Need To Know Book
Year 10
Spring 2024

Name:_____

Form Group: _____

Ofsted Good Provider 2022

Be Kind.

Work Hard.
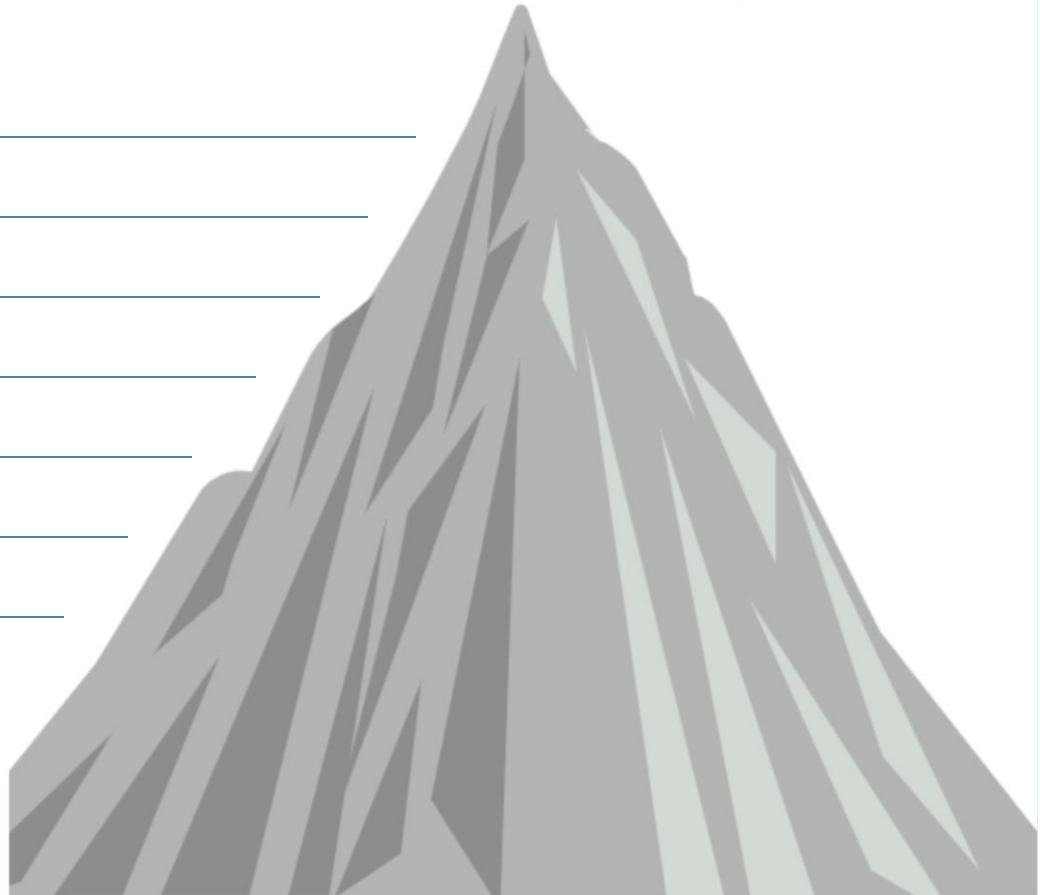
Take Responsibility.

My Aspirational Sentence.

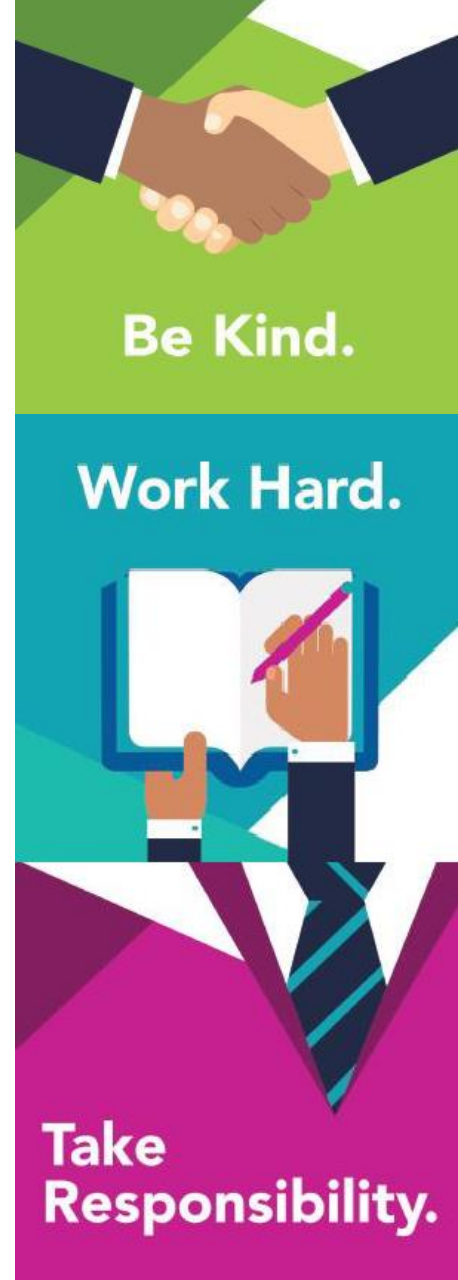**Little Lever School**
be kind | work hard | take responsibility

What does the top of my mountain look like?

Contents Page

Be Kind.

Work Hard.

Take Responsibility.

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Knowledge Retrieval Sheet

What are knowledge retrieval sheets?

Here at Little Lever School, we think it is really important that you know what the essential knowledge is for each subject that you study. Learning takes place not only in the classroom, but in all areas of the school building, and at home. These knowledge retrieval sheets contain all the essential knowledge you will need to help revise and make progress towards achieving your best in all of your subjects.

By using your knowledge retrieval sheets each week you will be able to transfer your knowledge from your short-term memory, and make it stick. Within all your lessons, you will be asked to retrieve knowledge from your long-term memory. This might be in the form of quizzes or longer responses. These might require you to use lots of information you have already stored from previous lessons and from your own life experiences. These Need to Know Books will help you to check how much you can remember.

We have designed your knowledge retrieval sheets so that they are simple for you to use both in school and at home. You can even get others to help you. Below are some options for how you might use each sheet to make the knowledge stick in your brain so that you will be able to remember it.

Using Knowledge Retrieval Sheets- 5 Top Tips:

1 **'Look, Cover, Say, Write, Check'-** Look at a fact on your sheet, cover it up with your hand or a piece of paper. Say it out loud, write the fact down without checking and then uncover and check if you were correct.

2 **'If this is the answer, what is the question?'-** Quiz yourself by covering up facts on your sheet. For example, you could cover up the definition of key vocabulary and try to remember what the key vocabulary means.

3 **Independent low-stakes quizzing-** Use the questions on the back of each sheet to test yourself. You should write the answers on a separate sheet of paper so that you can use the question sheet again in future.

4 **Paired low-stakes quizzing-** Give your book or a sheet to someone else. (Could be a friend, teacher or family). They can ask you the questions on the back of any sheet and use the facts on the front to check if you are correct.

5 **Flashcard Revision-** Make flashcards using your knowledge sheets. Can you summarise the essential knowledge into your own words to put onto a pocket-sized revision card?

**Helping every person achieve things they never thought they could.**

Art, Fashion and Photography

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Year 10 Art: Assessment Objectives (AO1 +AO2)

AO1

These are the things that you should consider including in AO1:

- Artist research pages.

- Visits to exhibitions and galleries.

- Your own responses in the style of the artist.

- Interviews with artists/ photographers.

- Annotate and analyse what you have found out.
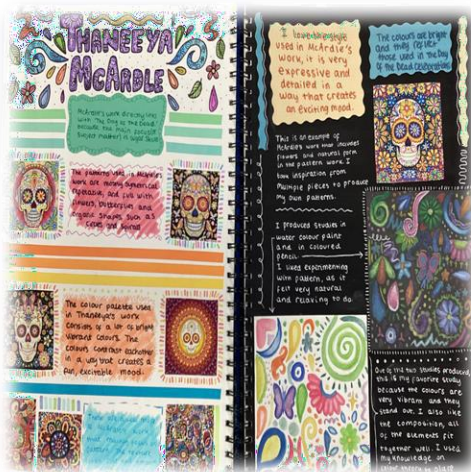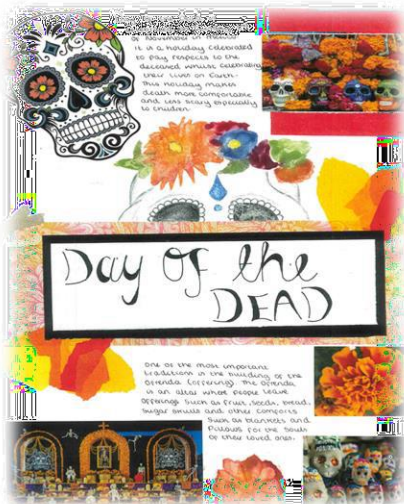
AO2

These are the things that you should consider including in AO2

- Experimenting in response to your chosen artists.

- Use relevant materials and techniques to experiment with

- Experiment with new materials, tools and techniques as well as familiar ones.

- Try out different combinations of media and techniques

- Practise and refine your use of your chosen media, tools and techniques

Year 10 Art: Assessment Objectives (AO1 + AO2)

AO1 EXPLORE

DEVELOP

DEVELOP IDEAS

INVESTIGATE & RESEARCH

OTHER ARTISTS WORK

ANALYSE
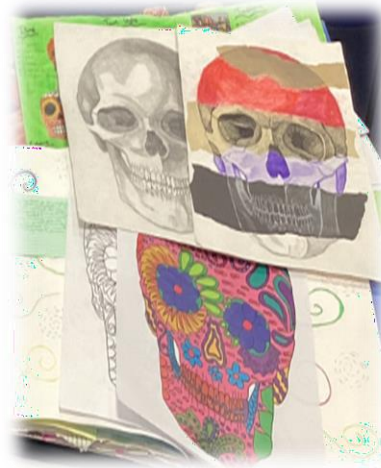
ANNOTATE

What are the things you should consider including in AO1?

List at least 5 things that you would include.

What are the things you should consider including in AO2?

List at least 5 things that you would include.

AO2 REVIEW

REFINE

EXPERIMENT

EXPLORE DIFFERENT IDEAS

AND MEDIA

A RANGE OF TECHNIQUES

& PROCESSESS

SELECT

IMPROVE
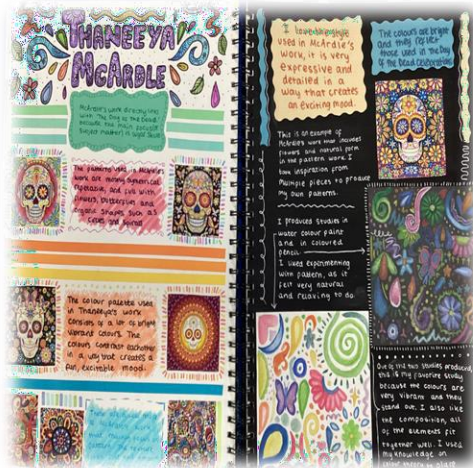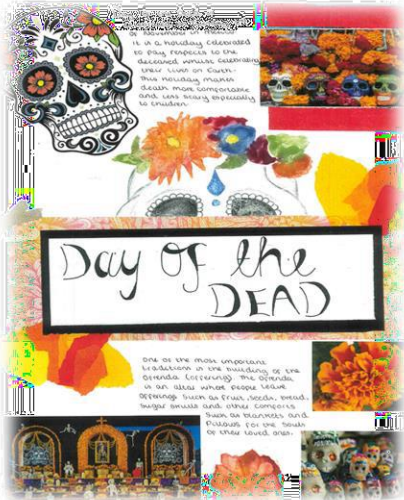
Year 10 Art: Assessment Objectives (AO3 + AO4)

AO3

These are the things that you should consider including in AO3:

- Title page.
- Mind Map.
- Mood-boards.
- Bullet points
- Notes/Annotation
- Longer paragraphs
- Photographs.
- Observational drawings
- Sketches
- Designs
- Diagrams
- Drawing using Photoshop

AO4

These are the things that you should consider including in AO2

- Plans and drawings of final piece ideas.

- Mini mock-ups and experiments for final piece.

- Creating an original final piece, that is clearly inspired by your research and creative journey.

- Evaluation of final piece (how does your piece link to the project theme?)

Year 10 Art: Assessment Objectives (AO3 + AO4)

AO3 EVIDENCE
RECORD
PRESENT IDEAS
PRIMARY OBSERVATION
DRAWING, PAINTING, PRINTING, PHOTGRAPHY, WRITING, PHOTPGRAPY...
ANNOTATE
DIFFERENT MEDIA

What are the things you should consider including in AO3?

List at least 5 things that you would include.

SKULL STUDIES

What are the things you should consider including in AO4?

List at least 4 things that you would include.

AO4 OUTCOME
PRESENT
FINAL IDEAS
DEVELOPED AS PLANNED
CLEARLY RESPONDS TO ARTISTS EXPLORED
CONNECTION
CONCLUSION

AO1 is about developing ideas from a starting point to a final piece.

AO2 is about refining you ideas through selecting and experimenting.

You could start your development work by:

- Making observational studies
- Looking at the work of other artists or designers
- Experimenting with materials, processes or techniques.

Your choice of resources should be linked of the media and materials used by artists and designers.

When selecting and using appropriate resources and media have you?
- Considered how other artists and designers have used media and processes?
- Experimented and practiced with your chosen materials and techniques?
- Worked with familiar as well as new media and techniques.
- Used contextual references in your development work?

A primary source is one that you study directly from a first hand experience. A secondary source is a material produced by others.

AO1 EXPLORE
A01
DEVELOP
DEVELOP IDEAS
INVESTIGATE & RESEARCH
OTHER ARTISTS WORK
ANALYSE
ANNOTATE

AO1 is about...

You could start your development work by:

A primary source is one that you study directly from a _____ _____ _____.
A secondary source is a material produced by_____.

AO2 is about....

Your choice of resources should be linked of the _____ and _____ used by artists and designers.

When selecting and using appropriate resources and media have you?

AO2 REVIEW
REFINE
EXPERIMENT
EXPLORE DIFFERENT IDEAS
AND MEDIA
A RANGE OF TECHNIQUES
& PROCESSESS
SELECT
IMPROVE

A03 EVIDENCE

RECORD

PRESENT IDEAS

PRIMARY OBSERVATION

DRAWING, PAINTING, PRINTING, PHOTGRAPHY, WRITING, PHOTPGRAPY...

ANNOTATE

DIFFERENT MEDIA

A03 is about recording your ideas, observations, insights which can be visual, written or in other forms.

A04 is about presenting a personal, informed and meaningful response, from your initial research to your final piece.

A04 OUTCOME

PRESENT FINAL IDEAS

DEVELOPED AS PLANNED

CLEARLY RESPONDS TO ARTISTS EXPLORED

CONNECTION

CONCLUSION

To reflect on your work you need to develop your critical ideas and understanding by-
- Studying other artists and designers and exploring aspects of their work
- Analytical sketches, diagrams or annotated illustrations
- Development studies that record variation

In order to make a meaningful response it is important to demonstrate that you have selected a suitable source material and media.

When making a personal response you should:
- Consider different themes or approaches
- Carefully select and study your source materials
- Make a personal choice about materials
- Experiment with media, materials and techniques
- Record and develop your ideas in a personal way
- Presented your work carefully

Don't just describe what you have done. Try to analyse or evaluate what you have done at each stage, demonstrating your critical understanding.

A03 EVIDENCE RECORD PRESENT IDEAS

PRIMARY OBSERVATION

DRAWING, PAINTING, PRINTING, PHOTGRAPHY, WRITING, PHOTPGRAPY...

ANNOTATE

DIFFERENT MEDIA

A03 is about…

To reflect on your work you need to develop your critical ideas and understanding by-

Don't just describe what you have_____ . Try to _____or _____ what you have done at each stage, demonstrating your critical understanding.

A04 is about….

A04 OUTCOME PRESENT FINAL IDEAS

DEVELOPED AS PLANNED

CLEARLY RESPONDS TO ARTISTS EXPLORED

CONNECTION

CONCLUSION

In order to make a meaningful response it is important to _____ that you have selected a suitable source _____ and media.

When making a personal response you should:

Year 10 Photography:

Term	Terminology Definitions:
1. **Shutter Speed**	The amount of time the camera's shutter is open for. Longer shutter speeds (1/10s, 1s, 3s, etc) allow more light in but will cause blurring of anything moving. Shorter shutter speeds let less light in and can capture moving subjects as still or 'frozen'.
2. **Exposure**	This is the **amount of light entering the camera's sensor**. Too much light and the image is overexposed, not enough light and it's under exposed. Exposure is determined by **a combination of shutter speed, aperture, and ISO**.
3. **Aperture**	**The opening (or 'pupil') of your lens** is called aperture, which can be made smaller or bigger to change the amount of light being let in. A wide aperture (such as f/1.4) lets more light in, allowing for a faster shutter speed or lower ISO, and a shallow depth of field (How much of the image is in focus). A narrower aperture (such as f/8) lets less light through, requiring a slower shutter speed or higher ISO, but results in more of your image being in focus.
4. **F-Stop**	F-Stop or F-number is the aperture size or aperture stop in a number that controls the size of the lens opening. Therefore **controlling the amount of light entering the camera**. Smaller f-stops, like f/1.4 or f/2, indicate a wider aperture, while larger F stops, like f/11 or f/16, indicate a narrower aperture.
5. **Bokeh**	This is produced by **blurring the background of an image** and is popular in portraits as it forces you to focus on the subject. Most photographers look for smooth bokeh so as to not distract from the rest of the image. Using this technique, **light sources can appear as smooth blobs of colour**.

Year 10 Photography:

Term	Terminology Definitions:
1. **Shutter Speed**	
2. **Exposure**	
3. **Aperture**	
4. **F-Stop**	
5. **Bokeh**	

Year 10 Photography:

Term	Terminology Definitions:
6. **Depth of Field**	The **distance between the closest and furthest subjects** in a scene that looks sharp in an image. A wide aperture (f/1.4, f/2, etc.) produces a shallow depth of field, which can be used to isolate a subject. And narrow aperture (f/11 or f/16), produces a wide depth of field which keeps everything in focus.
7. **Focal Point**	This is the way to describe the **main part of the image or a point of interest within the image**. It is where the viewers eye is drawn to the most.
8. **Rule of Thirds**	A common compositional tool that states that one should **divide the image frame into equal vertical and horizontal thirds, then place points of interest at the intersections of the dividing lines.**
9. **Macro**	Photographing objects that are extremely small. Macro lenses can **usually capture more detail than we can see with the naked eye**. Normally macro photographers would use a lens with a 1:1 ratio, which is the size of the subject on the sensor.
10. **Raw**	A raw file is the data **taken from the sensor without any sort of image processing applied**. As opposed to a JPEG produced by the camera. Though bigger in file size, photographers prefer RAW files because they allow for more creative range in post processing and higher image quality before exporting the final image in a file format such as JPEG.

Year 10 Photography:

Term	Terminology Definitions:
6. **Depth of Field**	
7. **Focal Point**	
8. **Rule of Thirds**	
9. **Macro**	
10. **Raw**	

GCSE Photo Terminology

Shutter Speed

The amount of time the camera's shutter is open for.
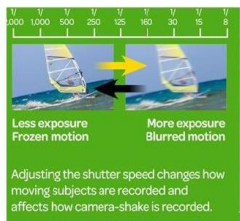
1,000 1,000 500 250 125 160 30 15 8

Less exposure
Frozen motion

More exposure
Blurred motion

Adjusting the shutter speed changes how moving subjects are recorded and affects how camera-shake is recorded.
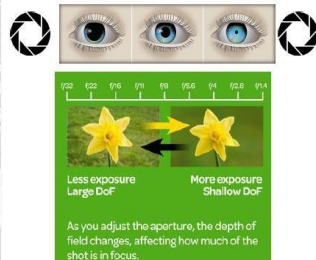
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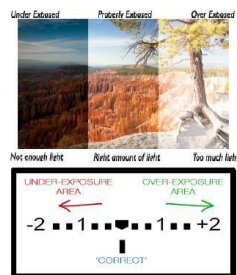
Aperture

The opening (or 'pupil') of your lens is called aperture, which can be made smaller or bigger to change the amount of light being let in.

f/22 f/22 f/16 f/11 f/8 f/5.6 f/4 f/2.8 f/1.4

Less exposure
Large DoF

More exposure
Shallow DoF

As you adjust the aperture, the depth of field changes, affecting how much of the shot is in focus.

A wide aperture (such as f/1.4) lets more light in, allowing for a faster shutter speed or lower ISO, and a shallow depth of field (how much of the image is in focus).

A narrower aperture (such as f/8) lets less light through, requiring a slower shutter speed or higher ISO, but results in more of your image being in focus.

Exposure

Is the amount of light entering the camera's sensor. Too much light and the image is overexposed and not enough light and it's underexposed.

Under Exposed   Properly Exposed   Over Exposed

Not enough light   Right amount of light   Too much light

UNDER-EXPOSURE AREA   OVER-EXPOSURE AREA

-2 1 1 +2

'CORRECT'

Exposure is determined by a combination of shutter speed, aperture, and ISO.

