail
Expected Outcome	The data the code should output if it is running correctly

KEY VOCABULARY	
Defensive design	Planning a program from the very beginning to prevent accidental or purposeful misuse
Input sanitization	Removing erroneous data from a system prior to processing
Data validation	Ensuring all data is in the correct format prior to processing
Contingency planning	Having built in checks and outcomes based on what happens when things go wrong
Anticipating misuse	Building programs which do not allow a user to deliberately break the system
Authentication	Having different levels of user, and preventing everyday users from being able to significantly change a system
Maintainability	Building software which is modular to enable sections to be updated and replaced without having to write the whole program again from scratch
Code comments	Annotating code so that the person maintaining or working with your code in the future is able to understand your thought process
Indentation	Making code more readable by laying it out in a manner that keeps sections of code separate
Iterative testing	Step by step testing to ensure that small sections of the code work, before new parts are added and then retested. Important to allow *traceback* to find what caused any errors
Terminal testing	Significant testing done once a program is complete under a range of conditions and on multiple hardware – often called *Alpha Testing*
Beta Testing	Making a small release of the software to a group of tech-literate enthusiasts to broaden the usage-testing and get lots of feedback prior to full release.
syntax error	An error in the typing of the code. Missing punctuation, spacing etc
Test data	Data chosen to test the program. Testers use a specific range of data

Design Technology - Engineering

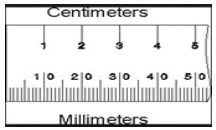
ISOMETRIC





Orthographic Projection is a way of drawing an 3**D object** from different **directions.** Usually a **front, side and plan view** are drawn so that a person looking at the drawing can see all the **important sides.**

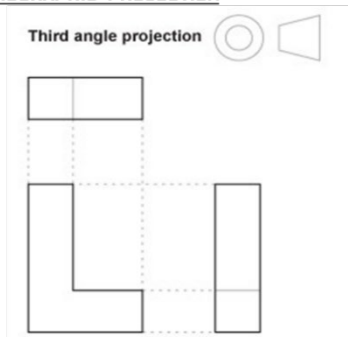
Scale

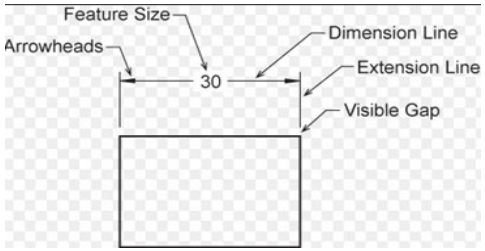


1cm = 10mm

Some objects can be drawn to their actual size. The proportion by which the **drawing** of an object is enlarged or reduced is called the **scale** of the **drawing**.

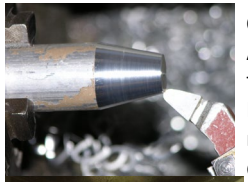
ORTHOGRAPHIC PROJECTION





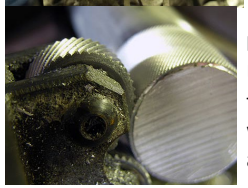
Hidden are used to show surfaces that are not directly visible. All surfaces must be shown in all views. If an edge or surface is blocked from view by another feature, it is drawn using a **hidden** line.

Centre lathe

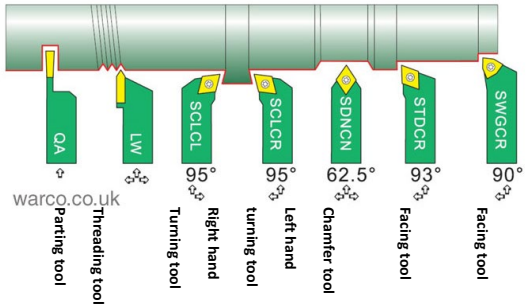


CHAMFERING
A chamfer is an angle or taper applied to a workpiece. It can be achieved by rotating the top slide to the desired angle

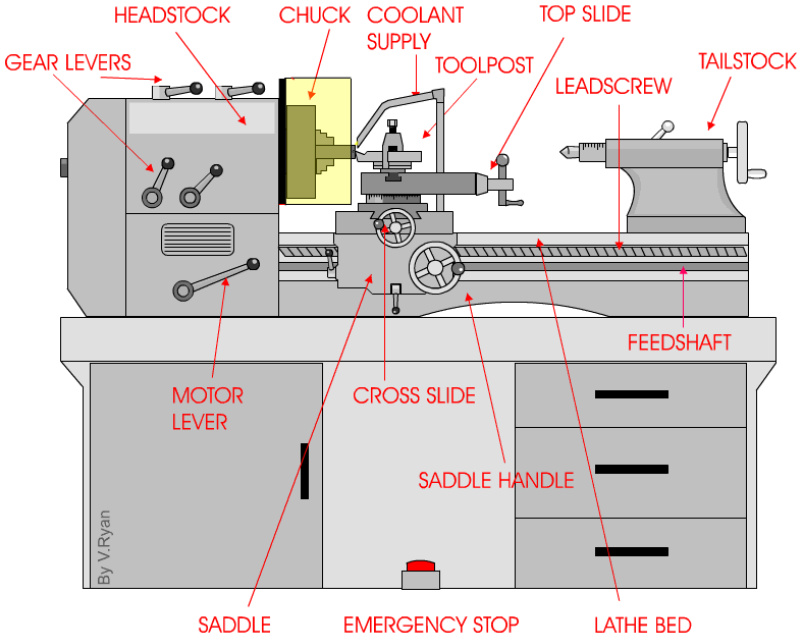
TURNING TOOL
Used on the lathe to turn the length of a metal bar to a specific diameter



KNURLING TOOL
Used on the lathe to apply a textured pattern to a workpiece for grip or aesthetic reasons



The Centre Lathe is used to manufacture cylindrical shapes from a range of materials including; steels and plastics. Many of the components that go together to make an engine work have been manufactured using lathes.



Keywords

Turning - a form of machining, a material removal process, which is used to create rotational parts by cutting away unwanted material.

Brazing - a metal-joining process in which two or more metal items are joined together by melting and flowing a filler metal into the joint

Joining - Welding, Riveting, Bolting, Brazing, Soldering are ways of permanently or non permanently joining materials.

Filing - a tool used to remove fine amounts of material from a workpiece.

Soldering - the process of joining two or more electronic parts together by melting the connection.

Marking out/layout is the process of transferring a design or pattern to a workpiece, as the first step in the manufacturing process.

Cutting is the process in which a **cutting tool** is used to remove small chips of material from the workpiece

Preparing is to clean and remove oil and grease from the surface of metal to aid finishing

Shaping of metal or other materials by removing material to **form the** final shape.

Drilling is a cutting process that uses a *drill* bit to cut a hole of circular cross-section in solid materials

Keywords

Smart Material
A material that changes its properties in response to changes in its environment.

Technical Textiles
Textiles materials and products that are manufactured for their technical and performance properties.

Microencapsulation
Very thin fibres hold chemicals in tiny capsules, which break open releasing the chemicals.

Nomex
A brand name for a fire-resistant fabric made from a type of polymer called meta-aramid. It is used in the production of fire fighters suits.

Kevlar
A material which is incredibly strong, very light and has a tensile strength over eight times greater than that of steel wool. It is used in the production of bullet proof vests and motorcycle safety equipment.

Smart Materials

Thermochromic pigments: These materials change colour at specific temperatures. They are available as plastic, ink, dyes and paint. They can be used for:

⇒ Test strips on batteries
⇒ Thermometer strips for children's heads
⇒ Colour indicators on drinks
⇒ Baby spoons that change colour when food is too hot.

Shape Memory Alloys: Shape-memory alloys (SMA) are metal alloys that can remember their shape when heated. These alloys have been utilised on spectacle frames that spring back to shape if they are squashed.
Nickel titanium (nitinol) is a type of SMA, and it contracts when heated, whereas most metals expand. When braces are made from nitinol, they heat up in the mouth and 'pull' on the teeth, so they move with the nitinol.

Photochromic Pigments: change their properties when exposed to ultraviolet (UV) light. A well-known example would be glasses where the lenses are clear when worn inside a building, but become more like sunglasses when exposed to bright sunlight outside. The same technology has been used in windows to prevent rooms from getting too hot in warm weather.

Technical Textiles

Conductive Fabrics: These fabrics either have conductive fibres woven into them or conductive powders impregnated into them. These are often called electronic textiles or e-textiles.
Conductive materials have been built in to competitors jackets for fencing contests to help with scoring systems.

Fire-resistant Fabrics: Fire-resistant fabrics have multiple uses. Not only are they used for items that are often exposed to flames, such as fire fighters suits, but also for items such as children's nightwear and cotton/viscose furnishings. Such items must be given a flame resistant finish by law.

Gore-Tex: This material has been designed to be waterproof yet breathable. It is used in clothing to provide a waterproof product that also releases perspiration vapour, and is therefore more comfortable to wear than traditional waterproof materials.

Microfibres: A very thin synthetic fibre which is often used for outdoor clothing and sportswear because they are breathable, durable, crease resistant and easy to care for. Some microfibers incorporate microencapsulation, this means the very thin fibres hold chemicals in tiny capsules. These capsules gradually break releasing chemicals, like perfumes, insecticides and antiseptics.

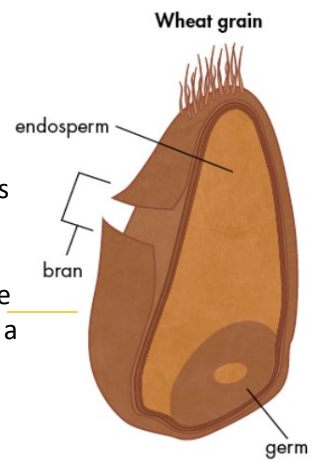
Design Technology – Food: Preparation and Nutrition

Key Vocabulary

Cereals	Cultivated grasses. The grains of these grasses are used as the food source. Once of the most important cereals is wheat
Primary Processing	Changing the raw food material into food that can be either eaten immediately or processed into other types of food products.
Fortified	Vitamins and minerals have been added to foods (for example calcium is added to flour
Fibre	The nutrient found in the cell walls of cereal grains. It is needed for the digestive system to remain healthy and function properly.
Gluten	Formed when water is added to flour and mixed.

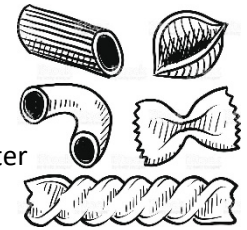
Cereals

Examples of cereals include Wheat, Rice, Oats, Maize and Barley.
Cereals are often referred to as staple foods. Staple foods form a large part of the diet and are usually starchy foods that grow well and can be stored for consumption throughout the year.
Wheat is the main staple crop in the UK. Wheat is used in food production, primarily flour, bread, biscuits, cake, pastry, pizza and breakfast cereals.
Cereals are a good source of starchy carbohydrate and protein. Fat is also found in whole grain as is a range of B vitamins and vitamin E. Fibre is also present in the bran.
Grains are an essential element in a healthy diet and eating high-fibre whole grains may help to reduce the risk of heart disease and type 2 diabetes and control blood cholesterol.



Pasta

Available fresh or dried. Dried pasta has a firmer, more solid texture when cooked. It is excellent for chunky vegetable and meat sauces such as Bolognese. Fresh pasta has a softer texture and will absorb the flavours of the sauce it is served with such as ravioli.
Pasta is made from 00 flour. This type of flour is made from durum wheat. Durum Wheat has a higher protein content that other wheat varieties. It produces a grainy, yellow coloured semolina on milling. Durum wheat makes a good quality pasta because it requires less water to make the dough, making it easier to dry the pasta.

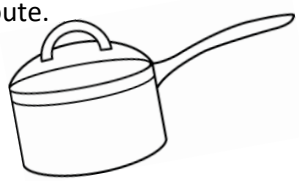


Rice

Short grain rice - Rounded grains, which tend to stick together and are used for sweet dishes such as rice pudding.
Long grain rice - The most popular rice as it has many uses. An accompaniment to dishes such as chilli and as an alternative to pasta or potatoes.
Arborio rice - Round grain used to make risotto
Brown rice - Available as short grain and long grain rice. Takes longer to cook because it contains the bran. Healthier than other types of rice but can be used in the same way

Sauce Making

Sauces are added to food to provide flavour, texture and colour. It binds ingredients together and makes some dishes look more appetising.
Starch is the main food source of plants. Made up of glucose molecules it is particularly useful at thickening mixtures.
When liquids and starch are mixed together and heated the mixture will thicken. This process is called **gelatinisation**.
Types of sauces commonly used include:
Roux and all-in-one or infused sauces such as béchamel and veloute.
Blended sauces such as custard or cornflour sauce.
Reduction sauces such as tomato, a jus or gravy.
Emulsion such as mayonnaise, hollandaise or salad dressing.



