



My
**Knowledge
Organiser**
and Planner

Autumn 2 - 2019

Year 11

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 |

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



literacy mat

My work

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.

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

What traffic light am I?
Is my punctuation accurate?

L iteracy 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

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.

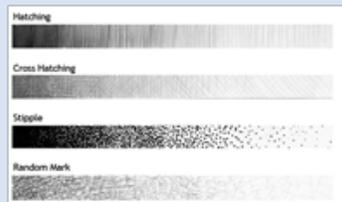
AO4 – Personal Presentation

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

Analysis support

Key Words

Line Tone Form Colour
Pattern Composition
Mood Media



Sentence Starters

- In this piece I have...
- I have shown... In the style of...
 - I have used the following materials...
 - This piece was inspired by...
 - Through working in this way I have learnt to...
 - In this piece I have used too much of / I could have used more of...
 - To improve this piece I could...

What have I done?

Is it a painting, a drawing or a sculpture? Your own design or a copy?

How have I done it?

Try to describe how you built up your work stage by stage.

Why have I done it?

What have I learned through doing it?

About an artist?
New skills?

What medium or materials have I used?

Paint, pencil, collage, mixed media etc.

What have I done well?

Try to list at least 3 points.

What could I improve or what would I change if I were to do it again?

Is my work similar to an artist's work?

Which one? How?

How will this work influence your ideas?

Further sentence starters;

- To start with...
- Secondly
- Next
- Finally
- This has affected...
- This shows..
- Also.....
- Another thing.....
- My plan was...
- The materials.....
- The techniques..
- Because.....
- In conclusion...
- Therefore
- Inspired by
- I considered.....
- I compromised...
- I learnt.....
- I combined.....
- I looked at.....
- I discovered.....
- I explored
- I organised
- I feel.....
- Theme
- Initial idea
- Evidence

Components of the Project that need to be evidenced within your body of work.

- ✓ Title page – Order and/or Disorder.
- ✓ Observational drawings.
- ✓ Mind Map of ideas.
- ✓ Artist research page.
- ✓ Initial ideas – thumbnails.
- ✓ Photographs related to research.
- ✓ Ideas development.
- Annotation and Analysis.
- Final outcome initial design.
- Final outcome created.
- Photographs of final piece.
- Evaluation.



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

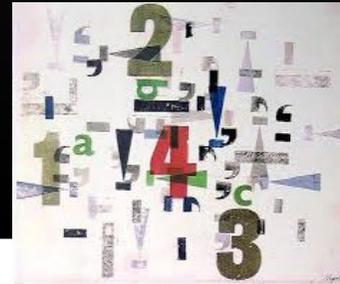
Art studios are open at break time and lunch time daily and are also staffed after College on a Tuesday



Final outcome – using your research and combining your techniques, produce an outcome that is the best version you can make

Reminder of techniques to use

- Collage
- Photogram
- Pinhole
- Stencil
- Monoprint
- Gelli Printing
- Layers in Photoshop
- Colour theory
- Rule of thirds
- Photoshoot



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

Artists to use as inspiration;

Paul Rand, Saul Bass, Milton Glaser, Stefan Sagmeister, El Lissitzky, Chip Kidd, Alan Fletcher, David Carson, Zuzana Licko, Michael Bierut, Paula Scher, Alvin Lustig, Neville Brody, Ed Fella, Reid Miles, Laszlo Moholy-Nagy.

ASSESSMENT OBJECTIVES

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AO4 – Personal Presentation

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

3.5.1 and 3.5.2

What we have already covered:

1. Introducing the Marketing Process
2. Identifying Customers
3. Targeting Customers
4. Segmentation
5. Research Methods
 - a) Primary
 - b) Secondary
 - c) Qualitative
 - d) Quantitative

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

Market Research

Collecting information about the customers’ needs, wants and preferences that will help the business to make design, production and marketing decisions.

Target Market

The particular group of customers to which a business aims to sell its product; a particular market segment.

Market

Where those wishing to buy goods/services make contact with those who have them to sell.

Segmentation

Breaking the whole market for a product into different groups or types of consumers with similar needs/wants/characteristics; enables the marketing mix to be designed to meet their needs more precisely.

Primary Research Methods

Collecting information first-hand direct from the public; field research including surveys, questionnaires and testing designed specifically for the market/product.

Secondary Research Methods

Examining information from published sources; desk research using information that has been collected for other purposes.

Qualitative Research Methods

Collecting information about potential customers’ opinions and preferences about the attributes/characteristics/properties of a product; open questions allow respondents to express their own views by not limiting their responses.

Quantitative Research Methods

Using sampling techniques such as surveys where the findings are expressed numerically; closed questions allow a limited choice of responses and are easy to turn into statistics for analysis.

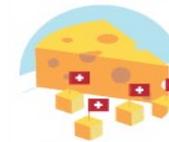
← Key Subject Vocabulary

Primary and Secondary Research Methods



Field research

Desk research



Hall test



Online survey



Sales figures



Newspapers



Face to face



Focus group



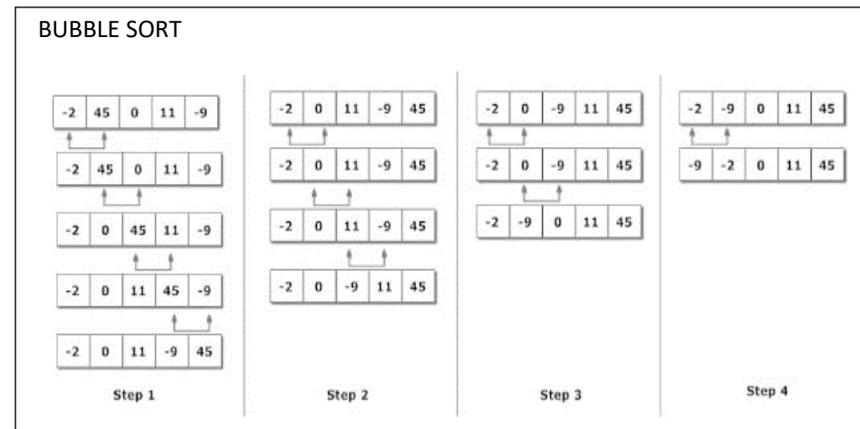
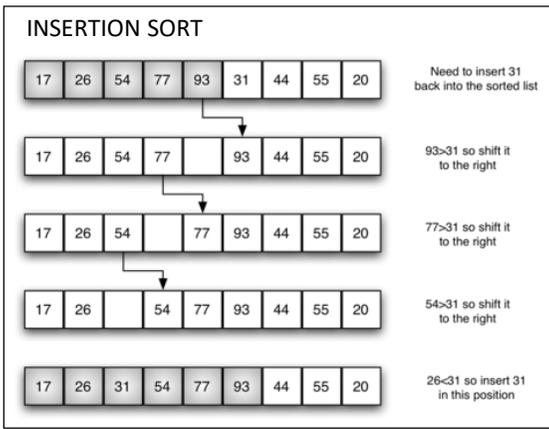
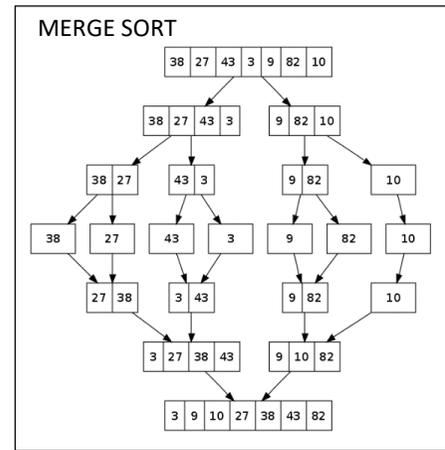
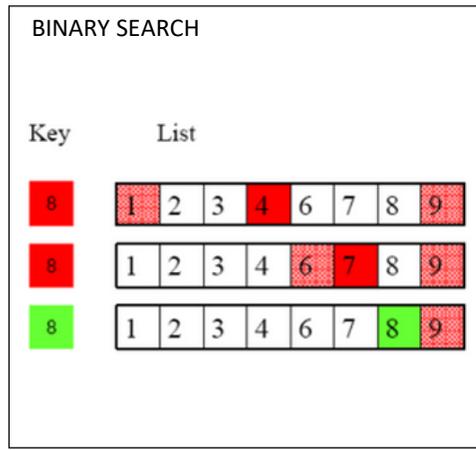
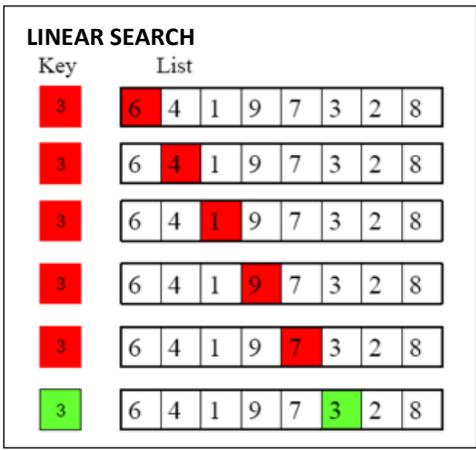
Websites



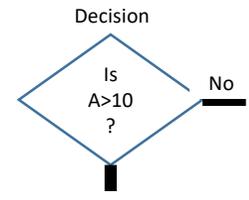
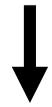
Government reports

Computer Science - Algorithms: Searching and Sorting

| KEY VOCABULARY | |
|----------------|--|
| Algorithm | An abstracted program which completes a given task, whatever the data provided |
| Search | Searching is looking through data, making comparisons with a search term, until the algorithm either finds the data, or identifies that it is not present. |
| Sort | Putting given sets of data into specified order – usually ascending (alphabetical) or descending (reverse alphabetical) |
| Linear Search | A type of search where the computer checks every variable, in order, until it finds the search term. Potentially very slow. |
| Binary Search | A search type based on repeatedly halving the searchable data, until the search term is found |
| Bubble Sort | A method of sorting data which looks at pairs of variable, and swaps them around if out of order. This continues until there are no more swaps to be made |
| Merge Sort | Splits the data into increasingly small segments, until single data points are reached, then reassembles the data structure one item at a time. |
| Insertion Sort | Checks through the data until finding the first incorrectly places item. The algorithm then checks all the previous places to see where the data fits, before inserting it into this slot. |



Flow Diagram Shapes



Always start and end with this

To do something in the program e.g a calculation

Use when there is an input or output required e.g. user inputs their name, program displays their name

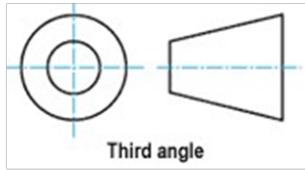
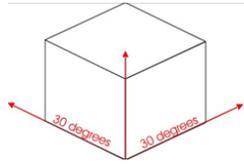
Sequence that performs a specific task. You can use this within your flowchart to show more detail in a specific section

Flow lines – show the flow of information in the algorithm

When a choice has to be made in the program

Design Technology - Engineering

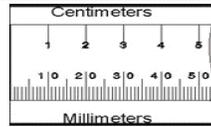
ISOMETRIC



Third angle

Orthographic Projection is a way of drawing a 3D 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**.

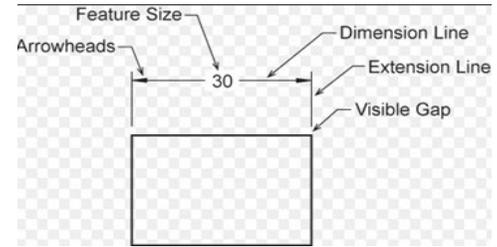
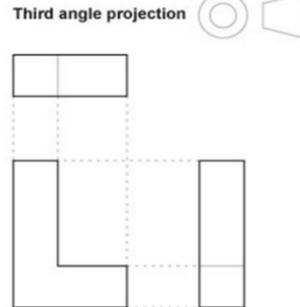
Scale



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.

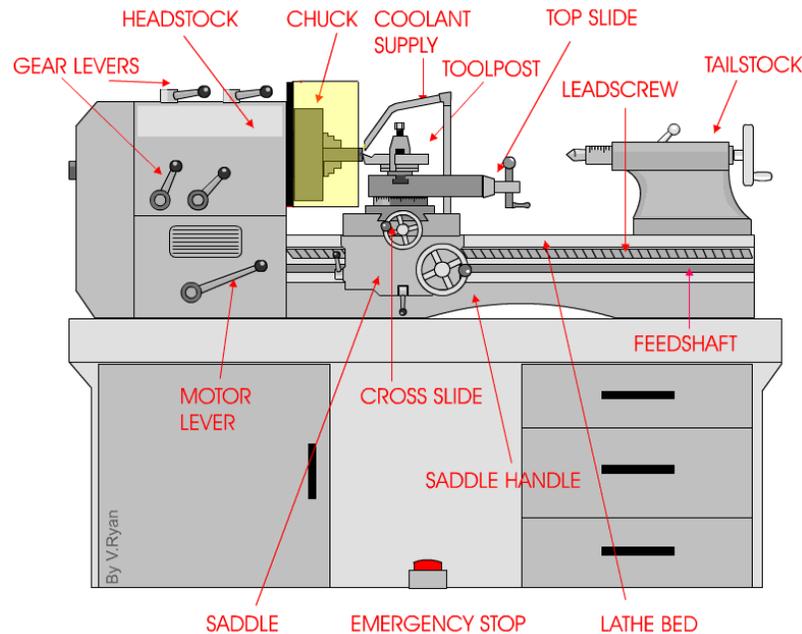
ORTHOGRAPHIC PROJECTION



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

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

CHAMFERING

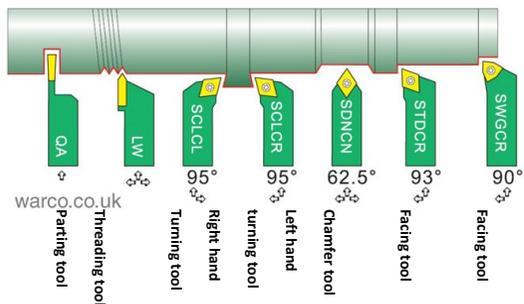
A chamfer is an angle or taper applied to a workpiece. It can be achieved by rotating the top slide to the desired angle

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



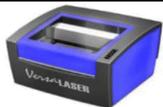
CAD / CAM

1. CAD – Computer Aided Design

| Advantages of CAD | Disadvantages of CAD |
|---|--|
| Designs can be created, saved and edited easily, saving time | CAD software is complex to learn |
| Designs or parts of designs can be easily copied or repeated | Software can be very expensive |
| Designs can be worked on by remote teams simultaneously | Compatibility issues with software |
| Designs can be rendered to look photo-realistic to gather public opinion in a range of finishes | Security issues - Risk of data being corrupted or hacked |
| CAD is very accurate |  <p>CAD Software</p> |
| CAD software can process complex stress testing | |

2. CAM – Computer Aided Manufacturing

| Advantages of CAM | Disadvantages of CAM |
|--|--|
| Quick – Speed of production can be increased. | Training is required to operate CAM. |
| Consistency – All parts manufactures are all the same. | High initial outlay for machines. |
| Accuracy – Accuracy can be greatly improved using CAM. | Production stoppage – If the machines break down, the production would stop. |
| Less Mistakes – There is no human error unless pre programmed. | Social issues . Areas can decline as human jobs are taken. |
| Cost Savings – Workforce can be reduced. | |



Laser Cutter



Robots



Barcode Scanner



AGV – Automated Guided Vehicle

3: Production Techniques

3.1 Flexible Manufacturing Systems (FMS) :

involves an assembly of automated machines commonly used on short-run batch production lines where the products frequently change.