F-Stop

Or f-number is the aperture size or aperture stop in a number that controls the size of the lens opening. Therefore controlling the amount of light entering the camera.

f/1.4 f/2 f/2.8 f/4

f/5.6 f/8 f/11 f/16
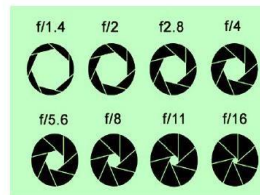
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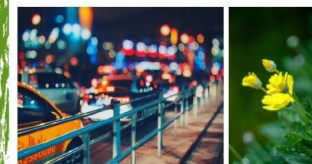
Most photographers look for smooth bokeh so as to not distract from the rest of the image. Using this technique, light sources can appear as smooth blobs of colour.

Focal Point

Is a way to describe the main part of the image or a point of interest within the image. It is where the viewer's eye is drawn to most.

Depth of Field

The distance between the closest and farthest subjects in a scene that look sharp in an image (abbreviated to DOF).

Depth of Field zone

Large depth of field

1/3 2/3

Focus Point

Depth of Field zone

Shallow depth of field

Focus Point
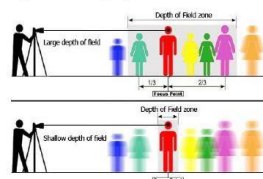
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A narrow aperture (f/11, f/16, etc.) produces a wide depth of field, which keeps everything in focus.

Rule of Thirds

A common compositional tool that states that one should divide the image frame into equal vertical and horizontal thirds, then place points of interest at the intersections of the dividing lines.

Macro

Photographing objects that are extremely small.

Macro lenses can usually capture more detail that we can see with the naked eye. Normally macro photographers would use a lens with a 1:1 ratio, which is the size of the subject on the sensor.

Raw

JPEG Recovery   RAW Recovery

A raw file is the data taken from the sensor without any sort of image processing applied (as opposed to a JPEG produced by the camera). Though bigger in file size, photographers prefer raw files because they allow for more creative range in post-processing and higher image quality before exporting the final image in a file format like JPEG.

Year 10 Photography:

GCSE Photo Terminology- what are the key terms?

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Under Exposed   Probably Exposed   Over Exposed

Not enough light   Right amount of light   Too much light

UNDER-EXPOSURE AREA   OVER-EXPOSURE AREA

-2 ▪ ▪ 1 ▪ ▪ 1 ▪ ▪ +2

'CORRECT'

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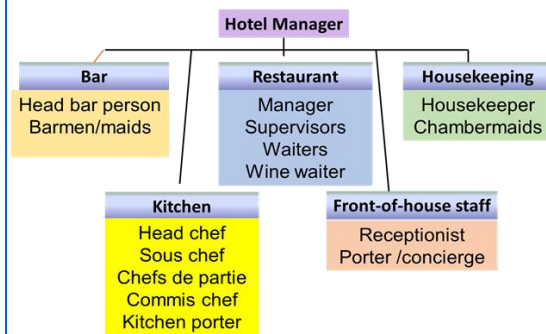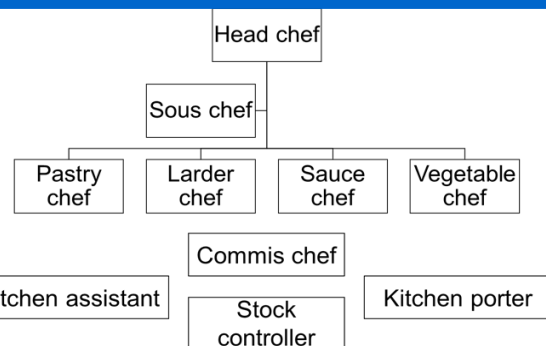
Catering

Helping every person achieve things they never thought they could.

Job roles in the industry

Staff structure in a hotel

Hotel Manager

- **Bar**
  Head bar person
  Barmen/maids
- **Restaurant**
  Manager
  Supervisors
  Waiters
  Wine waiter
- **Housekeeping**
  Housekeeper
  Chambermaids
- **Kitchen**
  Head chef
  Sous chef
  Chefs de partie
  Commis chef
  Kitchen porter
- **Front-of-house staff**
  Receptionist
  Porter /concierge

The Kitchen brigade- Back of House

Head chef → Sous chef → Pastry chef, Larder chef, Sauce chef, Vegetable chef

Commis chef, Kitchen assistant, Stock controller, Kitchen porter

Most large establishments could have **chefs de partie** in the following areas:

- **Sauce chef**- Le Saucier
- **Pastry chef**- Le Patissier- baked goods and dessert
- **Fish chef**- Le Poisonnier
- **Vegetable chef**- L'entremetier
- **Soup chef**- Le Potager
- **Larder chef**- Le garde manger- cold starters and salads
- The **commis chef** or assistant chef is a chef in training
- The **kitchen porter** washes up and may do basic vegetable preparation
- The **stock controller** is in charge of all aspects of store keeping and stock control.

Front of House roles

Reception
Receptionist: meet customers and direct them to the correct person or place; they manage visitor lists and booking systems
Porter/ Concierge; assist hotel guests by making reservations, booking taxis and booking tickets for local attractions and events.

Restaurant and bar
Restaurant manager (Maître d'Hote): The restaurant manager is in overall charge of the restaurant,; they take bookings, relay information to the head chef, complete staff rotas, ensure the smooth running of the restaurant
Head waiter (ess): Second in charge of the restaurant,. Greets and seats customers, relays information to the staff, Deals with complaints and issues referred by the waiting staff.

Waiting staff Serve customers, clear and lay tables, check the customers are satisfied with the food and service. May give advice on choices from the menu and special order foods

Wine waiter- Le sommelier: Specialises in all areas of wine and matching food, advises customers on their choices of wine, Wine waiters serve the wine to the customer and can advise customers on their choices as well

Bar staff serve drinks and take food orders , wash up, clear tables, change barrels and fill shelves.

Baristas make and serve hot and cold beverages, in particular different types of coffee such as espresso, cappuccino and latte.

Personal attributes

- Patience
- Team player
- Personal presentation
- Honesty
- Initiative
- Self motivation

Working hours

- Hospitality and Catering jobs tend to be long hours, early starts for breakfast in a hotel to late nights for dinner in a restaurant.

- Staff will still get 2 days off a week but it will be quieter days instead of the weekend

- Shifts could be 6-3. 11-6. 3-11 or other hours.

- Monthly salaried staff may not have set hours eg Head Chef who might work from early morning to late night every day

Contracts of employment

1. a written statement of employment or **contract** setting out their duties, rights and responsibilities
2. the statutory minimum level of paid holiday 28 days for full time workers
3. a pay slip showing all deductions, eg National insurance, tax . Earning above £166 a week
4. the **statutory** minimum length of rest breaks- one 20 min break for 6 hrs worked
5. Statutory Sick Pay (SSP) £94.25 pw for 28 weeks (some may get full wages for a limited amount of time)
6. Maternity, paternity and adoption pay and leave-90% of earnings for 6 weeks then ££148.68 for next 33 weeks

Casual staff / Agency staff
- work for specific functions and can be employed through an agency.
- They do not have a contract or set hours of work.
- They are needed at busier times of the year e.g. at Christmas or for weddings, New years eve
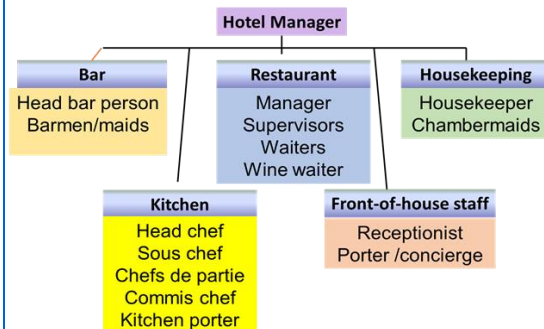
Temporary staff
- Employed for a specific length of time such as the summer tourist season or the month of December.
- Temporary staff have the same rights as permanent staff for the duration of their contract.
- Temporary staff employed for longer than 2 years become permanent by law

Zero Hours Contract
 This type of contract is between the employer and a worker, where the worker may sign an agreement to be available to work when they are needed, but no specific number of hours or times to start or end work are given. The employer is not required to offer the person any work and the worker is not required to accept the work.

Job roles in the industry

Staff structure in a hotel

Hotel Manager

Bar
Head bar person
Barmen/maids

Restaurant
Manager
Supervisors
Waiters
Wine waiter

Housekeeping
Housekeeper
Chambermaids

Kitchen
Head chef
Sous chef
Chefs de partie
Commis chef
Kitchen porter

Front-of-house staff
Receptionist
Porter /concierge

The Kitchen brigade- Back of House

Head chef

Sous chef

Pastry chef | Larder chef | Sauce chef | Vegetable chef

Commis chef

Kitchen assistant

Stock controller

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- The **commis chef**
- The **kitchen porter**

- The **stock controller**

Front of House roles

Reception
Receptionist:

Restaurant and bar
Restaurant manager (Maître d'Hote):

Head waiter (ess):

Waiting staff

Wine waiter- Le sommelier

Bar staff

Baristas

Personal attributes

Patience

Team player

Self motivation

Personal presentation

Initiative

Honesty

Working hours

Contracts of employment

1. a pay _____ showing all deductions, eg National insurance, tax . Earning above _____ a week
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4. Maternity, _____ and adoption pay and leave-90% of earnings for __ weeks then ££148.68 for next __ weeks

Casual staff / Agency staff
- work for _____ functions and can be employed through an agency.
- They do not have a _____ or set hours of work.
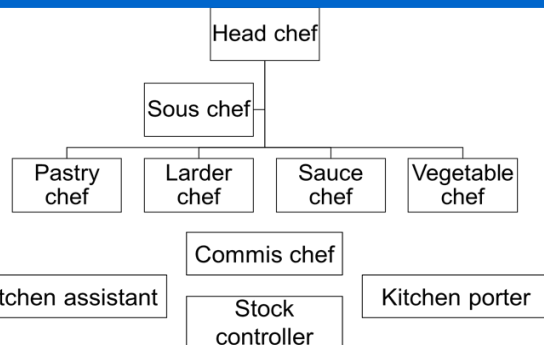- They are needed at_____ times of the year e.g. at Christmas or for weddings, New years eve

Temporary staff
- Employed for a _____ length of time such as the summer tourist season or the month of _____.
- Temporary staff have the same rights as permanent staff for the duration of their _____.
- Temporary staff employed for longer than 2 _____ become permanent by ___

Zero Hours Contract
 This type of contract is between the _____ and a _____, where the worker may sign an agreement to be available to work when they are _____, but no _____ number of hours or times to start or end work are given. The employer is not required to offer the person any _____ and the worker is not required to _____ the work.

Remuneration

Remuneration is a term used for the reward that people receive from working somewhere. It includes their basic pay, plus extra money t top u their income from:
Tips and gratuities- money given to someone by a customer as a way of saying 'thank you' for good service
Service charge- a percentage added to the customers bill to reward the employees who have provided the customer with a service
Bonus payments and rewards- given by some employers as a way of rewarding hard work throughout the year and helping make the business successful.

It is quite common for all he tips, gratuities and service charges to be divided equally amongst all the workers in, e.g. restaurant. This is known as a tronc arrangement, and the person who works out and distributes the extra money is known as a 'troncmaster'.

Paid annual leave

- All workers are entitled to 28 days paid leave annually
- no legal right for employees to be given Bank and Public Holidays. Most hospitality staff would work these days

To calculate holiday entitlement,
Multiply the full-time entitlement (28 days) by the number of days worked and divide by the number of days full-time staff work
Entitlement for 3 days a week: 28 x 3/5 = 16.8 days

Compulsory Rest Breaks

Adult workers are entitled to 24 hours off in each 7 day period and young workers (15-18) are entitled to 2 days in 7.
Adult workers are entitled to at least 20 minutes uninterrupted rest if their working day is longer than 6 hours.
Young workers are entitled to 30 minutes rest if their working day is over 4.5 hours long.

Reasons for failure

1. **A saturated market** – there is a fine line between competition & too many for the number of customers
2. **General business incompetence** – 46% of business fail due to lack of business knowledge
3. Lack of **capital** – not enough money to get through the first few months
4. **Location** – either not enough people walk past (foot-fall) live & work nearby
5. **Quality of life** - most restaurateurs work 60 hours a week – not the glamorous life they thought
6. **Lack of industry experience** – most successful restaurateurs tend to have previous industry experience
7. **Failure to create a good enough brand –** They did not incorporate the 12 Ps of restaurant branding,(Place, Product, Price, People, Promotion, Promise, Principles, Props, Production, Performance, Positioning and Press)
8. **Name of the restaurant is too long-** A restaurant with a name that is brief, descriptive and attractive is more likely to succeed.
9. **Lack of differentiation** -the brand is not different enough
10. **Poor financial controls** – Main costs – labour and food exceeded 60% of sales

Factors affecting success

Costs - need to make a profit. Consider cost of everything you buy and selling price.
- **Material** - Anything involved in making product
- **Labour** - Costs of staff
- **Overheads** - Anything not connected with making products

Economy - when the economy slows down, business have lower sales as consumers eat out less because they have less disposable income
Environment – 3 R's, packaging, food waste, global warming, carbon footprint, clean eating
Technology - Using technology to improve service, delivery and stock control – touch screen customer ordering, EPOS systems, stock management, apps for delivery services
Emerging and innovative cooking techniques – sous vide, clean eating, steaming, new restaurants,
Customer demographics and lifestyle
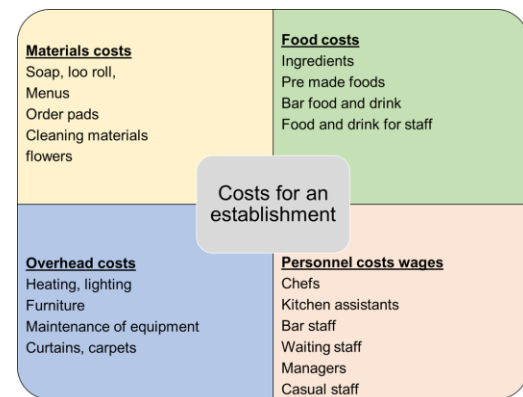– delivery services Facebook Twitter
Customer service–customer satisfaction – free WiFi, order online
Competition - Low cost food (£1 menu, coffee McDs espresso v Starbucks)
Trends healthy food options, pop-up bars, cafes and restaurants, cronut, clean eating, low carb, good fats,
Political factors - Increasing regulations – from government due to health issues, Brexit, use of migrant labour, migrants – ethnic foods
Media - Strong global brand, Good community reputation – children's charities / Ronald McDonald House, celebrity chefs, celebrity endorsements, Masterchef,

Materials costs
Soap, loo roll,
Menus
Order pads
Cleaning materials
flowers

Food costs
Ingredients
Pre made foods
Bar food and drink
Food and drink for staff

Costs for an establishment

Overhead costs
Heating, lighting
Furniture
Maintenance of equipment
Curtains, carpets

Personnel costs wages
Chefs
Kitchen assistants
Bar staff
Waiting staff
Managers
Casual staff

What is portion control?

- Portion control is the amount of each menu item that is served to the customer.
- It depends on the type of customer, the type of food served,
- some foods are served in very small portions due to the high cost of the item eg caviar is served by the teaspoon

Remuneration

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Tips and gratuities- money given to someone by a customer as a way of saying 'thank you' for _____ service
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4. **Location** –

5. **Quality of life** -

6. **Lack of industry experience** –

7. **Failure to create a good enough brand** –

8. **Name of the restaurant is too long**-

9. **Lack of differentiation** –

10. **Poor financial controls** –

Materials costs
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Material - Anything involved in making product
- Labour –
- **Overheads** –

Economy -

Environment –

Technology –

Emerging and innovative cooking techniques –

Customer demographics and lifestyle –

Customer service–

Competition –

Trends

Political factors –

Media –

What is portion control?
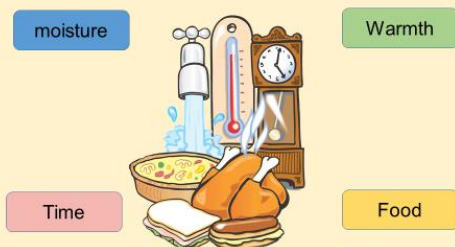
Food-related causes of ill health

Microbes- are tiny micro-organisms that can contaminate food and spoil it, casing ill health. The micro-organisms discussed on this page are bacteria, yeasts and moulds
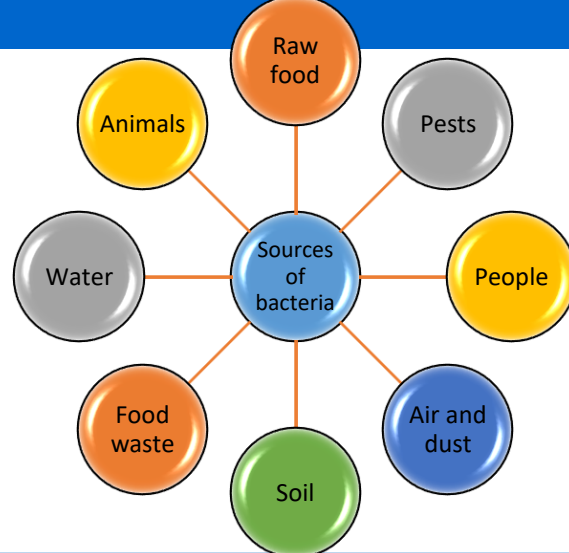
Bacteria

- Bacteria are single-celled micro-organisms. Bacteria can be found everywhere around you; on your skin, in food, in soil, in water and in the air.
- Most bacteria are harmless, but some are **pathogenic** and can cause food poisoning. General food poisoning **symptoms** are vomiting (being sick) and diarrhoea.
- Other types of bacteria cause food to decay; these are called food spoilage bacteria, which cause food to smell and lose its texture and flavour.

What do bacteria need to multiply?

moisture

Warmth

Time

Food

Sources of bacteria

- Raw food
- Pests
- People
- Air and dust
- Soil
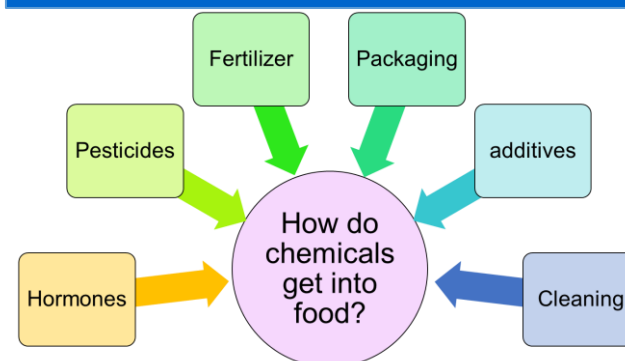- Food waste
- Water
- Animals

Yeasts

- Yeasts are a single celled fungi that reproduce by 'budding' – the yeast cell grows a bud, which becomes bigger until it eventually breaks off and becomes a new yeast cell.
- Yeast can grow in acidic, sweet foods; for example orange juice can ferment if it is not stored correctly, and honey can ferment if not pasteurised.
- Yeasts prefer moist, acidic foods.
- Yeasts can grow in high concentrations of sugar and salt.
- Yeasts grow best in warm conditions (around 25-29°C) but can also grow at fridge temperatures (0-5°C)
- Yeasts are destroyed at temperatures above 100°C.

Moulds

- Moulds are tiny fungi; they produce thread like filaments that help the mould to spread around the food.
- Moulds grow in warm and moist conditions.
- Moulds grow easily on bread, cheese and soft fruits, and can grow on foods with high sugar and salt concentrations.
- Moulds grow best between 20°C and 30°C, but can also grow in the fridge (0°C- 5°C)
- Mould growth may be speeded up by high humidity and fluctuating temperatures
- Moulds can grow on fairly dry food, such as hard cheese (for example Cheddar cheese)
- Moulds often spoil food such as bread and other bakery products.

Chemicals

How do chemicals get into food?

- Fertilizer
- Packaging
- Pesticides
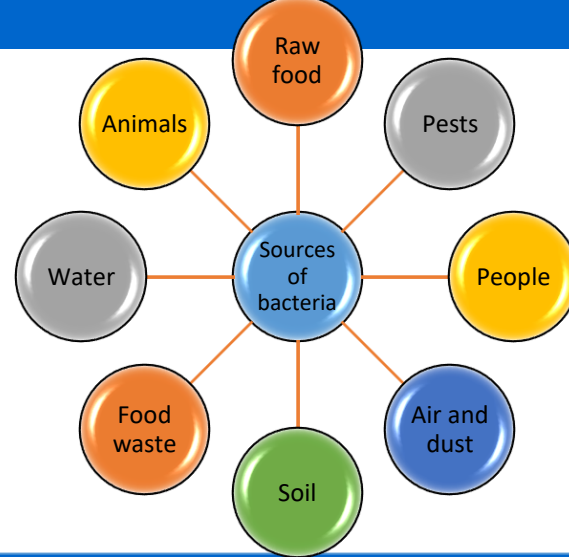- additives
- Hormones
- Cleaning

Metals

Aluminium
- Aluminium is one of the most common metals used in cookware as it is lightweight and conducts heat well.
- When aluminium surfaces are in contact with acidic foods, such as tomatoes and citrus fruits, the aluminium reacts and can leach (dissolve) into the food. This can give the food an unwanted metallic taste.
- When aluminium has been associated with Alzheimer's disease, there is no evidence that this causes the disease. The world health Organisation estimate that adults can consume more than 50 mg of aluminium daily without harm, so day to day exposure to aluminium from cooking is considered to be safe.
- Aluminium cookware can be anodised (hardened through a process that makes it unreactive) or coated with a less-reactive material, such as stainless steel, so that it does not react with food.
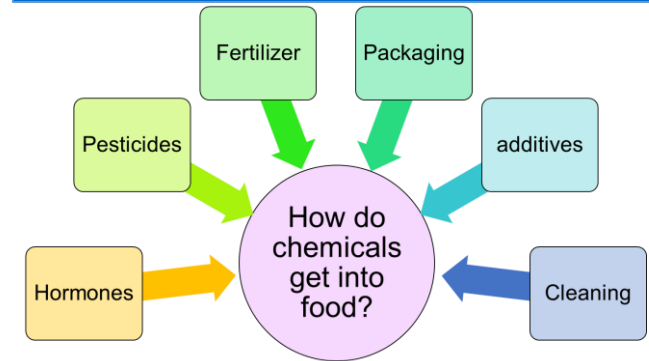
Copper
- Copper may be used in cups, pots and pans. It warms quickly and is he best conductor of heat.
- Copper and copper-alloy surfaces react with acidic foods, such as tomatoes and citrus fruits, and can leach (dissolve) into the food. High doses of copper can be toxic, so most copper pans are lined with stainless steel to avoid this happening.