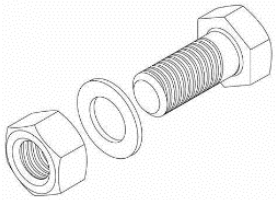
Design Technology - Workshop: Metal Candle Holder

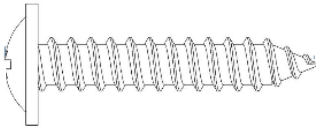
Key Vocabulary

Centre Punch	Tool used for denting metal and marking drill holes
Scriber	Sharp point used to scratch lines on metal
Engineers Blue	Dye used to help mark out metal
Ball pein hammer	Metal workers hammer with flat and ball ends
Dividers	Adjustable tool with 2 points for measuring and marking
Notcher	Guillotine used to cut metal removing a square "notch"
File	Used to remove metal and plastic
Emery Cloth	"Sandpaper" for metal
Engineers Square	Try square for metal
Hacksaw	Fine toothed saw for cutting metal
Tap / tap wrench	Used to cut an internal thread in a hole
Tapping grease	Grease used to help cut a thread and avoid tool wear
Centre lathe	Metal workers' lathe
Parting off (tool)	A tool used in a lathe for cutting off pieces from the main body of stock being worked on.
Brazing	Method of melting brass to form a joint in steel
Flux	Compound used to prevent oxidisation when brazing
Borax	The type of flux used when brazing steel
Oxidisation	Impurities forming on the surface of metal, often as a result of exposure to heat, water or other chemicals.
Brass	An alloy of copper and zinc. Also used for brazing
Quench	Rapid cooling of metal in water
Mild Steel	Also known as **Low Carbon Steel**. Most common form of steel used for cars, construction and many other uses
Ferrous / Non Ferrous	Metal containing / not containing Iron.
Sand casting	The process of melting metal and pouring it into a sand mould
Aluminium	A soft, light weight material with a low melting point
Welding	The fusing of metals together using heat or chemicals
Spot Welder	Machine that passes a low voltage through metal causing local heat and fusing similar types of metal together.
Cope	The top section of a casting box
Drag	The bottom section of a casting box
Runner/ riser	Where molten aluminium enters / exists a casting box
PPE	Personal Protective equipment; goggles, mask, etc.

Permeant and Non Permeant Joints in Metal

Metal can be joined in a number of permeant and non permanent ways.
A **non permanent** method of joining is a method that can be taken apart. This is particularly useful for maintenance as it means that parts that are broken or worn out can be replaced..
Non permanent methods of joining metal involve use of nuts, bolts and self tapping screws.

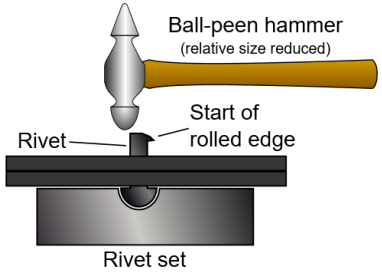


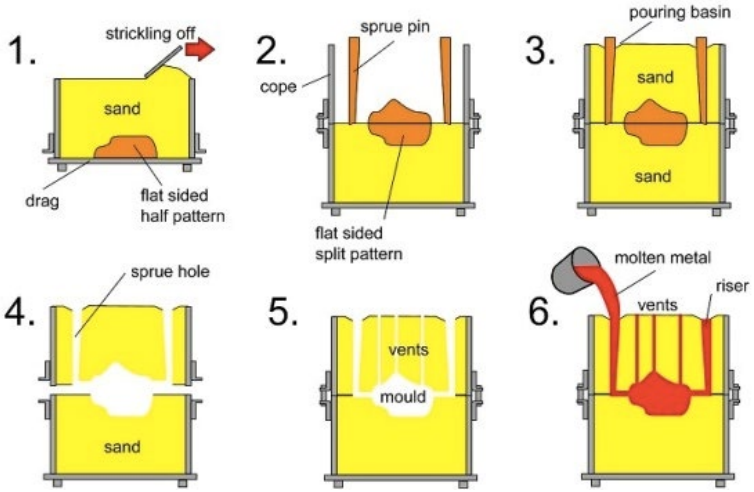


Permanent methods of jointing include **soldering, riveting, welding** and **brazing**. To disassemble a permanent joint it is likely to involve cutting the joint or otherwise damaging the components. Metals are often **welded** together using an electric spark or arc. This generates high levels of heat, fusing the metals together. **Brazing** or **soldering** involves melting a different metal of a lower melting temperature around the joint. This bonds to the parts and creates the joint. Brazing and soldering are not as strong as welding.

Nuts and bolts *(top)* allow items to be easily disassembled without damaging components. Self tapping screws *(above)* can cut their own thread in soft materials

When **riveting**, holes are drilled through the metal and a metal rivet is fitted into these. The rivet is then hammered flat creating a dome of metal and closing the joint





Casting

When **casting**, a **pattern**, often made from wood is packed in a box filled with sand. Once sand has been compacted, the pattern is removed. **Molten aluminium** is poured into the void via a **sprue hole** or **runner** and takes up shape. When cooled, the mould can be taken apart, sand re used . The **runner** and **riser** need to be removed and the casting cleaned up

Drama – An Inspector Calls

Year 10 - An Inspector Calls Plot

ACT 1: The Birlings are celebrating the upcoming marriage of Sheila Birling to Gerald Croft.

An Inspector arrives claiming that a young woman called Eva Smith has just committed suicide.

Eva was employed by Mr Birling and was fired unfairly. She was then taken on by a shop, Millwards, where Sheila used her influence and got Eva fired too.

Sheila feels terrible remorse.

ACT 2: Gerald admits that he used Eva as a mistress and leaves upset.

Mrs Birling was also involved by refusing to give Eva (now pregnant), any money when she came to beg for charity. Mrs Birling is adamant that the father of the child take responsibility. This turns out to be her son, Eric, and she is seen as a hypocrite.

ACT 3: Eric admits that he is the father of Eva's child. He feels terrible for what he has done. The Inspector leaves and they are all shocked. Gerald returns and informs the Birlings that there is no Inspector Goole working at the local police station.

A phone call confirms this. However, the final lines in the play state that a girl has just died and they are all to be interviewed by an inspector.

Mr Arthur Birling: the head of a family, and is arguably the main subject of Priestley's social critique. Dominant, arrogant, self-centred and morally blind, he is insistent throughout about his lack of responsibility for Eva/Daisy's death.

Sheila Birling: accepts responsibility for their part in Eva/Daisy's death and becomes more rebellious toward her parents, supporting her brother against them and assisting Goole in his interrogations. By the end of the play, she represents the younger generation's protests against the morality of the older generation and seems the most responsive to Goole's Socialist views about moral responsibility towards others.

Edna: Has limited contribution in the play; however she is the only person in the play whot can provide an insight into the life of Eva Smith/Daisy Renton, a character to whom Edna has a similar background (working class). It is she who opens the door to allow the Inspector into the Birlings' lives, although she is often taken for granted and treated somewhat despicably at times, as if she is not actually there.

Gerald Croft: The son of Sir George Croft and a member of the aristocracy, a competitor of Birling and Company. He is celebrating his recent engagement to Sheila Birling. Gerald is revealed to have secretly known Eva/Daisy and installed her as his mistress, becoming "the most important person in her life", before ending the relationship. He is shown as cowardly and thoughtless for taking advantage of a vulnerable woman.

Sybil Birling: Sybil Birling is the wife of Arthur and mother of Sheila and Eric Birling. She is her husband's social superior and is keen to show him the correct etiquette. As the leader of a women's charitable organisation, she assumes a social and moral superiority over Inspector Goole, whose questioning style she frequently refers to as, "impertinent" and "offensive". Like her husband, she refuses to accept responsibility for the death of Eva Smith/Daisy Renton. She is described as a snob who doesn't care about working class people, only respecting the people of her class.

Eric Birling: Eric Birling is the son of Arthur Birling and Sybil Birling. Eric is revealed to have made Eva Smith pregnant as well as stolen some money from his father's business to support Eva. When the Inspector is revealed to be a fake, he and Sheila are the only two who still feel guilty over Eva's death. By the end of the story he seems to have learned his lesson and feels as guilty as Sheila does for his part in Eva Smith's death.

The Inspector: A mysterious interrogator who introduces himself as, "Inspector Goole" (as in "ghoul"), claiming that he has seen the dead body of Eva/Daisy earlier that day after her slow and painful suicide by swallowing disinfectant, and that he has "a duty" to investigate the Birlings' responsibility for her death.

Eva Smith/Daisy Renton: the unseen working class woman who Goole claims has committed suicide whilst pregnant with Eric's baby, and has been mistreated by each of the Birling family.

Themes:

- Responsibility
- War bringing its own form of socialism
- Class
- Gender and women
- Age
- Rights of workers
- Poverty and wealth
- Individual vs State
- Time
- Honesty and truth
- Poverty and wealth
- Hypocrisy and double standards
- Prejudice

Vocabulary

altruistic
conscience
domineer
gluttonous
hypocritical
impoverish
influential
penitent
portentous
prejudice
scruple
wrath

Context

AIC is set in 1912, a time of immense inequality and there were no rights for workers, such as Eva Smith

The play was first performed in 1945, just after a sweeping Labour election victory.

The Labour victory used the Beveridge Report as its core message for a better world post WW2, "everyone regardless of class should be looked after by the state from the cradle to the grave".

The Beveridge Report called for a Nationalised Health Service, benefits for those poor who needed it and good housing for all as a basis for a moral society.

Priestley's play was a call to his audience to believe in this new society as a better way to protect the poor and vulnerable.

English – AQA English Language: Paper 1 - Question 5

[Purpose and audience explained]
Either
Write a description, as suggested by this picture
Or
Write a story with the title '_____'.
(24 marks for content and organisation
16 marks for technical accuracy) - [40 marks]

Q5 (45 mins, 24 + 16 marks):
This is the **WRITING** section and you will usually be given a choice of **TWO tasks. Complete only ONE.**
One task is normally **writing to describe** and the other **writing to narrate**. They usually provide a picture to help inspire you.
Make sure you focus on your organisation, structure, sentence structures, vocabulary, techniques, SPAG, paragraphs and a sense of audience.
No matter what the task, it does not matter if it is description or narrative – they are interested in the quality of writing!

Flows from one idea to the next
Engaging opening to the writing.
Powerful finish to the writing.
A carefully chosen and crafted order of ideas including within paragraphs and sentences.
Use of discourse markers/connectives to link complex ideas.

Structure

Paragraphs are linked together and in an order that engages the reader and makes their argument easy to follow.
Paragraphs allow the structure of the piece to come through to the reader easily.

Paragraphs

Complex, detailed ideas with specific examples used to develop them and make them relevant for the reader.
Wide-ranging ideas that cover multiple areas within an argument and avoids repetition.

Ideas

You sound confident in the way you write
The writing is engaging and genuinely interesting for the reader.
The writing has a distinctive voice that flows and feels natural not robotic.

Communication

Really impressive vocabulary choices chosen for effect
The choice of vocabulary makes the writing interesting and engaging for the reader.

Vocabulary

The tone (sound of writing) is confident and changes dependent on the idea.
The pace (speed) of the writing changes depending on the point being made.

Tone, style, register

Varying Sentence Openers:

There are many ways of opening sentences besides just repeating 'I' or 'The'. Remember the acronym 'iSpaced' to get all of these sentence openers into your head:

-ing sentence openers
Considering his future, he went to the Careers Advisor
During the evening, it snowed heavily.
Shouting, she ran away from the ghost.

Simile sentence openers
As fast as a cheetah, he made his escape.
Like a fish in the sea, she swam across the water.

Preposition sentence openers
At the end of the evening, they returned home.
Through the streets of Birmingham, there are thousands of shops.
Inside the cupboard, it was dark and scary.

Adverbial sentence openers
Quickly, he packed his bag for school.
Silently, she read the book in the Library.
Surprisingly, no one was in the classroom.

Connective sentence openers
Although you worked hard today, it wasn't quite enough for a merit.
However, I will say well done for your effort.
Despite his disappointment, the student kept smiling.

-ed sentence openers
Disguised in her costume, she was a hit at Halloween
Shocked by the score, the football team gave up.
Challenged to a staring contest, the student reluctantly agreed.

Dialogue sentence openers
"You can start a sentence with dialogue!" shouted the teacher.
"That is amazing," said the student, "I didn't realise that!"

Here are some different structural features you could use in your own writing
Zooming in from something big to something much smaller (and vice versa).
Shifting between different times and places (you may notice this between paragraphs).
Sudden or gradual introduction of new characters at significant points.
Moving from inside to the wider world outside (and vice versa).
Combining external actions with internal thoughts.
Switching between different points of view.
Developing and reiterating (focusing on a point of view by expanding and repeating it)
Cyclical structure (returning at the end to what happened at the beginning)
Positioning of key sentences and their impact on the whole text.