3.2 Lean Manufacturing: It aims to manufacture products just before they are required to eliminate areas of waste including:

- Overproduction
- Waiting
- Transportation
- Inappropriate processing
- Excessive inventory
- Unnecessary motion
- Defects

3.3 Just In Time (JIT) : Items are created as they are demanded. No surplus stock of raw material, component or finished parts are kept.

| Advantages of JIT | Disadvantages of JIT |
|---|--|
| No warehousing costs | Reliant on a high quality supply chain |
| Ordered secured before outlay on parts is required | Stock is not available immediately off-the-shelf |
| Stock does not become obsolete, damaged or deteriorated | Fewer benefits from bulk purchasing |

4. Scales of Production

- One off:** when you make a unique item
- Batch:** when you make a few/set amount
- Mass:** when you make thousands
- Continuous:** open ended production

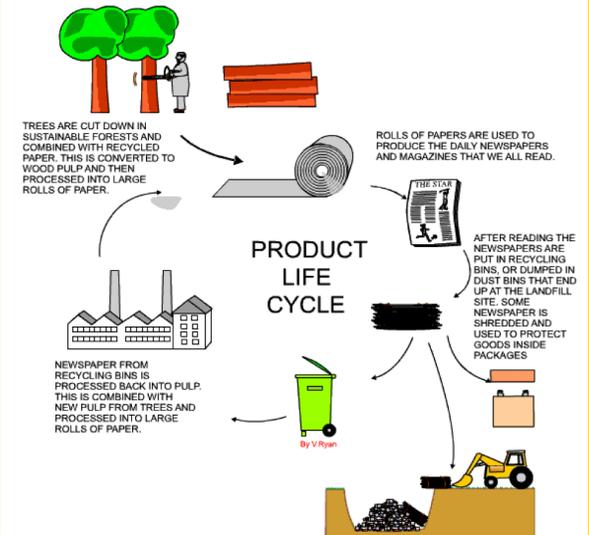
5: Informing Design Decisions

5.1 Planned obsolescence - Planned obsolescence is when a product is deliberately designed to have a specific life span. This is usually a shortened life span.

5.2 Design for maintenance - Products are often designed to be thrown away when they fail... This can be achieved by designing products that can be repaired and maintained.

5.3 Disposability – Some products are designed to be disposable.

5.4 Product Lifecycle -



7: KEY WORD FOCUS

You should be able to explain the meaning of each of these words by the end of this rotation.

| | |
|------|-------------------------------------|
| CNC | Computer Numerical Control |
| EPOS | Electronic Point Of Sale (Barcodes) |

Design Technology – Food: Preparation and Nutrition

Key Vocabulary

| | |
|---------------------------|--|
| Kneading | Stretching the dough by hand or mechanically |
| Proving | Allowing time for the dough to rise; to prove that the yeast is alive |
| Al dente | Firm to the bite |
| Pesto | A sauce consisting of basil leaves, garlic and olive oil |
| Pestle and mortar | implements used to prepare ingredients by crushing and grinding them into a fine paste or powder |
| Seasonal foods | Foods that are only available at certain times of the year |
| Dry heat | Heating without fat or water e.g. dry frying, grilling, using a blow torch, baking |
| Shallow frying | Cooking food in a small amount of fat in a frying pan |
| Poaching | Cooking very gently in hot water |
| Grilling | Food cooked under a direct heat |
| Steaming | Cooking in the steam coming from boiling water |
| Standard component | A standard component is a prepared ingredients used in the production of a food product. Examples of standard components are pizza bases, ready made sauces and frozen pastry. |

Eggs

Nutrition—Eggs contain digestible protein needed for growth, vitamins A, D, E, and B, Iron, Phosphorus and Zinc. Eggs contain small amounts of saturated fat and only 80-90kcal each.

Functions of Eggs

| | | |
|---------------------|---|---|
| Binding | Eggs coagulate when heated | Burgers, fish cakes |
| Coating | Coated in raw egg then dipped in breadcrumbs | Fish cakes, Scotch eggs |
| Glazing | Brushed over food to give a golden colour | Pastry, Scones |
| Thickening | Egg proteins coagulate on heating | Custard, Sauce |
| Trapping air | Egg whites trap air | Mousse, Meringue |
| Enriching | Richer in nutrients | Mashed potato, custard |
| Emulsifying | Lecithin in egg yolk holds oil and water together and stops them separating | Mayonnaise, aioli, Creaming mixture for cakes |

Function of bread ingredients

Wheat flour

- **Bulk**—it gives bulk to the bread
- **Taste**—different flours give different flavours
- **Strong flour**— high protein—gluten
- **Nutrients**—White flour fortified with calcium

Liquid

- **Moisture**—helps create the right conditions for yeast to grow. Liquid hydrates the flour, helping with gluten formation.
- **Warmth**—encourages yeast to grow
- **Steam**—water turns to steam and helps the dough to rise.
- **Structure**— water binds everything together to make the dough

Yeast

- **Raising agent**— living microorganism. With Food, moisture, warmth and time it respire and produces carbon dioxide.



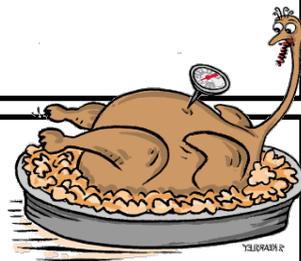
Salt

- **Structure**—Helps with gluten formation
- **Taste**—a small amount improves flavour
- **Too Much**—will stop the yeast from fermenting.

Vegetable Cuts—Vegetables can be cut according to the dish they are being used for

Key Temperatures

5C — 63C—Temperature Danger Zone
63C and above — Hot held food
75C—Cooked Food



-18C - Temperature of a freezer
5C - Temperature of a fridge

Cooking Methods

Dry Heat Methods:

Baking, Roasting, Toasting, Grilling

Frying Methods

Shallow frying, Deep frying, Stir frying

Moist Heat Methods

Boiling, Simmering, Poaching, Stewing, Braising, Pressure cooking, Steaming, Blanching, Sous Vide



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 oxidation 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. |

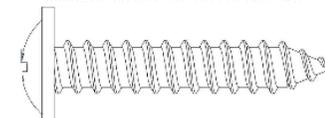
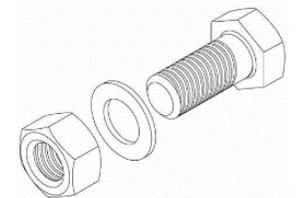
Permeant and Non Permeant Joints in Metal

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..

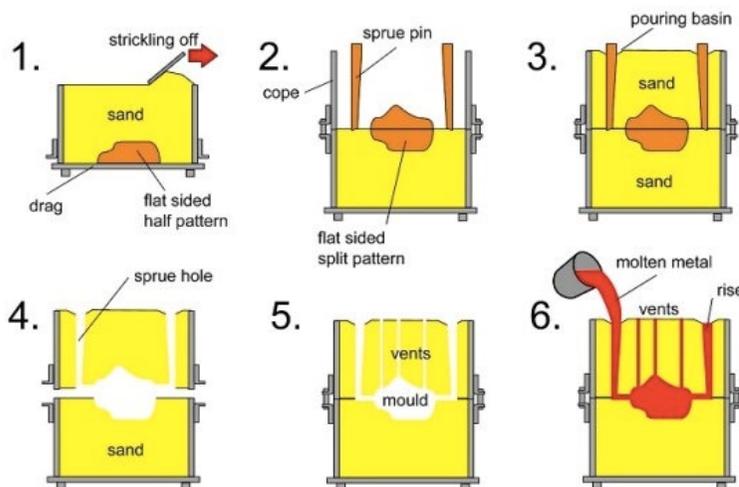
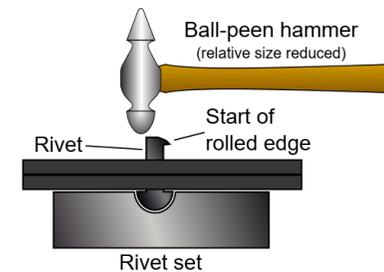
Non permanent methods of joining metal involve use of nuts, bolts and self tapping screws.

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.

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



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



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 **spue 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 - Component 1: Devising Theatre

Overview

Portfolio

- 750-900 words written

Performance

- 2 Actors (5-10 minutes)
- 3 Actors (7-12 minutes)
- 4 Actors (9-14 minutes)
- 5 Actors (11-16 minutes)

Evaluation

- 1 hour 30 minutes
- 2 sides of A4

Assessed on either **acting** or **design**.

Designers **must** work with a group of **actors**.

It is **not necessary** for all **acting groups** to work with **designers**.

Work in groups of between **two** and **five** actors.

Each group may have up to **four designers**, each offering a **different design skill**.

Actors will be assessed on their **performance skills**.

- Vocal Skills
- Physical Movement
- Spatial Relationships

Designers must pick **one skill** from the list below:

- lighting design
- sound design
- set design (including props)
- costume design (including hair and make-up).

Devising Theatre: Performance

Devise a piece of **theatre** in **response** to the **stimulus** chosen from the selection.

Must demonstrate **one** of the following:

- the **techniques** of a theatre **practitioner**
- the dramatic **characteristics** of a specific **genre**

Create and **develop** ideas to communicate **meaning** to an **audience** by:

- **Researching** and **developing** ideas using: **Techniques** or **characteristics** of the **practitioner** or **genre**
- **Rehearsing**, **amending** and **refining** the work in progress.

Choose **one** stimulus from a list of four:

- *(a quotation)*
- *(a song)*
- *(a picture)*
- *(a concept or statement)*

Stimulus
Idea
Develop
Research
Rehearse
Perform

Evaluation

2 sides of A4

Reflecting on the **Final Performance**

The **evaluation** is your reflection on the **final performance**.

You **must** include your chosen **stimuli** and **practitioner/ genre**.

Use them to open your evaluation and refer to them throughout.

1 **Analyse** and **evaluate** **interpretation** of **character/role** or their realisation of **design** in the **final performance**.

2 **Analyse** and **evaluate** how own performance **skills** or design skills contributed to the **effectiveness** of the **final performance**.

3 **Analyse** and **evaluate** individual **contribution** to **fulfilling** the **aims** of the piece in the **final performance**.

1. How did your character/ role add to the design of the piece?

2. How did you use your skills to add effect in the final performance?

3. What Went Well? How was your piece successful?

4. Even better if? What was unsuccessful? What could you do to make your performance even better?

5. How did you fulfil the purpose of your piece of theatre?

English – Language

| Language Subject Terminology | |
|------------------------------|--|
| Word Classes | |
| Noun | Identifies a person (girl), thing (wall), idea (luckiness) or state (anger). |
| Verb | Describes an action (jump), event (happen), situation (be) or change (evolve). |
| Adjective | Describes a noun (happy girl, grey wall). |
| Adverb | Gives information about a verb (jump quickly), adjective (very pretty) or adverb (very quickly). |
| Sentence Structures | |
| Fragment | An incomplete sentence (no subject verb agreement). “Nothing.” “Silence everywhere.” |
| Simple | A sentence with one independent clause. “She went to the shop.” |
| Compound | A sentence with multiple independent clauses. “She went to the shop and bought a banana” |
| Complex | A sentence with one independent clause and at least one dependent clause. “Sometimes, when she goes to the shop, she likes to buy a banana.” |
| Language Techniques | |
| Diction | The writer’s choice of words. |
| Hyperbole | The use of extreme exaggeration. |
| Imagery | When the writer provides mental “pictures”. |
| Irony | Like sarcasm, where the opposite is implied. |
| Juxtaposition | Two ideas together which contrast each other. |
| List (of three) | A number of connected items (three= effect). |
| Metaphor | Something is presented as something else. |
| Oxymoron | Contradictory terms together “bittersweet”. |
| Pathos | Language used to appeal to the emotions. |
| Personification | Giving human traits to something non-human. |
| Repetition | When a word, phrase or idea is repeated. |
| Semantic Field | A set of words from a text related in meaning. |
| Simile | Something is presented as like something else. |
| Symbolism | An idea is reflected by an object/character etc. |
| Syntax | The way words and phrases are arranged. |

| This Quotation/ Reference... | | |
|------------------------------|-------------|--------------|
| Achieves | Advances | Affects |
| Allows | Alludes to | Builds |
| Concludes | Confirms | Conveys |
| Denotes | Develops | Demonstrates |
| Displays | Justifies | Exaggerates |
| Encourages | Enhances | Establishes |
| Exemplifies | Explains | Explores |
| Exposes | Forces | Generates |
| Highlights | Hints | Identifies |
| Ignites | Illustrates | Impacts |
| Implies | Identifies | Indicates |
| Initiates | Introduces | Involves |
| Justifies | Juxtaposes | Kindles |
| Launches | Leads to | Maintains |
| Manifests | Notifies | Offers |
| Portrays | Presents | Produces |
| Progresses | Promotes | Prompts |
| Provokes | Questions | Represents |
| Reveals | Shows | Signifies |
| Sparks | Suggests | Supports |
| Symbolises | Transforms | Triggers |
| Typifies | Upholds | Underscores |
| Validates | Verifies | Yields |
| Effect on the Reader | | |
| Believe | Consider | Decide |
| Discover | Realise | Understand |
| Appreciate | Conclude | Visualise |
| Sympathise | Empathise | Sense |
| Wish | Assume | Track |
| Build | Question | Picture |
| Compare | Focus | Perceive |
| Contrast | Clarify | Know |
| Discover | Think | Feel |
| Examine | Note | Imagine |
| Identify | Pity | Consider |

| Structural Subject Terminology | |
|---|--|
| Types of Narrator | |
| Limited 3rd person | External narrator with knowledge of one character’s feelings (he). |
| Omniscient 3rd person | External narrator- knowledge of more than one character’s feelings (he). |
| 1st person | Told from a character’s perspective (I). |
| 2nd person | Directed to the reader (you). |
| Unreliable narrator | When the perspective offered makes us question the narrator’s credibility. |
| Narrative Styles | |
| Linear | Events are told chronologically. |
| Non-Linear | Events are not told chronologically. |
| Dual | Told from multiple perspectives. |
| Cyclical | Ends the same way it begins. |
| Explaining the Extract. | |
| Introducing | An idea or character is first shown. |
| Focusing | Our attention is aimed somewhere. |
| Building | When an idea/tension is increased. |
| Developing | An earlier point is extended. |
| Changing | A shift is created for an event/idea. |
| Concluding | Ideas/ events are drawn to a close. |
| Structural Techniques | |
| Atmosphere | The mode or tone set by the writer. |
| Climax | The most intense or decisive point. |
| Dialogue | The lines spoken by characters. |
| Exposition | The start where ideas are initiated. |
| Flashback | (Analepsis) Presents past events. |
| Flash-forward | (Prolepsis) Presents future events. |
| Foreshadowing | Hints what is to come(can mislead). |
| Motif | A recurring element in a story. |
| Resolution | The answer or solution to conflict. |
| Setting | A geographical/historical moment. |
| Spotlight | Emphasis is placed on something. |
| Shift | A switch or change of focus. |
| Tension | The feeling of emotional strain. |