Food-related causes of ill health

Bacteria

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- Pests
- Water
- People
- Food waste
- Soil
- Air and dust

Yeasts

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Food-related causes of ill health
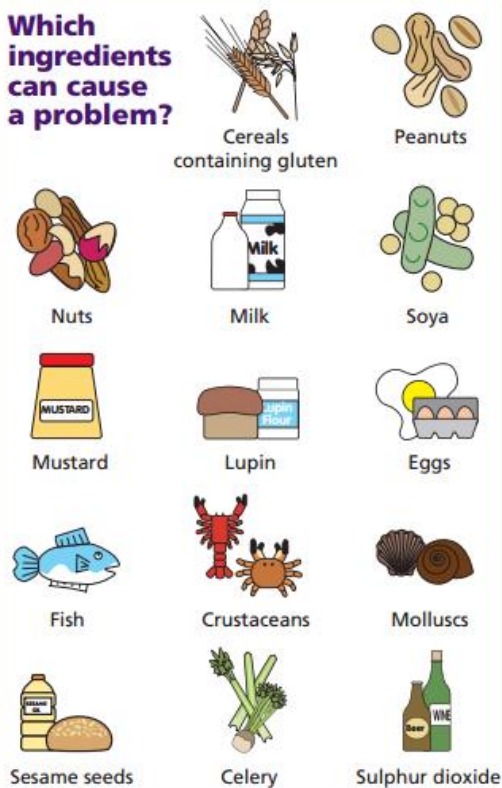
Poisonous plants

- Some mushrooms are poisonous, so you should pick mushrooms to eat unless you are 100% sure of what they are. The death cap and autumn skullcap are two of the most poisonous. Consuming poisonous mushrooms can lead to pain in the area of the kidneys, thirst, vomiting, headache and fatigue.
- Many berries that grow wild are poisonous and should not be eaten. Yew berries, deadly nightshade and unripe elderberries re all poisonous. Consuming poisonous berries can lead to nausea, vomiting, stomach ache and diarrhoea, but can also be fatal.
- Rhubarb leaves contain oxalic acid, which shuts down the kidneys and can be fatal; the stalks are safe to eat how ever.
- Glycoalkaloids are found in leaves, stems and sprouts of potatoes. They can build up in potatoes if they are left too long in the light, causing them to turn green. Eating glycoalkaloids can lead to cramps, diarrhoea and coma, and can prove fatal.
- If nuts and cereals get damp when they are stored, they can develop a mould that produces a **toxin** that can damage the liver.
- Dried kidney beans contain a toxin called lectin that makes them unsuitable for eating. Eating raw or inadequately cooked beans can lead to symptoms that indicate food poisoning. Kidney beans should be soaked and boiled for a t least ten minutes to destroy the toxin.
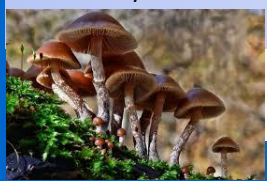
Allergies

- A person with a food allergy experiences an allergic reaction when they eat or come into contact with specific foods.
- Allergic reactions are caused by the body's immune system reacting to the food and can be fatal.

Which ingredients can cause a problem?

- Cereals containing gluten
- Peanuts
- Nuts
- Milk
- Soya
- Mustard
- Lupin
- Eggs
- Fish
- Crustaceans
- Molluscs
- Sesame seeds
- Celery
- Sulphur dioxide

Intolerances

Some people have sensitivity to certain foods. This is called a food intolerance. Eating these foods can cause symptoms such as nausea, abdominal pain, joint aches and pains, tiredness and weakness

Lactose intolerance
- A person with a **lactose** intolerance cannot digest the sugar in milk called lactose.
- People with a lactose intolerance need to avoid all dairy products and foods that contain dairy products in their ingredients.

Gluten intolerance
- Gluten is a protein present in a number of cereals including wheat, rye and barley.
- Wheat is a nutritious staple food in the UK diet an dis found in a number of foods including flor, baked products, bread, cakes, pasta and breakfast cereals.
- People with a gluten intolerance need to follow a gluten free diet.
- It is important not to confuse gluten intolerance with **coeliac disease** which is an autoimmune disease caused by a reaction of the immune system to gluten. A person with coeliac disease is called a **coeliac.**
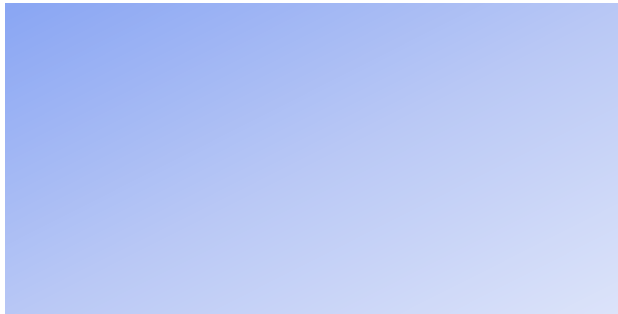
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Lactose intolerance

Gluten intolerance

Which ingredients can cause a problem?

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Sesame seeds

Celery

Sulphur dioxide

The role and responsibility of the Environmental Health Officer

to provide support to minimise health and safety hazards. **Environmental Health Officers (EHOs)** are responsible for carrying out measures to protect public health and

Role of EHOs

- They look after the safety and hygiene of food through all stages of the manufacture or production from distribution to storage and service.
- They help develop, co-ordinate and enforce food safety policies.
- They have the right to enter and inspect food premises at all reasonable hours and can visit without advance notice.
- They carry out routine inspections of all food premises in their area; the frequency of routine inspections depends on the potential risk posed by the type of business and its previous record- some high-risk premises may be inspected at least every six months, others much less often.
- They visit premises as a result of a complaint.
- They have powers of enforcement and can close businesses in extreme cases.

FOOD HYGIENE RATING
(0) (1) (2) (3) (4) **5**
VERY GOOD

Responsibilities of EHOs

- They check that food producers handle all food hygienically so as not to give customers food poisoning.
- They check that food is being kept at the specific temperatures at which it should be stored or held.
- They check that staff are properly dressed, with clean nails, no jewellery, hair covered or tied back, and showing good hygiene habits.
- Thy review processes in the workplace, such as the handling of food, use of equipment, use of colour coded chopping boards, washing-up and disposal of waste.
- They inspect food stores-fridges, freezers and dry stores.
- They check stock rotation and temperature logs
- They check that equipment is clean, well maintained and with safety notices if appropriate.
- The check the temperature of the food when it is cooked with probes to ensure that it is at the correct temperature.
- They ask questions to check compliance with the law or good practice
- They identify potential hazards
- They review safety management systems and plans
- At the end of an inspection they give verbal feedback, discuss any problems and advise on possible solutions. They complete a report of inspection findings, which tells the business what **enforcement action** is to be taken.

Enforcement action

Enforcement action is required by law following an inspection from an EHO.
Enforcement action can range from verbal advice, informal or formal letters, and notices through to prosecution.

- **Formal Inspection letters-** tells the food business which issues must be addressed to comply with the law. The EHO may revisit the business to check that the issues have been resolved.
- **Hygiene Improvement Notices-** An EHO can serve a Hygiene Improvement Notice when they believe that a food business is failing to comply with food hygiene regulations. This notice will specify what s going wrong and what needs to be done by which date. The EHO will visit again to see if the required work has been done. If it has not improved, it can lead to a fine or imprisonment.
- **Hygiene Emergency Prohibition Notices-** If an EHO believes that there is a significant risk to health and injury, a Hygiene Emergency Prohibition Notice may be served. The notice stops the use of the unsafe equipment, processes or premises immediately. It can only be removed by an EHO once the issues have been addressed.
- **Voluntary closure-** A food business may elect to close voluntarily to carry out improvements. However, should the business reopen before the improvements are completed, the EHO will serve a Hygiene Emergency Prohibition Notice.
- **Seizure and detention of food-** EHOs have the power to inspect and seize food suspected of not meeting food safety regulations. Food is taken if there is suspicion that it is contaminated and is likely to cause food poisoning or disease. Seized food may undergo microbiological examination and testing.
- **Condemnation of food-** In order to condemn or seize food, the EHO must present their findings to a court. They will consider the information and decide whether the food poses a risk to human health and whether or not to condemn it.
- **Voluntary surrender of food-** The owner of a business may surrender unfit food to the EHO voluntarily. This would avoid the involvement of the court.

The role and responsibility of the Environmental Health Officer

Role of EHOs

Responsibilities of EHOs

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- **Formal Inspection letters-**

- **Hygiene Improvement Notices-**

- **Hygiene Emergency Prohibition Notices-**

- **Voluntary closure-**

- **Seizure and detention of food-**

- **Condemnation of food-**

- **Voluntary surrender of food-**

FOOD HYGIENE RATING

0 1 2 3 4 **5**

VERY GOOD

Food safety legislation

Food Safety Act 1990

- This act is concerned with all aspects of food production and sale.
- If affects everyone involved in the production, processing, storage, distribution and sale of food.
- It ensures that all food produced is safe to eat.
- The act states that it is an offence to make food sold for human consumption unsafe to eat.
- A food producer or retailer may not add any substances to food, or subject food to any process or treatment, which will make it harmful to health.
- An EHO may inspect any food intended for human consumption at any reasonable times. If the food is regarded as unfit for human consumption, it may be seized.
- The legislation also provides a defence for foo producers, processors and retailers. They must prove that all reasonable precautions were taken to prevent a food safety incidence. This is called **due diligence**.
- Failure to take reasonable precautions can result in prosecution.
- Magistrates' courts may impose a fine, prison sentence or both for offences committed.

Record Keeping

Detailed records need to be kept of:
- Food safety management procedures
- Training records of staff and staff illness reporting procedures
- Cleaning schedules
- Pest control and waste disposal contracts
- Records of checks, problems found and actions taken, for example a food temperature log book
- List of suppliers

Basic hygiene rules

- Don't cough or sneeze near food.
- Don't touch your head, especially your mouth, nose or ears.
- Wear protective clothing and footwear provided by your employer.
- Don't brush your hair when wearing protective clothing or in any food areas.
- Long hair should be tied back and covered.
- Cuts and scratches should be covered with a coloured waterproof plaster.
- Don't prepare food if you are unwell with a stomach bug or cough and cold, as you could spread bacteria onto food.

Hazard analysis and critical control points (HACCP)

This is a process that is designed to help look at how you handle food and to put procedures in place to ensure that the food you produce is safe to eat.

Every business that produces, sells or serves food is required to have a HACCP plan in place with a written **food safety plan.** It is the responsibility of the owner of the business to develop an appropriate food safety management system based on HACCP.

HACCP systems should apply the following principles:
1. Create a flow chart or table showing each step in the preparation, making, serving and storing of each dish.
2. Each step should be analysed to identify the hazards. Hazards can be:
   - Physical- foreign materials can cause injury to the consumer; these might be metal or plastic, or natural hazards such as bones in fish.
   - Biological- food can become infected by bacteria, which might lead to food poisoning
   - Chemical- potentially dangerous chemicals such as cleaning fluids can contaminate food.
3. Identify what can be done to control (prevent) the hazard.
4. Set guidelines on how to ensure food is going to be safe to eat- these are known as critical limits- and keep a record of this.
5. When new dishes are made, there needs to be a HACCP review to ensure that they are safe to eat.
6. All the documentation relating to the HACCP needs to be kept safe.

Food Safety (General Food Hygiene) Regulations 1995

These regulations apply to food businesses and cover all activities involving food. The legislation clearly sets out the responsibility of food businesses to:
- Produce food safely and make sure it is consistently safe to eat; food is unsafe if it is harmful to health and unfit for human consumption
- Keep records of suppliers so that food can be traced; businesses must withdraw food that does not meet food safety requirements.

The whole food chain, from **farm to fork**, is covered by legislation. Farm to fork means that food can be traced through all the stages of production, processing and distribution back to the original source. The regulation require that food is stored, handled, cooked an served safely; that premises are clean and hygienic; and that people handling food follow basic hygiene rules.

Food safety plan

The following information should be included in a written safety plan:
- Purchase and delivery
- Stock control
- Storage and preparation
- Chilled foods
- Frozen foods
- Cooking
- Hot holding
- Cooling
- Reheating
- Personal hygiene
- Equipment and premises
- Cleaning and maintenance
- Pest control

Using this system can demonstrate the defence of 'due diligence' legally. To prove due diligence a business must be able to demonstrate that it took every possible reasonable step to achieve safe food. This may protect the owner of the business from prosecution.
It is likely that the court would demand written records to support the defence. These might include documents from the safety plans. Other relevant documentation may include staff training records, temperature logs, cleaning schedules, supplier specifications, traceability systems, remedial action where food safety problems have arisen, and pest control measures.

Food safety legislation

Food Safety Act 1990

Record Keeping

Basic hygiene rules

Hazard analysis and critical control points (HACCP)

Food Safety (General Food Hygiene) Regulations 1995

Food safety plan

The following information should be included in a written safety plan:
- .
- .
- .
- .
- .
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- .
- .
- .
- .
- .
- .
- .
- .

Food safety legislation

Nutrition claims

There are strict rules about claims that can be made about food on its packaging so that consumers are not misled. For example, if the packaging says that the product is 'fat free', the product must not contain more than 0.5g of fat per 100g or 100ml. Any health claim the manufacturer makes has to be reviewed to ensure it is accurate before it appears on the label.

Nutritional labelling

Nutritional information must be expressed per 100g or per 100ml, and it must be listed in the following specific order:
- Energy-stated in kilojoules (kJ) and kilocalories (kcal) per 100g or 100ml
- Fat
- Saturated
- Carbohydrates
- Sugars
- Fibre (not required by law)
- Protein
- Salt
- Vitamins and minerals-these must also be expressed as a percentage of the **reference intake (RI)**

Traffic light labelling

Traffic light labelling is a voluntary system that uses traffic light colours to indicate how healthy a product is at a glance in terms of fat, saturated fat, sugar and salt.
- **Red-** the food is high in something that consumers should try to cut down on in their diet; such foods should be chosen less frequently and eaten in small amounts.
- **Amber-** the food isn't high or low in the nutrient, so this is an acceptable choice most of the time.
- **Green-** the food is low in teat nutrient; the more green, the healthier the choice.

Consumers should choose foods with more greens and ambers and fewer reds to ensure healthier choices.

Traffic light labels also give the amount of fat, saturated fats, sugars and salt in grams, the manufacturer or retailer's suggested 'serving' size, and information on the nutrient as a percentage of RI.
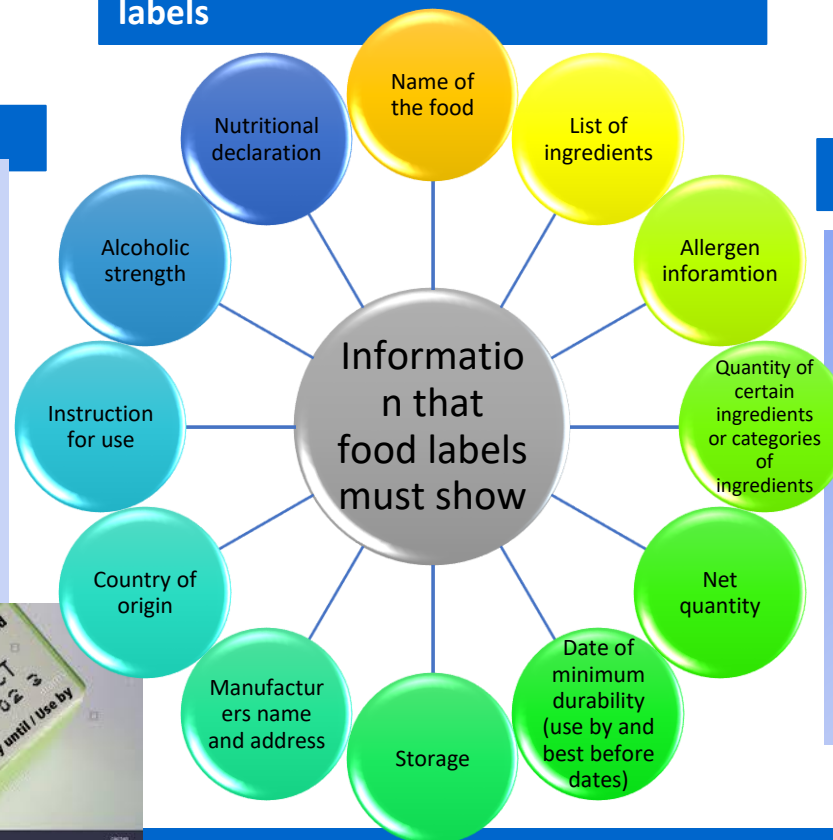
Each serving (150g) contains

Energy 1046kJ 250kcal	Fat 3.0g LOW	Saturates 1.3g LOW	Sugars 34g HIGH	Salt 0.9g MED
13%	4%	7%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Dates of minimum durability

Different types of dates are used to tell customers when food should be consumed by:
- **Use-by date-** usually on high risk foods such as soft cheeses, chilled meats, salads and sandwiches, which can go off quickly; it states the date that the food should be used by.
- **Sell-by or display-until date-** this date is aimed at shopkeepers rather than consumers; it is usually a few days before the use-by date to allow the consumer time to eat the food.
- **Best-before date-** these are given on foods that keep for longer, for example biscuits; the food should be eaten before this date for quality purposes, but it is not usually harmful to eat it after this date.

Mandatory information required on labels

Information that food labels must show

- Name of the food
- List of ingredients
- Allergen inforamtion
- Quantity of certain ingredients or categories of ingredients
- Net quantity
- Date of minimum durability (use by and best before dates)
- Storage
- Manufacturers name and address
- Country of origin
- Instruction for use
- Alcoholic strength
- Nutritional declaration

Food labelling regulations

Food labels are used by business to provide information about their products. They are needed to:
- Enable consumers to make informed decisions and choices, and to educate them about the food they choose to buy
- Help us to store, prepare and cook the food we buy correctly
- Identify the ingredients used in food-if a consumer has a severe allergy to certain ingredients (for example nuts), they need to check if the food contains those ingredients.
- Establish the nutrient content of the food- if a consumer has a health condition such as diabetes or high blood pressure, they may want to check the sugar, fat, carbohydrate or salt content of the food.
- Identify where the food comes from- some consumers may prefer to buy local ingredients.

Best Before
10/10/2019
L8 191 12 3021
Keep Frozen

No artificial preser flavours or colours
Keep refrigerated
03 OCT
23:02 3
Display until / Use by

Food safety legislation

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Nutritional labelling

Nutritional information must be expressed per 100g or per 100ml, and it must be listed in the following specific order:
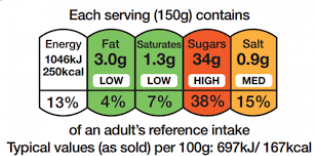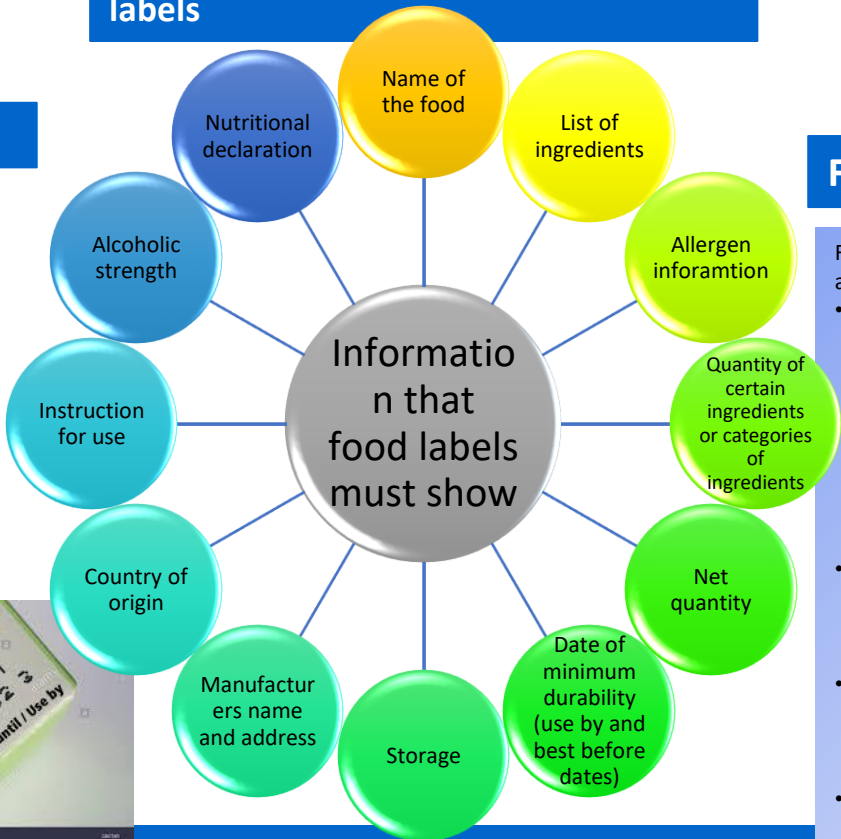
- .
- .
- .
- .
- .
- .
- .
- .
- .