Colours

Blue : Cobalt – Navy – Azure – Denim - Berry
Red : Cherry - Rose – Jam – Merlot – Crimson - Ruby
Yellow : Tan – Beige – Marigold – Eggnog - Mustard – Pinea - Flaxen
Green : Juniper – Sage – Emerald – Grassy
Black : Ebony – Raven – Oily – Leather - Midnight
Purple : Violet – Lavender – Amethyst – Lilac -Plum
Orange : Tiger – Tangerine – Apricot - Sandstone – Squash – Marmalade – Carrot - Amber – Ginger - Clay

Emotions

Dark
Sinister
Corrupt
Malevolent
Poisonous
Apocalyptic
Ominous
Portentous

Lonely
Isolated
Abandoned
Forsaken
Outcast
Secluded
Estranged
Deserted

Angry
Incensed
Vicious
Violent
Furious
Irate
Maddened
Livid

Fearful
Intimidated
Aghast
Perturbed
Skittish
Agitated
Nervous
Disquieted

Joyful
Elated
Delighted
Rapturous
Jubilant
Upbeat
Light-hearted
Ecstatic

Sad
Melancholic
Morose
Desolate
Despondent
Crestfallen
Downcast
Dejected

We can use the acronym ToPTiPs to help us remember where to put new paragraphs:
1) ***New Topic*: Whenever you start a new topic, add in a new paragraph.**
2) ***New Person*: Whenever you talk about a new person or have a new person talking, add in a new paragraph.**
3) ***New Time:* Whenever you change the time in your writing (so back to the past or move forwards to the future), you put a new paragraph in.**
4) ***New Place:* Whenever you switch places in a piece of writing, you add in a new paragraph.**

Remember that you can use paragraphs for emphasis and effect as well. If you put a one sentence paragraph in the middle of your writing, how will that affect the reader? If you put a really descriptive paragraph at the start and shorter action-packed sentences afterwards, how will that make the reader feel? Why? Experiment with your paragraphing as you practice for the exam.

Spelling, Punctuation and Grammar . , ; : ! " " - … ( ) ?

Unfortunately there isn't a quick fix for SPAG – it's something you work on over years and years. However, I've stuck this box here to remind you to spend time in the exam reflecting on SPAG and making sure that you've **proof read** your work having written it (you won't believe the number of students that sit in the exam room *like a lemon* doing nothing but staring into space. Why? Use every second of the exam time wisely! You get one shot! As for punctuation, you want to show off all the different types of punctuation you know about – not just commas and full stops but semicolons, dashes, hyphens, speech punctuation and so on. If you know how to use them… use them! You'll notice I used a few different types here; I'm not showing off I just want you to see punctuation can be used – for effect. Don't fall into the trap of adding in 45 semicolons because you think that'll impress the examiner. Use high level punctuation occasionally but to have an impact, not just for the sake of it. . , ; : ! " " - … ( ) ?

Geography – Urban Change

Urban Change in a Major UK City: Plymouth Case Study

Location and Background

Plymouth is a city in Devon in the South West of England. The estimated population of the city is 264 000, making it the thirtieth largest in the UK. The city grew due to it's maritime industry.

City's Importance

- The city enjoys a large sporting heritage with famous athletes and football clubs.
- Plymouth's Devonport Dockyard is the most extensive naval base in western Europe
- The University of Plymouth has over 3000 students from over 100 different countries
- Plymouth has a wide variety of higher education institutions including specialisms in Art, Medicine and Engineering

Migration to Plymouth

Migration to Plymouth has increased during the last 10 years, mainly from migration outside the UK, most commonly from newly admitted EU countries.

Plymouth is becoming more diverse, with particular areas of higher diversity being around the university, city centre, Stonehouse and the East End.

Plymouth's black and ethnic minority communities are very diverse. Polish, Chinese and Kurdish communities are amongst the largest. Nearly 100 different languages are spoken in Plymouth schools.

City's Opportunities

Social: There are a range of attractions for it's population including the Life Centre, National Marine Aquarium and sites of historic and cultural interest.

Economic: Plymouth has an economic output of over £5.2 billion and provides jobs to over 108 000. It is the most significant economic centre in the southwest peninsula.

Environmental: Plymouth is enclosed by Plymouth Sound and Dartmoor. It has an abundance of green spaces and marine areas. Over 40% of Plymouth is designated greenspace and a European Marine site.

City Challenges

Social: The proportion of residents in Plymouth experiencing deprivation due to low income has increased. Property prices have increased.

Economic: UOP has made over 100 redundancies. Barden Factory closed in 2018, making 350 people unemployed. Many retail units in the CBD are empty due to closures.

Environmental: Urban sprawl has led to increased pressure and decline of greenfield sites around the city.

Millbay and Stonehouse Regeneration Projects

Aims:'To develop Millbay and Stonehouse as an attractive mixed-use neighbourhood that maximises its rich heritage, using the redevelopment sites around the water as a catalyst to further regeneration throughout the area. This will lead to the creation of a unique high quality environment attractive to investors and new residents and improving the quality of life of the existing residents'.

Urban Change in a Major NEE City: RIO DE JANEIRO Case Study

Location and Background

Rio is a coastal city situated in the South East region of Brazil within the continent of South America. It is the second most populated city in the country (6.5 million) after Sao Paulo.

City's Importance

- Has the second largest GDP in Brazil It is headquarters to many of Brazil's main companies, particularly with Oil and Gas.
- Sugar Loaf mountain is one of the seven wonders of the world.
- One of the most visited places in the Southern Hemisphere.
- Hosted the 2014 World Cup and 2016 Summer Olympics.

Migration to Rio De Janeiro

The city began when Portuguese settlers with slaves arrived in 1502. Since then, Rio has become home to various ethnic groups.

However, more recently, millions of people have migrated from rural areas that have suffered from drought, lack of services and unemployment to Rio. People do this to search for a better quality of life.

This expanding population has resulted in the rapid urbanisation of Rio de Janeiro.

City's Opportunities

Social: Standards of living are gradually improving. The Rio Carnival is an important cultural event for traditional dancing and music.

Economic: Rio has one of the highest incomes per person in the country. The city has various types of employment including oil, retail and manufacturing.

Environmental: The hosting of the major sporting events encouraged more investment in sewage works and public transport systems.

City Challenges

Social: There is a severe shortage of housing, schools and healthcare centres available. Large scale social inequality, is creating tensions between the rich and poor.

Economic: The rise of informal jobs with low pay and no tax contributions. There is high employment in shanty towns called Favelas

Environmental: Shanty towns called Favelas are established around the city, typically on unfavourable land, such as hills.

Self-help schemes - Rocinha, Bairro Project

- The authorities have provided basic materials to improve peoples homes with safe electricity and sewage pipes.
- Government has demolished houses and created new estates.
- Community policing has been established, along with a tougher stance on gangs with military backed police.
- Greater investment in new road and rail network to reduce pollution and increase connections between rich and poor areas.

Health and Social Care – LO1: Assessing Scenes of Danger and Identifying Risks

LO1: Assessing Scenes of Danger and Identifying Risks

In an emergency, acting **calmly** and **quickly** is essential.

There are 4 main steps:

- Assess the situation
- Make the area safe
- Give emergency aid
- Get help

Keywords

First Aid - Urgent treatment given to an individual who has suffered a sudden injury or an unexpected health problem.

Casualty - Someone who has suffered an injury.

Risk - Something that could cause harm to individuals.

Providing key information to the emergency services:

- Location
- Telephone number
- Name of person calling
- Type of emergency
- Condition of casualty/details of injury
- Hazards
- Name of casualty

STEP 1: Assessing the Scene- Before approaching the casualty, look around the scene of the incident. Quickly checking for danger to the casualty or others.

STEP 2: Make the Area Safe - Quickly remove any hazards that you can - without injuring yourself. Look for things such as moving sharp objects away.

STEP 3: Give Emergency Aid - If there is more than one casualty - treat the one with the most severe injuries first. Check whether they are **conscious**, **breathing** and have a **pulse.**

STEP 4: Get Help! Calling 999 in a medical emergency is essentially what you do here. Medical emergencies include; heart attacks, strokes or head injuries.

Consent, Communication and Additional Support.

Consent means that permission is given for something to happen. **Informed Consent** is when a person is given information about what they are giving their consent for. **Communicating Effectively** is vital when giving first aid as this allows the casualty to understand what is happening and reassures them. **Additional Support** is getting extra help in the form of an extra pair of hands if there are helpful passers by or calling for the emergency services.

The purpose of administering first aid is obvious. There are **three** main aims though:

- **Preserve life** - your own, the casualty's and bystanders'
- **Prevent deterioration** - stop the casualty getting worse
- **Promote recovery -** help them to get better

ABC Check

A= Airway

Check for obstructions in the throat or in the mouth that are stopping breathing.

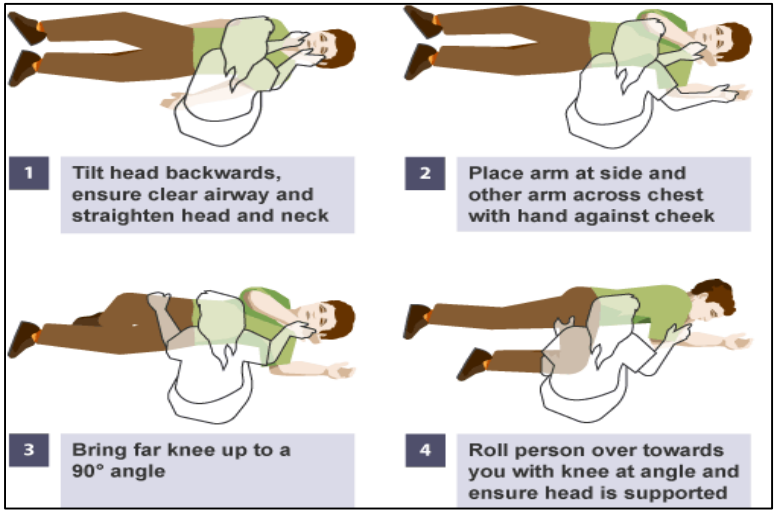
B = Breathing

Look for chest movements and listen for breathing sounds. If the casualty is breathing, place them in the **recovery position**.

C = Circulation

Check for a pulse. You can check for this at the wrist or neck. If no pulse is detected, start **CPR.**

The Recovery Position



LO2: First Aid Procedures

6 injuries to get to know!

- Shock
- Bleeding
- Burns/Scalds
- Choking
- Asthma Attack
- Conscious/ Unconscious/ Breathing/Not-breathing.

What you need to know…

- Symptoms
- Causes
- Severity
- Sequence of First Aid steps
- Rationale (what's the aim?)

History - Germany in Transition, 1919 – 1939: Impact of the First World War

Definition of Era: Inter-war period between WWI (1914-1918) and WWII (1939-1945)

KPI 1 The Weimar Republic: Met for the first time in January 1919, in the town of Weimar. Germany became a republic after the Kaiser abdicated and fled. The provisional government made an agreement. It lasted from 1919-1933, led by two presidents, Ebert then Paul von Hindenburg.

KPI 2 Political Instability: Weimar hated by communists, socialists, nationalists and army leaders. Faced constant threats from the right and left of politics.

Timeline dates	Timelines description
9th November 1918	Kaiser abdicated.
11th November 1918	Armistice signed.
December 1918	Spartacists demonstrated against the government.
Early 1919	Spartacists attempted to overthrow the government. Kapp Putsch.
March 1919	Treaty of Versailles signed.
28th June 1919	French occupied the Ruhr.
January 1923	German government ordered passive resistance and printed money. Hyperinflation followed. Munich Putsch.
November 1923	Wall Street Crash
October 1929	

KPI 3 The weaknesses of the Weimar Republic:
Germany lost WW1 in 1918
The Weimar Republic – a democratic government was formed. One of their first acts was to sign the Treaty of Versailles in November. The German people hated the Treaty and called the Weimar politicians the **November Criminals.** The treaty, among other things lost Germany 13% of its land and committed them to pay $6.6 billion in reparations.
Weakness of the government: Parties won seats in the Reichstag (Parliament) depending on the proportion of the vote they got. This is called Proportional Representation. No one party is in complete control, many parties share control. This means that it is very difficult to agree and get things done.

KPI 4 Nazis in the 1920s:
The Nazi party were only a small party before the Wall Street Crash. After the failure in the 1923 Munich Putsch, Hitler knew that he needed to change tack if he was going to get popular support. This is what he did to broaden the party's appeal in the 1920s:
-Decided that he would come to power through the **ballot not the bullet**: i.e. the Nazi Party would be voted in, not seize power through rebellion.
-Put more emphasis on propaganda. Goebbels was put in charge of this –public meetings, posters, etc. Their members were trained in public speaking so that they could spread the word.
-Appealed to working class voters with anti-Semitism (hatred of Jews)
-Appealed to middle class voters with anti-communism and a tough stance on trade unions
Appealed to women and farmers by telling them they would be valued in a new Nazi Germany
- Appealed to the old, land owning classes by promising to get rid of the Treaty of Versailles, returning Germany to its former greatness.
-**Did it work?** To some extent, yes. Their membership statistics doubled in the 1920s BUT they still didn't do very well in elections (only 12 seats in 1928) until the Wall Street Crash boosted their support dramatically (107 seats in 1930!)

Keywords and concepts	Definition
Abdicate	Monarch or Emperor quits the throne.
Armistice	The ending of hostilities in a war.
Hyperinflation	Extremely high inflation, where the value of money plummets and becomes almost worthless.
Reparations	War damages to be paid by Germany.