English – Literature (1 of 2)

| Poem | Conflict | Power | 5 Key Quotations | Structure | Context |
|----------------------------|--|--|--|--|--|
| Ozymandias | Conflict between a warriors great power being reduced to wreckage. | Human power doesn't last forever. Nature is stronger. | Two vast and trunkless legs of stone Sneer of cold command Look on my works ye Mighty and despair! Nothing beside remains Colossal wreck boundless and bare | The sonnet rhyme scheme is irregular, perhaps symbolic of the broken statue itself, no longer perfect. | It acts as a warning to anyone who thinks they are immortal that power won't last. Also a romantic poet who believed in the power of nature. |
| Prelude | Conflict between man and nature: nature proves it is more powerful. | The power and beauty of nature to make man feel overwhelmed and insignificant. | An act of stealth and troubled pleasure Heaving through the water like a swan Huge peak, black and huge With trembling oars I turned O'er my thoughts there hung a darkness | As journey progresses poem becomes rougher. 'And' is repeated to give a breathless feel. | This romantic poet emphasised the power and beauty of nature. |
| London | Conflict caused by the greatest city in the world having great poverty and oppression. | The abuse of power in Victorian England and the lack of power amongst the poor in society. | Where the chartered Thames does flow The mind-forged manacles I hear Every black'ning church appals The hapless soldiers sigh Blights with plagues the Marriage hearse | The regular rhyme scheme reflects the regular walking pace of the narrator as he walks around the city. | Set during poverty of industrial revolution when there was huge poverty. The poet is supporting the French revolution's quest for liberty. |
| Poppies | Conflict from perspective of mother left behind when son goes to war. | The powerless of the mother who must deal with her son's departure to war. | Before you left I pinned one onto your lapel Crimped petals, spasms of paper red The world overflowing like a treasure chest A single dove flew from the pear tree Hoping to hear your playground voice...on the wind | The poem uses a lot of enjambment to enhance the idea of natural tone and the mother's voice. | The poem is focused on the idea of poppies as symbols of memorial. |
| Remains | Explores the long term effects that conflict in war has on a soldier. | A soldier's power or lack of power over his own memories and experiences of war. | Probably armed, possibly not We got sent out to tackle looters Pain itself, the image of agony He's here in my head when I close my eyes His bloody life in my bloody hands | Enjambment shows the painful memories run on and on in his mind. | This poem highlights the problem of post-traumatic stress disorder in soldiers. |
| Storm on the Island | The conflict between man and nature and people's fear of the weather. | The power of the weather to instil fear into man. | We are prepared: we build our houses squat The wizened earth had never troubled us Spits like a tamed cat turned savage Exploding comfortably down on the cliffs It is a huge nothing that we fear | Present tense suggests the storm is occurring now. Enjambment helps add to the conversational tone. | The poet was born on an isolated storm-battered island which acts as a metaphor for the troubles in Ireland. |
| War Photographer | Conflict between a warzone and rural England. | The powerful war images contrast with the detached way they are consumed. | Spools of suffering set out in ordered rows Rural England. Home again to ordinary pain. Hands... did not tremble then but seem to now He remembers the cries of this man's wife He stares impassively...and they do not care | The regular 4 line structure reflects the order he is giving to the chaos in the photos. | The poet is bitter about the indifferent way in which people view modern warfare through newspapers. |
| My Last Duchess | Conflict between how the speaker presents himself and who he actually is. | The power the speaker had over his wife's life. | That's my last duchess...looking as if she were alive Who passed without much the same smile? Had you skill in speech – which I have not - I gave commands then all smiles stopped Notice Neptune though taming a sea horse | Enjambment, caesura and pauses to reflect the speaker's train of thought. Rhyming couplets and iambic pentameter show high status. | Based on The Duke of Ferrara from the Italian Renaissance to indirectly comment on sin in the Victorian era. |

English – Literature (2 of 2)

| Poem | Conflict | Power | 5 Key Quotations | Structure | Context |
|------------------------------------|--|--|--|--|--|
| <i>Exposure</i> | Conflict between man and the cruel weather in a warzone. | Nature is more powerful and deadly than bullets and shells. | Merciless iced east winds that knife us Mad gusts tugging on the wire Pale flakes with fingering stealth come...for our faces Shutters and doors are closed: on us the doors are closed But nothing happens | The 5th line in each stanza creates an anti-climax. Para-rhyme reflects how unsettled the soldiers are. | The poet wanted to truthfully show the real conditions for soldiers on the trenches. |
| <i>Charge of the Light Brigade</i> | The bravery of the soldiers and the stupidity of the mission. | The powerful military rhythm matches the rhythm of marching drums. | Into the valley of death rode the six hundred Someone had blundered Stormed at with shot and shell Theirs not to reason why theirs but to do and die When can their glory fade? | It has a military rhyme similar to the sound of marching drums of horse hooves. | A miscommunication led a group of soldiers head first into a battle with catastrophic results. |
| <i>Tissue</i> | Conflict caused by holding onto things too tightly. | This poem explores how we cling too tightly to power and should build more things with paper-like qualities. | Paper that lets the light shine through If building were paper I might feel their drift Maps too. The sun shines through. Fly our lives like paper kites Raise a structure never meant to last | Enjambment creates a human and calm tone. The poem starts looking at the joy of things like paper and wonders what the world would be like if it had the same qualities. | Written from the POV of someone looking at the troubles of the modern world; destruction, war and politics and wealth as well as issues like terrorism and identity. |
| <i>Bayonet Charge</i> | The conflict involved in rushing out of the trenches to attack. | The powerful and raw emotions involved in rushing out from the trenches. | Suddenly he awoke and was running He lugged a rifle numb as a smashed arm The patriotic tear...sweating like molten iron A yellow hare that rolled like a flame His terror's touchy dynamite | Enjambment adds to the chaos of the battlefield | This poem looks at the dehumanising impact of leaving the trenches into no-man's-land. |
| <i>Checking out me History</i> | Conflict between what we are taught and not taught by society. | This poem rebels against the way powerful black figures from history are marginalised. | Bandage up me eye with me own history Dem tell me bout Dick Whittington and he cat But dem never tell me about Mary Seacole Nanny see-far woman of mountain dream I carving out me identity | The irregular verse and colloquial language mirrors the drum beat of Caribbean music. | The poem looks at how history is taught and the conflict between fact and truths which is sometimes obscured by race or gender. |
| <i>Emigree</i> | Conflict between childhood memories of a place and adult understanding. | The power of childhood memories of a place can affect people in adulthood. | My memory of it is sunlight clear I am branded by an impression of sunlight The child's vocabulary I carried here like a hollow doll I comb its hair and love its shining eyes They accuse me of being dark in their free city | The lack of a consistent line structure or rhyme reflects the speaker's confusing feelings about the city. | The poet bases many of the ideas on examples of emigration from countries like the Middle East where people are fleeing corruption and tyranny. |
| <i>Kamikaze</i> | Conflict between the rules and honour of society and the desire to survive and return to family. | The power of the Japanese government and the power of family. | A one way journey into history A gree-blue translucent sea My mother never spoke again We too learned to be silent wondered which had been the better way to die | Uses italics for an aside to maybe show the daughter speaking to her own children | It was considered a great honour in Japan to die for your country. The pilot in this poem returns home and is rejected by his family forever. |

Geography – Resource Management

Resource Challenges

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

Significance of Water

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

FOOD



WATER



ENERGY



Without enough nutritious food, people can become **malnourished**. This can make them ill. This can prevent people working or receiving education.

People need a supply of **clean and safe water** for drinking, cooking and washing. Water is also needed for food, clothes and other products.

A good supply of energy is needed for a basic standard of living. People need **light and heat** for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

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

1. Population Growth

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



2. Economic Development

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



Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.

Carry Capacity – A maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!



3. Changing Technology and Employment

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



Food in the UK

Growing Demand

- The UK imports about 40% of its food. This increases people's **carbon footprint**.
- There is growing demand for greater choice of **exotic foods** needed all year round.
- Foods from abroad are more affordable.
- Many food types are unsuitable to be grown in the UK.



Agribusiness

Farming is being treated like a large **industrial business**. This is increasing **food production**.

- + **Intensive farming maximises the amount of food produced.**
- + **Using machinery which increases the farms efficiency.**
- **Only employs a small number of workers.**
- **Chemicals used on farms damages the habitats and wildlife.**

Impact of Demand

Foods can travel long distances (**food miles**). **Importing food adds to our carbon footprint.**

- + **Supports workers with an income + Supports families in LICs.**
- + **Taxes from farmers' incomes contribute to local services.**
- **Less land for locals to grow their own food.**
- **Farmers exposed to chemicals.**



Sustainable Foods

Organic foods that have little impact on the environment and are **healthier** have been rising. **Local food sourcing is also rising in popularity.**

- **Reduces emissions** by only eating food from the UK.
- **Buying locally sourced food** supports local shops and farms.
- A third of people **grow their own food**.

Unit 2c

The Challenge of Resource Management



Energy in the UK



Growing Demand

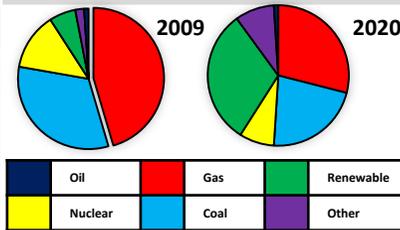
The UK **consumes less energy** than compared to the 1970s despite a smaller population. This is due to the **decline of industry**.

Changes in Energy Mix

- 75% of the UK's oil and gas has been used up.
- Coal consumption has declined.
- UK has become too dependent on imported energy.

Energy Mix

The majority of UK's energy mix comes from **fossil fuels**. By 2020, the UK aims for 15% of its energy to come from **renewable sources**. These renewable sources do not contribute to **climate change**.



Water in the UK

Growing Demand

The average water used per household has risen by **70%**. This growing demand is predicted to increase by **5% by 2020**.

This is due to:

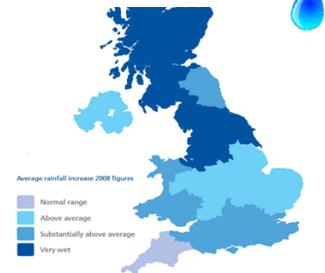
- A growing UK population.
- Water-intensive appliances.
- Showers and baths taken.
- Industrial and leisure use.
- Watering greenhouses.

Pollution and Quality

Cause and effects include:

- Chemical run-off from farmland can destroy habitats and kills animals.
- Oil from boats and ships poisons wildlife.
- Untreated waste from industries creates unsafe drinking water.
- Sewage containing bacteria spreads infectious diseases.

Water stress in the UK



Management

UK has **strict laws** that limits the amount of discharge from factories and farms. **Education campaigns** to inform what can be disposed of safely. **Waste water treatment plants** remove dangerous elements to then be used for safe drinking. Pollution traps catch and filter pollutants.

Water Transfer

Water transfer involves moving water through pipes from areas of surplus (Wales) to areas of deficit (London).

Opposition includes:

- Effects on **land and wildlife**.
- High maintenance **costs**.
- The **amount of energy** required to move water over long distances.

Energy in the UK (continued)

Significance of Renewables

- + The UK government is investing more into low carbon alternatives.
- + UK government aims to meet targets for reducing emissions.
- + Renewable sources include wind, solar and tidal energy.
- **Although infinite, renewables are still expensive to install.**
- **Shale gas deposits may be exploited in the near future**

Exploitation

- | | |
|-----------|--|
| Nuclear | New plants provide job opportunities. Problems with safety and possible harm to wildlife. Nuclear plants are expensive. |
| Wind Farm | Locals have low energy bills. Reduces carbon footprint. Construction cost is high. Visual impacts on landscape. Noise from wind turbines. |

R022 LO3: Practical Planning

Gibbs' Reflective Cycle

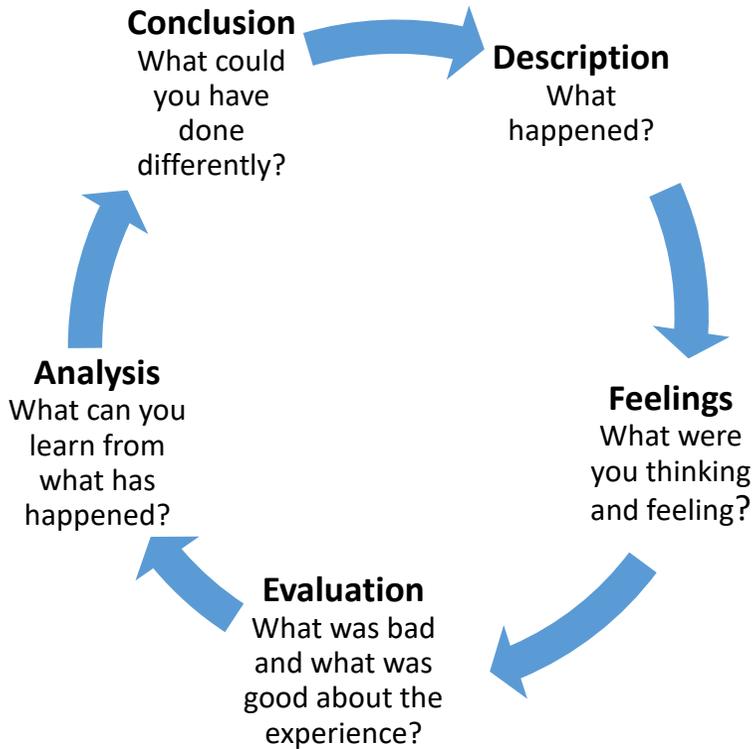
One to One Task

Trevor

Trevor is 55 years of age. He has very high blood pressure and has to visit the GP each month to have this checked. He also visits the local hospital once each month for physiotherapy, as he had a lymph gland removed from his leg and this has caused his leg to swell.

Trevor will need to give and obtain information about himself and his conditions with the care professionals. There will also be occasions when he will need to exchange ideas and opinions.

You have been asked to talk with Trevor about the amount of exercise he is doing and to suggest how he could do more to help himself to become more mobile.



Group Task

Skye

Skye is four years of age. She attends 'Parrots Playgroup' for three mornings each week. While at the playgroup Skye likes to join in some of the creative activities that are taking place. She enjoys making things.

While she is at the playgroup she will talk to the nursery nurse about the activities she is doing and ask questions. Children always want to know 'why' when they are asked to do things.

The nursery nurse may on some occasions ask Skye some questions when she needs some information, for example, if she is upset or pleased about something or when she finds an activity that interests her.

Skye has arrived at the playgroup and has decided to join in the creative activities session using card, materials and paints.

Practical Assessment Outcome: You will perform, using knowledge from LO1 and LO2, in a group and in a one to one scenario demonstrating how to effectively communicate.

Reviewing your performance: You will need to look carefully at how you effectively communicated in each scenario given.

Competency
You'll need to consider how much support you were given, if any.

Remember:

- Communication Skills
- Correct steps, in the correct sequence

Strengths and Weaknesses
Be confident in deciding what you did well and what didn't go so well.