Traffic light labelling

Traffic light labelling is a voluntary system that uses traffic light colours to indicate how healthy a product is at a glance in terms of fat, saturated fat, sugar and salt.

- **Red-**
- **Amber-**
- **Green-**

Each serving (150g) contains

| Energy 1046kJ 250kcal | Fat 3.0g LOW | Saturates 1.3g LOW | Sugars 34g HIGH | Salt 0.9g MED |
| 13% | 4% | 7% | 38% | 15% |

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ / 167kcal

Mandatory information required on labels

Name of the food

List of ingredients

Nutritional declaration

Allergen inforamtion

Alcoholic strength

Quantity of certain ingredients or categories of ingredients

Instruction for use

Information that food labels must show

Net quantity

Country of origin

Date of minimum durability (use by and best before dates)

Manufacturers name and address

Storage

Dates of minimum durability

Different types of dates are used to tell customers when food should be consumed by:

- **Use-by date-**
- **Sell-by or display-until date-**
- **Best-before date-**

Food labelling regulations

Food labels are used by business to provide information about their products. They are needed to:

- .

  .
- .
- .
- .

4.4 Common types of food

Food poisoning can be caused by pathogenic bacteria but it can also be caused by virus, chemicals and metals contaminating the food. Food can even be contaminated with poisonous plants and animals.

Sources of food poisoning

Food can become contaminated during production, preparation and retailing. The main sources are:
- Raw food-for example meat, poultry, shellfish and eggs.
- People- food-poisoning bacteria are found on the skin, in septic wounds, in the nose and sometimes in the gut.
- Pests- for examples rats, mice, cockroaches, ants, wasps and flies.
- Animals- domestic pets and farm animals can carry *E.coli* in their intestines.
- Air and dust- food must be covered as bacteria in the air can settle on the surface.
- Water- bacteria such as *Salmonella* are carried in untreated water.
- Soil- bacteria and spores can survive in soil, so can be found on unwashed vegetables.
- Food waste-waste needs to be disposed of correctly as it could be a source of contamination and may attract pests.

Conditions necessary for food poisoning

Bacteria can grow rapidly in the correct conditions. A single **bacterium** can divide into two by the process called **binary fission.** A single bacterium can produce 16 million bacteria in only 12 hours.
Food poisoning bacteria have four essential requirements for growth:
- **Food-** bacteria grow rapidly in high risk foods that are good sources of protein; such as cooked meat and poultry, shellfish, and seafood, undercooked or lightly cooked eggs, unpasteurised milk and cheeses, cooked rice and pasta, and salads.
- **Moisture-** bacteria cannot multiply without moisture, which means that they do not usually affect dried foods or products with high quantities of salt or sugar, which absorb water.
- **Warmth-** most bacteria multiply at **ambient temperature** - normal room temperature. This falls within the danger zone between $5°C$ and $63°C$. Below $5°C$ most bacteria are unable to multiply rapidly, and below $-18°C$ they become **dormant**. Cooking food at high temperatures above $63°C$ will destroy most bacteria; when cooked, the food should reach $75°C$ for at least two minutes.
- **Time-** in the right conditions the number of bacteria can double every 20 minutes.

The acidity and alkalinity of a food can influence the growth of bacteria. If conditions are too acidic or to alkaline, bacteria can not grow.

4.5 Symptoms of food –induced ill health

How bacteria make you ill
- **Eating pathogenic bacteria-** when bacteria enter the stomach and intestines they multiply. This is ow *Campylobacter* and *Salmonella* cause illness. Some types of food poisoning require the consumption of thousands of bacteria; others, such as *E.coli*, only require the consumption of a few to cause serious illness.
- **Eating a toxin-** a toxin is a poison produced as a waste product by bacteria. Some bacteria, such as Staphylococcus aureus and Bacillus cereus, produce a toxin when they multiply. Eating the toxin makes you ill, not eating the bacteria.

Symptoms of food poisoning
- A symptom is a sign or indication of a disease.
- The body reacts to bacteria or toxins by developing symptoms such as diarrhoea, vomiting, stomach pains, headache and sweating.
- Some of these symptoms are visible and some are non-viable

Visible symptoms	Non-visible symptoms
Shivering Diarrhoea Vomiting	Feeling tired or weak Stomach ache Headache Feeling nauseous (sick)

Symptoms of food allergies
A food allergy is a serious reaction to a food or ingredients in food. It is caused by the body's immune system reacting to an allergen. If the reaction to a food is a bad one, it could give the following symptoms:
- Skin rash
- Itchiness of skin, eyes and mouth.
- Swollen lips, face, eyes
- Difficulties in breathing.

In severe cases, it can bring about anaphylactic shock- the person develops swelling in their throat and mouth, making it difficult to speak or breathe. This can lead to death if appropriate treatment, such as an EpiPen, is not used quickly.

Symptoms of food intolerances and coeliac disease

Some people have a sensitivity to certain foods, which can cause symptoms such as nausea, abdominal pain, joint aches and pains, tiredness and weakness. This is called a food intolerance- this is not an allergic reaction and it does not involve the immune system.
Coeliac disease is neither a food allergy nor a food intolerance but an autoimmune disease caused by a reaction of the immune system to gluten- a protein found in wheat, rye and barley. The symptoms of coeliac disease vary from person to person and can range from mild to severe.
Symptoms of coeliac disease include:
- Severe diarrhoea, excessive wind and/or constipation
- Persistent or unexplained gastrointestinal symptoms, such as nausea and vomiting.
- Recurrent stomach pain, cramping or bloating.
- Iron, vitamin B12 or folic acid deficiency.
- Anaemia
- Tiredness
- Sudden or unexpected weight loss.

Symptoms of lactose intolerance include:
- Abdominal pain
- Nausea
- Diarrhoea
- flatulence

4.4 Common types of food

Sources of food poisoning

Food can become contaminated during production, preparation and retailing. The main sources are:

Conditions necessary for food poisoning

Bacteria can grow rapidly in the correct conditions. A single **bacterium** can divide into two by the process called **binary fission.** A single bacterium can produce 16 million bacteria in only 12 hours.

Food poisoning bacteria have four essential requirements for growth:

- **Food-**

- **Moisture-**

- **Warmth-**

- **Time-** in the right conditions the number of bacteria can double every 20 minutes.

The acidity and alkalinity of a food can influence the growth of bacteria. If conditions are too acidic or to alkaline, bacteria can not grow.

4.5 Symptoms of food –induced ill health

How bacteria make you ill
- **Eating pathogenic bacteria-**

- **Eating a toxin-**

Symptoms of food poisoning

Visible symptoms	Non-visible symptoms

Symptoms of food allergies

A food _____ is a serious reaction to a food or _____ in food. It is caused by the body's immune system reacting to an allergen. If the reaction to a food is a bad one, it could give the following _____

In severe cases, it can bring about anaphylactic _____- the person develops swelling in their _____and mouth, making it difficult to speak or breathe. This can lead to death if appropriate treatment, such as an _____, is not used quickly.

Symptoms of food intolerances and coeliac disease

Some people have a sensitivity to certain foods, which can cause symptoms such as nausea, abdominal pain, joint aches and p_____, tiredness and weakness. This is called a _____ intolerance- this is not an allergic reaction and it does not involve the immune system.

Coeliac disease is neither a food allergy nor a food intolerance but an autoimmune disease caused by a reaction of the immune system to gluten- a protein found in wheat, rye and barley. The symptoms of coeliac _____ vary from person to person and can range from _____ to severe.

Symptoms of coeliac disease include:

Symptoms of lactose intolerance include:

Computing, Business and Media

**Helping every person achieve things they never thought they could.**

Little Lever School
be kind | work hard | take responsibility

What range of numbers can be represented by 8 bits?	0 - 255
How many bits in a nibble?	4
How many different values can be represented with 8 bits?	256

Binary

128 64   32   16   8 4 2 1

Binary Addition

	128	64	32	16	8	4	2	1	
	1	0	1	0	1	1	0	0	= 172
+	0	0	1	0	1	1	1	1	= 47
Answer	1	1	0	1	1	0	1	1	= 219
Sub-Total			2		3	2			

+1   +1   +1
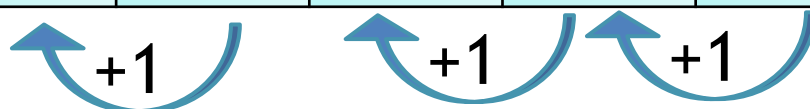
Each binary column doubles in size as we move from right to left.
If the sub-total when adding units in a column is <u>2</u> you leave a 0 behind and carry a 1 into the next column.
If the sub-total when adding units in a column is <u>3</u> you leave a 1 behind and carry a 1 into the next column.

Year 10 GCSE Computer science:

What range of numbers can be represented by 8 bits?	

Binary

128 64 32 16 8 4 2 1

How many bits in a nibble?	
How many different values can be represented with 8 bits?	

Binary Addition

Denary to Binary

	128	64	32	16	8	4	2	1
162 =	1	0	1	0	0	0	1	0
	162-128 = 34		34 - 32 = 2				2 − 2 = 0	
247 =	1	1	1	1	0	1	1	1
	247 − 128 = 119	119 − 64 = 55	55 − 32 = 23	23 − 16 = 7		7 − 4 = 3	3 − 2 = 1	1 − 1 = 0

Binary to Denary

128	64	32	16	8	4	2	1	
1	0	0	0	1	1	0	1	= 141
128				128+8 = 136	136+4 = 140		140+1 = 141	
0	1	1	1	0	0	0	1	= 113
	64	64+32 = 96	96+16 = 112				112+1 = 113	

Denary to Binary

Binary to Denary

Overflow Error:

An overflow error is where the result of a binary calculation is too big for the location it is to be stored in. In the example below there is only an 8-bit storage location however the result of the calculation requires 9 bits to contain it:

	1	1	1	0	0	1	1	1	
	1	0	0	0	0	0	0	1	+
(1)	0	1	1	0	1	0	0	0	

This means that any following calculations, which rely upon this result, will also be incorrect.

Hexadecimal Digits

Hexadecimal Conversion:

Decimal	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Hex	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

Hexadecimal is a Base 16 number system, which uses the same 0 – 9 digits as our usual decimal number system, however to represent 10 – 15 the letters A – F are used.

Hexadecimal is shorthand for binary and is much easier for programmers to use than 1s and 0s

Hexadecimal Digits
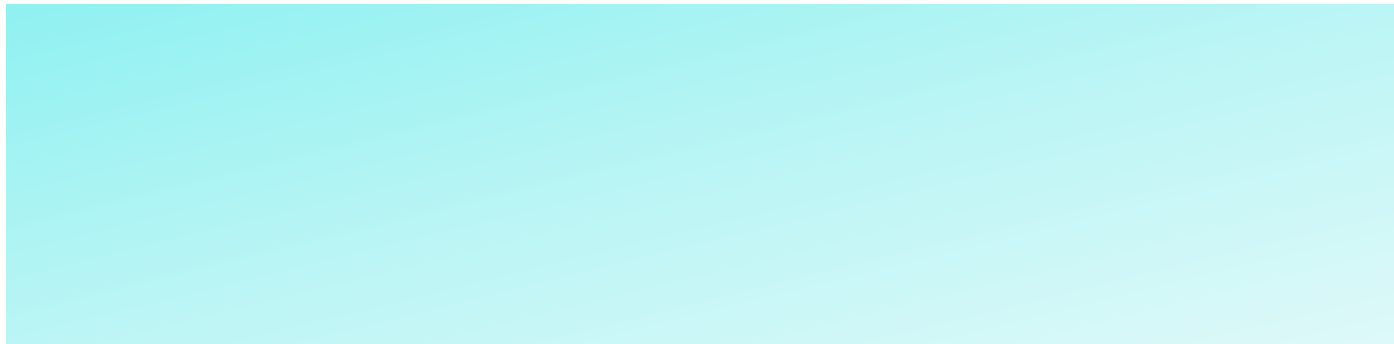
Two's Complement (Representing Negative Numbers)

Denary	Two's complement binary number
-20	(Positive) +20 = 0001 0**1**00 (Negative) -20 = 1110 1**1**00

With Two's Complement a Negative number is represented by finding the furthest **1** to the right of the Positive 8-bit binary value (*in the example above this is the 3rd digit from the right*) and reverse all the values to the left of this furthest **1** to the right (*See above example for +20 and -20*).

Logical Shift
When performing a Logical shift to the left (to multiply), or to the right (to divide), simply insert '**0**' into the new space/s.

Left-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 1 0 1 1 1 0 ← 0	(decimal 46)
Right-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 0 0 1 0 1 1	(decimal 11)

This has the effect of multiplying by 2.
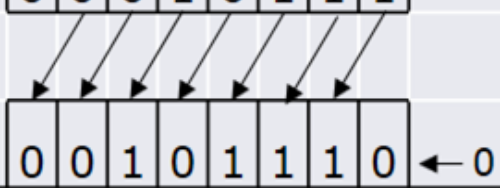
A new 0 is shifted in.

This has the effect of dividing by 2.

In a logical shift a 0 is **always** inserted.

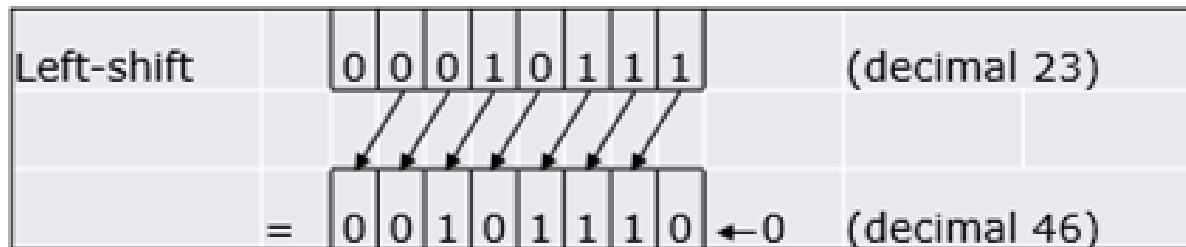## Two's Complement (Representing Negative Numbers)

Denary	Two's complement binary number

Left-shift	0 0 0 1 0 1 1 1	(decimal 23)
	= 0 0 1 0 1 1 1 0 ← 0	(decimal 46)
Right-shift	0 0 0 1 0 1 1 1	(decimal 23)
0 ↘	= 0 0 0 0 1 0 1 1	(decimal 11)

Arithmetic Shift

Arithmetic shifts are used for multiplying Two's Complement signed binary integers, therefore when performing a right shift (*to divide the binary value*), it is important that the value of the 8th bit (*furthest to the left*) is inserted into the new space/s because this will determine whether the number is a positive or negative integer

Left-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 1 0 1 1 1 0 ← 0	(decimal 46)

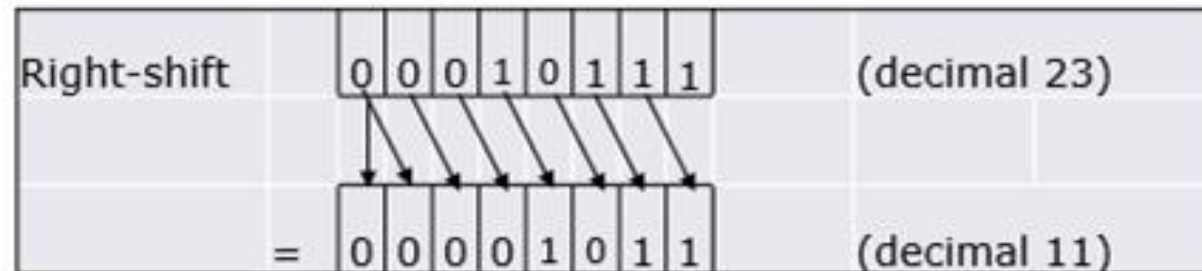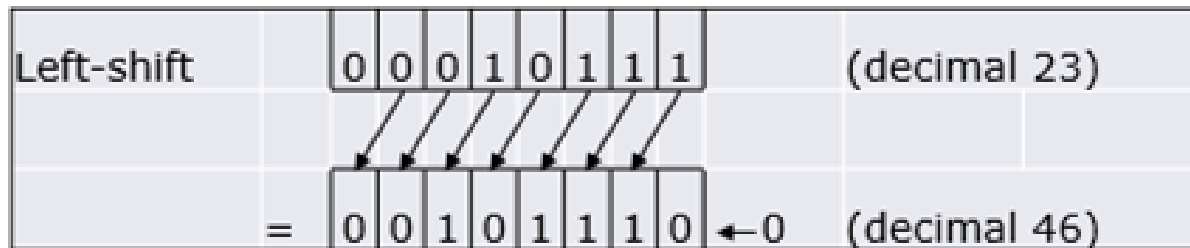| Right-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 0 0 1 0 1 1	(decimal 11)

This has the effect of multiplying by 2.

A new 0 is shifted in.

This has the effect of dividing by 2.

The MSB value is **always** maintained; in this example a 0 is inserted.

Arithmetic Shift

Left-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 1 0 1 1 1 0 ←0	(decimal 46)

Right-shift	0 0 0 1 0 1 1 1	(decimal 23)
=	0 0 0 0 1 0 1 1	(decimal 11)

ASCII and Unicode

How Bitmap Images are Represented in Binary

Colour Depth indicates the number of bits used to represent the colour of a picture element. The higher the number of bits used, the greater the range of colours.

Each pixel will have location (x, y, coordinates) bits and colour bits.

With two colour bits per pixel you can have 4 colours, with 32 colour bits (256 Reds, 256 Blues and 256 Greens) you can have over 16M colours

ASCII	Unicode
The ASCII character set is the standard **7-bit binary** encoding for the letters, numbers and symbols that computers use (*extended ASCII character set uses 8-bit binary*). ASCII allows for **256** unique characters (due to 8-bit codes) e.g. 0 - 255	Unicode is an alternate standard for encoding letters, numbers and symbols, which uses **16-bit binary** encoding. Unicode allows for **65536** unique characters (due to 16-bit codes) Unicode allows for a great deal more characters and symbols than ASCII, due to the fact it uses twice the number of bits.

The **resolution** of an image is based on the number of elements used to represent the full image. The higher the number of elements for a given size, the better the quality of the image (PPI – pixels per square inch).
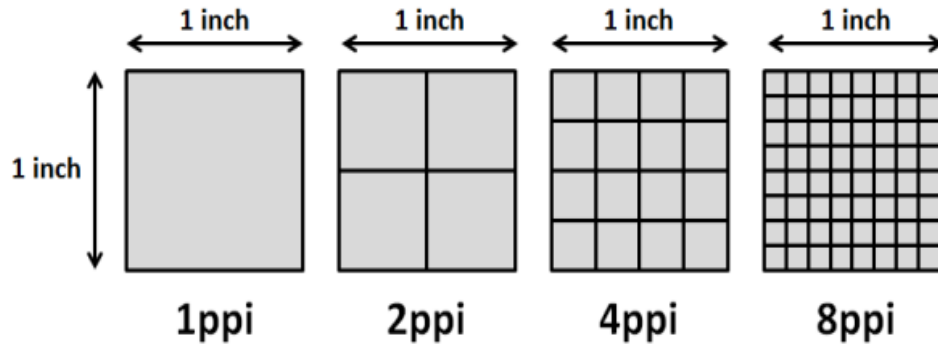
Bitmap images are made up of **Pixels,** which are the smallest elements of a bit-mapped image and the smallest element that can be displayed on a screen.