KPI 5 The Impact of the Treaty of Versailles (28 June 1919)
Most Germans were horrified, embarrassed and angered by the terms of the treaty which contained 440 clauses including :–

- **L**and : Territorial terms- lost 13% of land, 6 million citizens, Germany was forbidden to unite with Austria. Saarland administered by the League of Nations.
- **A**rmy: Military terms- army limited to 100,000 men, forbidden to possess any tanks, heavy guns or aircraft. Only allowed ships below 10,000 tons; the Rhineland was demilitarised.
- **M**oney: Financial terms- £6,600 million reparations bill to be paid in instalments.

Blame: Political terms- Germany forbidden to join League of Nations, had to accept blame for war.

KPI 6 The Munich Putsch: November 1923, Hitler and 600 Nazis burst into a meeting. At gunpoint, Chief minister Von Kahr and army chief Von Lossow agreed to take over the Berlin government. The police and army were notified. There was a clash with the National Socialists whereby 16 Nazis and 4 policemen died.

French

Opinion guru

j'adore
j'aime beaucoup
je préfère
j'apprécie
j'admire
je suis fan de
je raffole de
ça me plait

j'ai horreur de
je ne supporte pas
je hais
je déteste
je méprise
j'abhorre
ça m'énerve

in my opinion
à mon avis
selon moi
d'après moi
quant à moi
pour ma part

Object pronoun ninja

ça me rend + adjective – it makes me (sad/happy…)
ça me donne envie de + inf – it makes me feel like
ça me fait + inf – it makes me (laugh/cry…)
ça m'amuse – I find it fun
ça m'intéresse – it interests me
ça me plaît/ça m'a plu – I like/d it
ça m'ennuie – it bores me
ça m'énerve – it makes me angry
ça me saoule – it annoys me (colloquial)
ça m'est égal – I don't mind

ÇA M'ÉNERVE !

Frequency pro

toujours – always/still
souvent – often
quelquefois – sometimes
de temps en temps – from time to time
rarement – rarely
jamais – never
le matin – in the morning
une fois (par an) – once (a year)
encore – again

Infinitive master

ça me donne envie de – it makes me feel like
je suis en train de – I'm in the process of
je suis sur le point de – I'm about to
je viens de – I have just…
pour, afin de – in order to
il faut – it's necessary to
avant de – before (doing)
je dois – I must
je peux – I can
je sais – I know how to

après + *past inf.* – *after doing*
après avoir mangé, après être allé…

SLG link to grammatical and precise vocab content

Scan me

What?

ce que j(e n)'aime (pas), c'est…
ce qui (ne) me plaît (pas), c'est…
– what I (dis)like is…
ce qui me préoccupe, c'est…
ce qui m'inquiète, c'est…
– what worries me is…
ce qui est important pour moi c'est…
– what's important to me is…
ce qui me rend heureux, c'est…
– what makes me happy is…
je pense/crois/estime que – I think that
je trouve ça, je le/la/les trouve – I find it/him/her
en ce qui me concerne – as far as I'm concerned

Linking expert

de plus – furthermore
ensuite – after
puis – then
pourtant – yet
d'autre part – on the other hand
cependant – however
par contre – on the contrary
alors que – whereas
néanmoins - nonetheless
parce que/car – because
alors/donc/ainsi – so
surtout – mostly
en particulier – especially
cela dit – that being said
soit… soit… – either… or…
d'ailleurs – by the way
par conséquent – as a result
autrement dit – in other words
(tout) d'abord – firstly
deuxièmement – secondly
pour conclure – to conclude
en fin de compte – in the end

Idiomatic genius

revenons à nos moutons – back to the topic
il me casse les pieds – he annoys me
j'ai ri jaune – I had a forced laugh
il fait un temps de chien – the weather's bad
je ne baisserai pas les bras – I won't give up
j'y vais de bon cœur – I'm happy to go there
ça a fait un tabac/carton – it was a big success
ça me casse les oreilles – it hurts my ears
j'ai le cafard – I feel down
il en a fait tout un fromage – he made a fuss
c'est le pied ! – it's awesome!
chapeau ! – well done!

Conditional hero

je voudrais y aller – I'd like to go
si j'étais riche, j'irais – if Iwere rich I'd go
si j'avais le choix, je ferais – if I had the choice I'd do
si j'avais su, je ne serais pas venu – if I'd known, I wouldn't have come
j'aurais voulu – I would have liked
j'aurais dû faire – I should have done

j'ai…
…**quinze ans**- I'm 15
…**froid/chaud** - cold/hot
…**faim/soif** - hungry/thirsty
…**raison/tort** - right/wrong
…**envie de**… - I fancy…
…**de la chance** - I'm lucky
…**peur de** - I'm afraid of
…**honte de** - ashamed of
…**besoin de** - I need

Subjunctive jedi

il faut que tu saches – you need to know
pour que ça aille mieux – in order to make it better
bien que je sois jeune – although I'm young
je veux que tu prennes ça – I want you to take this
je ne crois pas que ce soit vrai – I don't think it's true
je suis triste qu'il ne puisse pas venir – I'm sad he can't come
que ça te plaise ou non – whether you like it or not
avant que tu ne viennes – before you arrive
le plus cher que j'aie jamais vu – the most expensive I've seen

Languages – Spanish: school

¿Eres buen alumno? Por un lado sí por otro lado no, siempre hago los deberes, pero de vez en cuando…..
¿Cómo es tu colegio? Es un insti mixto, estatal y bastante …… Lo mejor es que….. pero lo malo es…….
¿Cómo era tu escuela primaria? Cuando era pequeño me gustaba … Había ….
¿Qué piensas de tus asignaturas? Me alegran las matemáticas aunque son…
¿Cuál es tu asignatura favorita? Creo que prefiero el inglés ya que el profesor …
¿Qué piensas de los profesores? En general son buenos pero no soporto el profe de.
¿Vas a tener éxito este año? Espero sacar buenas notas pero tengo miedo…
¿Hay actividades extraescolares en tu insti? Si, hay un montón de clubes, tales como/por ejemplo
¿Qué vas a hacer en Septiembre? Voy a …. Espero….. Me quedaré en el insti para estudiar…

Mi insti es **bastante grande, mixto y estatal**, con mil estudiantes, **más o menos**. Las clases **empiezan** a las nueve, pero **antes**, hay asamblea o tutoría, **que me aburre muchísimo** porque **no hay** nada que hacer. **Sin embargo**, en la escuela primaria, **no había** tutoría, y las clases **empezaban** a las nueve y diez.**Tenemos** un recreo a las once, **cuando suelo charlar** con mis amigos, **pero es demasiado corto.** Tomo el almuerzo en la cantina **donde hay muchísima gente que me molesta**, y después, hay **afortunadamente** sólo una clase. **En cuanto a** las materias, prefiero psicología porque **será útil** para mi futuro, y la mayoría del tiempo es **chulo**, **aunque desafiante.** Mi profe de español es **la más comprensiva**. A mi amigo, le encantan las mates **a causa del** profe, **pero** para mí, son **cada vez más complicadas**. **Solía estudiar** la geografía, **pero no me gustó** y **dejé de** hacerlo el año pasado. En el futuro, **estudiaré** el italiano.

El uniforme
Una chaqueta negra
Un pantalón negro
Una falda negra (larga / corta)
Una camisa blanca
Unos zapatos negros
Zapatillas de deporte
Un jersey azul/ marrón
Una corbata azul
Unos calecetines o medias negras

Se dice que….
EL uniforme da una imagen positiva del colegio
Todos los estudiantes parecen iguales
Es muy práctico por la mañana
No hay que decidir qué llevar este día

Las reglas/las normas

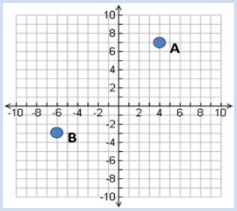
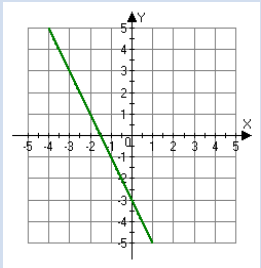
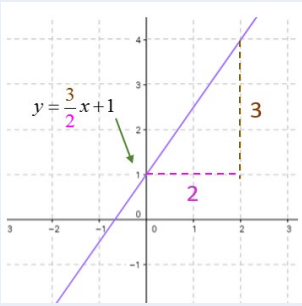
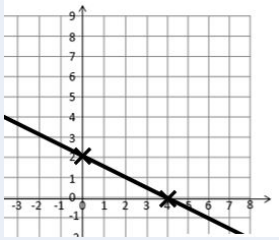
Se debe/Hay que
Llegar a tiempo/ser puntual
Respetar a los demás
Traer los materiales necesarios
Llevar el uniforme correctamente
Hacer los deberes
Ser cortés

Está prohibido/No se debe
Comer chicle/ comer en clase
Fumar
Usar el móvil en clase
No hacer daño a otros
Abusar o maltratar a otra gente
Llevar maquillaje
Correr por los pasillos
Dañar las instalaciones

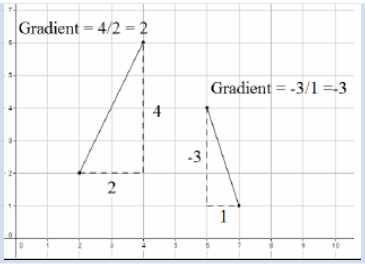
Educación y enseñanza: vocabulario útil

un salón de actos	drama studio / theatre	las reglas / normas	rules
unos vestuarios	changing rooms	está prohibido	it's forbidden
una biblioteca	library	no se debe	we shouldn't
un campo de fútbol	football pitch	sacar buenas notas	to get good marks
las instalaciones	facilities	aprobar los exámenes	to pass exams
las aulas	classrooms	maltratar	to treat badly
los alumnos	students	intimidar	to intimidate
el profesorado	teaching staff	enseñar bien	to teach well
especializado en	specialising in	ayudar	to help
los edificios	buildings	me gustab +inf	I used to like…
una pizarra interactiva	interactive whiteboard	cuando estaba a…	when I was at …
las asignaturas	subjects	las quejas	complaints
las ciencias	science	el fracaso escolar	school failure
los idiomas	languages	el acoso escolar	bullying
el dibujo	art	hacer novillos	to play truant
el recreo	break	volver	to return

Maths – Foundation: Coordinates and Linear Graphs

Topic/Skill	Definition/Tips	Example
1. Coordinates	Written in **pairs**. The **first** term is the **x-coordinate** (movement **across**). The **second** term is the **y-coordinate** (movement **up or down**)	 A: (4,7) B: (-6,-3)
2. Midpoint of a Line	Method 1: **add the x coordinates and divide by 2, add the y coordinates and divide by 2** Method 2: Sketch the line and find the values half way between the two x and two y values.	Find the midpoint between (2,1) and (6,9) $\frac{2+6}{2} = 4$ and $\frac{1+9}{2} = 5$ So, the midpoint is (4,5)
3. Linear Graph	**Straight line** graph. The general equation of a linear graph is $\boldsymbol{y = mx + c}$ where $\boldsymbol{m}$ **is the gradient** and c **is the y-intercept**. The **equation** of a linear graph can contain an **x-term**, a **y-term** and a **number**.	 Example: Other examples: $x = y$ $y = 4$ $x = -2$ $y = 2x - 7$ $y + x = 10$ $2y - 4x = 12$
4. Plotting Linear Graphs	Method 1: **Table of Values** Construct a table of values to calculate coordinates. Method 2: **Gradient-Intercept Method** (use when the equation is in the form $y = mx + c$) 1. Plots the y-intercept 2. Using the gradient, plot a second point. 3. Draw a line through the two points plotted. Method 3: **Cover-Up Method** (use when the equation is in the form $ax + by = c$) 1. Cover the x term and solve the resulting equation. Plot this on the $x - axis$. 2. Cover the y term and solve the resulting equation. Plot this on the $y - axis$. 3. Draw a line through the two points plotted.	c **x** -3 -2 -1 0 1 2 3 **y= x +3** 0 1 2 3 4 5 6   $2x + 4y = 8$

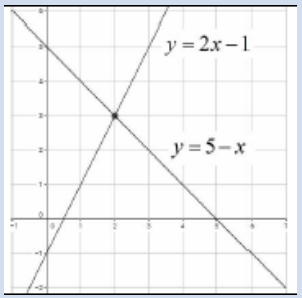
Maths – Foundation: Coordinates and Linear Graphs