Ask yourself:

- Confident?
- Independence?
- Performance?
- Communication?

Suggest Improvements
Use your reflections on your performance administering first aid to suggest how you could improve.

Consider:

- What didn't go well?
- Your weaknesses
- What couldn't you remember?

History - Health and Medicine 4: Advances in Medical Knowledge

Definition of topic:

It is easy to assume medical knowledge in medieval times was limited, yet there is plenty of evidence of successful medical treatment if you had access to a doctor, even from the Stone Age. It was perhaps the Renaissance and the later arrival of scientific method that really changed our understanding of illness and made significant advances in medical knowledge, something which continues apace today. This unit explores the 'turning points' in the growth of medical knowledge.

| | |
|------------------|---|
| 900AD | First Medical University in Italy |
| 1476 | William Caxton invented the Printing Press |
| 1543 | Andreas Vesalius published ' <i>De humani corporis fabrica libri septem</i> ' which completely changes attitudes to medicine. |
| 1628 | William Harvey published ' <i>On the Motion of the Heart</i> ' which challenged the work of Galen & medicine forever. |
| 1882 | Robert Koch identified Tuberculosis bacteria |
| 1910 | Paul Ehrlich developed Salvarsan 606 known as 'magic bullets' which identified specific germs which cause illness. |
| 1914-1918 | Mobile x-ray units set up to check for bullets, shrapnel etc |
| 1953 | Crick, Watson & Franklin publish a paper about DNA |
| 1996 | Cloning (copying cells) & modifying DNA to eliminate genetic diseases |

Keywords and concepts

Poultice : A soft, moist mass of material often made from bran, flour, herbs. Applied to the body to relieve soreness & inflammation.

Indulgences : If you bought an indulgence from the church, the church would lessen the punishment for your sins, allowing you to get to heaven more quickly when you die.

Renaissance : Meaning rebirth or renewal, usually refers to the period from 14th – 17th century where great advances were made in learning, science & art.

Ligatures : A cord used to tie something very tightly, in this case in order to stop bleeding.

MRI : Magnetic Resonance Imaging – uses radio waves to build up a detailed picture of organs & tissues within the body

PET scans : Positron Emission Tomography – injects a radioactive tracer into the bloodstream to produce 3D images of tissues & bones.

KPI Common medical ideas of the Medieval Era

Medieval physicians used **astrology** to help treat patients. They believed the movement of the planets affected people's health. The '**Valemeccum**' is the book that contained the signs of the zodiac and the '**zodiac man**' charts. They used this to work out which treatments could be used on certain parts of the body at that time.

The theory of the **four humours was developed by Hippocrates** in Ancient Greece. The humours are **four liquids, phlegm, blood, black bile and yellow bile**. These are each related to the four elements and the four seasons. For example, blood represents Spring, and Air (hot and moist).

KPI 2: The influence of Vesalius, Paré, and Harvey on Medical Knowledge

During the sixteenth century, there was a '**Renaissance**' in learning and science. The invention of the mechanical printing press in Germany helped spread new ideas. **There were also new inventions like the thermometer and the microscope** which helped improved observation.

Andreas Versalius was a professor of anatomy at Padua university. In **1543** he published the book '**Fabric of the human body**'. He insisted on the dissection of human bodies and so helped improve medical knowledge.

Paré was an army surgeon who spent years treating wounded soldiers. He discovered that instead of **cauterising** wounds, it would heal more quickly if covered with bandages and ends of arteries were tied by **ligatures**. In **1562**, he published his '**Five Books of Surgery**' which provided the latest research.

William Harvey studied medicine at Cambridge and Padua. He believed in the importance of observation. **He dissected live animals to study the movement of blood to the heart. He realised that blood went away from the heart and then flowed back**. In **1628**, he published his findings in a book, '**An Anatomical Account of the Motion of the Heart and Blood in Animals**'.

KPI 3: Louis Pasteur and Robert Koch

Louis Pasteur carried out medical research in Paris. **Pasteurisation** was discovered, boiling a liquid killed harmful germs, it was used to stop milk, beer and wine from going sour. Germ theory meant that microbes in the air caused decay, this was discovered in **1861**. In 1879, he also took the germ that caused chicken cholera and injected chickens with a weaker form of the disease. He did the same for anthrax and rabies. **Koch was a German doctor** who furthered the work of Pasteur. He linked particular germs and microbes to particular diseases. **In 1872, he began to study Anthrax**, he studied the blood of animals that were affected and those that weren't affected, and so discovered the bacteria that caused it. He developed a solid culture on which to breed colonies of germs and later identified the tuberculosis and the cholera germ. **Koch was the pioneer of bacteriology and was awarded the Nobel peace prize for his research in 1905**.

KPI 4: The Development of scanning techniques in 20th century

In 1895, William Röntgen, discovered x-rays in Germany. The first ever x-ray photograph was of his wife's hand. These discoveries enabled surgeons to look inside the patient without surgery. X-rays were really important during WW1, enabling doctors to locate deeply lodged bullets and shrapnel.

The second half of the century saw the development of ultrasound and MRI scans. Ultrasound can produce 3D images of inside the body. First used in 1977, Magnetic Resonance imaging can create pictures of tissues, organs and features inside the body.

KPI 5: The Discovery of DNA and genetic research in the later 20th century

The Human Genome project was set up to discover the roles of the 100,000 genes in a single human DNA molecule. It was completed in 2003 and today genetic screening and testing has been used to prevent disease. Work continues on Gene therapy, using genes from healthy people to cure the sick.

Chez moi!

Translate it! Learn It! Use it! Think it!

Où j'habite

J'habite ...
Ma famille et moi habitons ...
On habite ...



Where I live

I live ...
My family and I live ...
We live ...
in an historic/touristy town
in a small village
at the seaside
in the town centre
in the countryside/mountains
in town
in England/Scotland/(Northern)
Ireland/Africa

dans une ville historique/touristique
dans un petit village
au bord de la mer
au centre-ville
à la campagne/montagne
en ville
en Angleterre/Écosse/Irlande (du Nord) /
Afrique
au Maroc/pays de Galles
aux Antilles
à Paris/Birmingham
dans le nord-est du/de la/de l'/des ...
le nord/le nord-est
l'est/le sud-est
le sud/le sud-ouest
l'ouest/le nord-ouest

Dans ma région, il y a ...
des vignobles/stations de ski
des collines/forêts
des fermes/champs
un port de pêche
un lac

C'est super parce qu'en hiver/en été,
on peut (faire du ski/de l'escalade).

In my region there is/are
vineyards/ski resorts
hills/forests
farms/fields
a fishing port
a lake
It's great because in winter/summer,
you can (go skiing/climbing).



Add a bit of sophistication and complexity!

il faut que ma ville soit... – my town needs to be..

pour que ça aille mieux – in order to make it better

bien que ce soit pollué – although it is polluted

A choisir entre la ville et la campagne – If I had to chose between town and countryside...

je ne crois pas que ce soit vrai – I don't think it's true

je suis triste que la planète souffre – I'm sad the planet suffers

que ça te plaise ou non – whether you like it or not

avant que tu ne decides – before you decide

le plus cher que j'aie jamais vu – the most expensive I've seen



Translate it! Learn It! Use it! Think it!

En ville

Il y a ...

un château
un centre de loisirs
un marché
un musée
un parc/jardin public
un stade
un supermarché
un théâtre
une bibliothèque
une cathédrale
une église (SNCF)
une gare (SNCF)
une mairie
une mosquée
une pharmacie
une poste (un bureau de poste)
des hôtels
beaucoup de magasins

Il n'y a pas de ...

Est-ce qu'il y a un/une/des ... près d'ici/
par ici?

Va/Allez tout droit.

Tourne/Tournez à droite/gauche.

Prends/Prenez la première/deuxième
rue à droite/gauche.

Continue/Continuez jusqu'au carrefour/
jusqu'aux feux.

Traverse/Traversez la place/le pont.

Descends/Descendez la rue.

C'est ...

(assez) loin/tout près
sur ta/votre droite/gauche
au coin
en face (du/de la/de l'/des)
à côté (du/de la/de l'/des)

In town

There is/are ...

a castle
a leisure centre
a market
a museum
a park
a stadium
a supermarket
a theatre
a library
a cathedral
a church
a (train) station
a town hall
a mosque
a chemist
a post office
hotels
lots of shops

There isn't a/are not any ...

Is/Are there a/some ... near here/
round here?

Go straight on.

Turn right/left.

Take the first/second road on the
right/left.

Continue as far as the crossroads/
traffic lights.

Cross the square/bridge.

Go down the road.

It is ...

(quite) a long way/very close
on your right/left
on the corner
opposite
next to



Scan me

Use different tenses

- Je vivais I used to live
- J'habitais I used to live
- Je m'entendais bien avec I used to get on well with
- Je faisais I used to do
- Je voulais I used to want
- J'ai changé d'avis I changed my mind
- J'ai envie de I want to
- J'ai l'intention de I intend to
- Je veux I want
- Je voudrais I would like
- J'aimerais I would like
- J'aurai I will have
- J'habiterai I will live
- Je vivrai I will live
- J'aurais préféré I would have preferred
- Ma vie idéale serait My ideal life would be
- Mon partenaire idéal serait My ideal partner would be
- Je vivrais seul/seule I would live alone

Expressing Opinions

- Je suis d'accord I agree
- Je ne suis pas d'accord I don't agree
- Selon moi According to me
- Quant à moi As for me
- À mon avis In my opinion
- En ce qui me concerne As far as I'm concerned
- Malgré ce que tout le monde dit, je trouve que...: despite what everybody is saying I think that...
- Certains croient que...: some believe that...

Add a bit of sophistication and complexity!

- Bien que mon quartier soit+...even though my area is..
- C'est une ville si dynamique mais bruyante: it is such a dynamic but noisy town
- Ce qui me plait le plus/ moins: what I like the best/ the least
- Un avantage/ un inconvénient c'est que...: an advantage/ inconvenient is that...

Vivo en – *I live in*

mi ciudad natal – *my home (birth) city*

Una ciudad/un pueblo – *a city/town (or village)*

Está (situado) en el norte/este/sur/oeste/centro de Inglaterra – *it is (situated) in the north/east/south/west/centre of England*

Está rodeado de – *it's surrounded by*

Está en el campo/en la costa/en las montañas – *it is in the countryside/coast/mountains*

Está cerca de... - *it is near to* _____

Está lejos de... - *it is far from* _____

Es una ciudad industrial/turística/histórica/moderna/rural/de la costa – *it is an industrial/touristy/historical/modern/rural/coastal city*

El centro – *the centre* Las afueras – *the suburbs*

Un barrio que se llama '.....' – *an area which is called '....'*

En mi barrio hay... - *In my area there is/are...*

Pero no hay (**un/una**...)... *But there is no...*

(unos) museos - *museums*

(unos) grandes almacenes – *department stores*

(unas) tiendas locales – *local shops*

(un) cine - *cinema*

(un) polideportivo – *sports centre*

(un) estadio de rugby/de fútbol – *rugby/football stadium*

(una) pista de patinaje – *skating rink*

(un) ayuntamiento – *town hall*

lugares de interés – *places of interest*

Lo mejor de mi barrio es... *The best thing about my area is...*

Lo peor de donde vivo es... *The worst thing about where I live is...*

Que hay mucho bullicio*that there's lots of hustle and bustle*

Que hay tantas diversiones*that there are so many fun things*

Que (no) hay mucho que hacer – *that there is (not) a lot to do*

Que está cerca del centro/mis amigos/el colegio – *that it is near to the centre/my friends/the school*

Que (no) tiene un equipo de fútbol famoso – *that is has (no) famous football team*

Que hay mucha marcha – *that there's loads going on*

Me gustaría vivir en... - *I would like to live in...*

Prefiero vivir en el campo porque... - *I prefer to live in the country because...*

Hay más naturaleza/espacios verdes/paisaje bonito – *there is more nature/green spaces/pretty countryside*

Hay menos ruido/tráfico/gente/basura/contaminación – *there is less noise/traffic/people/rubbish/pollution*

Me gusta(n) la naturaleza/los animales – *I like nature/animals*

Prefiero vivir en la ciudad porque... - *I prefer to live in the city because*

Hay más cosas que hacer/gente/transporte público – *there are more things to do/people/public transport*

Es más viva y animada/conveniente – *it is more lively and animated*

Una ventaja es ... - an advantage is...

Una desventaja es...- a disadvantage is...

Poder viajar fácilmente – *being able to travel easily*

Estar cerca de mis amigos – *being close to my friends*

Estar lejos del bullicio de la ciudad – *being far away from the bustle of the city*

Poder ir de paseo – *being able to go for a walk*

Poder jugar en el aire libre – *being able to play in fresh air*

Estar en un sitio tranquilo – *being in a quiet place*

Se puede – you can...

visitar el barrio antiguo, el Barbican – *visit the historic area*

hacer un recorrido en autobús – *do a bus tour*

aprovechar el paisaje – *make the most of the scenery*

apreciar las tiendas – *appreciate the shops*

coger un ferry a Cornwall – *catch a ferry to Cornwall*

probar platos típicos (*tales como los mariscos*)

– *try typical dishes (like seafood)*

practicar/aprender deportes acuáticos – *do/learn water sports*

practicar senderismo en – *do hiking on the moors*

aprender sobre la historia y la cultura – *learn about the history and culture*

Habrán – there WILL be Habría – there WOULD be

En el futuro habrá... - *in the future there will be...*

Están construyendo... - *they are building*

Una nueva estación de trenes/de autobuses – *a new train/bus station*

Unos nuevos colegios – *some new schools*

Un nuevo centro comercial – *a new shopping arcade*

Un centro de ocio – *a leisure centre*

Más bloques de pisos en el centro – *more blocks of flats in the centre*

Una nueva universidad – *a new university*

Un aeropuerto – *an airport*

Si yo fuera el alcalde... - *if I were the mayor*

Si tuviera el dinero... *if I had the money*

Si fuera posible...*it it were possible*

Pondría – *I would put in*

(no) habría – *there would (not) be*

Quitaría – *I would take away*

Más parques de patinaje – *more skate parks*

Más cines – *more cinemas*

Una piscina moderna – *a modern swimming pool*

Una conexión rápida a Londres – *a fast connection to London*

Las fábricas - *factories*

Los profesores – *teachers*

Los colegios – *the schools*

Más días de fería – *more bank holidays*

Una mejor red de transportes – *a better transport network*

Una red de wifi gratis – *a free wifi network*

**EL FUTURO
El fin de
semana
que viene**

EL problema es que.... the problem is that

En mi ciudad hay - *in my city there is/are*

mucha basura- *a lot of rubbish*

mucha circulación – *a lot of traffic*

mucho ruido – *a lot of noise*

muchas fábricas – *a lot of factories*

más de doscientos cincuenta habitantes – *more than 250,000 inhabitants*

demasiada construcción – *too much building*

Que (no) hay much@ ruido/contaminación/circulación

/gente/espacio verde/naturaleza– *that there is (not) a lot*

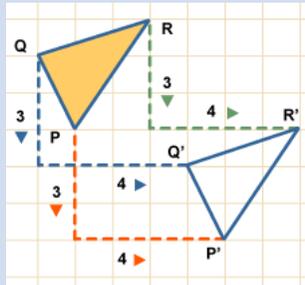
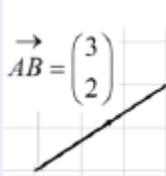
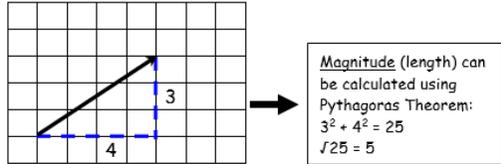
of noise/pollution/traffic/people/green space/nature

El clima es... The climate is...