ASCII and Unicode

How Bitmap Images are Represented in Binary

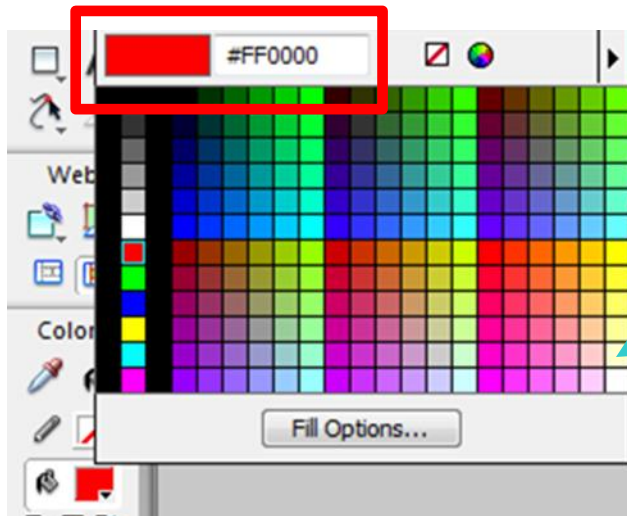| ASCII	Unicode

Pixels per inch

1ppi   2ppi   4ppi   8ppi

The more pixels there are, the sharper and clearer the image will be (but remember the more pixels there are, the bigger the file size too)

Colour Depth

With 1 bit colour depth we can represent 2 colours (Black and White)

The 3 Primary colours used in computer programs are Red Green and Blue

Highest Red = FF0000

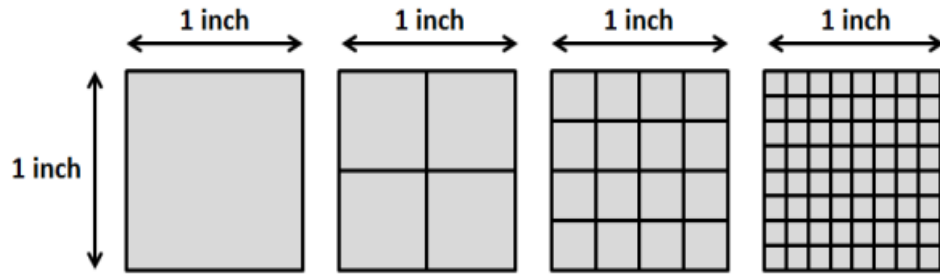**Highest Green = 00FF00**

Highest Blue = 0000FF

Many programs use 256 (0-255) different shades of Red, Green and Blue

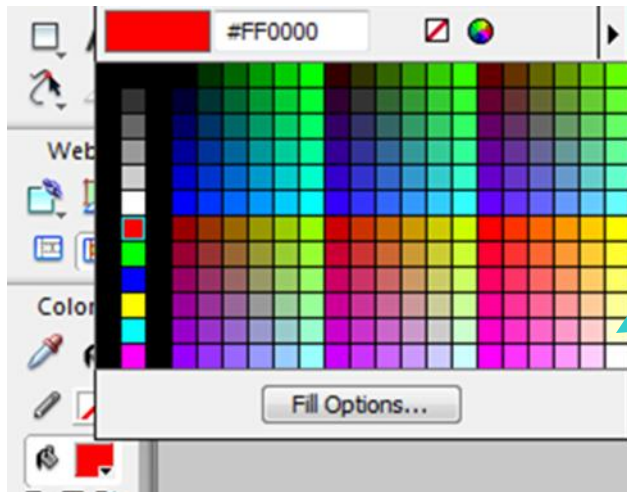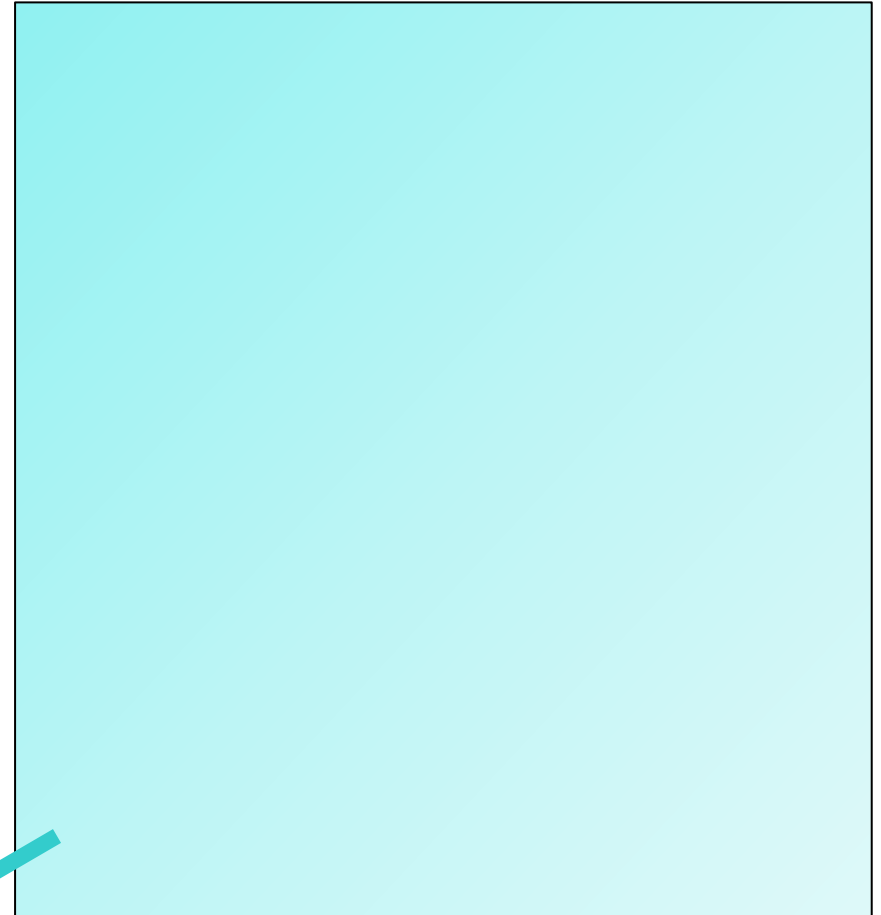**By combining these colours other colours can be created**

256 x 256 x 256 = 16,777,216 colours

This is why computer manufactures say "Over 16 Million Colours"

Pixels per inch

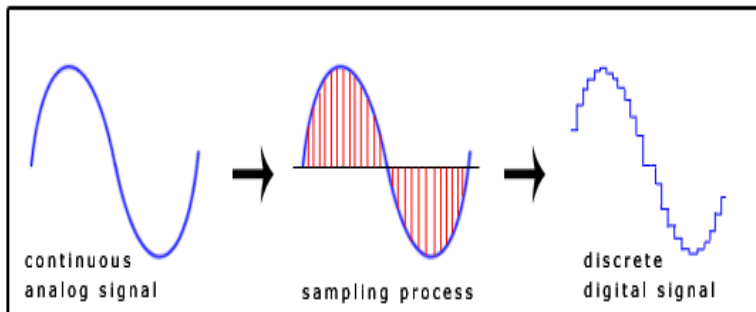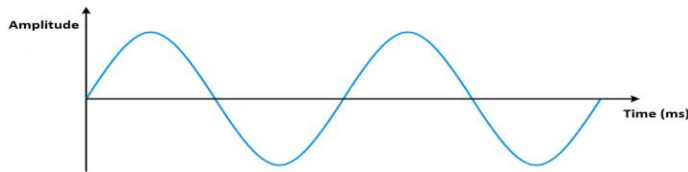# Colour Depth

Analogue to digital

Sound is analogue, a process of digitisation is needed to convert it to a series of binary numbers.

continuous analog signal → sampling process → discrete digital signal

Samples taken at evenly spaced time intervals (fractions of a second) and represented as numerical values. The sampling rate is the number of samples taken per second and is measured in hertz (Hz). A CD-quality recording has a sampling rate of 44 Khz, which means that the sound is sampled 44,000 times a second.

The more bits (**bit depth**) dedicated to representing the sample the better the sound reproduction. 16 bits provide 65,536 possible levels of measurement, as compared to 8 bits, which provide only 256 levels of measurement.

Sample rate and bit depth determine the smoothness and accuracy of the reproduction. However, the higher the quality of the sound, the larger the file size. Sound files are often compressed to reduce the size.

Analogue to digital
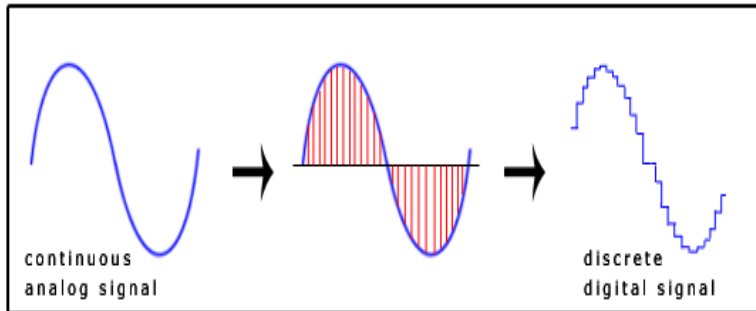
continuous
analog signal

discrete
digital signal

Storage Measurement – Bits and Bytes

0 or 1	=	1 Bit(Binary Digit)
4 Bits	=	a 'nibble'
8 Bits	=	1 Byte
1024 Bytes	=	1 Kibibyte (KiB)
1024 Kibibytes	=	1 Mebibyte (MiB)
1024 Mebibytes	=	1 Gibibyte (GiB)
1024 Gibibytes	=	1 Tebibyte (TiB)

Units of measurement

Formula for the number of bytes
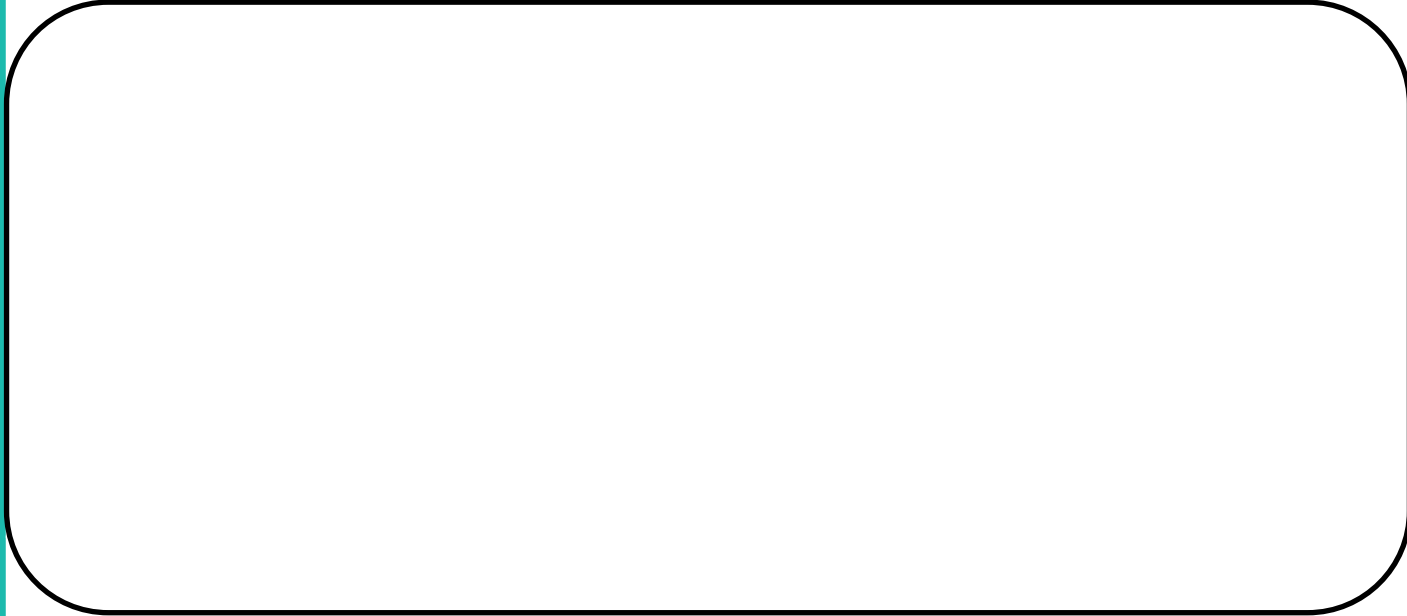
1 kibibyte (KB)   = 1024 bytes 1024

1 mebibyte (MB)   = 1024 kibibytes 1024 x 1024   or 1024^2

1 gibibyte (GB)   = 1024 mebibytes 1024 x 1024 x 1024   or 1024^3

1 tebibyte(TB)   = 1024 gibibytes 1024 x 1024 x 1024 x 1024   or 1024^4

Storage Measurement – Bits and Bytes

Units of measurement

Data Storage Measurement – Bits and Bytes

0 or 1	=	1 Bit(Binary Digit)
4 Bits	=	a 'nibble'
8 Bits	=	1 Byte
1024 Bytes	=	1 Kibibyte (KiB)
1024 Kibibytes	=	1 Mebibyte (MiB)
1024 Mebibytes	=	1 Gibibyte (GiB)
1024 Gibibytes	=	1 Tebibyte (TiB)

Units of storage measurements
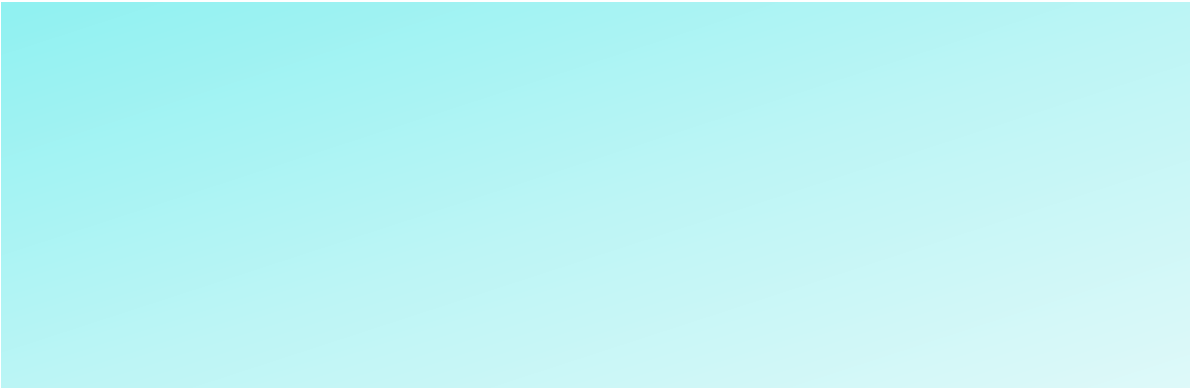
Data compression

Bitmaps, audio and video files can be very large, compressing data reduces its file size.
Data Transfer - Compression makes data transfer across networks much faster (*less bandwidth required*) .
Data Storage – Compression reduces the amount of storage space needed for files (*saves local storage on digital devices*)

Units of measurement	
	Formula for the number of bytes
1 kibibyte (KB) = 1024 bytes	1024
1 mebibyte (MB) = 1024 kibibytes	1024 x 1024 or 1024^2
1 gibibyte (GB) = 1024 mebibytes	1024 x 1024 x 1024 or 1024^3
1 tebibyte(TB) = 1024 gibibytes	1024 x 1024 x 1024 x 1024 or 1024^4

Data Storage Measurement – Bits and Bytes

Data compression

Units of storage measurements

Units of measurement	
	Formula for the number of bytes

Lossless and Lossy compression methods

There are two types of compression **Lossy** and **Lossless**:

Lossless compression techniques do not remove any of the original data from the image, audio, or video file being compressed, meaning it retains the original quality.

Lossy compression techniques permanently remove some of the data from the original image, audio or video file, meaning it may not retain the original quality. **JPEG and MP3 are examples of lossy compression**.

Lossless file compression types

- Lossless file compression does not remove any of the data from a file when it is compressed, these file types can have quite large file sizes.
- Run-Length Encoding (RLE) is a Lossless File Compression Method.
- GIF (.gif) images are also a method of Lossless Compression.

Lossy file compression types

- Lossy compression methods remove some of the data from an image to compress it even further and reduce the file size of the image.
- Lossy compressed files do not have the same detail as the original and can lose some of the quality.
- Standard JPEG (.jpg) images are a method of Lossy Compression.
- There is an obvious reduction in the image quality, of the chicken on the right, when the size is increased.

Lossless and Lossy compression methods

Lossless file compression types

Lossy file compression types

Data storage and data transmission

- Data **storage** is measured in Bytes

- Data **transmission** is measured in <u>bits</u> per second (bps)

- **Transfer Time = Number of bits / BPS**

- e.g. a data file of 2MiB will take 16 seconds to download on an 8Mbps network connection (because there are 8 bits in a byte)

- **Number of bits** = 1024 x 1024 x 8 x 2

- **Bits per second** = 8 x 1000,000

Data storage and data transmission

Year 10 GCSE Business:

Market Segmentation
Grouping the market into groups with shared characteristics.

A business can segment the market in the following ways:
Location
Demographics
Lifestyle
Income
Age

The competitive environment

Strengths and weaknesses of competitors can be based on:
Price
Quality
Location
Product range
Customer service

Impact of competition on business decision making:

New competitor products may make you update and improve your products to keep up.
Identifying gaps in the market can provide you with ideas for new products/services.
Competitors' pricing may influence your pricing decisions.
Competitors' customer service may make you strive to provide superior customer service.

Market Map
Market mapping is a visual representation of the position of different products, brands, or businesses within a particular market. Market maps can be used to identify **a gap in the market** and understand the competition.
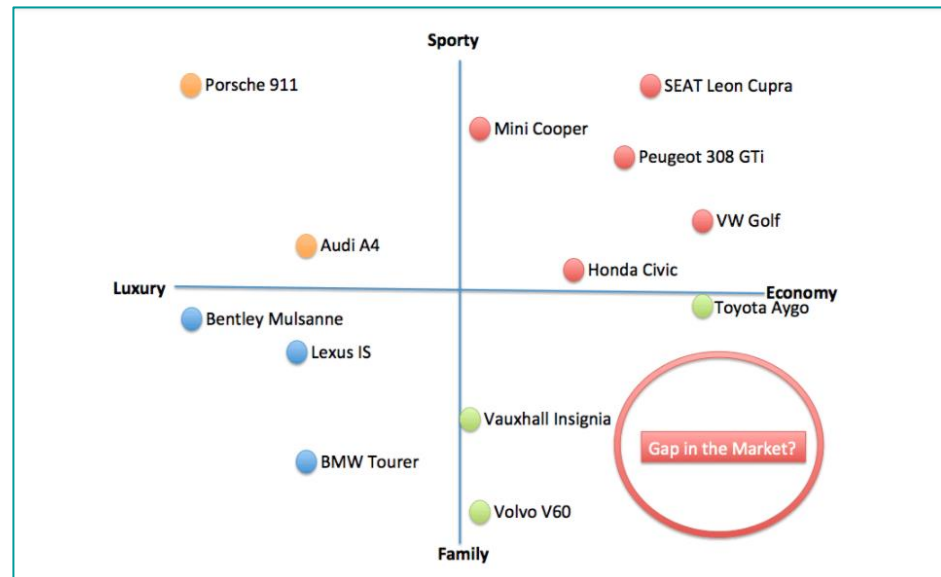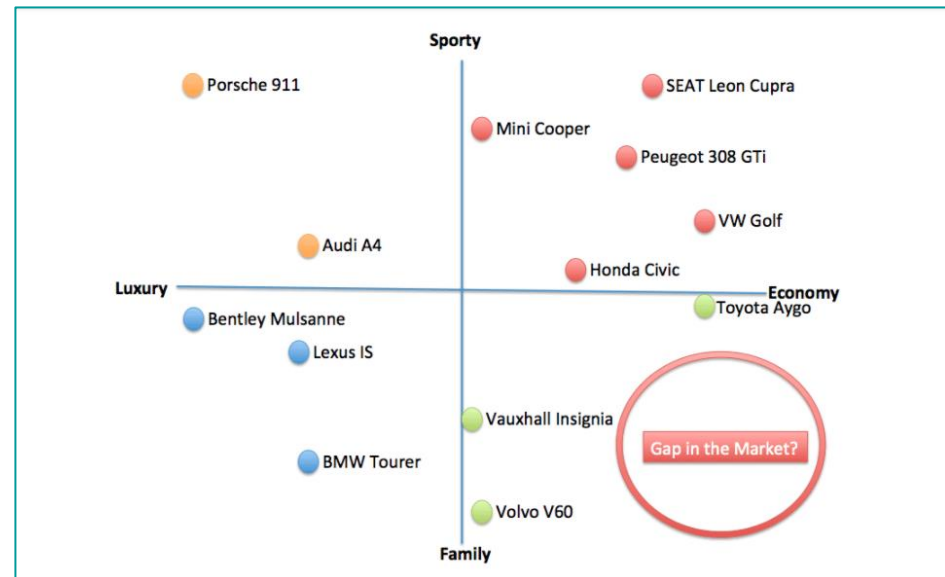
Year 10 GCSE Business:

Market Segmentation

The competitive environment

Impact of competition on business decision making:

Market Map

Year 10 GCSE Business:

Business Aims and Objectives

Financial Aims and Objectives:
Survival: Achieve break-even and positive cash flow.
Profit: Ensure revenue is more than total cost.
Sales: Achieve a target number of sales over a specific period.
Market Share: Capture a specific percentage of the market.
Financial Security: Build and maintain a reserve fund (money) in case it is needed in the future.

Non-Financial Aims:
Social Objectives: Implement socially responsible practices for example reducing use of plastic packaging, not testing on animals.
Personal Satisfaction: Set personal targets related to joy and satisfaction.
**Challenge:** Starting up a business is very challenging which some entrepreneurs will thrive on.
Independence and Control; being responsible for all the business decisions.

Reasons why aims and objectives differ between businesses:
Size and scale of a business: large established businesses may have the aim to dominate the market. Whereas, smaller businesses may focus instead on survival.
Ownership: Businesses with many shareholders may focus on profit. Whereas, a small sole trader may focus on independence and control.