Topic/Skill	Definition/Tips	Example
5. Gradient	The gradient of a line is how **steep** it is. **Gradient =** $$\frac{\textbf{Change in } y}{\textbf{Change in } x} = \frac{\textbf{Rise}}{\textbf{Run}}$$ The gradient can be positive (sloping upwards) or negative (sloping downwards)	
6. Finding the Equation of a Line *given a point and a gradient*	**Substitute** in the **gradient (m)** and **point (x,y)** in to the equation $\boldsymbol{y = mx + c}$ and **solve for c**.	Find the equation of the line with gradient 4 passing through (2,7). $y = mx + c$ $7 = 4 \times 2 + c$ $c = -1$ $y = 4x - 1$
7. Finding the Equation of a Line *given two points*	Use the two points to **calculate the gradient**. Then **repeat the method above** using the gradient and either of the points.	Find the equation of the line passing through (6,11) and (2,3) $m = \frac{11-3}{6-2} = 2$ $y = mx + c$ $11 = 2 \times 6 + c$ $c = -1$ $y = 2x - 1$
8. Parallel Lines	If two lines are **parallel**, they will have the **same gradient**. The value of m will be the same for both lines.	Are the lines $y = 3x - 1$ and $2y - 6x + 10 = 0$ parallel? **Answer:** Rearrange the second equation in to the form $y = mx + c$ $2y - 6x + 10 = 0 \rightarrow y = 3x - 5$ Since the two gradients are equal (3), the lines are parallel.
9. Perpendicular Lines	If two lines are **perpendicular**, the **product** of their **gradients** will always equal **-1**. The gradient of one line will be the **negative reciprocal** of the gradient of the other line. You may need to rearrange equations of lines to compare gradients (they need to be in the form $y = mx + c$)	Find the equation of the line perpendicular to $y = 3x + 2$ which passes through (6,5) **Answer:** As they are perpendicular, the gradient of the new line will be $-\frac{1}{3}$ as this is the negative reciprocal of 3. $y = mx + c$ $5 = -\frac{1}{3} \times 6 + c$ $c = 7$ $y = -\frac{1}{3}x + 7$ **Or** $3x + x - 7 = 0$

Maths – Higher: Simultaneous Equations

Topic/Skill	Definition/Tips	Example	
1. Simultaneous Equations	A set of **two or more equations**, each involving **two or more variables** (letters). The **solutions** to simultaneous equations **satisfy both**/all of the **equations**.	$2x + y = 7$ $3x - y = 8$ $x = 3$ $y = 1$	
2. Variable	A **symbol**, usually a **letter**, which **represents a number** which is usually unknown.	In the equation $x + 2 = 5$, x is the variable.	
3. Coefficient	A **number** used to **multiply** a **variable**. It is the number that comes before/in front of a letter.	6z 6 is the coefficient z is the variable	$y = mx + c$ $11 = 2 \times 6 + c$ $c = -1$ $y = 2x - 1$
4. Solving Simultaneous Equations (by Elimination)	1. **Balance** the **coefficients** of one of the variables. 2. **Eliminate** this variable by adding or subtracting the equations (**Same Sign Subtract, Different Sign Add**) 3. **Solve** the linear equation you get using the other variable. 4. **Substitute** the value you found back into one of the previous equations. 5. **Solve** the equation you get. 6. **Check** that the two values you get satisfy both of the original equations.	$5x + 2y = 9$ $10x + 3y = 16$ Multiply the first equation by 2. $10x + 4y = 18$ $10x + 3y = 16$ Same Sign Subtract (+10x on both) $y = 2$	Substitute $y = 2$ in to equation. $5x + 2 \times 2 = 9$ $5x + 4 = 9$ $5x = 5$ $x = 1$ Solution: $x = 1, y = 2$
5. Solving Simultaneous Equations (by Substitution)	1. **Rearrange** one of the equations into the form $y = \ldots$ or $x = \ldots$ 2. **Substitute** the right-hand side of the rearranged equation into the other equation. 3. Expand and **solve** this equation. 4. **Substitute** the value into the $y = \ldots$ or $x = \ldots$ equation. 5. **Check** that the two values you get satisfy both of the original equations.	$y - 2x = 3$ $3x + 4y = 1$ Rearrange: $y - 2x = 3 \rightarrow y = 2x + 3$ Substitute: $3x + 4(2x + 3) = 1$ Solve: $3x + 8x + 12 = 1$ $11x = -11$ $x = -1$	Substitute: $y = 2 \times -1 + 3$ $y = 1$ Solution: $x = -1, y = 1$

Maths – Higher: Simultaneous Equations

Topic/Skill	Definition/Tips	Example	
6. Solving Simultaneous Equations (Graphically)	**Draw the graphs** of the two equations. The **solutions** will be **where the lines meet**. The solution can be written as a **coordinate**.	$y = 5 - x$ and $y = 2x - 1$. They meet at the point with coordinates (2,3) so the answer is $x = 2$ and $y = 3$	
7. Solving Linear and Quadratic Simultaneous Equations	Method 1: If both equations are in the same form (eg. Both $y =$…): 1. Set the equations **equal to each other**. 2. **Rearrange** to make the equation **equal to zero**. 3. **Solve** the quadratic equation. 4. **Substitute** the values back in to one of the equations. Method 2: If the equations are not in the same form: 1. **Rearrange** the linear equation into the form $y = \ldots$ or $x = \ldots$ 2. **Substitute** in to the quadratic equation. 3. **Rearrange** to make the equation **equal to zero**. 4. **Solve** the quadratic equation. 5. **Substitute** the values back in to one of the equations. You should get **two pairs of solutions** (two values for x, two values for y.) Graphically, you should have **two points of intersection**.	**Example 1** Solve $y = x^2 - 2x - 5$ and $y = x - 1$ $x^2 - 2x - 5 = x - 1$ $x^2 - 3x - 4 = 0$ $(x - 4)(x + 1) = 0$ $x = 4$ and $x = -1$ $y = 4 - 1 = 3$ and $y = -1 - 1 = -2$ Answers: (4,3) and (-1,-2)	**Example 2** Solve $x^2 + y^2 = 5$ and $x + y = 3$ $x = 3 - y$ $(3 - y)^2 + y^2 = 5$ $9 - 6y + y^2 + y^2 = 5$ $2y^2 - 6y + 4 = 0$ $y^2 - 3y + 2 = 0$ $(y - 1)(y - 2) = 0$ $y = 1$ and $y = 2$ $x = 3 - 1 = 2$ and $x = 3 - 2 = 1$ Answers: (2,1) and (1,2)

The Music Industry EXTERNAL EXAM Part 1: Understanding different types of organisations that make up the music industry

- Venues and live performance
- Health, Safety and Security at venues
- Production and promotion
- Service companies and agencies
- Unions
- How organisations interrelate and why these relationships are important

Introducing Music Recording Part 1: Planning a Recording Session

- Equipment
- Recording Sessions
- Health & Safety

Part 2: Use Recording equipment safely to produce multi-track recording

- Recording audio
- Mixing down the multi-track

Link to :- Music Industry facts every musician needs to know :-
https://www.thebalancecareers.com/music-industry-facts-every-musician-needs-to-know-2460726

Setting up a recording Session
https://www.izotope.com/en/blog/music-production/18-tips-for-running-a-great-recording-session.html

Part 2: Understand jobs roles in the Music Industry

- Performance and Creative Roles
- Management and Promotion roles
- Recording Roles
- Media and other roles
- How and Why workers are employed in the industry
- Getting a break and starting out
- Importance of individual roles and responsibilities
- How individual roles and responsibilities interrelate
- How the Industry relies on entrepreneurs, the self-employed and small enterprises
- How to get paid

P4L – Work related learning

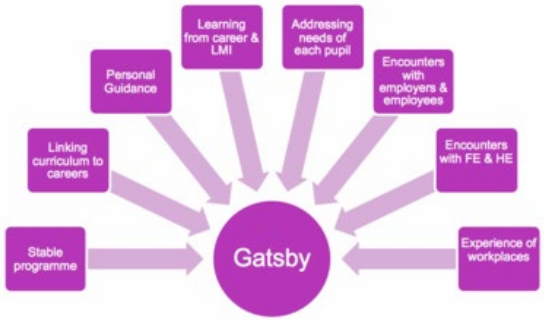
Living Independently

Key concepts/questions:

What are the monthly fixed costs that would have to be paid every month?
What are the variable costs that would have to be paid for every month?
How much money would I need to earn, to live independently in Plymouth?

KEY TERMS:

Budget - allow or provide a particular amount of money.
Income - money received, normally for work done.
Expenditure – an amount of money spent.
Fixed costs – money spent that is a constant amount, usually paid out every month.
Variable costs – money that is spent, but varies in the amount from month to month.
Council Tax - a tax on households determined by a local council, based on the estimated value of the property and the number of people living in it.
Utility bills – the amount a household or office is expected to pay for electricity, water and/or gas each month.
P.C.M. – per calendar month
A.P.R. – annual percentage rate
Debit card - a card allowing the holder to transfer money electronically from their bank account when making a purchase
Credit card – a card that is issued by a bank that allows you to buy goods on credit (a type of loan)
Direct debit – an agreement made with a bank that allows a company to transfer money from a person's bank account on agreed dates, usually to pay bills.
Standing order - an instruction to a bank by an account holder to make regular fixed payments to a particular person or organisation
Credit score – a score based on how much debt you have and how you are managing that debt.



NOTES:

Applying for Work

Key concepts/questions:

What is a CV for?
What is included in a CV?
When would I need a CV?
What is a personal statement?
Why do I need a personal statement?
What is a covering letter?
How would I apply for part-time work?
What are the health and safety laws I should know about when working for someone else?

KEY TERMS:

C.V. – Curriculum Vitae. A brief account of a person's education, qualifications, and previous occupations, typically sent with a job application.

Personal Statement - a written description of someone's skills, personal qualities, achievements, interests, included as part of an application for a job or a place at university or college.

Achievement – what you can show you have improved on.

Skill – something you can learn to do, such as work in a team.

Personal Quality – How you come across or behave, such as being friendly.

Health and Safety – regulations (rules) and procedures intended to prevent accident or injury in workplaces or public environments.

Physical Education - Rugby

Kit Needed

Boots, black long socks, long sleeved Eggbuckland Rugby top and black Eggbuckland shorts

Equipment

Rugby ball and a pitch

5 Key Rules

- You must pass backwards.
- You must release the ball on the ground.
- You must consider other pupil's safety.
- To score a try you place the ball on the ground over the try line.
- You must tackle from the armpit down.

Key Terms

- **Tackle**- a way of stopping an attacking player who has the ball, by tackling them to the ground. The attacking player must release the ball on the ground.
- **Ruck**- the competition for the ball that has been released between at least one player from each side.
- **Offside line**- an imaginary line that goes right across the pitch which is in line with the back of the ruck.
- **Knock on**- when the balls falls forwards out of a player's hands.
- **Forward pass**- when the ball is passed forward (the ball is allowed to go sideways and backwards).
- **Side step-** a way of evading a tackle from your opponent.

England Rugby

TEAMWORK RESPECT ENJOYMENT DISCIPLINE SPORTSMANSHIP

Tackle

Ruck

Offside line

Side step

Knock on

Try

Kit Needed

- White trainers, White socks, short or long sleeved PE top and black Eggbuckland shorts, skort or leggings

Equipment

- Netballs, posts and bases and position bibs

5 Key Rules

- Do not move with the ball
- 3 seconds holding the ball
- No contact
- No closer than 1 metre from the person with the ball
- Only allowed in your positions areas

Positions

- Goal Keeper- Marks the goal shooter to stop the shooting
- Goal Defence- Marks the goal attack to stop them shooting
- Wing Defence- Marks the Wing attack to stop them feeding the ball into the shooting 'D'
- Centre- Marks the other centre. Controls the game from mid court
- Wing Attack- Aim's to feed the ball into the shooting 'D' to provide shooting opportunities
- Goal Attack- To score goals and be a link between mid court and the shooting 'D'
- Goal Shooter- To score goals within the 'D'

Netball

Passing
- Basic body position
- High arms
- Extend elbows to straight to release

Defending
- Basic body position
- Use both arm over the ball and follow where attack holds it.
- When moving, remain close to attacker and ensure you can see player and the ball

Basic body position

Footwork
- Catch the ball and land one foot before the other
- The first foot can not be moved
- The second foot can be moved to pivot
- If landing with both feet at same time, you can choose which one to use to pivot

Shooting
- Basic body position or feet shoulder width apart
- High arms
- Ball above head in both hands
- Extend elbows to straight to release towards the net aiming for the back of the ring

GCSE PE – PEP: information

Component 1 Principles of Training

Principles of training: F I R S T O P

Principle	Explanation	Application
F.I.T.T	F = Frequency (how often) Intensity = How hard Time = How long Type = Type of training	F= I train 3 times per week I = 3 sets of 8 reps of 15kg T = I train for 60 minutes T = I use circuit training
Individual Needs	Everybody is different and has different needs. It is important to match training to the requirements of the individual	Ronaldo is a professional football he trains 5 days per week. John plays Sunday league and trains once per week
Reversibility	Just as fitness improves with training it can decline if you stop training.	Reversibility can be caused by lack of training or injury
Specificity	This means that training must match the requirements of the activity so that the right muscles and body systems are adapted	A sprinter should train for speed A rower should train using a rowing machine not a treadmill
Thresholds of Training	To improve fitness, you should train within your target zone. Your target zone will depend on the intensity of your activity Aerobic = 60 – 80% of max HR Anaerobic = 80 – 90% of max HR	Running a 10k is an aerobic activity. I will therefore train in my aerobic training zone of 60 – 80% of my max heart rate
Overtraining	This means doing too much training. This can lead to injury and prevent improvement. Rest, duration of session and the intensity are important when training	Training everyday does not allow rest for recovery and adaptations
Progressive Overload	Gradually increasing the amount of working training so that fitness gains occur, but without the risk of injury	Week 1 = run 10 minutes Week 2 = run 15 minutes