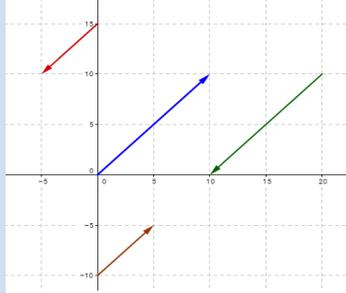
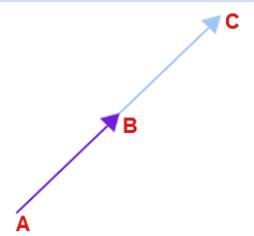
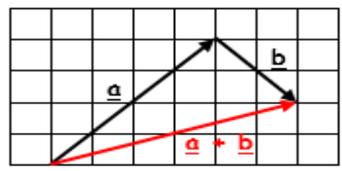
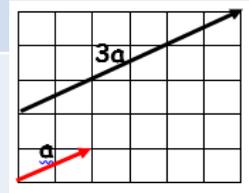
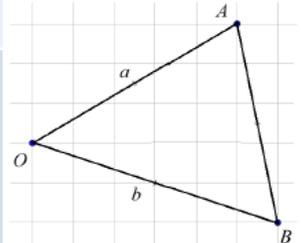
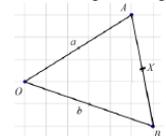
caluroso/soleado/seco/
templado/frío/variable

*warm/sunny/dry/mild/col
d/variable*

Maths – Foundation and Higher: Vectors

| Topic/Skill | Definition/Tips | Example |
|---------------------------|--|--|
| 1. Translation | <p>Translate means to move a shape. The shape does not change size or orientation.</p> |  |
| 2. Vector Notation | <p>A vector can be written in 3 ways:</p> $a \text{ or } \overrightarrow{AB} \text{ or } \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ | |
| 3. Column Vector | <p>In a column vector, the top number moves left (-) or right (+) and the bottom number moves up (+) or down (-)</p> | <p>$\begin{pmatrix} 2 \\ 3 \end{pmatrix}$ means '2 right, 3 up'</p> <p>$\begin{pmatrix} -1 \\ -5 \end{pmatrix}$ means '1 left, 5 down'</p> |
| 4. Vector | <p>A vector is a quantity represented by an arrow with both direction and magnitude.</p> $\overrightarrow{AB} = -\overrightarrow{BA}$ |  |
| 5. Magnitude | <p>Magnitude is defined as the length of a vector.</p> |  |
| 6. Equal Vectors | <p>If two vectors have the same magnitude and direction, they are equal.</p> |  |

Maths – Foundation: Vectors and Higher

| Topic/Skill | Definition/Tips | Example |
|------------------------|---|---|
| 7. Parallel Vectors | <p>Parallel vectors are multiples of each other.</p> | <p>$2\mathbf{a}+\mathbf{b}$ and $4\mathbf{a}+2\mathbf{b}$ are parallel as they are multiple of each other.</p>  |
| 8. Collinear Vectors | <p>Collinear vectors are vectors that are on the same line. To show that two vectors are collinear, show that one vector is a multiple of the other (parallel) AND that both vectors share a point.</p> |  |
| 9. Resultant Vector | <p>The resultant vector is the vector that results from adding two or more vectors together. The resultant can also be shown by lining up the head of one vector with the tail of the other.</p> | <p>if $\underline{\mathbf{a}} = \begin{pmatrix} 4 \\ 4 \end{pmatrix}$ and $\underline{\mathbf{b}} = \begin{pmatrix} 2 \\ -2 \end{pmatrix}$ then $\underline{\mathbf{a}} + \underline{\mathbf{b}} = \begin{pmatrix} 4 \\ 4 \end{pmatrix} + \begin{pmatrix} 2 \\ -2 \end{pmatrix} = \begin{pmatrix} 6 \\ 2 \end{pmatrix}$</p>  |
| 10. Scalar of a Vector | <p>A scalar is the number we multiply a vector by.</p> | <p>Example: $3\mathbf{a} + 2\mathbf{b} =$ $= 3\begin{pmatrix} 2 \\ 1 \end{pmatrix} + 2\begin{pmatrix} 4 \\ -1 \end{pmatrix}$ $= \begin{pmatrix} 6 \\ 3 \end{pmatrix} + \begin{pmatrix} 8 \\ -2 \end{pmatrix}$ $= \begin{pmatrix} 14 \\ 1 \end{pmatrix}$</p>  |
| 11. Vector Geometry |  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $\begin{aligned} \vec{OA} &= \mathbf{a} & \vec{AO} &= -\mathbf{a} \\ \vec{OB} &= \mathbf{b} & \vec{BO} &= -\mathbf{b} \\ \vec{AB} &= \vec{AO} + \vec{OB} = -\mathbf{a} + \mathbf{b} = \mathbf{b} - \mathbf{a} \\ \vec{BA} &= \vec{BO} + \vec{OA} = -\mathbf{b} + \mathbf{a} = \mathbf{a} - \mathbf{b} \end{aligned}$ </div> | <p>Example 1: X is the midpoint of AB. Find \vec{OX} Answer: Draw X on the original diagram</p>  <p>Now build up a journey. You could use $\vec{OX} = \vec{OA} + \frac{1}{2}\vec{AB}$. This will give: $\vec{OX} = \mathbf{a} + \frac{1}{2}(\mathbf{b} - \mathbf{a})$. This will simplify to $\frac{1}{2}\mathbf{a} + \frac{1}{2}\mathbf{b}$ or $\frac{1}{2}(\mathbf{a} + \mathbf{b})$</p> |

The Music Industry - EXTERNAL EXAM

Part 1: Understanding different types of organisations that make up the music industry

Part 1: Understand 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

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

Introducing Music Performance

Part 1: Develop your music performance skills and review your own practice

- Techniques
- Interpretation skills and stylistic qualities

Part 2: Use your Music Performance skills within rehearsal and performance

- Music rehearsal skills
- Personal management skills
- Music skills in rehearsal and performance
- Interpretive skills and stylistic qualities

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

Information on performance tip

<https://daveruch.com/advice/how-to-engage-an-audience-concert/#>



Mock Interviews and Next Steps

Mock Interview Preparation

Key concepts/questions/checklist:

BEFORE your mock interview you will need to have completed the following:

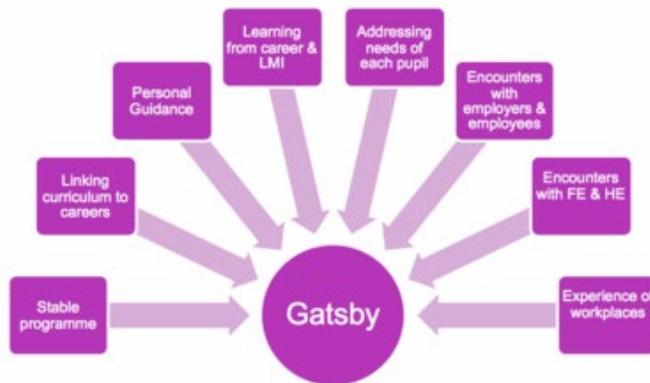
- The final **Mock Interview Application Form** and **emailed it to Mrs Harris** and your P4L Teacher by the deadline at the top of the application form.
- Updated** and **printed** off your CV and Personal Statement that you created in Yr 10.

For the mock interview itself:

- Take your CV and Personal Statement with you
- Dress smartly and formally
- Make sure you know **WHEN** and **WHERE** your Mock Interview is taking place and **ARRIVE EARLY.**

Top Interview Tips:

- Smile and introduce yourself when you enter the room.
- Shake the person's hand who is interviewing you and look them in the eye when you do this.
- When they ask a question, give yourself a couple of seconds **BEFORE** you start to answer it. This will give you some thinking time.
- Ask them to repeat the question if you are unsure what they mean.



Examples of SKILLS:

- Team-work
- Problem-Solving
- Communication
- Time Management skills
- Organisation skills
- Creativity
- Planning
- Negotiation skills

Examples of Personal Qualities:

- Determined
- Resilient
- Dependable
- Adaptable
- Considerate
- Enthusiastic
- Friendly
- Ambitious
- Polite

Key Terms:

Personal Statement – a written description of your skills, achievements and personal qualities, with examples to support what you are including.

Achievement – what you can show you have improved on. This might include certificates or prizes or awards that are not related to school work.

Skill – something you can learn to **do**, such as work in a team, solve problems, leadership, communicate, use ICT and so on.

Personal Quality – How you come across or behave, such as friendly, determined, resilient and so on.

Responsibilities – Something that you have chosen or have been given to do on your own, or lead on. This might include out of school activities such as child-minding, walking the family dog, caring for a younger sibling or parent.

References/Referees – the name and contact details of someone who is not a family member, who can write about you for the purposes of applying for a job. Whilst you are still in education, it would always include your current headteacher. If you have part-time work or do volunteering, you can include that person for as the second reference/referee.

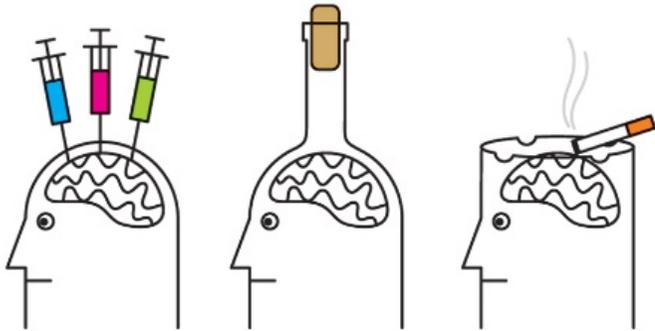
Psychology – Psychological Problems: Addiction

Nature

- Some people have a **genetic vulnerability**- more likely to develop an addiction
- Kaij's twin study provides evidence

Nurture

- Environmental factors have a higher effect on likelihood of becoming addicted
- **Conformity** (link to Social Influence) plays a part in terms of **peer influence**
- Family attitudes also has an impact



Kaij's Alcohol Abuse in Twins

Aim: To see if hereditary factors influence the development of alcohol addiction

Study Type: Case study including questionnaires and interviews of twins and other family members. 174 ppts, 48 pairs of monozygotic, 126 dizygotic. All male and born in Southern Sweden after 1880s.

Method: Kaij characterised each twin depending on their level of alcohol abuse. 5 categories ranging from not drinking to chronic alcoholic

Results: Found that 54% of identical twins were in the same category of alcohol use but only 28% of non-identical twins were. As the level of alcohol increased, higher concordance rate for identical twins, 72% of chronic alcoholics twins being in the same category as their twin

Conclusion: There are hereditary factors involved in the levels of alcohol usage and in alcohol addiction.

Evaluation:

- + Provides evidence for hereditary factors
- Self-report method is subjective, may not be accurate
- Only looked at alcohol abuse, cannot be generalised to other addictions

Keywords

Addiction- repeated use of a substance resulting in an individual becoming entirely focused on the substance

Aversion Therapy- a treatment to stop unwanted behaviours including some unpleasantness

Dependence- brain and body only functions normally when a substance is present, withdrawal symptoms occur when it is not present

Hereditary- transferred from parent to child through their genes

Self- management programmes- An intervention designed to support and empower individuals to take responsibility of their choices

Substance Abuse- Using a substance in a way that is harmful because of a consistent pattern of use

Substance Misuse- using a substance that is different from its intended use

Diagnosing Dependency Syndrome

Symptoms given by ICD-10:

- A strong desire to use a substance despite harmful consequences
- Difficulty in controlling use
- Priority given to the substance over other obligations
- Experiences withdrawal symptoms when substance is stopped
- Increased tolerance= larger amounts needed

Religious Studies - Beliefs & Teachings: Islam

Key beliefs about God

- There is only **ONE** God (**monotheism**). The 'oneness' of God is called **Tawhid** in Arabic.
- Muslims call God **Allah**, which means 'the one true God'.
- God cannot be divided and has never had a Son.
- In **the Qur'an** and **the Sunnah**, Allah has **99 'names'**. E.g. the Merciful, the Just, the Almighty...
- **Allah** is the same God that Jews and Christians worship.
- **Allah** has **revealed** his will through his **prophets**.
- Muslims share many of the beliefs that Jews and Christians have about God E.g. He is the creator, eternal, omnipotent, omniscient, etc.
- **Allah** must never be pictured.
- **Allah** is beyond understanding and nothing must ever be compared to **Allah**. Comparing things to **Allah** is a terrible sin.
- All humans must 'submit' to the will of **Allah** (Islam means 'submission').

Prophethood

- **Allah** appoints particular people to spread his messages.
- These people receive **revelation** from **Allah** through his **Angels**.
- There are 25 key **prophets** of Allah identified in **the Qur'an**, including Musa (Moses) and Isa (Jesus).



RISALAH: The Prophets

Adam

- Created specially by **Allah**.
- Given dominion over the earth by **Allah**.
- The first human to communicate with **Allah**
- The first **Muslim**.

Ibrahim

- One of **Allah's** most faithful servants.
- Opposed **idolatry**.
- Risked his life to argue for **monotheism**.
- A great role-model.
- An ancestor of **Muhammad**.

Muhammad

- **Allah's** final and greatest **prophet**.
- Received the **revelation of the Qur'an**.
- A great teacher.
- A great role-model.
- A military commander.
- Set up the first Muslim community in **Makkah**.
- Must be respected but not worshipped.

Sunni and Shi'a Islam

Sunni Muslims (majority)

- See the elected **Caliphs** as the successors of **Muhammad**
- Follow the 6 'articles of faith': **Tawhid**, the **Day of Judgement**, the **Prophets**, **Angels**, the supremacy of **Allah's** will and the authority of **the Qur'an**.

Shia Muslims (minority)

- See the **Imams** (descendants of **Muhammad**) as **Muhammad's** successors
- Believe each **Imam** must choose his successor before he dies
- Follow the 5 'roots' of Usul ad-Din: **Tawhid**, **Prophethood**, **Allah's Justice (Adalat)**, **Resurrection** and the **Imamate**

The Qur'an

- The word of **Allah** given to **Muhammad** through Jibril
- Originally dictated in Arabic
- The original words have never been altered
- Infallible: corrects all previous **revelation** from God
- Divided into '**Surahs**
- Supplemented by **the Hadiths** and **the Sunnah**

AKHIRAH: Life after death

HEAVEN AND HELL

- Described in different ways by different Muslims.
- People go to heaven or hell for eternity after the **Day of Judgement**.
- Heaven is described in **the Qur'an** as a garden paradise.
- Hell described in **the Qur'an** as a place of fire and pain.
- Faithful and righteous Muslims will go to heaven.
- Non-Muslims and unrighteous Muslims will go to hell.