Break Even Level of Output
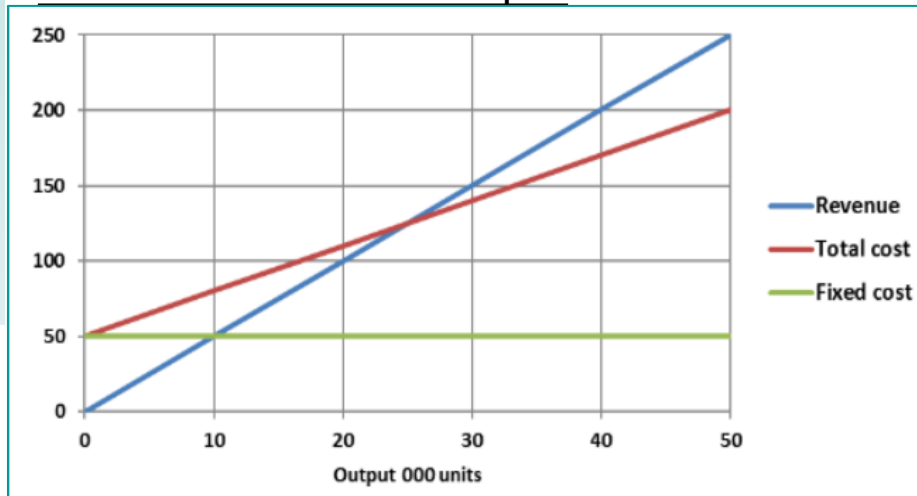
Break Even Level of output refers to the amount of units that need to be sold to cover all the costs. In this example above, the break even level of output is 25 units as that is the point when the revenue is the same as the total costs.

Break even

$$\text{Break even point in units} = \frac{\text{fixed cost}}{(\text{sales price} - \text{variable cost})}$$

Break even point in costs / revenue = break even point in units × sales price

Year 10 GCSE Business:

Business Aims and Objectives

Non-Financial Aims:

Break Even Level of Output

Break Even Level of output

Break even

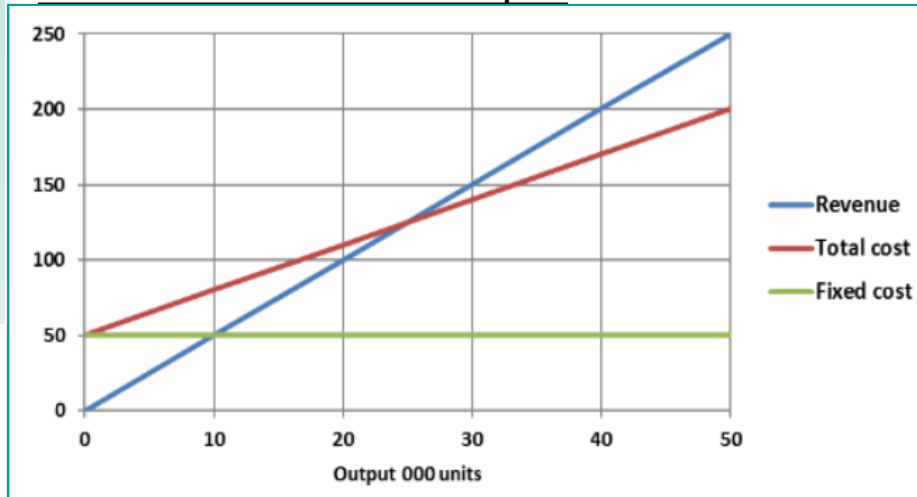$$\text{Break even point in units} = \frac{\text{fixed cost}}{(\text{sales price} - \text{variable cost})}$$

Break even point in costs / revenue = break even point in units × sales price

Year 10 GCSE Business:

Margin of Safety is the difference between the break even level of output and the actual level of output. For example, if the actual output was 50 units sold and the break even point happened at 25 units sold, then the margin for safety would be 50 − 25 = 25.

Margin of safety

Margin of safety = actual or budgeted sales − break even sales

Sources of Finance for Businesses:
Short-term Sources (need to be paid back relatively quickly):

	Description	Advantage	Disadvantage
Overdraft	Borrowing money from the bank beyond the account balance.	Provides flexibility to cover short-term cash flow gaps.	Interest rates can be high, making it an expensive option.
Trade Credit	Delaying payment to suppliers, extending the time to pay for goods or services.	Allows businesses to delay payments and manage cash flow.	May miss out on discounts that businesses who pay straight away may benefit from.

Interest paid on loans:

Interest (on loans)

$$\text{Interest (on loans) in \%} = \frac{\text{total repayment} - \text{borrowed amount}}{\text{borrowed amount}} \times 100$$

The options available for a startup and small business

	What does it mean?	Advantages	Disadvantages
Limited Liability	Legal concept where the owners (shareholders or members) of a business entity are **not personally responsible** for the business's debts and liabilities.	**Asset Protection:** Owners' personal assets (homes, savings, etc.) are protected from business debts. This may mean they are more likely to take risks.	**Complex Legal Requirements:** Operating with limited liability often involves more complex legal processes.
Unlimited Liability	A situation where business owners (such as sole proprietors or general partners) are personally responsible for all of the business's debts and liabilities.	**Simplicity:** unlimited liability is simpler with less legal requirements to set up.	**Personal Financial Risk:** Owners risk personal assets, including savings and property, in the event of business debts or business failure.

Year 10 GCSE Business:

Margin of Safety

Margin of safety

Margin of safety = actual or budgeted sales – break even sales

Interest paid on loans:

Interest (on loans)

$$\text{Interest (on loans) in \%} = \frac{\text{total repayment} - \text{borrowed amount}}{\text{borrowed amount}} \times 100$$

Sources of Finance for Businesses:
Short-term Sources (need to be paid back relatively quickly):

	Description	Advantage	Disadvantage

The options available for a startup and small business

	What does it mean?	Advantages	Disadvantages
Limited Liability			
Unlimited Liability			

Year 10 GCSE Business:

Long-term sources of finance (can be paid back over many years or never):

	Description	Advantage	Disadvantage
Personal Savings	Using personal funds to finance the business.	No interest or repayment requirements so fixed costs are not increased.	Limited by the individual's savings (you may not have any savings!)
Venture Capital	Investment from external investors in exchange for equity (shares in the business).	Don't need to pay it back.	Loss of some control and equity (shares) in the business.
Share Capital:	Raising funds by selling shares of the business.	Don't need to pay it back. No debt so keeps fixed costs low.	Loss of some control and equity (shares) in the business.
Loan Capital	Borrowing money from financial institutions (banks) and repaying with interest.	Access to large amounts of money quickly.	Interest payments increase fixed costs.
Retained Profit	Saving profits to be reinvested back into the business.	Uses profits for business growth without external borrowing.	Limited to the amount of profit available, this may delay business decisions.
Crowdfunding	Collecting small amounts of money from a large number of people online.	Nothing needs to be paid back meaning fixed costs are not increased.	Success depends on the ability to attract many investors.

Factors Influencing Business Location:
Choosing the right location is a critical decision for businesses. Several factors influence business location decisions:
Proximity to Market - customers
Proximity to labour - workers
Proximity to materials and suppliers
Proximity to competitors
Nature of Business Activity

Marketing Mix:
The marketing mix, often referred to as the 4Ps, is a strategic framework that businesses use to plan and execute their marketing strategies effectively. It encompasses four key elements, each starting with the letter 'P':

Product
Price
Place
Promotion

Year 10 GCSE Business:

Long-term sources of finance (can be paid back over many years or never):

	Description	Advantage	Disadvantage
Personal Savings			
Venture Capital			
Share Capital:			
Loan Capital			
Retained Profit			
Crowdfunding			

Factors Influencing Business Location:

Marketing Mix:

Year 10 GCSE Business:

Types of business ownership	Advantages	Disadvantages
Sole Trader - A business owned and operated by a single individual.	The owner has complete control over business decisions, allowing for quick and flexible decision-making.	Unlimited Liability
Partnership - A business structure where two or more individuals share ownership and responsibilities.	Shared responsibility: Partners can share the workload and expertise, bringing diverse skills and resources to the business.	Unlimited Liability
Private Limited Company (LTD) - A business structure that is a separate legal entity from its owners (shareholders), offering limited liability.	Limited Liability – personal possessions of shareholders (owners) are not at risk to pay business debt.	Private limited companies face more complex legal and regulatory requirements, adding administrative burdens and costs.
Franchise - A business arrangement where one party (franchisor) grants another party (franchisee) the right to use its business model, brand, and support in exchange for fees and ongoing royalties.	Established brand so you have a ready-made customer base. Support from the franchisor.	Franchise fees are very expensive. Less independence as less autonomy to make decisions, e.g. what to sell.

Product Life Cycle Phase	What is happening in this phase?
Research and Development	Expensive phase whereby products are being designed. No revenue from sales. Lots of costs creating prototypes. Negative cash flow at this stage.
Introduction	The product is introduced to the market. Sales are typically low, and businesses focus on creating awareness through advertising (expensive). Competitors can now see your product.
Growth	The product sales begin to rise rapidly. Consumer acceptance increases. Businesses focus on expanding market share, enhancing product features, and building brand loyalty. Important that do not run out of stock at this stage.
Maturity	Stable sales and market saturation. Competition is intense, and businesses may differentiate their products through promotions, pricing strategies, or product variations.
Decline	Sales start to decline due to factors such as changing consumer preferences, technological advancements, or the introduction of newer products.

Product

Design Mix - The balance between three essential elements—Function, Aesthetics, and Cost—in the design and development of products or services. These elements play a crucial role in determining the success and appeal of a product in the market.
Function: focuses on how well a product or service fulfills its intended purpose.
Aesthetics: the product's appearance, style, and overall visual appeal.
Cost: the financial implications associated with the design and production of a product or service.

Product Life Cycle
The product life cycle is a concept that describes the stages a product goes through in the market, from its introduction to its eventual decline. Each stage has distinct characteristics and challenges
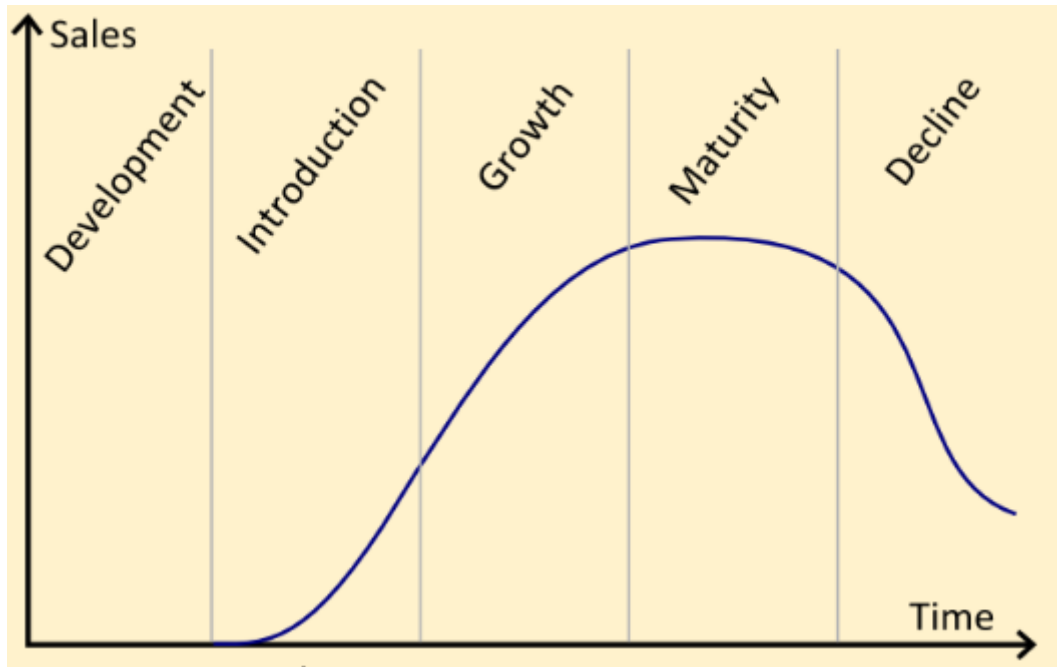
Year 10 GCSE Business:

Types of business ownership	Advantages	Disadvantages

Product Life Cycle Phase	What is happening in this phase?
Research and Development	
Introduction	
Growth	
Maturity	
Decline	

Product

Product Life Cycle

Sales — Development | Introduction | Growth | Maturity | Decline — Time

Extension

Used by a business to prolong the life of a product (prevent it from going into decline). Some common examples include:

Modifying the product (e.g. new flavours)
Expanding the market (e.g. into neighbouring towns)
Promotional Campaigns
Price promotions
Rebrand

Product differentiation - When a business tries to make their products or services stand out from those of their competitors.

Type of differentiation	Why it is important
Competitive advantage	Can lead to increased customer loyalty.
Brand identity	Contributes to the development of a strong brand identity.
Can charge a **premium price** to customers.	Can increase revenue.
Customer loyalty	If customers perceive a business as providing something special, they are more likely to remain loyal and make **repeat purchase**s.

Year 10 GCSE Business:
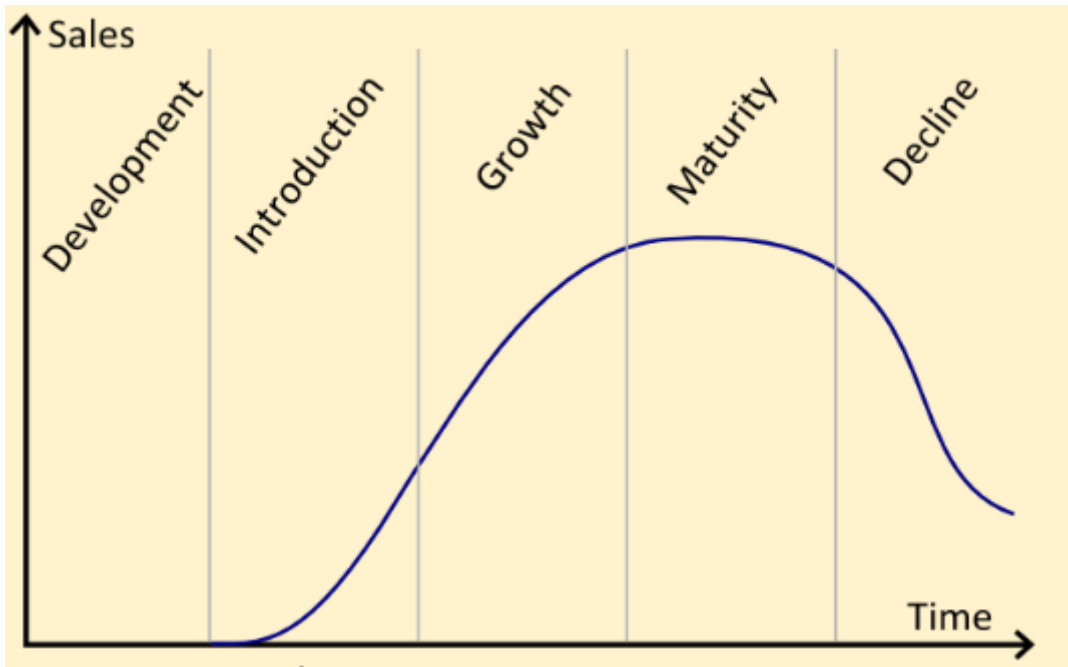
Product differentiation –

Type of differentiation	Why it is important

Year 10 GCSE Business:

Price
Pricing strategies are approaches businesses use to determine the price of their products or services. Some common pricing strategies:

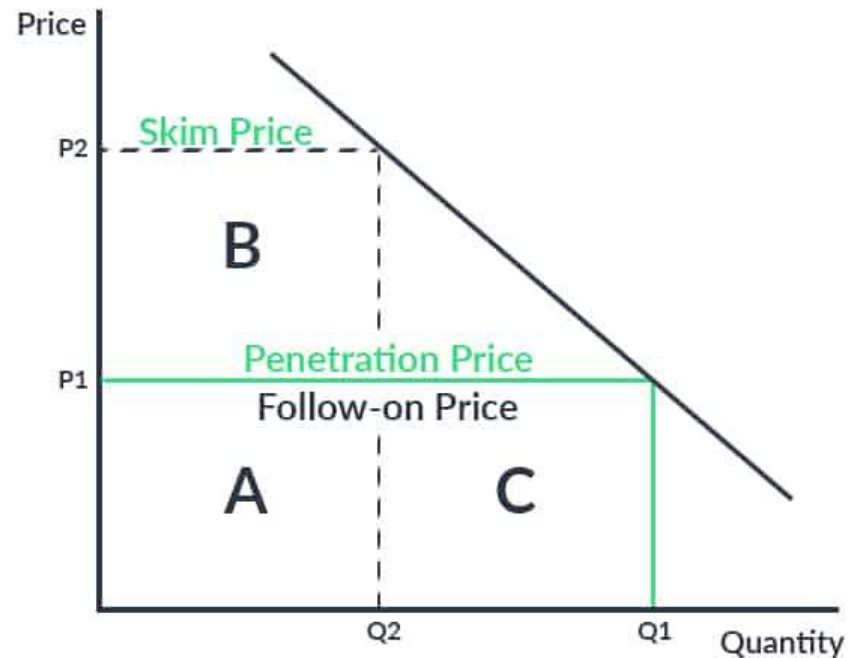| Type of pricing strategy	Description
Penetration pricing	A business sets a low initial price for a product to quickly gain market share. E.g. new brand of yoghurt.
Skimming pricing	Setting a high initial price for a product, targeting early adopters or customers willing to pay a premium. E.g iPhone.

Influences on Pricing Strategies:
Pricing decisions are influenced by various factors that shape a business's overall strategy. Here are key influences on pricing strategies:

Technology
Competition
Market segmentation
Product life cycle

Price

Type of pricing strategy	Description

Influences on Pricing Strategies:

Year 10 GCSE Media:

Media Sectors

Sector	Examples
Audio/Moving image	TV, radio, films
Publishing	Magazines, billboards, posters, flyers, newspapers
Interactive	Apps, social media, games, websites

Media Institutions

Type of institution	Description
Media conglomerate	Large corporations that own multiple media outlets.
Public service broadcaster	Organisations funded by public resources.
Independent media producers	Small-scale or individual creators who produce media.
Community Media Organisations	Non-profit or volunteer-based initiatives that focus on serving local communities and promoting community participation.

Audiences Types

Type of audience	Description
Mass audience	A big group of people who like or enjoy the same things.
Target/ main audience	A group of people that a media product is made for or meant to appeal to the most.
Secondary audience	Includes people who aren't the main target but still have some interest or connection to the media product.

Purpose

Purpose examples	
To entertain	To raise awareness
To advertise	To shock
To inform	To instruct
To explain	To document

Definition: Call to Action: Encouraging the audience to take specific actions or make a change.

Audience

Demographics refer to specific characteristics of a population or target audience.

Demographic characteristics:

Age
Gender
Family status
Ethnicity
socio-economic scale
Interests
Nationality

Media Sectors

Sector	Examples

Media Institutions

Type of institution	Description
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Community Media Organisations	

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Definition: _____ to Action: Encouraging the audience to take specific actions or make a _____.

Audience

Demographics refer to specific characteristics of a population or target audience.

Demographic characteristics:

Audience Socio Economic Scale

Socio Economic Group	Description
A (Upper Class)	High income, top-level professionals, executives, business owners. Advanced education.
B (Upper Middle Class)	White-collar professionals, managers, successful entrepreneurs. Above-average income and education.
C1 (Lower Middle Class)	Office workers, lower-level managers, small business owners. Moderate income and education.
C2 (Skilled Working Class)	Skilled workers, tradespeople, supervisors. Average income and education.
D (Working Class)	Manual workers, laborers, routine jobs. Limited education, moderate income.
E (Lower Class)	Unskilled workers, unemployed, low-income households. Limited education and financial resources.

Audience Psychometrics

Psychometric	Description
The Aspirer	Are driven by the desire for success, status, and recognition.
The Explorer	Are curious, adventurous, and open to new experiences.
The Mainstreamer	Value tradition, conformity, and maintaining social norms.
The Reformer	Are socially and environmentally conscious.
The Resigned	Individuals often feel disempowered or marginalised.
The Struggler	Face financial and personal challenges, often living in economically deprived conditions.
The Succeeder	Have achieved success and are financially secure.

Audience Socio Economic Scale

Audience Psychometrics

Socio Economic Group	Description
A (Upper Class)	
B (Upper Middle Class)	
C1 (Lower Middle Class)	
C2 (Skilled Working Class)	
D (Working Class)	
E (Lower Class)	

Psychometric	Description
The Aspirer	
The Explorer	
The Mainstreamer	
The Reformer	
The Resigned	
The Struggler	
The Succeeder	

Stuart Hall's Reception Theory

Audience Uses and Gratifications

This theory suggests that audiences actively choose and engage with media products based on their personal needs and desires. This includes:

Information	People use media to learn stuff, like what's happening in the world, or to find out about things they're interested in.
Personal Identity	Media helps people show who they are and what they believe in.
Entertainment	Media is a way for people to relax and have a good time.
Social Interaction	Media also helps people talk to each other and stay connected.

Reception theory identifies three different audience response:

Dominant/Preferred Reading	The audience interpret the meaning of the product exactly like the media producer intended.
Negotiated Reading:	An audience that acknowledges some aspects of the intended message but also bring their own perspectives and values into the interpretation.
Oppositional Reading:	The audience interpret media products in direct opposition to the intended message of the producer. They reject or challenge the dominant meaning encoded in the media text.