Thresholds of training

Aerobic training zone = 60 – 80% of max HR

Anaerobic training zone = 80 – 90% of max HR

The Karvonen formula

Maximum Heart rate = 220 - Age

Worked example

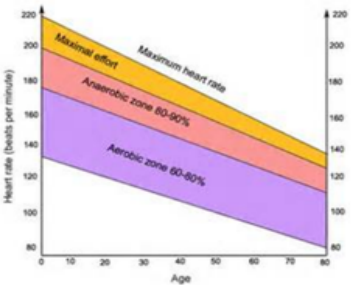
John is 16 years old

His maximum heart rate = 204 bpm

Aerobic training zone = 60 -80 %

60% = 60 x 204 ÷ 100 = 122 bpm

80% = 80 x 204 ÷ 100 = 163 bpm



Component 1 Types of Training

Types of Training

Continuous Training	Fartlek Training	Circuit Training	Interval Training	Plyometric Training	Weight Training
Is aerobic Has no breaks or rest (20 min or more) Sub-maximal exercise Improves cardiovascular & muscular endurance	Form of continuous training Varies in pace and terrain Aerobic & Anaerobic Improves cardiovascular & muscular endurance	Contains stations organised in a circuit they can be skill or fitness based, aerobic or anaerobic Intensity is measure by circuits, time or repetitions	High intense exercise followed by periods of rest to recover Usually anaerobic can be used in a variety of locations Improves speed but can improve strength and cardiovascular	High Intensity Short duration Breaks between sets (exercises) Involves jumping/bounding Improves power (speed & strength)	Form of interval training Involves reps and sets Weight provides the resistance Improves strength, power and muscular endurance
Advantages	**Advantages**	**Advantages**	**Advantages**	**Advantages**	**Advantages**
No equipment or facilities Has many health benefits (CHD)	No equipment or facilities Change of pace can be more interesting	Variety of stations generates interest Can be skill or fitness Can easily be adapted	Can be used to improve health and fitness (aerobic & anaerobic) No equipment needed	Develops power quickly No equipment	Can target specific areas of the body Easily adapted for different fitness'
Disadvantages	**Disadvantages**	**Disadvantages**	**Disadvantages**	**Disadvantages**	**Disadvantages**
Boring No change of pace Can cause impact injuries	High intensity can be avoided A safe route may be hard to find	Equipment can be costly Can be time consuming to set up	Can be repetitive and boring Need to plan and keep track of sets	Can cause injury due to high intensity	Can cause injury with poor technique A spotter needed with free weights
Sports	**Sports**	**Sports**	**Sports**	**Sports**	**Sports**
Marathon running cycling swimming	Fotball Rugby Netball	Can be adapted to suit all sports	Usually for speed It can be adapted to other sports	Basketball Long jump Hurdles	Weight lifting, rugby shot-put






Aerobics

- Involves continuous activity between 30 – 60 minutes, includes step and aqua aerobics
- Improves Cardiovascular fitness

Body Pump

- Moderate to high intensity, lots of reps & uses barbells
- Improves strength & muscular endurance

Pilates

- Exercises done on a mat, uses resistance and focuses on core strength
- Improves flexibility, balance & strength

Yoga

- Exercise done on a mat
- including relaxation & breathing techniques Improves flexibility, balance & strength

Spinning

- Continuous cycling to music
- Improves muscular endurance & cardiovascular fitness

Unit 3: Applying the Principles of Personal Training

Personal Goals
S – Specific
M – Measurable
A – Achievable
R – Realistic
T – Time-related
E – Exciting
R - Recorded

Lifestyle and Physical Activity History
Medical History Questionnaires

Learning Aim A - Design a personal fitness training programme

Maximum HR = 220-age (years)
Training zones to CV health and fitness 60-85%
Borg Rating of Perceived Exertion (RPE)

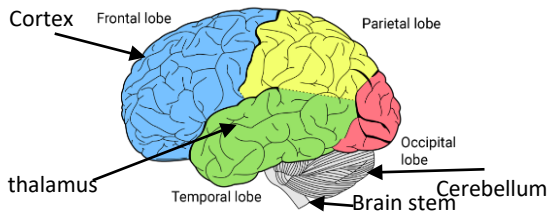
Aims and ***Objectives*** of what you want to achieve in your selected activity.

Goals
Short-term
Medium –term
Long - term

Personal information	Aiding your training programme design
Selection	Appropriate training method, activity for improvement, maintaining the selected component of fitness
Safe Design	Appropriate method, selection of appropriate combination of activities - meeting personal training needs, goals , aims and objectives
Basic principles of training	F – Frequency I – Intensity T – time T – Type This will include application of the Principles of training
WARM UP	Warm up (light, continuous PA to prepare the body from a state of rest to a state of exercise!)
COOL DOWN	Cool down (light, continuous PA to return the body to a state of rest – reducing the HR, removal of Lactic Acid and prevent blood pooling)
Creative Design	Prevent and avoid barriers to training occurring, programme enjoyable, must include – interesting, different exercise activities to maintain motivation and commitment and to prevent BOREDOM!
Intensity	Target zones and training thresholds

Psychology - Development

Early brain development



Brain stem: connects brain to spinal cord controls autonomic functions eg. breathing
Cerebellum: co-ordinates sensory and motor one of the last parts of brain to reach maturity.
Thalamus: located deep inside brain. Acts as information hub, receives and sends signals around brain.
Cortex: outer layer of brain divided into 4 lobes; thinking and processing happens here.

Brain development in the womb

Week 3 – neural plate becomes tube
Week 4 – neural tubes begin to divide
Week 15 – cerebellum has formed
6 months – brain is fully formed

Piaget Theory

Changes in thinking over time. Children think differently to adults. Different kinds of logical thinking occur at over time.

Sensorimotor stage: 0-2 years. Learn to co-ordinate sensory and motor skills. Object permanence develops

Pre-operational stage: 2-7 years. Can't think in a consistently logical way. Egocentric and lack conservation.

Concrete operational: 7-11 years. Most children can conserve at 7 and show less ego centrism.

Formal operational: 11+ years. Children can draw conclusions about abstract concepts and form arguments.

Key Terms

Schema	Mental structures containing knowledge, schemas develop further through accommodation and assimilation.
Assimilation	Add new information to an existing schema.
Accommodation	Receiving new information that changes our understanding so a new schema is formed.
Conservation	The ability to understand that although appearance of material changes the quantity stays the same.
Egocentrism	Seeing the world from one's own point of view and not being able to see it from others.

Role of nature vs nurture

Nature characteristics and behaviour are are inherited.

Nurture our characteristics and behaviour are influenced by environment.

Brain forms due to nature but environment has big influence on its development.

Smoking during pregnancy can decrease size of babies' brains.
Infections in the womb can lead to hearing loss.
Babies in womb learn to recognise mother's voice.

Twin studies used to provide evidence for both sides of debate – identical twins share same DNA , similarities will be down to nature, differences nurture. E.g IQ study.

Nature evidence – babies can recognise faces and cry from birth implies nature.

Nurture evidence – baby rats kept alone and with no toys developed slower and had smaller brains than rats kept with toys and in a group.

Key studies testing Piaget

Hughes – Policeman Doll study
Aim: To see if children are egocentric earlier than Piaget suggested.
Method: 3½ - 5 year old children asked to hide a boy doll from two policeman dolls using partition walls. Practiced with one doll first.
Results: 90% were able to hide the doll away.
Conclusion: Children can conserve earlier than the age of 7. Piaget underestimated the abilities of children.

+ three mountains task research supports their findings
+
-Task involved hiding from policeman lacks ecological validity
-Children in unfamiliar setting and with unfamiliar adults

McGarrigle and Donaldson – Naughty teddy
Aim: To see if children can conserve at an earlier stage than Piaget found if change is accidental.
Method: Children aged 4- 6 years shown two rows of counters. Teddy messes up one row of them. Child asked if the rows were the same.
Results: 62% of children stated the rows were same. Only 16% did in Piaget's experiment
Conclusion: if the change to materials seems accidental children under the age of 7 can conserve.

+ other researchers findings also supports
+ shows that children can covserve earlier than Piaget said
-- sample only used children from one primary school
- Results in other research not as high as they found

Dweck's mindset theory

Growth mindset: belief that ability comes from hard work and can increase.

Fixed mindset: belief that ability is genetic and unchanging.

Our assumptions affect our success. Success it is due to effort not talent. When faced with a challenge fixed mindset give up quickly, growth mindset keep trying. Fixed mindset see failure as lack of talent, growth mindset see failure as an opportunity to learn.

Role of praise: **Person** focuses on the ability. **Process** focuses on effort. Students who get person praise feel that success is beyond their control.
Role of self-efficacy: understanding your own abilities. Higher self efficacy results in greater effort, performance and resilience. Self efficacy increases or decreases future success.

Evaluation: + Research support for her theory
+ Real world application e.g. in sports seeing failure as a lack of effort rather than talent motivates future effort
- Praising effort can still lead to completing task for approval, and discourages independent behaviour.

Application to education

Individual learning: children go through stages at different rates, allow child to discover the answers themselves

Readiness: Can only teach something when child biologically ready.

Real world objects: Children must be given actual objects to allow discovery.

Learning styles

Verbaliser: focus on words. Processing by hearing or reading words and talking about it.

Visualiser: focus on pictures. Processing by seeing, use of diagrams, maps and think using pictures.

- Too many learning styles

- No supporting evidence

+ Allowed teaching methods to develop

Willingham's learning theory
Criticises learning styles theories as they aren't evidence based. Teaching and learning can be improved through the following ways
Praise: praising effort should be unexpected. Praise before a task led to less motivation.
Memory and forgetting: forgetting happens because of lack of cues, practicing retrieving information from memory
Self-regulation: self control (delay gratification)
Neuroscience: brainwaves in dyslexia are different. Earlier intervention would increase progress.

Religious Studies - Religion, crime and punishment

Good & evil actions and intentions

Some people suggest that those who commit the worst crimes are evil.

But where does evil come from?

Christianity: Evil is seen as the abuse of the **free will** God gave to humans. In order to be able to appreciate good, then evil has to exist. Most Christians believe in a figure called **the devil** or Satan. So, evil is a combination of internal and external factors.

Islam: The **Qur'an** says there is a devil who was an angel. Iblis was expelled from paradise because he refused to bow to Adam. Iblis continually tempts and punishes humans to be wicked. Evil is a mix of powerful evil being and the weakness of humans.

3 aims of punishment

Retribution: is the least positive of the 3 aims of punishment. It means that society, on behalf of the victim, is getting its own back on the offender. In the Old Testament it is referred to as *lex talionis* (the law of retaliation). **"An eye for an eye, a tooth for a tooth"**

Deterrence: This is the belief that if offenders are seen to be punished for wrongdoing, then this may 'put off' others from committing that offence. The offender themselves might also be put off from reoffending.

Reformation: This is the aim of punishment most Christians prefer because it seeks to help offenders by working with them to help them understand that their behaviour is harming society. It is hoped that offenders will change their attitudes and become responsible, law-abiding members of the community.

Reasons for crime & types of crime

Causes of crime include: *upbringing, mental illness, poverty, opposition to existing laws, greed/hate, or addiction.*

There are 3 key **types** of crimes: *Crimes against the **person** (e.g. murder); Crimes against **property** (e.g. burglary); Crimes against the **state** (e.g. terrorism).*

***St Paul** tells Christians to "obey the laws of the land"*

Suffering

For many people, suffering is an unfortunate part of living. It may be caused by something natural, such as an illness, or it may be due to how people have behaved. Whatever the cause, Christians believe they should try to help others who are suffering. Christians feel that they should follow the example of Jesus, who helped many whom he saw were suffering, and who taught that those who believe in God should help those who suffer.

Heller Keller was a Christian writer and activist who became deaf and blind when she was only 19 months old. She said *"We are never really happy until we try to brighten the lives of others".*

Treatment of criminals

Christians do not disagree with discipline. They see a positive need for it: ***"He who spares the rod hates their children, but the one who loves their children is careful to discipline them".*** However, they may question the method used since Jesus' teachings on love and caring for people rule out any physical punishment. Instead, Christians focus on positive sanctions that help offenders to realise the error of their ways and reform. Jesus always treated people with respect, and Christians believe they should follow his example.

Corporal punishment: to punish the offender by causing physical pain. It is illegal in the UK but allowed in some other parts of the world. For example some Muslim countries such as Iran and Saudi Arabia allow caning as punishment for offences such as gambling and sexual promiscuity.

Community service: offers offenders a chance to make up for what they have done and receive help in reforming their behaviour. Christians are in general agreement that it is a suitable punishment for fairly minor offences.

"Mutual respect for and tolerance of those with different faiths and beliefs, and for those without faith"

The death penalty

Abolished in the UK in 1965 and is now illegal in many EU countries.

The Principle of Utility = an action is right if it promotes the maximum happiness for the maximum number of people.

The sanctity of life = God gave life, so only He has the right to take it away.

For	Against
• It is a justifiable retribution for serious crimes • It is a deterrent • It gives the victim's family a sense of justice	• Only God has the right to take life • Jesus taught a message of love and forgiveness • It is hypocritical

Forgiveness

Forgiveness is a core Christian belief and one Jesus emphasised in his teachings.