ANGELS

- Bring **Allah's** revelations to his **prophets**.
- Created by **Allah** from light.
- Usually invisible but sometimes take human form.
- Pure and sinless.
- Do not have **free-will**.
- Have various roles.
- Some are named E.g. Jibril, Mika'il, Israfil, Iblis.

The Day of Judgment

- When all humans will be judged by **Allah** based on how they have lived.
- Judgement will lead to punishment (hell) or reward (heaven).
- Preceded by a state of waiting in the grave called **barzakh**.
- While in the grave, people are questioned by **Angels**.
- People will be **resurrected** before their judgement.



Predestination

- **Allah** is in total control of all events and **knows** everything that will happen.
- Because **Allah** is **transcendent** (beyond time and space), he is not limited by time or space.

BUT

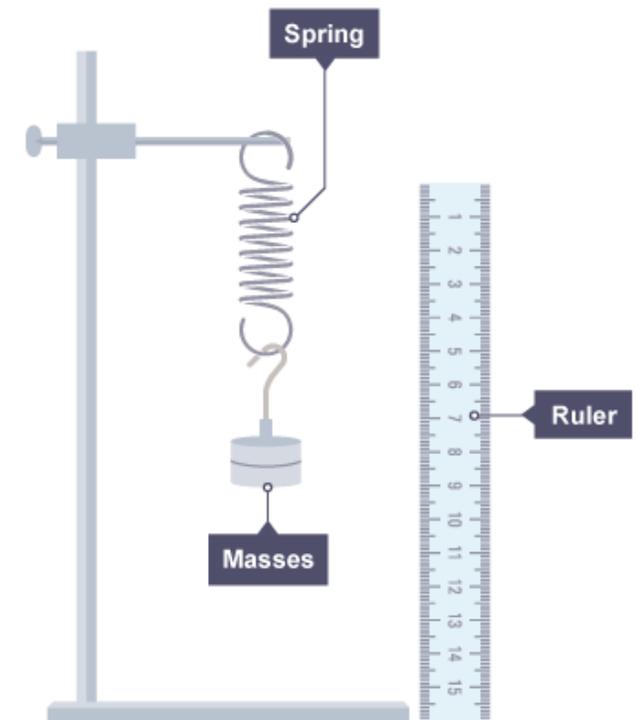
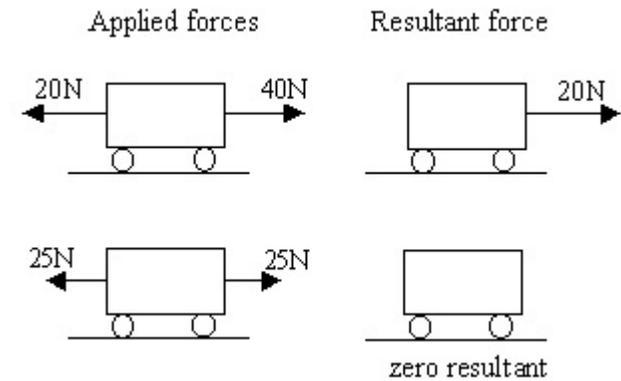
- **Allah** does not **decide** what will happen.
- Humans have **free-will** and are responsible for their choices.
- Humans will be judged by **Allah** based on their choices.

Science - Forces (1 of 2)

Key Terms

| | |
|---------------------------------|---|
| Scalar | A quantity with only magnitude (size) and no direction. |
| Vector | A quantity with both magnitude and direction. |
| Velocity | A speed in a defined direction. |
| Displacement | A distance travelled in a defined direction. |
| Force | A push or a pull. |
| Contact force | A force that can be exerted between two objects when they touch. |
| Non-contact force | A force that can sometimes be exerted between two objects that are physically separated. |
| Centre of mass | The point through which the weight of an object can be taken to act. |
| Resultant force | A number of forces acting on an object may be replaced by a single force that has the same effect as all the forces acting together. This single force is called the resultant force. |
| Joule | The unit of work. |
| Elastic deformation | When an object returns to its original length after it has been stretched. |
| Inelastic deformation | When an object does not return to its original length after it has been stretched. |
| Extension | The difference between the stretched and unstretched lengths of a spring. |
| Limit of proportionality | The point beyond which a spring will be permanently deformed. Elastic deformation stops and inelastic deformation starts. |

$w = m \times g$ **weight = mass x gravity.**
 $W = F \times d$ **Work done = force x distance moved**
 $F = k \times e$ **Force = spring constant x extension**
 $E_e = \frac{1}{2}ke^2$ **Elastic potential energy = 0.5 x spring constant x extension²**



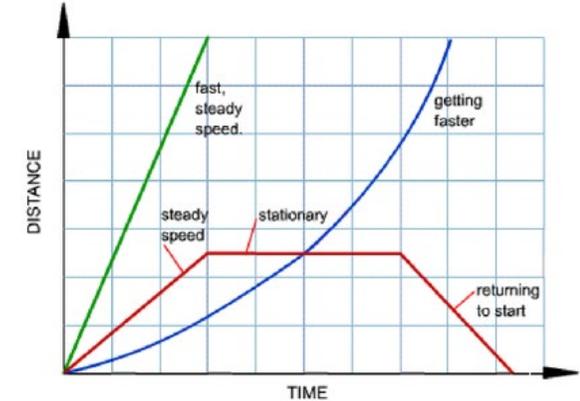
Science - Forces (2 of 2)

Key Terms

| | |
|--------------------------|---|
| Terminal velocity | When the weight of a falling object is balanced by resistive forces. |
| Inertia | Inactivity. Objects remain in their existing state of motion – at rest or moving with a constant speed in a straight line – unless acted on by an unbalanced force. |
| Thinking distance | The distance a car travels while the driver reacts. |
| Braking distance | The distance a car travels while the car is stopped by the brakes. |
| Stopping distance | The sum of the thinking distance and braking distance |
| Closed system | A system with no external forces on it. |

Distance-time graphs

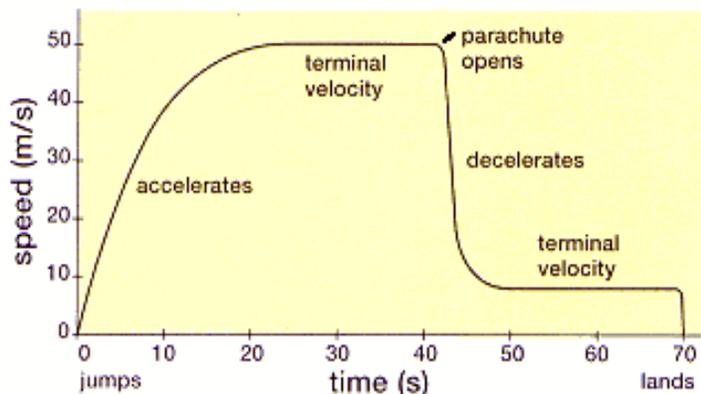
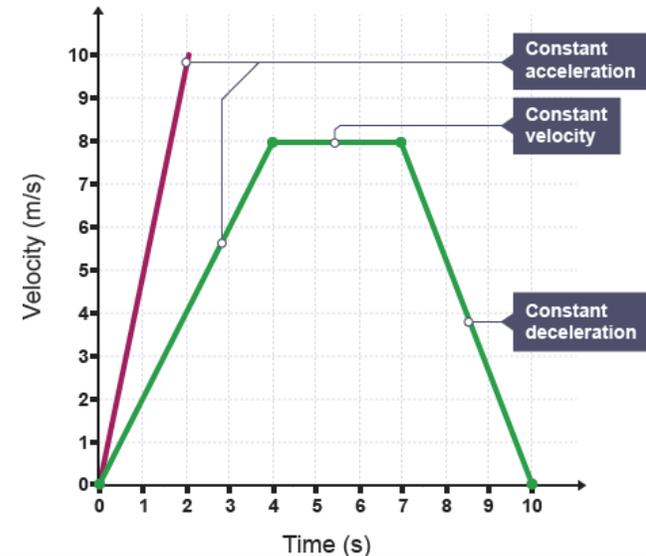
Gradient (dis/time) = speed



- $s = d \div t$ speed = distance \div time.
- $a = (v-u) \div t$ acceleration = change in velocity \div time.
- $F = m \times a$ Force = mass \times acceleration.
- $p = m \times v$ momentum = mass \times velocity.
- $(mv - mu) = F \times t$ change in momentum = Force \times time.

Velocity-time graphs

Gradient (velocity/time) = acceleration
Area under graph = distance travelled



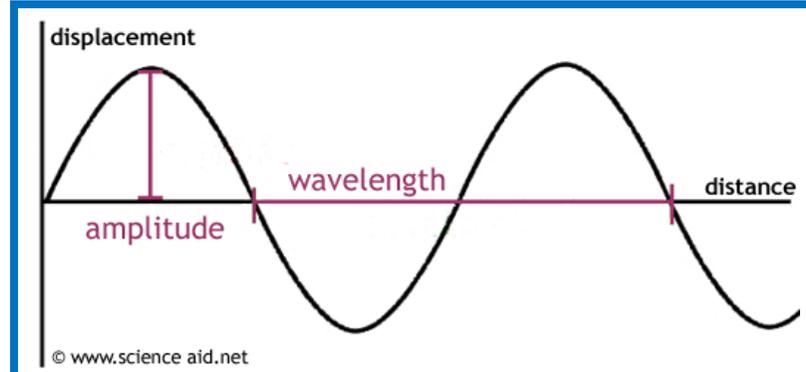
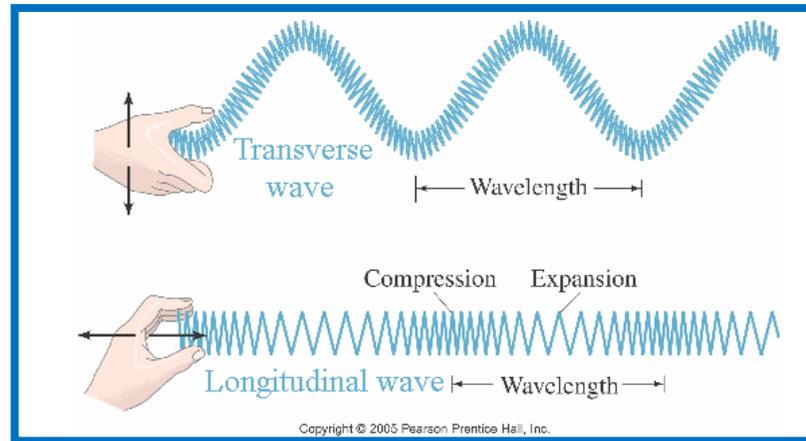
STOPPING DISTANCES

| Speed | Thinking Distance | Braking Distance | Total Stopping Distance |
|-----------------|-------------------|------------------|--|
| 20mph (32km/h) | 6m | 6m | 12 metres (40 feet) or 3 car lengths |
| 30mph (48km/h) | 9m | 14m | 23 metres (75 feet) or 6 car lengths |
| 40mph (64km/h) | 12m | 24m | 36 metres (118 feet) or 9 car lengths |
| 50mph (80km/h) | 15m | 38m | 53 metres (175 feet) or 13 car lengths |
| 60mph (96km/h) | 18m | 55m | 73 metres (240 feet) or 18 car lengths |
| 70mph (112km/h) | 21m | 75m | 96 metres (314 feet) or 24 car lengths |

Average car length = 4 metres (13 feet)

Science - Waves

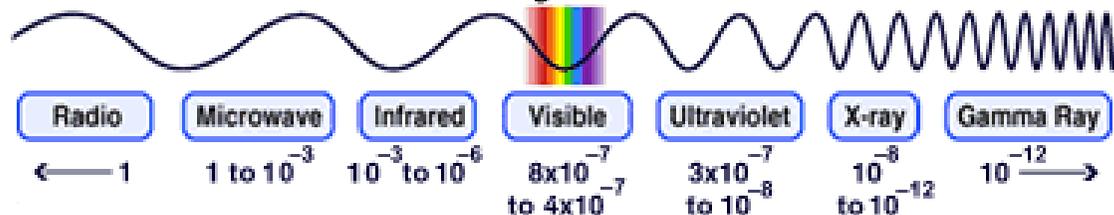
| | |
|----------------------------|--|
| Transverse wave | A wave in which the vibration causing the wave is at right angles to the direction of energy transfer. |
| Longitudinal wave | A wave in which the vibration causing the wave is parallel to the direction of energy transfer. |
| Amplitude | The height of the wave measured from the middle (the undisturbed position of the water). |
| Wavelength | The distance from a point on one wave to the equivalent point on the next wave. |
| Frequency | The number of waves produced each second. It is also the number of waves passing a point each second. |
| Period | The time taken to produce one wave. |
| Angle of refraction | The angle between the refracted ray and the normal. |



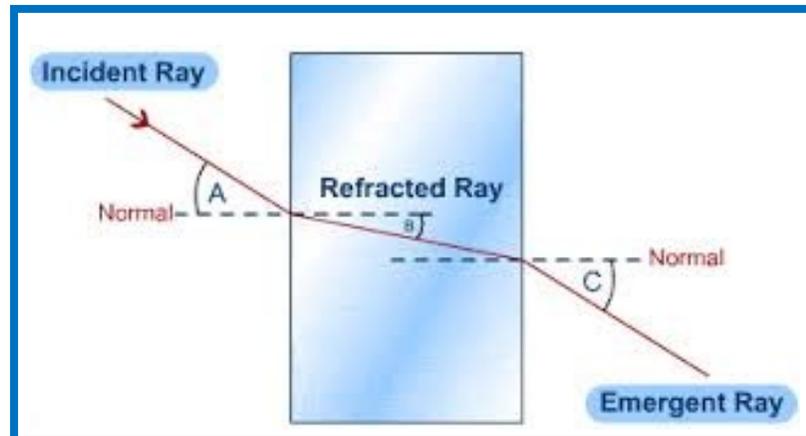
$v = f \times \lambda$ **velocity = frequency x wavelength.**