Key Terms	Description
Semiotics	The study of signs and symbols and what they mean
Denotation	Is like the **basic or literal meaning** of a sign or symbol, what it directly represents
Connotation	Is all the **extra feelings and ideas (hidden meanings)** we connect to a sign or symbol.
Encoding	Is when someone **creates meaning and attaches message**s to signs, like a filmmaker making a movie with a message.
Decoding	Is when the audience **interprets or understands the messages** and meanings in signs or media

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Key Terms	Description
Semiotics	
Denotation	
Connotation	
Encoding	
Decoding	

Genre

Genre is a way to categorise different types of stories or media based on similar themes, settings, or styles. It is often easy to spot products from different genres because they generally have similar characteristics.

Genre examples
Drama
Action
Comedy
Science Fiction
Thriller/ Suspense

Genre Key term	Description
Sub-Genres	Within most genres we can find sub genres, for example within Horror we could find 'Slasher'.
Hybrids	A hybrid genre is a genre which blends themes and elements from two or more different genres, for example action/romance.
Subverting Generic Conventions (subversion)	When media producers don't do what is expected of that genre. For example, a romantic film where the couple actually don't stay together and split up at the end.
Genre Iconography	Consists of recurring symbolic images that carry meaning from film to film. What do you expect to see/hear?
Repetition	TV programs, magazines, or websites often conform to established generic codes and conventions to cater to audience expectations and familiarise them with the content.
Difference	Introducing elements of originality is crucial to avoid becoming repetitive and boring.

Genre

Genre is a way to _____ different types of stories or media based on similar themes, settings, or _____. It is often easy to ____ products from different _____ because they generally have similar characteristics.

Genre examples

Genre Key term	Description
Sub-Genres	
Hybrids	
Subverting Generic Conventions (subversion)	
Genre Iconography	
Repetition	
Difference	

Narrative: Themes

Themes are the central concepts or topics that the media creator seeks to convey. Examples include:

- **Alienation** – The effects of, the loneliness of, to cure it.
- **Betrayal** – the pain of, in love and friendship.
- **Coming of age** – loss of innocence.
- **Escape** – from life, routine, prison, family pressures.
- **Death** – how to escape, facing, what happens after, consequences of.
- **Fear** – driven by, dealing with, conquering.
- **Freedom** – loss of, gaining, handling, fight for.

Narrative: Setting

Visual Design	Media producers create a special look for the scene such as what people wear, and the things around them.
Sound design	Media producers add sounds and music to make us feel like we're really in that place and of that time.
Set dressing	Media producers carefully find objects and furniture etc that make us believe it is from that time or place.
Lighting	Media producers use different lights to create a certain mood or feeling in the place.

Narrative: Todorov's Theory

Todorov discovered that narratives moved forward in a chronological order with one action following after another.

What happens
A state of equilibrium (all is as it should be)
An action or character disrupts that equilibrium.
A quest to restore the equilibrium begins. There is recognition that the disorder has occurred.
An attempt to repair the damage of the disruption.
Resolution occurs and equilibrium is restored.

Narrative: Characterisation

Character Type	Description
Hero	Undertakes a journey or a quest
Villain	Attempts to thwart or kill the hero
Donor	Gives the hero advice or a useful object
Helper	A friend who helps the hero in their quest
Princess	Motivation and reward for the quest
Dispatcher	Sends the hero on their quest

Narrative: Themes

Themes are the central concepts or topics that the media creator seeks to convey. Examples include:

Narrative: Setting

Visual Design	
Sound design	
Set dressing	
Lighting	

Narrative: Todorov's Theory

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What happens

Narrative: Characterisation

Character Type	Description
Hero	
Villain	
Donor	
Helper	
Princess	
Dispatcher	

Narrative: Storytelling Devices

Foreshadowing	Hinting at future events
Red Herrings	Misleading clues
Subplots	Secondary storylines
Flashbacks/Forwards	Narrative jumps in time
Cliffhangers	Suspenseful endings
Chekhov's Gun	Something insignificant becomes very important later on.

Narrative Structures

Narrative structures refer to the organisation and arrangement of elements within a story or narrative.

Structure	Description
linear	where the story is told in order and a new equilibrium arrived on at the end
non-linear	where events are told out of sequence
circular	where the story ends where it began – ie there has been no change to the equilibrium
open	narratives, where there is no resolution by the end
closed	narratives, where the story is resolved
single-strand	where the narrative follows just one storyline
multi-strand	where there are different interwoven stories

Representation

Audience positioning and perspective:	Media can shape how we see and think about things. Different perspectives can influence our understanding of a story.
Audience identification:	Media tries to make us relate to characters or situations. We may see ourselves in the heroes or villains of a story.
Use of Stereotyping:	Stereotyping is when groups of people are shown in simplified or exaggerated ways. It can create biases and unfair judgments.
Positive and Negative Representations:	Media can show people, places, and events in positive or negative ways. Positive representations can inspire and uplift us. Negative representations can reinforce stereotypes and hurtful ideas.

Narrative: Storytelling Devices

Foreshadowing	Hinting at future events
Red Herrings	
Subplots	
Flashbacks/Forwards	
Cliffhangers	
Chekhov's Gun	

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Structure	Description
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single-strand	
multi-strand	

Representation

Audience positioning and perspective:	
Audience identification:	
Use of Stereotyping:	
Positive and Negative Representations:	

Media production techniques: camerawork

Shot Type	Description
Low Angled Shot	Camera positioned below the subject, portraying them as powerful, strong, or scary.
Extreme Close-up	Camera zooms in very close to emphasize a small detail, making it appear significant or intense.
Long Shot	Camera placed far away to capture the entire scene or subject, providing context and showcasing the overall setting and scale.
Medium Shot	Shot displaying the subject from the waist up, striking a balance between showing details and offering a broader view of the surroundings.
High Angle Shot	Camera positioned above the subject, depicting them as small, weak, or in a vulnerable position.

Media production techniques: sound

Term	Description
Diegetic Sound	Sound originating from the world of the story, including characters talking or making sounds in the movie or show.
Non-Diegetic Sound	Sound that doesn't come from the story world, such as background music or a voice that talks to the audience but isn't heard by the characters.
Sound Effects	Special sounds added to enhance scenes, creating excitement or specific emotions. These sounds are not recorded during filming.
Music	Important in conveying emotions and enhancing storytelling in movies and shows, acting like another character in the narrative.

Media Production Techniques: Mise en Scene

Mise en Scene means 'what is in the scene'. It refers to the arrangement of visual elements within a scene in media production and includes:

- Setting
- Costume and makeup
- Lighting
- Props and objects

Media production techniques: camerawork

Shot Type	Description
Low Angled Shot	
Extreme Close-up	
Long Shot	
Medium Shot	
High Angle Shot	

Media production techniques: sound

Term	Description
Diegetic Sound	
Non-Diegetic Sound	
Sound Effects	
Music	

Media Production Techniques: Mise en Scene

Mise en Scene means 'what is in the scene'. It refers to the arrangement of visual elements within a scene in media production and includes:

Media Production Techniques: Lighting

Media production techniques: Editing

Editing Technique	Description
Cut	Rapid replacement of one shot by another, creating a quick transition between images.
Fade In/out	Gradual appearance or disappearance of a scene on the screen, starting from black and becoming brighter until the scene is fully visible.
Dissolve	Transition in which one shot fades away while another gradually appears, resulting in a smooth blend between the two shots.
Wipe	Editing technique where the next shot moves across the screen, "wiping away" the previous shot and revealing the new scene.

Lighting Type	Description
Low Key Lighting	Creates a dramatic and mysterious atmosphere by using strong contrasts between light and dark.
High Key Lighting	Produces bright and evenly lit scenes, commonly used in happy or funny situations.
Soft Lighting	Provides a gentle and diffused look, reducing harsh shadows and enhancing the appearance of people.
Hard Lighting	Creates a strong and direct scene with clear, sharp shadows, evoking a more intense feeling.
Realistic Lighting	Mimics natural light sources, aiming for a real and authentic feel in the scene.
Ambient Lighting	The overall light that fills the entire scene, setting the mood and indicating the scene's location.

Media Production Techniques: Lighting

Lighting Type	Description
Low Key Lighting	
High Key Lighting	
Soft Lighting	
Hard Lighting	
Realistic Lighting	
Ambient Lighting	

Media production techniques: Editing

Editing Technique	Description
Cut	
Fade In/out	
Dissolve	
Wipe	

Design and Technology

Client or Potential user profiling

Who is the target user for a product you are designing its important to consider what they will need, like or use.

- Who is your product aimed at?
- Who are your clients or potential clients?
- What do your clients want from your product?
- How old are they?
- Are they male or female?
- Where do they live?
- What are the styling features of the product they currently use?
- How will price change their feelings about the product?
- What kind of lifestyle do they have?
- What products do they use at the moment?

Aesthetics — What does it look like? Is it in particular style? Does it have a theme?

Cost — How much does it cost to buy? Is this good value for money?

Customer — Who is the product designed for? What age group?

Environment — Is the product environmentally friendly? Can it be recycled for example.

Size — How big is the product?

Safety — Is there any safety features? or safety warnings?

Function — What does it do? What parts does it have?

Materials — What materials is it made from?

Product Analysis

It is important to research similar products. To help you understand what is required from a product and even is some cases how it is made.
- It's a form of primary research.
- Involves looking existing products.
- Working out how they were made.
- Seeing what features might be useful to a new design.

When completing a product analysis it is best to use ACCESS FM. By using each of the keywords as a prompt

Primary research	Secondary Research
Primary data is information that you find yourselves. This information is 'new' and directly related to your project.	Secondary data is 'second hand data which has already been collected by someone else.
• *This information could be gathered using:* • *interviews* • *questionnaires* • *analysis of products* • *materials' tests* • *observations.*	Examples of secondary research include: • information from books, magazine and newspaper articles. • Test reports. • internet research. It is usually easy to find but may be out of date. It can save time as its much quicker than carrying out test, interview etc. Data is not always accurate as its not specific to the users needs.

Client or Potential user profiling

Who is the target user for a product you are designing its important to consider what they will need, like or use.

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Product Analysis

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Primary data is information that you find yourselves. This information is 'new' and directly related to your project.	Secondary data is 'second hand data which has already been collected by someone else.

Economic

This is about the effects a product has on the economy and is split into two types Liner economy and circular economy.

Linear economy – products are made as cheap as possible. Materials are processed into a product, the product is use, then in is simply disposed of.

Circular economy – Uses a few resources/materials and possible, using the products from as long as possible. They are designed in a way that the products can be easily repaired, reused or recycled after use.

Ergonomics

Ergonomics is the relationship between people and the products which they use.

Things to consider are:
*   Comfort?
*   Usability?
*   Intuitive?
*   Knowing how?

Social

How the social factors of a group of people can influence the design of a product.

*   ethnic groups
*   political groups
*   religious groups.
*   Cultural factors.

Anthropometics

Is the study of Human Measurements, it is important to consider sizes of people in relation to products.
*   5th percentile are the 5 per cent of people who are smaller in size.
*   50th percentile are people of average size
*   95th percentile are 5 per cent of people who are larger in size
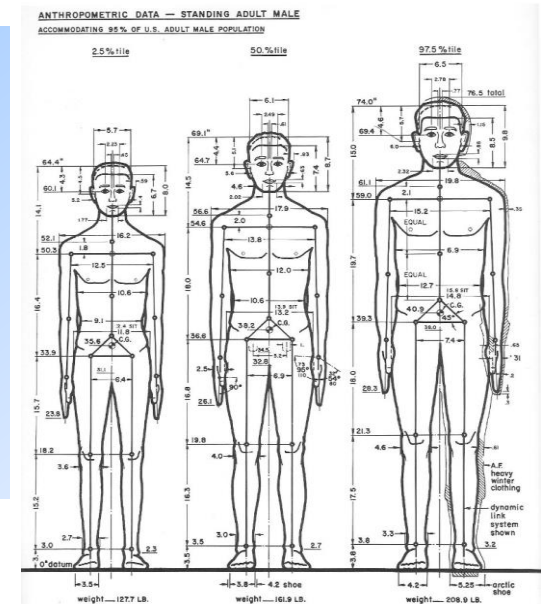
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-
-
-
-

Anthropometics

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-

-

-

Social

How the _____ factors of a group of people can influence the design of a product.

-
-
-
-
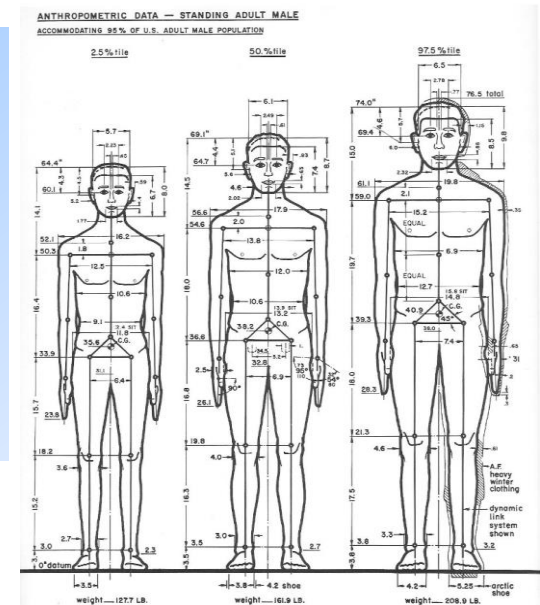
Type of paper	Properties	Uses
Layout paper	Lightweight, thin, cheap, smooth surface	Graphic drawings, animations
Bleedproof (marker) paper	Contains more chalk, smooth, hard, doesn't absorb ink, doesn't bleed	Creating special effects for designers or artists
Tracing paper	Good transparency, expensive	For seeing an image underneath
Grid paper	Covered with continuous square grid	Used in many maths contexts
Cartridge paper	Heavier weight, good quality, opaque	Writing and sketching

Lamination

Paper and board can be protected further by laminating, which gives a shiny, water-resistant surface. It creates a thick, durable surface, often making the paper or board last longer. The paper or board is placed in a plastic sleeve, which is then heated and pulled through rollers, bonding the two surfaces of the film together and sealing the product.

Weight and Thickness

Paper is selected by its thickness, measured in **grams per square metre (gsm)**. This is the weight of one square metre of the paper.

Board is selected by its thickness, measured in microns. One micron is 1/1,000th of 1 mm. Sometimes the thickness of board is given in sheets, referring to the number of pieces of paper that have been glued together to make a sheet of board

Manufacture and recycling

Standard ISO size

Paper is available in many sizes, with A0 being the largest and the most common size being A4. Each is half the area of the one before, ie A4 paper (297 mm × 210 mm) is half the size of A3 paper (297 mm × 420 mm).

Type of board	Properties	Uses
Corrugated cardboard	Strong, lightweight	Packaging protection in transportation of products and used to package some hot food such as a pizza due to its insulating properties
Duplex board	Cheaper than white board, available with different finishes (metallic, holographic etc.)	Food packaging, eg biscuit boxes or containers
Solid white board	Top quality, range of thicknesses, excellent to print on	Hardback books
Foil-lined board	Expensive, good quality, aluminium foil lining, excellent barrier against moisture	Pre-packed food packages, cosmetic cartons
Inkjet board	Expensive, printable, photo quality	Posters, photography, art reproductions
Foam-core board (foam board)	Strong, lightweight, paper face, foam core	Model making, mounting photograph
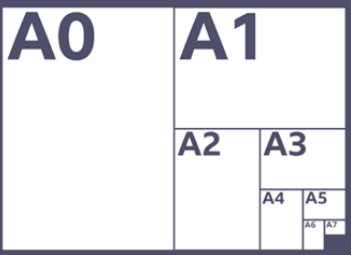
Type of paper	Properties	Uses
Layout paper		
Bleedproof (marker) paper		
Tracing paper		
Grid paper		
Cartridge paper		

Weight and Thickness
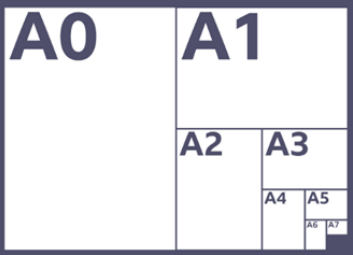
Manufacture and recycling
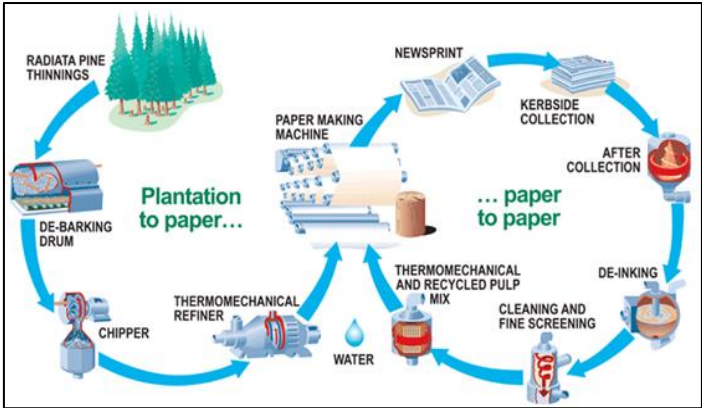
Lamination

Paper and _____ can be protected further by laminating, which gives a _____, water-resistant surface. It creates a _____, durable surface, often making the paper or board last _____. The paper or board is placed in a _____ sleeve, which is then heated and pulled through _____, bonding the ____ surfaces of the _____ together and sealing ____ product.

Standard ISO size

Paper is available in many sizes, with __ being the largest and the most common size being A4. Each is _____ the area of the one before, ie A_ paper (297 mm × 210 mm) is _____ the size of A3 paper (297 mm × 420 mm).

Type of board	Properties	Uses
Corrugated cardboard		
Duplex board		
Solid white board		
Foil-lined board		
Inkjet board		
Foam-core board (foam board)		

Natural & Synthetic Polymers Polymers can be made from natural and synthetic resources.

- *Synthetic polymers* are made from crude oil by scientists and engineers.
- *Natural polymers* are made using a variety of materials like silk, wool, cellulose and proteins.

Type	Property	USE
Acrylic (PMMA)	has a hard, shiny and flat surface, but will scratch easily. It can be transparent, translucent or opaque.	It is used for illuminated shop signs, bath tubs and shower trays.
High-impact polystyrene (HIPS)	is tough, easily moulded and durable.	It is used for yoghurt pots, children's toys and fridge liners.
High-density polythene (HDPE)	is hard, stiff and resistant to chemicals.	It is used for washing up bowls, buckets and crates
Polypropylene (PP)	is tough, durable, and has good heat and chemical resistance.	It is used for children's toys, DVD/CD cases and medical equipment.
Polyvinyl chloride (PVC)	is hard, tough, and has good chemical and weather resistance. It has a low cost due to high-volume production	It is used for pipes, gutters and window frames.
Polyethylene terephthate (PET)	is tough, durable, food-safe and easily moulded.	It is used for drinks bottles and food packaging.

Type	Property	USE
Epoxy resin	is easily moulded because it is in a two-part liquid form. When mixed, the resin sets hard and has good insulating properties.	It is used as an adhesive and for casing electrical components.
Melamine formaldehyde	is stiff and hardwearing with good resistance to heat and staining.	It is used for kitchen work surfaces and picnic crockery.
Phenol formaldehyde	is hard and is a good electrical and heat insulator.	It is used for electrical fittings and pan handles.
Polyester resin	is easily moulded because it is in a two-part liquid form. When mixed, the resin sets hard but is brittle.	It is used to bind together the glass fibres when producing glass reinforced plastic (GRP) boat hulls and car body panels.
Urea formaldehyde (UF)	is stiff, hard and an excellent electrical insulator.	It is used extensively for electrical fittings.

Categorisation of Polymers

Polymers are classified into two groups: thermoforming and thermosetting

Thermoforming polymers can be softened with the use of heat and moulded into shapes.

Thermosetting polymers once moulded into shape, cannot be remoulded with the use of heat.

Examples of Natural and Synthetic Polymers

Natural polymers are made by living organisms.

Synthetic polymers are made by chemical reactions in a lab.

DNA · Rubber · Nylon · Polyester · Cellulose · Wool · Teflon · Epoxy

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Natural & Synthetic Polymers Polymers can be made from natural and synthetic resources.

- *Synthetic polymers* are
- *Natural polymers* are

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High-impact polystyrene (HIPS)		
High-density polythene (HDPE)		
Polypropylene (PP)		
Polyvinyl chloride (PVC)		
Polyethylene terephthate (PET)		

Type	Property	USE
Epoxy resin		
Melamine formaldehyde		
Phenol formaldehyde		
Polyester resin		
Urea formaldehyde (UF)		

Categorisation of Polymers
Polymers are classified into ____ groups: _____ and thermosetting

Thermo_____ polymers…

Thermosetting polymers…

Examples of Natural and Synthetic Polymers

Natural polymers are made by living organisms.

Synthetic polymers are made by chemical reactions in a lab.

DNA   Rubber   Nylon   Polyester

Cellulose   Wool   Teflon   Epoxy

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Categorisation

Non-ferrous
- does not contain iron
- is found in the Earth's crust in rock known as ore
- is not magnetic
- will not rust
- is malleable
- needs a protective finish which is also used to improve its aesthetic appeal.

Ferrous
- contains iron
- is found in the Earth's crust in rock known as haematite (iron ore)
- is usually magnetic
- will rust
- needs a protective coating to prevent rusting and improve its aesthetic appeal.