Christians are expected to be forgiving towards those who wrong them, if they expect to be forgiven themselves: ***"Forgive us our sins, as we forgive those who sin against us."***

Many Christians would argue that forgiveness is not a replacement for punishment.

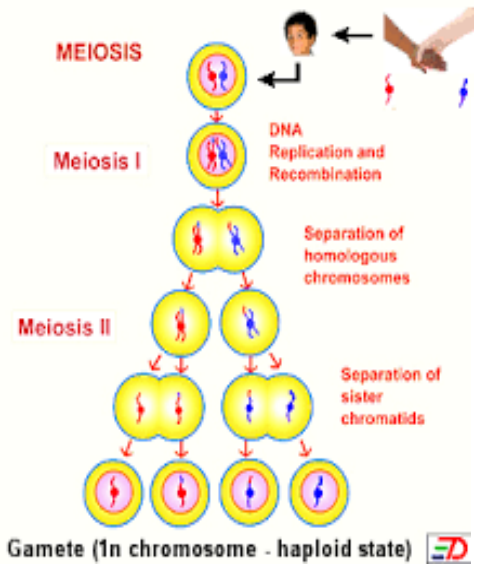
During his ministry Jesus was asked how many times you should forgive someone who wrongs you and he replied ***"I tell you not seven times, but seventy-seven times"***

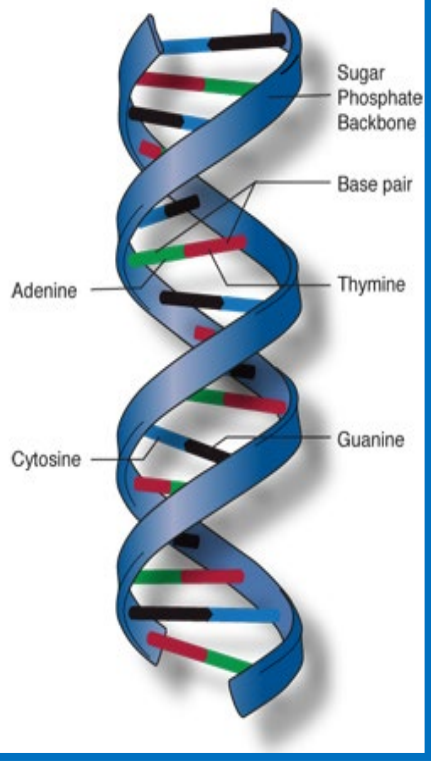
Science - Inheritance, Variation and Evolution

Asexual reproduction	Reproduction involving one parent, giving genetically identical offspring
Binary fission	The asexual reproduction of bacteria
Selective breeding	A process by which humans have chosen organisms to breed together to develop desirable characteristics
Artificial selection	Another name for selective breeding
Self-pollination	When pollen from one plant fertilises ova from the same plant
Cross-pollination	When pollen from one plant fertilises ova from a different plant
Meiosis	Cell replication that produces four non-identical haploid cells from one diploid cell
Menstruating	Having a period as part of the menstrual cycle
Genome	One copy of all DNA found in your diploid body cells
DNA fingerprinting	The analysis of differences in DNA to identify individuals

Evolution	The theory first proposed by Charles Darwin that the different species found today formed as a result of the accumulation of small advantages that were passed on through generations
Double helix	The characteristic spiral structure of DNA
Nucleotide	A DNA base together with a sugar and a phosphate molecule that make up the backbone of the double helix
Transcription	The process of making an RNA copy of a gene sequence of DNA
Translation	The process of making a protein from an RNA copy of a gene sequence of DNA
Mutation	A permanent change to the DNA, which may be advantages, disadvantageous or have no effect
Ionising radiation	UV rays, x-rays and gamma rays that can cause mutations to DNA

Alleles	Two versions of the same gene, one from each parent
Genotype	The genetic make-up of an organism represented by letters
Phenotype	The physical characteristics of an organism
Punnett Square	A grid that used for determining the chance of inheritance
Cystic Fibrosis (CF)	A genetic disorder in which sufferers inherit recessive alleles from both parents and have excess mucus in their lungs



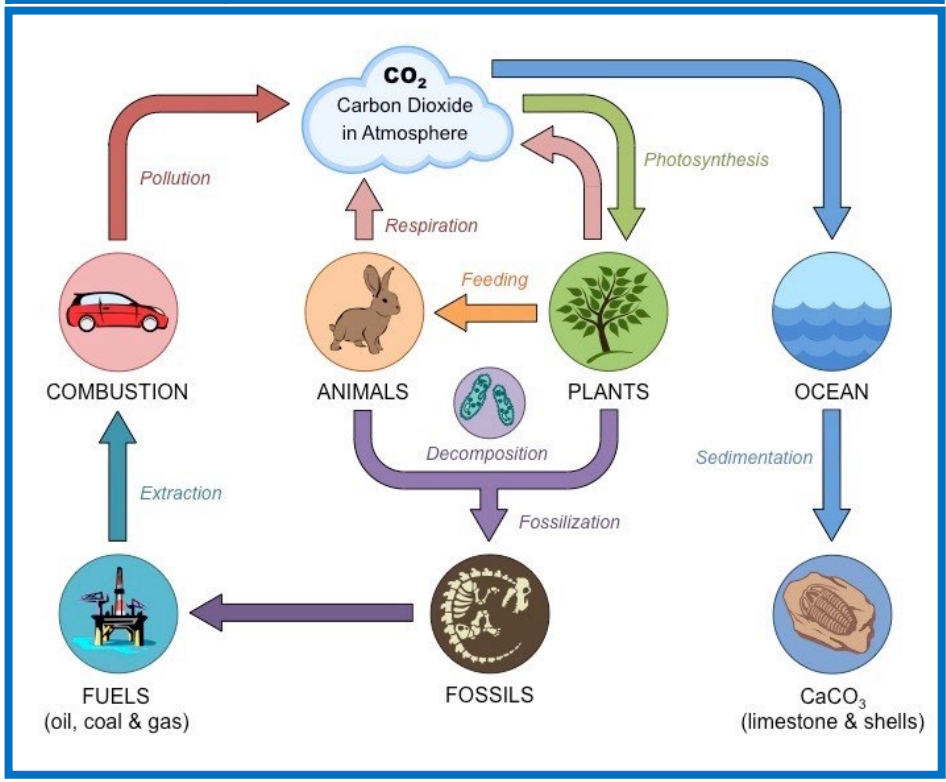


Science - Ecology

Population	The total number of organisms of the same species in an area.
Community	Populations of different species living in the same area.
Competition	The contest between organisms for resources.
Interdependence	All the organisms in a community depend upon each other.
Abiotic	The non-living parts of the environment.
Biotic	The living parts of the environment.
Invasive species	An organism that is not native and causes negative effects.
Ecosystem	The interaction of a community of living organisms and the non-living parts of the environment.
Structural adaptation	An advantage to an organism as a result of the way it is formed eg streamlining.
Behavioural adaptation	An advantage to an organism as a result of its behaviour.

Functional adaptation	An advantage to an organism as a result of a process eg venom.
Extreme environment	A location in which it is challenging for most organisms to live.
Extremophile	An organism that lives in an extreme environment.
Sampling	Recording a small amount of information to make wider conclusions.
Quadrat	A square frame used in sampling.
Transect	A line along which systematic sampling occurs.
Producer	An organism that photosynthesises eg plant.
Biomass	A resource made from living organisms.
Consumer	An organism which eats other organisms. Primary consumers eat plants, secondary consumers eat herbivores, tertiary consumers eat carnivores.

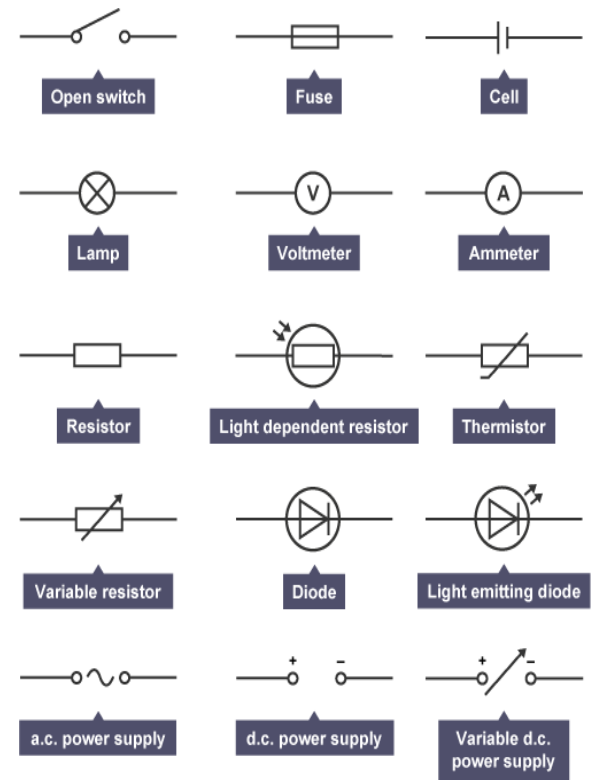
Biodiversity	A measure of the different species present in a community.
Incomplete combustion	Burning of a fuel without enough oxygen leading to carbon monoxide production.
Recycle	Changing a waste product into new raw materials to make another product.
Sustainable	An activity that can continue without damaging the environment.
Deforestation	Cutting trees down to use the land for something else.
Conservation	Protecting an ecosystem or species from reduced numbers and often extinction.



Science - Electricity

Key Terms

Potential difference (p.d.)	A measure of the electrical work done by a cell (or other power supply) as charge flows round the circuit. Potential difference is measured in volts (V).
Electric current	A flow of electrical charge. The size of the electric current is the rate at which electrical charge flows round the circuit.
Resistor	A component that acts to limit the current in a circuit. When a resistor has a high resistance, the current is low.
Directly proportional	When two quantities are directly proportional, doubling one quantity will cause the other quantity will cause the other quantity to double. When a graph is plotted, the graph line will be straight and pass through the origin.
Inversely proportional	When two quantities are inversely proportional, doubling one quantity will cause the other quantity to halve
Ohmic	The current flowing through an ohmic conductor is proportional to the potential difference across it. If the p.d. doubles, the current doubles. The resistance stays the same.
Non-ohmic	The current flowing through a non-ohmic resistor is not proportional to the potential difference across it. The resistance changes as the current flowing through it changes.



$P = V \times I$ power = voltage x current.

$V = I \times R$ voltage = current x resistance.

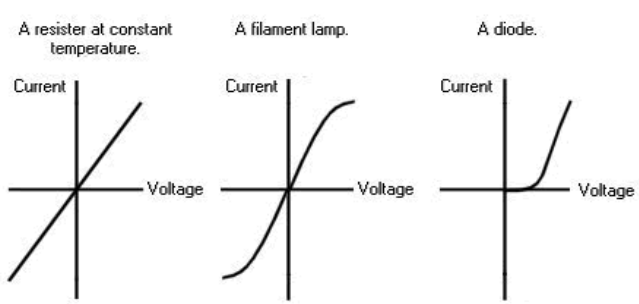
$Q = I \times t$ charge = current x time.

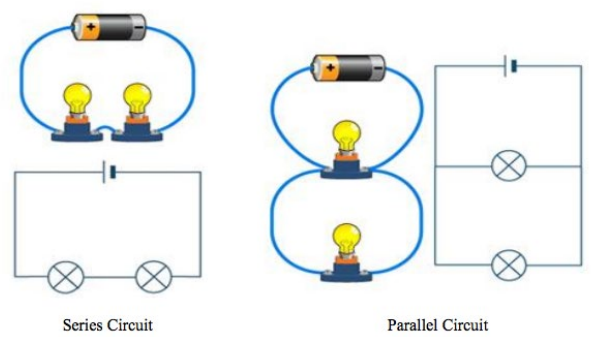
$E = V \times Q$ energy = voltage x charge.

$E = V \times I \times t$ energy = voltage x current x time.

$$\frac{V_p}{V_s} = \frac{N_p}{N_s}$$ transformer equation

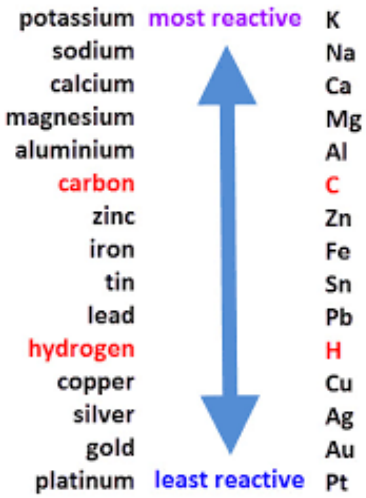
Total cost = number of units x cost per unit.