The Electromagnetic Spectrum

Wavelength in meters

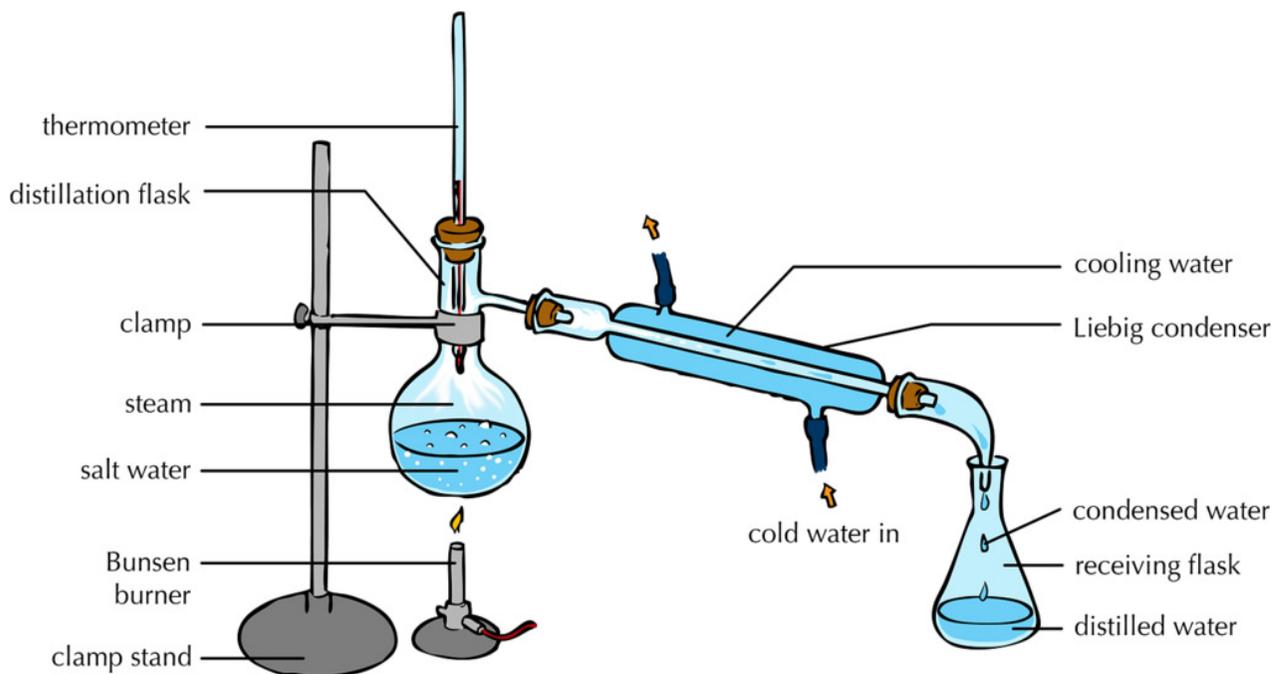


About the size of:



Science – Using Resources

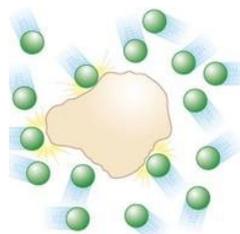
| | |
|--------------------------------|--|
| Finite resource | A resource that cannot be replaced once it has been used. |
| Renewable resource | A resource that we can replace once we have used it. |
| Sustainable development | Using resources to meet the needs of people today without preventing people in the future from meeting theirs. |
| Life cycle assessment | An examination of the impact of a product on the environment throughout its life. |
| Value judgement | An assessment of a situation that may be subjective, based on a persons opinion and / or values. |
| Desalination | Process to remove dissolved substances from sea water. |
| Ore | A rock from which a metal can be extracted for profit. |
| Phytomining | The use of plants to absorb metal compounds from soil as part of metal extraction. |
| Bioleaching | The use of dilute acid to produce soluble metal compounds from insoluble metal compounds. |
| Leachate | A solution produced by leaching or bioleaching. |



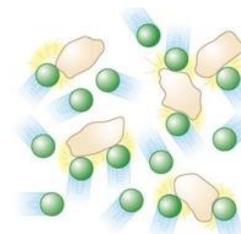
Science – The Rate and Extent of Chemical Change

| | |
|----------------------------|---|
| Rate of reaction | The speed at which a reaction takes place. This can be worked out in two ways: Mean rate of reaction = quantity of reactant used ÷ time Mean rate of reaction = quantity of product formed ÷ time |
| Activation energy | The minimum energy particles must have to react |
| Catalyst | A substance that speeds up a chemical reaction by lowering the activation energy |
| Enzymes | Molecules that act as catalysts in biological systems |
| Closed system | A system where no substances can get in or out |
| Dynamic equilibrium | System where both the forward and reverse reactions are taking place simultaneously and at the same rate |

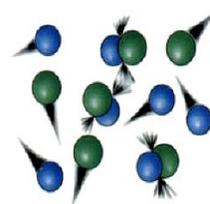
Low surface area High surface area



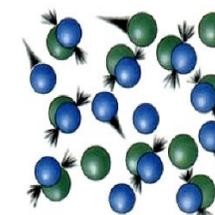
one big lump (slow reaction)



several small lumps (fast reaction)

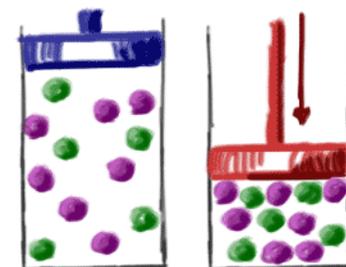


Low concentration = Few collisions

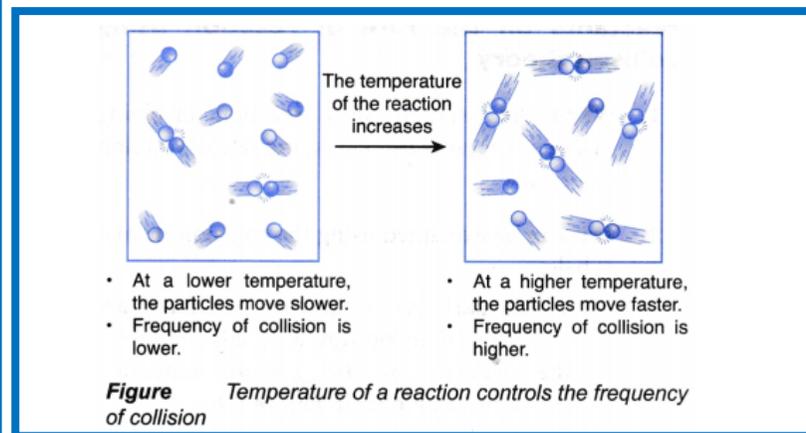
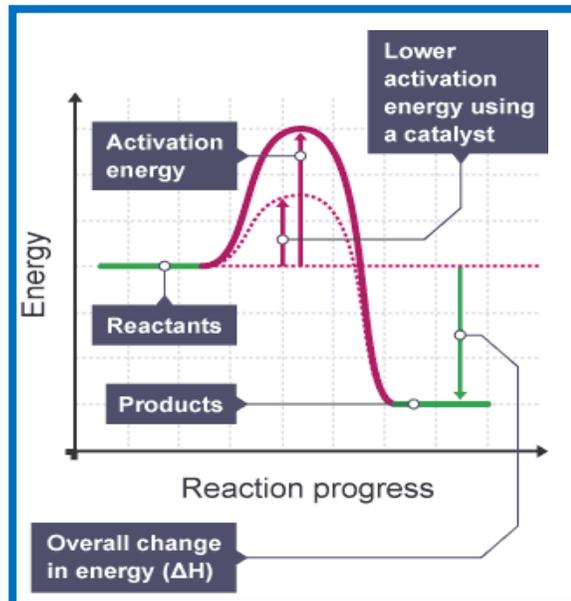
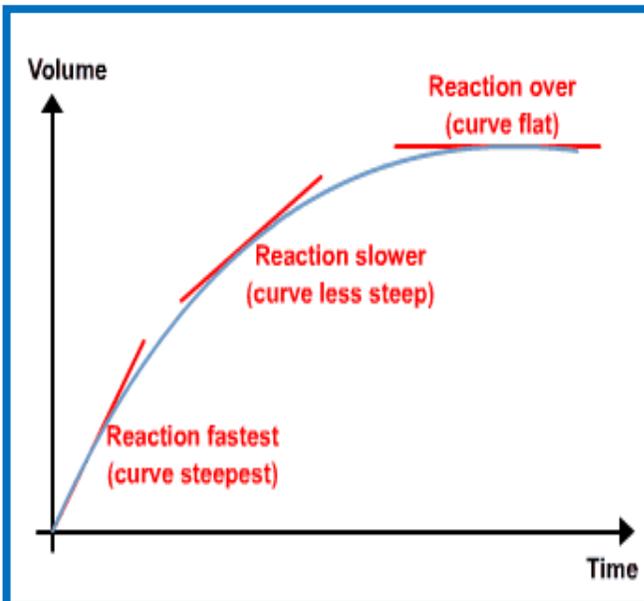


High concentration = More collisions

Factors affecting rates of reaction



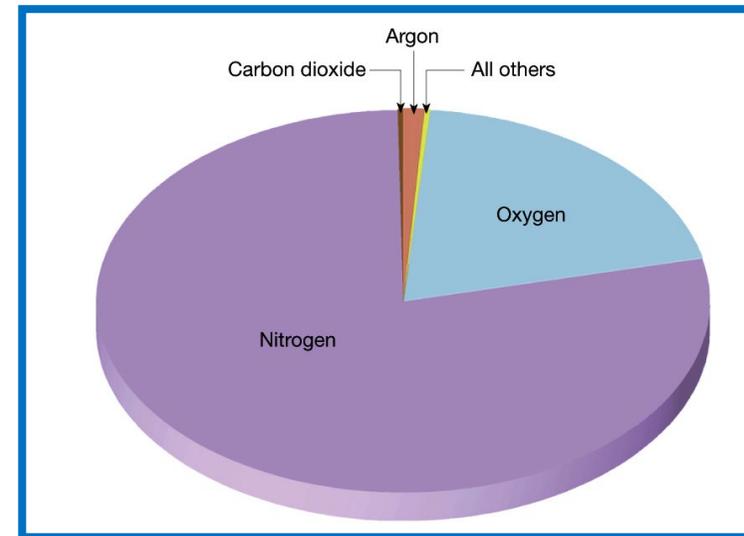
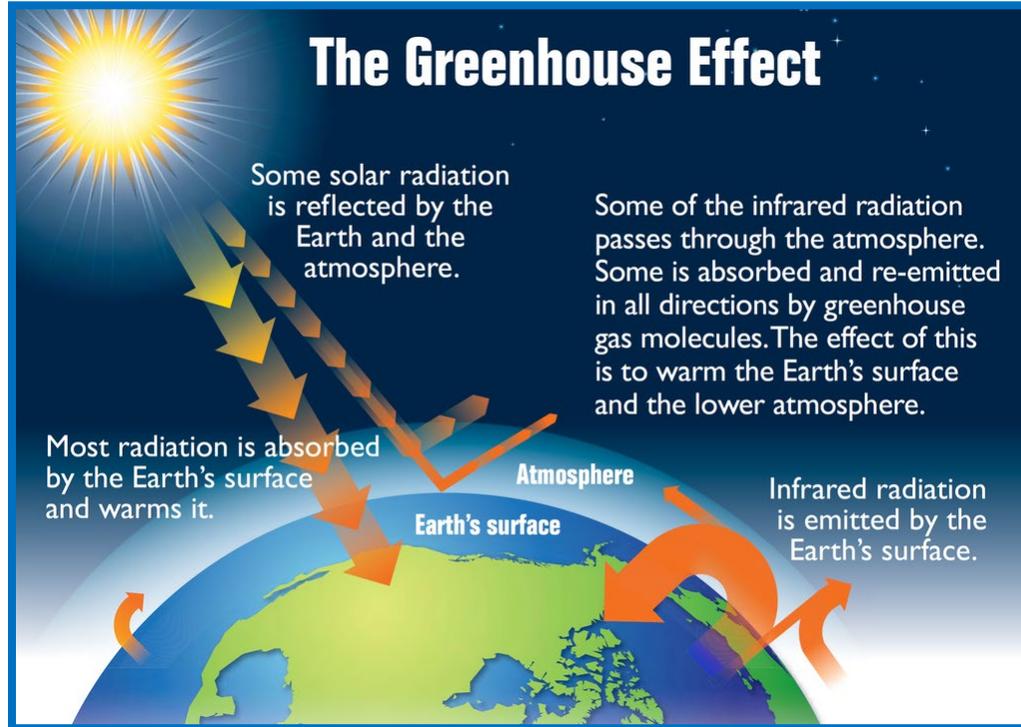
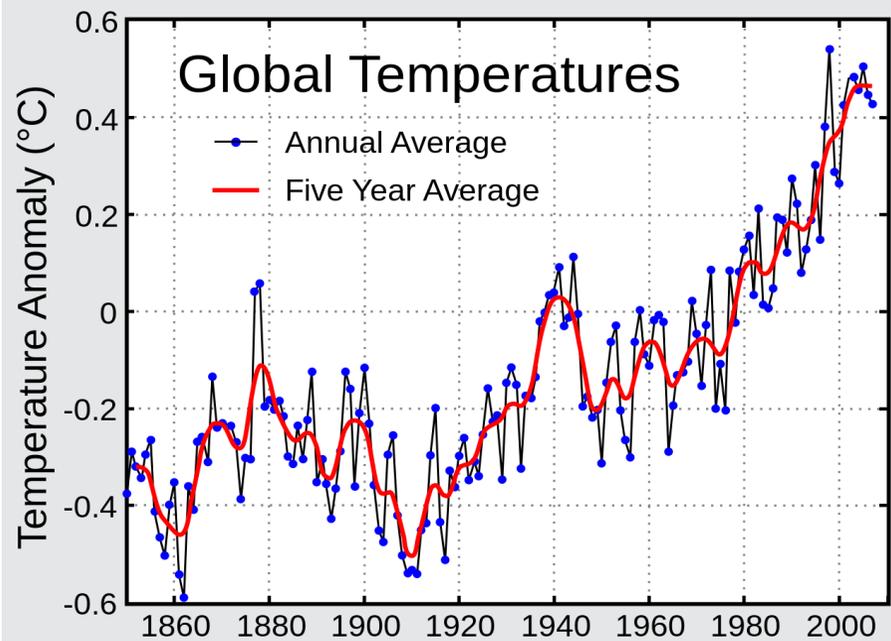
AS PRESSURE INCREASES, THE GAS MOLECULES CAN HAVE MORE COLLISIONS.



Science - Chemistry of the Atmosphere

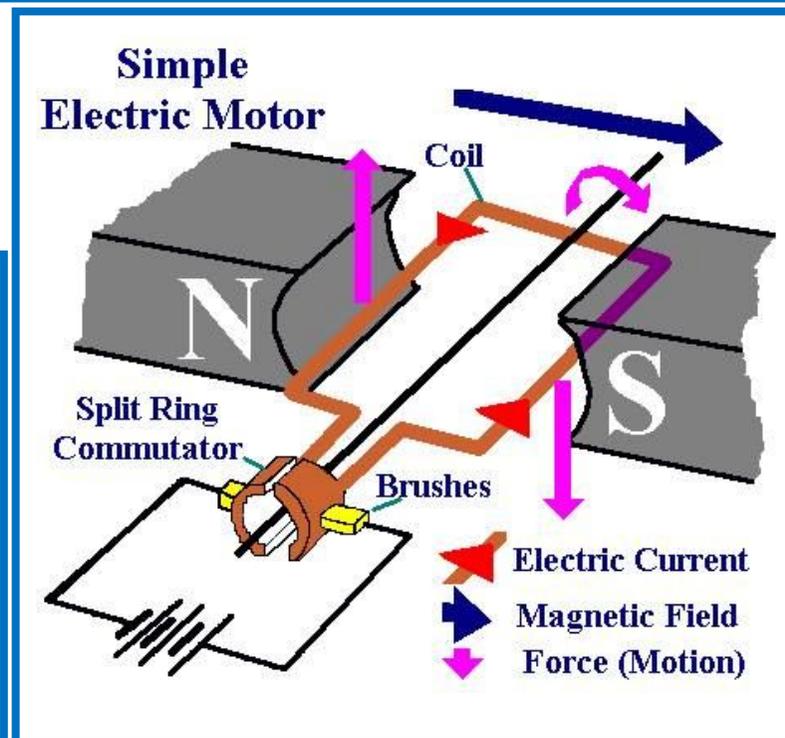
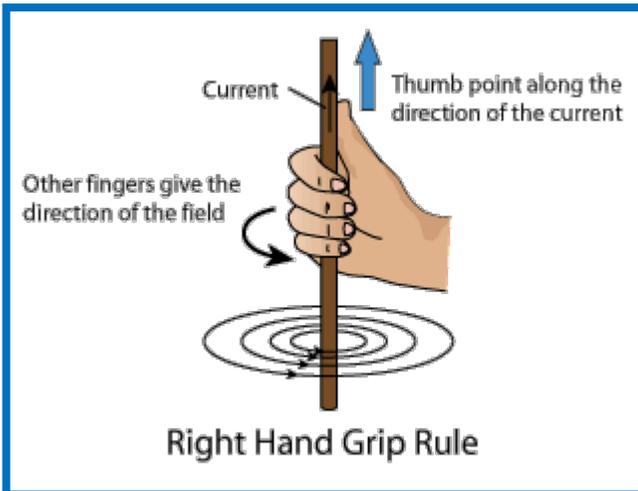
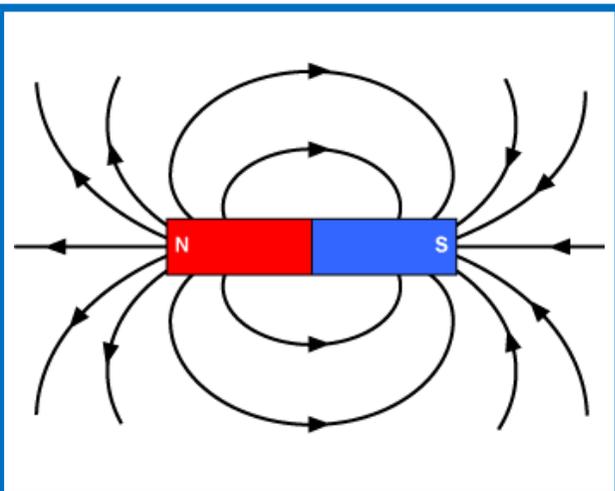
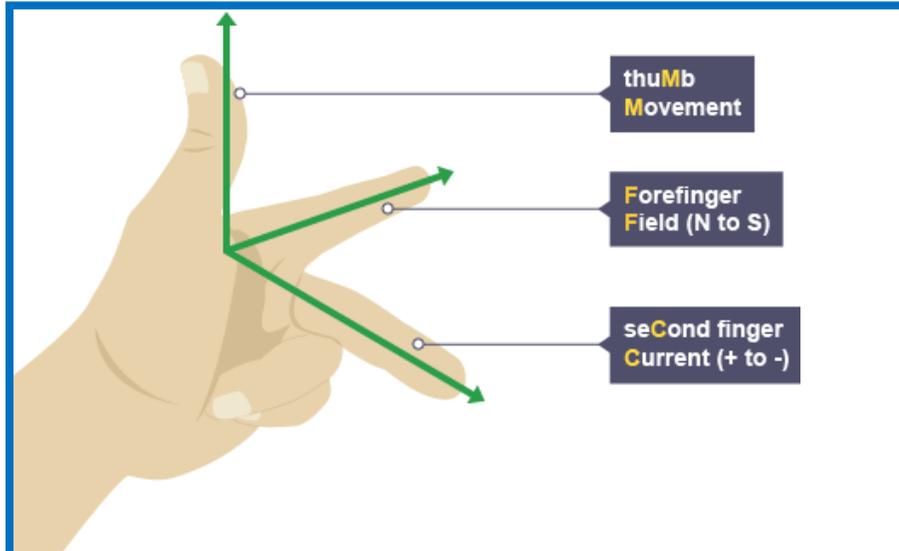
Key Terms

| | |
|-------------------------|--|
| Greenhouse gas | A gas that absorbs long wavelength infrared radiation given off by the Earth but does not absorb the sun's radiation. |
| Global warming | An increase in the temperature of the Earth's surface. |
| Water stress | A shortage of fresh water. |
| Carbon footprint | The amount of carbon dioxide and other greenhouse gases given out over the full life cycle of a product, service or event. |
| Carbon neutral | Fuels and processes whose use results in zero net release of greenhouse gases to the atmosphere. |



Science – Magnetism and Electromagnetism

| | |
|-----------------------------|--|
| Magnetic | Materials that are attracted by a magnet. |
| North-seeking pole | The end of the magnet that points north. |
| South-seeking pole | The end of the magnet that points south. |
| Permanent magnet | A magnet which produces its own magnetic field. It always has a north and a south pole. |
| Induced magnet | A magnet which becomes magnetic when it is placed in a magnetic field. |
| Right-hand grip rule | A way to work out the direction of the magnetic field in a current-carrying wire if you know the direction of the current. |
| Solenoid | A solenoid is a long coil of wire. |
| Flux density | The number of lines of magnetic flux in a given area. $F = B \times I \times L$ Force = magnetic flux density x current x length |
| Motor effect | The force produced between a conductor carrying a current within a magnetic field and the magnet producing the field. |



Crime and Deviance knowledge Organiser



Social Order: For people to live and work together a certain amount of order and predictability is needed.

Functionalists argue this is based on value consensus.
Marxists: Social order is maintained because of class conflict. The bourgeoisie have power and control to enforce order and influence the law.

Social Control: Much of our behaviour is socially controlled.

Formal Social Control: Based on written rules and laws.

- Agencies of formal social control:**
- Houses of Parliament
 - The police force
 - Judiciary
 - The prison service.

Informal Social Control: Based on unwritten rules and processes such as approval & disapproval

- Agencies of informal social control:**
- Family members
 - Peers
 - Teachers
 - Work colleagues

Functionalist
 Crime is vital and necessary of all societies. It helps to remind people about boundaries of acceptable & unacceptable behaviour. When the public come together over a reaction to a major crime, it creates social cohesion. (Durkheim)

- Sources of data into crime:**
- Victim Surveys
 - Self-report studies
 - Crime Survey
 - National Statistics

How useful are statistics recorded by the police?

- If a crime isn't witnessed it won't be reported.
- Many crimes are witnessed and not reported.
- **The dark figure of crime**

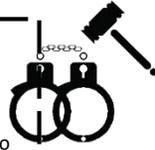
The class deal & the gender deal.

- Most people conform to the rules because of the 'deals' that offer them rewards.
- **Class Deal:** Material rewards if you work for your wage
- **Gender deal:** Material & emotional rewards if you live with a male breadwinner within the family.

Marxist
 Because society is based on values such as materialism, consumerism and competition- an unequal society. Some people cannot earn enough to fit these norms & values, therefore they commit illegal activities to get them.

Mass Media & Deviancy Amplification (Stan Cohen 1972):

- The media creates **moral panics**- exaggerating the extent and significance of a social problem.
- A particular group is set as **folk devil**- a threat to society's values.
- The media distorts the events and incidents and create a false image of young people and their activities.
- This can encourage other young people to behave in the way the media portrays.
- Recent moral panics: school violence, bullying & shootouts, benefit cheats and single mothers, refugees & asylum seekers.



Crime: An illegal act punishable by law.

Deviance: Behaviour that does not conform to society's rules and norms.

Feminist
 Women are treated and punished as double deviants- they have firstly broken the law and second the norms that govern their gender behaviour. Arguments around the 'chivalry thesis'

Refusing the class deal: Not found legitimate ways of earning a decent living. More to gain than to lose by offending.

Refusing the gender deal: Supposed to be rewarded with happiness & fulfilment from family life. Many women may be abused, no bonds with family & friends. Nothing to lose and everything to gain.

White Collar Crime: Crimes committed by people in relatively high-status positions. E.g. tax evasion, fraud, misuse of expense account

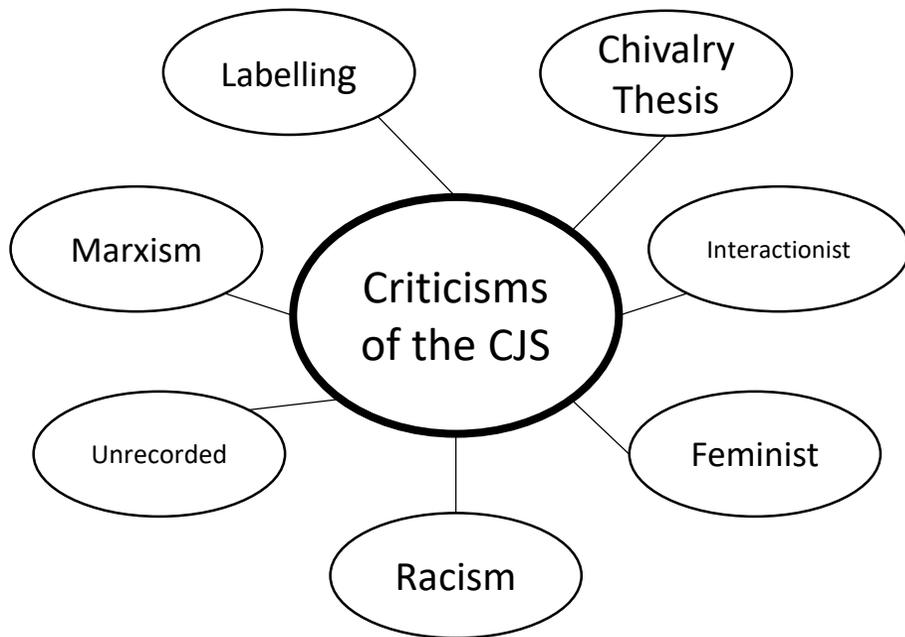
Interactionists
 Labelling produces a self-fulfilling prophecy. Social groups create deviance by making rules and applying them to particular people and labelling them as 'outsiders'. Groups whose social position gives them power are able to label people. These people see this as a self-fulfilling prophecy.



Those at high risk from crime:
Class: The poor, living in private rented housing
Gender: Males
Age: The Young
Ethnicity: Minority ethnic groups.

Keythinkers

| Albert Cohen (1955) (Functionalist) | Robert Merton (1938) (Functionalist) | Pat Carlen (1988) (Feminist) | Frances Heidensohn (1985, 1996) (Feminist) | Howard Becker (1997) (Interactionist) |
|--|---|---|---|---|
| Cultural deprivation accounts for working class boys' lack of educational success. They turn to criminality as an alternative route to success.  | Deviance results from the culture and structure of society. All members of society hold the same values. However, because members of society have different positions in the social structure, for example in terms of social class, Merton identified five possible ways that individuals will respond to the goals of success in society. | Control theory is the basis for her approach, this starts from the assumption that human beings are neither naturally good nor bad but will make a rational decision to turn to crime when the advantages outweigh the disadvantages. It supports the view that criminal behaviour becomes more likely when social control breaks down. | Control theory is the basis why women commit fewer crimes than men. She argues that male-dominated patriarchal societies control women more effectively than men, making it difficult for women to break the law. | Becker argued that an act only becomes deviant when others define it as such. Whether the 'label' of deviancy is applied depends on who commits the act, when and where it is committed, who observes the act, and the negotiations that take place between the various actors involved in the interaction. |



Mass Media and Deviancy Amplification

- The media sensationalise (exaggerate) crime to create **moral panic**.
- Create a false image of what happens (called **deviancy amplification**).
- The public then respond in a certain way (public outcry).

Factors Affecting Crime

Gender

- 2014- women made up just 5% of total prison population.
- Less involved because of gender socialisation.
- Heidensohn argues females have less opportunity to commit crime.
- Treated with more leniently because of the chivalry thesis.
- Change in positions of women mean crimes committed by women are increasing

Social Class

- Working-class people more likely to unequal opportunities= more likely to turn to crime
- Agencies of social control focus on working class

Ethnicity

- Black people were 4 and a half times more likely to be stopped and searched than white people
- May be linked to poverty and unemployment rates
- Black people more likely to be arrested and sentenced for longer than white people
- Institutional racism found within the Met Police

Age

- Younger people (mainly males) more likely to engage in criminal activity

Keywords

Chivalry Thesis- CJS treats females, particularly those who fit stereotypes (e.g. caring), more leniently

Class Deal- Offers women material rewards in exchange for work

Corporate Crime- crimes committed by employees on behalf of the company

Folk Devil- a group that is identified as a threat to society's values

Gender deal- Offers women emotional and material rewards in return for living with male breadwinner

Invisible Crime- crimes such as fraud and white-collar crime which goes undetected

Legislation- the law or set of laws

Moral Panic- a media-fuelled overreaction to social groups. Media exaggerates the effect of a group

Status Frustration- Cohen argues working-class boys experience this when they try but fail to meet middle-class expectations at school

Aerobic Endurance

The ability of the cardiorespiratory system to work efficiently, supplying nutrients to the working muscles.

This is needed for long distance events.

What is the cardiorespiratory system?

- ✓ Uptakes oxygen from air breathed in
- ✓ Transports oxygen around body to working muscles
- ✓ Removes waste products such as carbon dioxide

AEROBIC- in the presence of oxygen
(long distance events)
ANAEROBIC- without oxygen
(short distance or power events)

Coordination

The ability to use body parts together accurately.

This is needed in most sports.

HAND-EYE coordination

FOOT-EYE coordination

HAND-HAND coordination



Balance

The ability to maintain the centre of mass over a base of support.

STATIC BALANCE- maintaining a balance whilst stationary. Eg- handstand

DYNAMIC BALANCE- maintaining a balance whilst in motion. Eg- cartwheel



Muscular Endurance

The ability of muscles to work repeatedly against a light to moderate load without getting tired.



Speed

Accelerative speed: This is the speed generated in order for a performer to be at their top speed. Eg- long jump run up

Pure speed: This is needed for events that are won by achieving the quickest time. Eg- 100m sprint

Speed endurance: This is an athlete's ability to sustain speed over a long period of time with short recovery periods. Eg- a footballer



$$\text{SPEED (m/s)} = \frac{\text{DISTANCE TRAVELLED}}{\text{TIME TAKEN}}$$

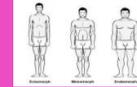
Physical Fitness

Muscular Strength

The maximum force that can be generated by a muscle or group of muscles. Weights will be heavy and therefore repetitions are low.

Body Composition

This is the combination of muscle, fat and bone.



EcTomorph- Tall and Thin

EnDomorph- Short and Dumpy

Mesomorph- Muscular

Flexibility

The ability to move a joint fluidly through a complete range of movement.

Some sports require all round flexibility whereas some sports require flexibility at specific joints.

$$\text{POWER} = \text{STRENGTH} \times \text{SPEED}$$



Unit 1 @LWarnerPE
Learning Aim A-
Components of Fitness

| Components of physical fitness | Components of skill related fitness |
|--------------------------------|-------------------------------------|
| Aerobic endurance | Agility |
| Muscular endurance | Balance |
| Flexibility | Coordination |
| Speed | Power |
| Muscular strength | Reaction time |
| Body composition | |

Power

The ability to use strength at speed. Therefore the faster or stronger a motion, the more powerful it will be.



Agility

The ability to change direction quickly.

Eg- rugby players

Skill-Related Fitness

Reaction time

The time taken for a performer to respond to a stimulus. Eg- sprinter



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 | | | | | | |

Home Contact

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