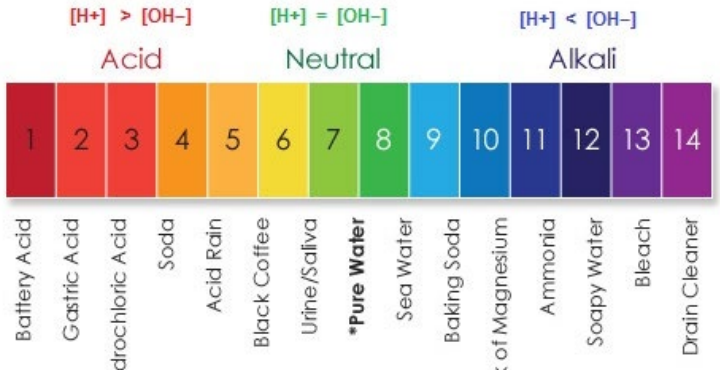


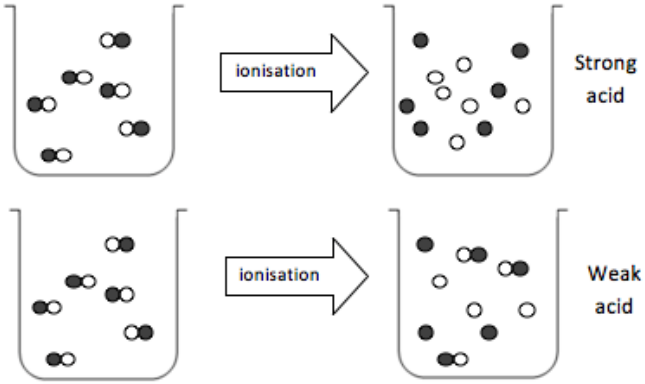


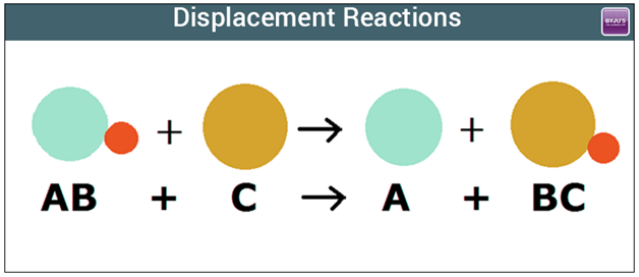
Science – Chemical Changes (1 of 2)

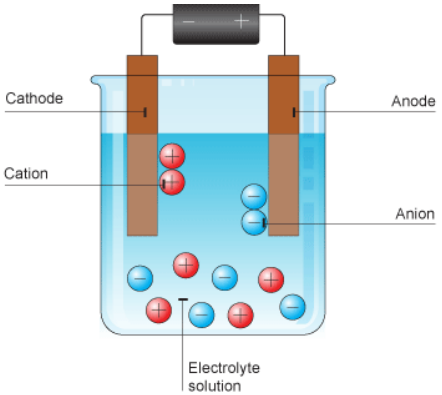
Reactivity series	An arrangement of metals in order of reactivity
Displacement reaction	Reaction where a more reactive element takes the place of a less reactive element in a compound
Oxidation	A reaction in which a substance loses electrons (gains oxygen)
Reduction	Reaction in which a substance gains electrons (loses oxygen)
Ore	A rock from which a metal can be extracted for profit
Acid	Solution with a pH less than 7; produces H^+ ions in water
Alkali	Solution with a pH more than 7; produces OH^- ions in water
Aqueous	Dissolved in water
Strong acid	Acid in which all the molecules break into ions in water
Weak acid	Acid in which only a small fraction of the molecules break into ions in water
Dilute	A solution in which there is a small amount of solute dissolved
Concentrated	A solution in which there is a lot of solute dissolved
Neutralisation	A reaction that uses up some or all of the H^+ ions from an acid
Electrolysis	Decomposition of ionic compounds using electricity
Electrolyte	A liquid that conducts electricity
Discharge	Gain or lose electrons to become electrically neutral
Inert electrodes	Electrodes that allow electrolysis to take place but do not react themselves











Acid + Alkali -> salt + water
Metal + acid -> salt + hydrogen
Metal oxide + acid -> salt + water
Metal carbonate + acid -> salt + water + carbon dioxide

Diatomic molecule	A molecule containing two atoms
Spectator ions	Ions that do not take part in a reaction and do not appear in the ionic equation for the reaction
Ionic equation	Balanced equation for reaction that omits any spectator ions

Common Reactions

Element + oxygen -> oxide of element
Eg Calcium + oxygen -> calcium oxide

Compound + oxygen -> oxides of each element in compound
Eg Methane + oxygen -> carbon dioxide + water

Water + metal -> metal hydroxide + hydrogen (for metals that react with water)
Eg water + sodium -> sodium hydroxide + hydrogen

Acid + metal -> salt + hydrogen
Eg Hydrochloric acid + magnesium -> magnesium chloride + hydrogen

Acid + metal oxide -> salt + water
Eg Sulphuric acid + copper oxide -> copper sulphide + water

Acid + metal hydroxide -> salt + water
Eg nitric acid + potassium hydroxide -> potassium nitrate + water

Acid + metal carbonate -> salt + water + carbon dioxide
Eg hydrochloric acid + calcium carbonate -> calcium chloride + water + carbon dioxide

Acid + ammonia -> ammonium salt
Eg nitric acid + ammonia -> ammonium nitrate

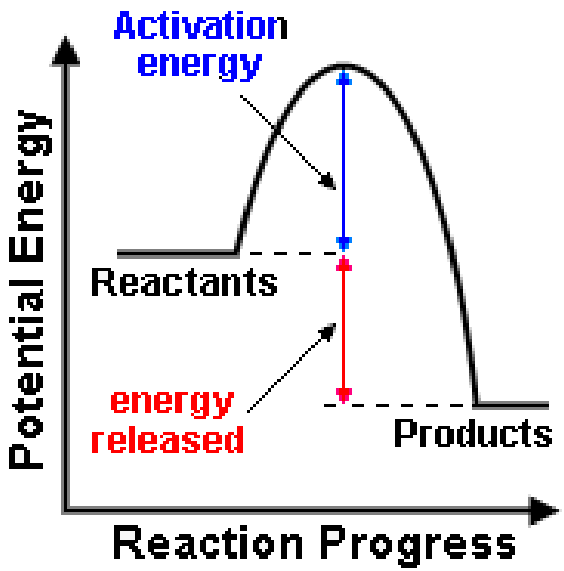
Positive ions

Name	Formula
Hydrogen	H^+
Sodium	Na^+
Silver	Ag^+
Potassium	K^+
Lithium	Li^+
Ammonium	NH_4^+
Barium	Ba^{2+}
Calcium	Ca^{2+}
Copper(II)	Cu^{2+}
Magnesium	Mg^{2+}
Zinc	Zn^{2+}
Lead	Pb^{2+}
Iron(II)	Fe^{2+}
Iron(III)	Fe^{3+}
Aluminium	Al^{3+}

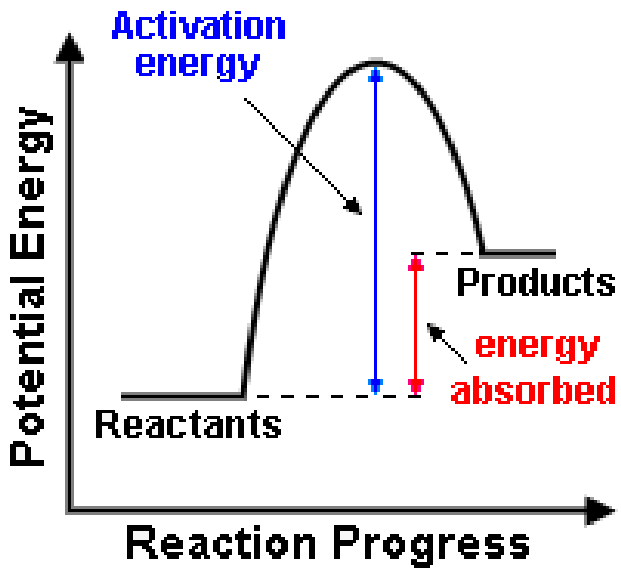
Negative ions

Name	Formula
Chloride	Cl^-
Bromide	Br^-
Fluoride	F^-
Iodide	I^-
Hydroxide	OH^-
Nitrate	NO_3^-
Oxide	O^{2-}
Sulfide	S^{2-}
Sulfate	SO_4^{2-}
Carbonate	CO_3^{2-}

Exothermic reaction	Reaction where thermal energy is transferred from the chemicals to the surroundings and so the temperature increases
Endothermic reaction	Reaction where thermal energy is transferred from the surroundings to the chemicals and so the temperature decreases
Activation energy	The minimum energy particles must have to react



Exothermic reaction

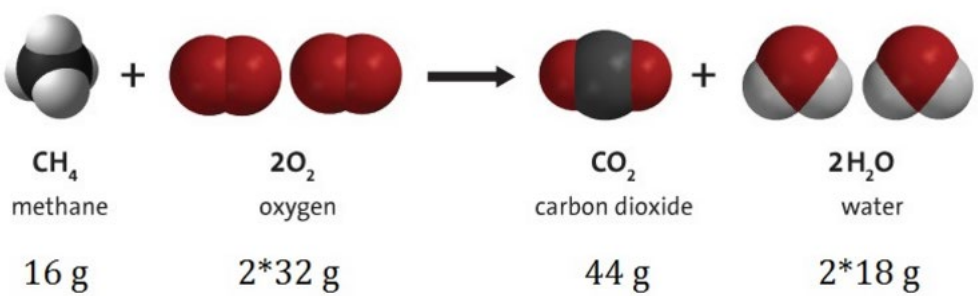


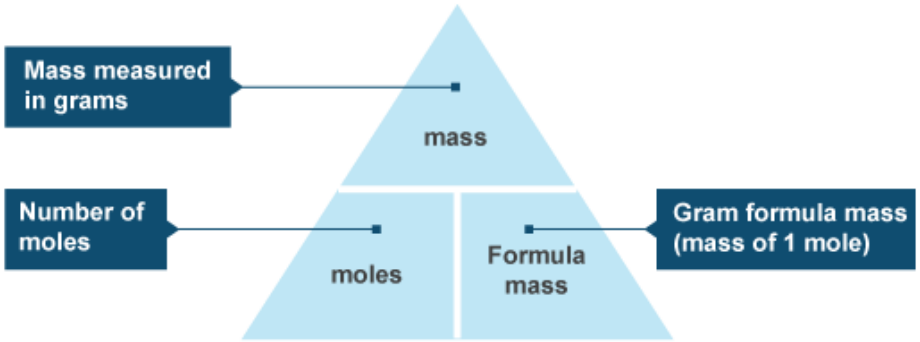
Endothermic reaction

Notes

Science – Quantitative Chemistry

Relative atomic mass	The average mass of atoms of an element, taking into account the mass and the amount of each isotope it contains.
Relative formula mass	The sum of the relative atomic masses of all the atoms in the formula.
Mole	Measurement of the amount of a substance.
Avogadro constant	The number of atoms, molecules or ions in one mole of a given substance (6.02×10^{23}).
Thermal decomposition	Reaction where high temperature causes a substance to break down into simpler substances.
Excess	When the amount of a reactant is greater than the mount that can react.
Limiting reactant	The reactant in a reaction that determines the amount of products formed. Any other reagents are all in excess and will not react.

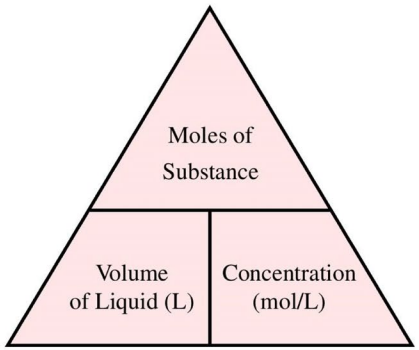


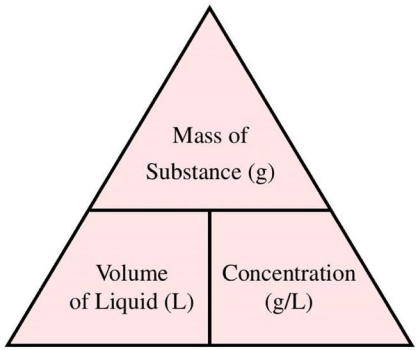


carbon	+	oxygen	→	carbon dioxide
C	**+**	**O_2**	**→**	**CO_2**
12	+	2 x 16	→	12+(2 x 16)
12g		32g		44g

So we need 32g of oxygen to react with 12g of carbon and 44g of carbon dioxide is formed in the reaction.

revisionworld





My Diary : Autumn 2019 - 2

Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	28/10/2019	29/10/2019	30/10/2019	31/10/2019	01/11/2019	02/11/2019	03/11/2019
2	04/11/2019	05/11/2019	06/11/2019	07/11/2019	08/11/2019	09/11/2019	10/11/2019
3	11/11/2019	12/11/2019	13/11/2019	14/11/2019	15/11/2019	16/11/2019	17/11/2019
4	18/11/2019	19/11/2019	20/11/2019	21/11/2019	22/11/2019	23/11/2019	24/11/2019
5	25/11/2019	26/11/2019	27/11/2019	28/11/2019	29/11/2019	30/11/2019	01/12/2019
6	02/12/2019	03/12/2019	04/12/2019	05/12/2019	06/12/2019	07/12/2019	08/12/2019
7	09/12/2019	10/12/2019	11/12/2019	12/12/2019	13/12/2019	14/12/2019	15/12/2019

My Homework

Week						
28/10						
04/11						
11/11						
18/11						
25/11						
02/12						
09/12						
16/12						

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Knowledge, Notes and Quizzes