Types of Non Ferrous metals	Types of Ferrous metal
Aluminium – is lightweight, soft, ductile and malleable. It is used extensively in the manufacture of aircraft, canned drinks and bike frames.	**Cast iron** – has a hard surface but a brittle core. It is strong and can be cast into intricate shapes, such as vices, roadside grids and manhole covers.
Copper – is ductile, malleable and an excellent thermal and electrical conductor. It is easily soldered and is resistant to corrosion. It is used extensively in the plumbing industry for pipes and fittings. It is also used in the manufacture of wire.	**Low-carbon steel** – has good tensile strength, is malleable but has poor resistance to corrosion. It is used extensively in the automotive industry and in steel structures (RSJ).
Brass – technically an alloy as it is a mixture of copper and zinc. It is an excellent conductor of electricity and is used in electrical fittings.	**High-carbon steel** – is harder than low-carbon steel, but brittle. It is used in the manufacture of tools.
Bronze – an alloy of copper and tin. It has excellent resistance to wear and corrosion and is used in machinery where hard wearing parts are needed	**Mild steel** – is malleable and ductile, has low tensile strength but is relatively cheap.

Alloys

An alloy is a mixture of two or more metals that are combined to improve the mechanical or physical property of the original metal.

Alloys are divided into two categories: ferrous and non-ferrous alloys.

Ferrous alloy

- **Stainless steel** – a mixture of steel, chromium, nickel and magnesium. It is very hard, very resistant to corrosion and can keep a high-quality shiny finish.

Non-ferrous alloy

- **Brass** – a mixture of copper and zinc. It is very resistant to corrosion, strong, ductile, malleable and is a very good thermal and electrical conductor. Used to make taps and plumbing fittings.

- **Duralumin** – a mixture of aluminium, copper, magnesium and manganese. It is lightweight, soft, ductile and malleable. It is used extensively in the manufacture of aircraft structures and fuel tanks.

Categorisation

Non-ferrous
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Ferrous
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Alloys

An alloy is a _____ of two or more metals that are combined to improve the mechanical or _____ property of the _____ metal.

Alloys are divided into ____ categories: ferrous and non-ferrous alloys.

Ferrous alloy

- **Stainless steel –**

- **Non-ferrous alloy**

- **Brass –**

- **Duralumin –**

Types of Non Ferrous metals	Types of Ferrous metal
Aluminium –	**Cast iron –**
Copper –	**Low-carbon steel –**
Brass –	**High-carbon steel –**
Bronze –	**Mild steel –**

20th Century design movements

Design Movements Timeline

1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2007

Arts and Crafts Movement 1850-1915
Art Nouveau 1880-1910
Modernism 1880-1940
Futurism 1910-1945
Art Deco 1910-1940
Bauhaus 1920-1934
Surrealism 1925-1930
Streamlining 1930-1950
Organic Design 1930-1960 & 1990-Present
Scandinavian Modern 1935-Present
Contemporary 1945-1960
Pop Art 1958-1972
Space Age 1960-1969
Minimalism 1967-1978
Postmodernism 1978-Present
Memphis 1981-1988
Deconstructivism 1988-Present

Memphis

• A group of Italian designers, led by Ettore Sottsass exhibited an alternative viewpoint to minimalism.
• As a reaction to the clinical lines and lack of decoration which was typical of the Modernist movement
• They introduced highly decorative laminates and produced products which were amusing.
• Whilst the movement was restricted to the early 1980s their post-modernism influence can be seen in many of today's products.

Bauhaus

• Between 1919 and 1933 the German school of art and design called the Bauhaus.

• Producing designs which were truly made for mass production.

• 30yrs later until industry caught up with this thinking and was able to manufacture the designs for products such as furniture and lighting cheaply enough and in large quantities.

Many of the designs we now regard as **design classics** originate from the Bauhaus

Art Deco

• Began in Paris in 1925
• Typically involved the use of geometric shapes and the influences from the Egyptian tomb of Tutankhamen.
• Often regarded as a very glamorous period of design.
• Ceramicist Claris Cliff is a famous designer from that period

20th Century design movements

Design Movements Timeline
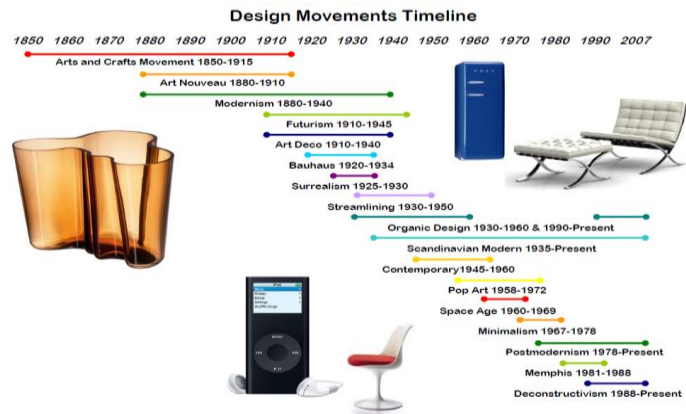
Bauhaus

Memphis

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Art Deco

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-

Air Bus
- Design and manufacture commercial aircraft across Europe.
- Division developing helicopters, military and space travel
- Flagship model aircraft is the A380 and is the worlds largest passenger aircraft.
- Focus on the use of composite materials to reduce weight.
- Use biometric to inspire designs (ie structure of a eagles wing)
- Constantly developing technology to reduce fuel emissions.

Phillpe Stark
- Phillpe tark has been design products since 1980s
- Aims to improve life for people creating affordable & desirable products for the masses.
- His most well known product is 'juciy salif' a lemon squeezer inspired by a squid.
- He often uses pioneering manufacturing techniques and materails for example the injection moulded chair called 'lous Ghost' that has no visable fixings.

Apple
Sir Jonathan Ive

- An English designer he was the lead designer for Apple from 1992 to 2019.
- Created simple, sleek designs that give Apple products their iconic aesthetic appearance.
- Design have smooth round edges, simple interfaces and user friendly appeal.
- Apple are often criticized for the development of products with planned obsolesce, for example update not working on older models.

Matthew Williamson
- Matthew Williamson is a British fashion and interior designer
- Recognised by his bold and colourful designs. He mixes prints and contrasting colour
- Uses patterns, inspired by travel and nature.
- Design include have embellishment such as beading and embroidery

James Dyson
- An inventor and the founder of the Dyson Company employing 7000 people worldwide.
- Best know for the cyclonic bagless vacuum cleaner.
- Dyson company values innovation, efficiency and original design.

Air Bus
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Apple
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Matthew Williamson
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Phillpe Stark
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James Dyson
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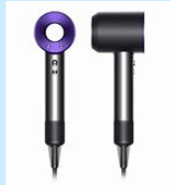
Drama

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Context Information Author: Willy Russell

Brief Biography: Willy Russell was born in 1947 into a working-class family near Liverpool. He left school at the age of 15 without academic qualifications and became a hairdresser. By the age of 20, he felt the need to return to education and after leaving university, he became a teacher in his home city.

Social: There was a large gap between working and middle class in Britain during this time. The Johnstones and Lyons families are class stereotypes. Many working class families struggled financially and to find work. There was also a class divide in education; this is shown when Mickey goes to secondary school and Edward attends a private boarding school.

Margaret Thatcher: The first female Prime Minister in power during that time. She ward responsible for lots of working-class people losing their jobs. During her time in power, unemployment rates were raised higher than ever before. She believed everyone can be successful if they work hard.

Marilyn Monroe: A famous Hollywood movie star from the 1950s who Mrs J is compared to. She is known for being glamorous, but also struggled with depression which led her to commit suicide (by painkillers).

Key Quotations:
- ✔ Don't you know what a dictionary is?
- ✔ Y'know the devil's got y' number.
- ✔ A debt is a debt and must be paid.
- ✔ How come you got everything and I got nothin'?
- ✔ A mother, so cruel,/ There's a stone in place of her heart.
- ✔ If either twin learns that he was once a pair, they shall both immediately die.
- ✔ You've got to have an ending, if a start's been made./ No-one gets off without the price being paid.
- ✔ I could have been him.
- ✔ Do we blame superstition for what came to pass/ Or could it be what we, the English, have come to know as class?
- ✔ She's cooing and cuddling as if she were his mother. It's a, it's a thingy, innit?
- ✔ That's what's going to happen if I have anymore trouble from one of yours. I warned you last time.
- ✔ It was more of a prank, really, Mr Lyons. I'd just dock his pocket money if I was you.

Mickey Johnstone	The lower-class twin. He is honest, sincere and goodhearted. He impregnates Linda, gets laid off, is arrested for Sammy's crime and ends up in prison and addicted to anti-depressants. His rage at Linda & Edward for having an affair drives the play's finale.
Edward Lyons	Is also good-natured but the higher-class twin. His sheltered upbringing makes him innocent but because of class he gets good opportunities e.g. university and a good job. His good-natured manner leads to the play's final scene.
Mrs Johnstone	Biological mother of the twins and a horde of other children. Left by her husband she gets a job as a cleaner. She is the moral centre of the play; is tortured by guilt and regret.
Mrs Lyons	Opposite of Mrs J whom she employs as a cleaner. She adopts Edward as her own child. Is haunted by the original act of a mother giving up her child. The guilt turns into suspicion and paranoia. She announces the affair and contributes to the murder of her adopted son.
Linda	Begins as a tomboyish young girl but both twins fancy her from an early stage. She only has eyes for Mickey as a teenager but later turns to Edward for comfort and support, which turns into an affair. Despite this, she loves both twins and is a sympathetic character.
Narrator	All-knowing and always slightly menacing- takes many roles throughout the play. Narrator constantly reminds the audience of the terrible choice that began this chain of events. Frequent mentions of fate and superstition but the Narrator claims it was class, not fate.
Sammy	When they are younger, Mickey just wants to be like Sammy. Quickly becomes a juvenile delinquent; even attempting to rob a bus as a teenager- he ends up in prison with Mickey.
Mr Lyons	Married to Mrs Lyons- away so Mrs L can adopt Edward. Grows increasingly concerned about his wife's mental health and wellbeing.

Themes:
Superstition: The audience is constantly reminded of this. The narrator asks us if superstition is to blame for boys' fate.
Class: Russell shows us the injustice of the class divide with the Johnstones and Lyons, as well as M and E. Related to education, opportunity and power.
Nature vs. Nurture: Splitting up the twins shows us how the environment can have a huge impact on life chances.
Relationship: The development and change in friendship between M, E, and Linda. The interaction between Mr and Mrs L, mother and son, and Mrs J and society.

Keywords:
Protagonist, Theme, Injustice, Stigmatized, Simile, Metaphor, Juxtaposition, Dramatic, irony, Tension, Foreshadowing, Repetition, Dole, Manipulates, Prejudice, Dialogue, Ominous Vulnerable Working class,
Middle class, Upper class, Act, Playwright, Stage directions Contrast, Tragedy, Superstition, Social divide recession

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Marilyn Monroe:

Key Quotations:
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- ✔ A….
- ✔ How come you got everything and I got nothin'?
- ✔ A mother, …..
- ✔ If either twin learns that he was once a pair, they shall both immediately die.
- ✔ You've …..

- ✔ I …..

- ✔ Do we blame superstition for what came to pass/ Or could it be what we, the English, have come to know as class?
- ✔ She's ….

- ✔ That's ….

- ✔ It…..

Themes:
Superstition:

Class:

Nature vs. Nurture:

Relationship:

	The lower-class twin. He is honest, sincere and goodhearted. He impregnates Linda, gets laid off, is arrested for Sammy's crime and ends up in prison and addicted to anti-depressants. His rage at Linda & Edward for having an affair drives the play's finale.
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	Opposite of Mrs J whom she employs as a cleaner. She adopts Edward as her own child. Is haunted by the original act of a mother giving up her child. The guilt turns into suspicion and paranoia. She announces the affair and contributes to the murder of her adopted son.
	Begins as a tomboyish young girl but both twins fancy her from an early stage. She only has eyes for Mickey as a teenager but later turns to Edward for comfort and support, which turns into an affair. Despite this, she loves both twins and is a sympathetic character.
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Sammy	
Mr Lyons	

Keywords:

Year 10 Drama: Blood Brothers

Plot

Act 1: before birth	Act 1- 7 years old	Act 2- 14 years old
The play starts with the narrator talking about a 'story about the Johnstone twins' and two men laid dead on the stage. We go back in time where we learn Mrs Johnstone's husband has just left her; she is very poor and already has 7 children. She starts a new job cleaning Mrs Lyons' house and finds out she's expecting twins. She strikes up a deal with Mrs L as she can't afford to keep both so Mrs L convinces Mrs J to give her one of the babies as her husband is currently away on business and she can't have a child of her own. The babies are born and Mrs J begrudgingly hands one of the babies over for Mrs L to later fire her. The narrator states that one day the devil will punish the two women.	Mickey and Eddie meet for the first time by chance at the park and become 'blood brothers' when they find out they share the same birthday. When Mrs J realise the two have met, she is horrified and sends Edward home. Mrs L reacts more violently and slaps Edward when he swears at her. She even contemplates uprooting her entire family in order to escape. Despite their mothers' disapproval, the boys continue to see each other and play lots of children's games with their friend, Linda. They play various pranks and end up getting caught by the police who threatens Mrs J but flatters Mr L. Mrs L decides they should move, before Edward leaves Mrs J gives him a locket with a picture of herself and Mickey. The Johnstones also find out they are being relocated.	Both boys have become interested in girls but feel awkward. Edward attends boarding school. Mickey and Linda have romantic feelings for each other but Mickey's lack of confidence is getting in the way. Sammy attempts to rob a bus by holding the driver at knife point. Mickey and Eddie both struggle at school- Mickey insults a teacher and Edward refuses to take off the locket. When Mrs L finds out, she's appalled but is more upset when she sees the content of the locket. The narrator returns to remind the audience that the devil will come. Mickey and Edward meet, by circumstance again- Mickey takes Edward back to his but they are not aware that Mrs L is following them. Once the boys leave the house, Mrs L attacks Mrs J with a knife and curses her, calling her a witch. The boys meet with Linda and spend the summer together- an idyllic sequence follows as the trio age from 14 to 18.

| Act 2- 18 years old	Act 2- the end
At 18 in the sequence, the narrator warns that soon, both their joy and childhood will end. Edward has developed feelings for Linda and is at university whilst Mickey works in a factory. Edward self-sacrifices his feelings and encourages Mickey to ask Linda to be his girlfriend and she accepts. In October, Mickey tells his mum that Linda is pregnant and the two will be getting married. Their wedding coincides with a huge economic downturn resulting in Mickey getting paid off. When Edward returns from Christmas, Mickey is downtrodden and claims 'blood brothers' is childish. Edward confesses his love to Linda but she tells him she is married and pregnant. A desperate Mickey participates in a burglary with Sammy that goes wrong resulting in Sammy killing a man. They are both sentenced to prison and Mickey becomes depressed and is prescribed antidepressants which he becomes addicted to, even after he's been released.	Mickey continues to take the pills despite Mrs J & Linda's pleas. Linda, desperate, asks Edward, now a city councilman, to find them an apartment and getting Mickey a job. Mickey is angry about this and a devastated Linda seeks comfort with Edward and begins an affair with him. The affair continues and Mickey stops taking his pills for Linda's sake. Mrs Lyons reveals Linda and Edward's affair to Mickey. Enraged, he takes Sammy's gun out of the floorboards and confronts Edward, with a distraught Mrs J and Linda trying to get him to stop. The narrator warns the devil has arrived. Mickey finds and confronts Edward at the town hall about the affair, as well as whether Mickey's daughter is actually his. Edward denies fathering Mickey's child. The police surround the area and Mrs J bursts in and tells the boys they are twins separated at birth. Mickey asks why he couldn't have been Edward and then accidentally pulls the trigger of the gun, shooting and immediately killing Edward, the police then shoot Mickey. The play ends with the boys led on the stage and the narrator wonders what really killed the twins: superstition or the class system?

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English

Helping every person achieve things they never thought they could.

Knowledge of Context
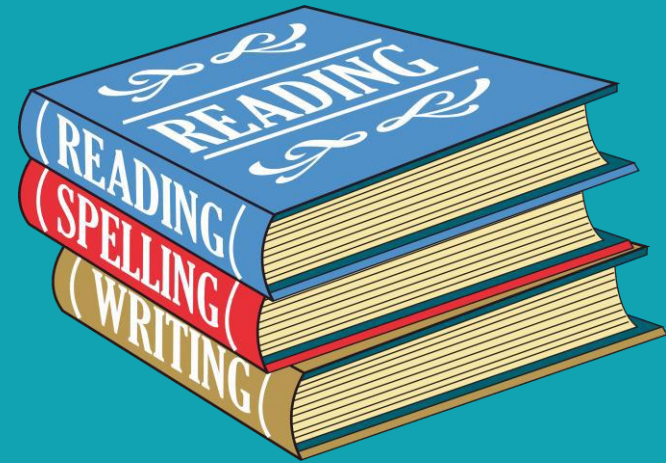
1. Macbeth was written in 1606 the **Jacobean era**, under the reign of **James 1**. Shakespeare deigned the play to please the king, setting it in **Medieval Scotland** (as James 1 was Scottish) in the 1000s and explored the theme of the **supernatural**, as this was a fascination of the king.

2. A common belief in the Jacobean era was that everything had its place in the universe, which had been set out by God. This order was called **The Great Chain of Being** that included everything from God and the monarch at the top to plants and rocks at the bottom. If the order was disrupted, the universe **would descend into chaos** to correct the chain.

3. Alongside this was the belief in **The Divine Right of Kings**. This was the belief that the monarch was chosen by God to be their representative on Earth. Therefore, their word was God's word. If you displeased the monarch, you would displease God and be punished. James 1 often spoke about this belief, to keep his God-fearing people under control.

4. James 1 spent much of his reign feeling insecure as a protestant king. In 1605, a group of Catholic rebels attempted to assassinate the king by exploding the Houses of Parliament, as they wished England to be ruled by a protestant monarch. This was know as **The Gunpowder Plot**. Even though the plot failed, James was left feeling vulnerable. A year later, Shakespeare wrote Macbeth to warn his audience that anyone who commits **regicide** will be punished in life and after death.

5. Many critics argue that the play is very closely linked to **The Original Sin** – this is one of the first stories of The Bible. In the Garden of Eden, the devil (in the form of a serpent) tempts Eve to persuade Adam to eat the forbidden fruit – the first sin of mankind. Christians believe that as we all descend from Adam and Eve, we have all **inherited the capacity to sin**. No person is fully good or fully evil and we should all use our free will to choose righteousness. This message occurs throughout the play.

Writing about Literature

P **Point**

Answer the question

E **Evidence**

Embed a quote, or pattern of quotes that juxtapose or reinforce each other

A **Analyse**

Explain the inferences behind the quote in detail using as/so/because/which

Z **Zoom**

Explain the connotations of a powerful word or technique has and the effect of this

E **Effect**

Explain what the writer's intention is/ what they are trying to teach the reader

L **Link to Context**

Explain how these ideas link to the real world

Characters

Macbeth
Thane and later king

Lady Macbeth
Macbeth's Wife

Duncan
King at the start of the play

Malcolm
Duncan's son and heir

Donalbain
Duncan's youngest son

Banquo
Macbeth's friend

Fleance
Banquo's son

The Weird Sisters
Three Witches

Macduff
Thane of Fife

Lady Macduff
Macduff's wife

Ross
A Scottish Thane

Hecate
Queen of the witches

Macdonald
Traitor

Knowledge of Context

When was the play written?

Who was King at the time?

When was the play set?

How did Shakespeare design the play to interest the King?

What was The Great Chain of Being?

What was at the top of the chain?

What was at the bottom of the chain?

What would happen in the chain was disrupted?

What was The Divine Right of Kings?

Why did James 1 talk about this belief a lot?

What happened in The Gunpowder Plot?

How did this leave James 1 feeling?

How does the play reflect this?

What is the story of The Original Sin?

What do Christians believe about Good and Evil?

How is this reflected in the play Macbeth?

Writing about Literature

P **Point**

_____
_____

E **Evidence**

_____
_____

A **Analyse**

_____
_____

Z **Zoom**

_____
_____

E **Effect**

_____
_____

L **Link to Context**

_____
_____

Characters

Macbeth
_____

Lady Macbeth
_____

Duncan
_____

Malcolm
_____

Donalbain
_____

Banquo
_____

Fleance
_____

The Weird Sisters
_____

Macduff
_____

Lady Macduff
_____

Ross
_____

Hecate
_____

Macdonald

Knowledge of Essential Quotes

"Fair is foul and foul is fair, hover through fog and filthy air" *The Witches*	"So foul and fair a day I have not seen" *Macbeth's first line*	"O valiant cousin! Worthy gentlemen" *Duncan about Macbeth*	"Unseamed him from knave to chaps and placed his head upon our battlements" *Soldier about Macbeth killing Macdonald*	"Whose horrid image doth unfix my hair and make my seated heart knock against my ribs" *Macbeth when he heard the witches' prophecies*
"I do fear thy nature is too full of the milk of human kindness" *Lady Macbeth about Macbeth*	"Come you spirits (…) unsex me here (…) fill me with direst cruelty" *Lady Macbeth before Macbeth returns home*	"Take my milk for gall" "Make thick my blood" *Lady Macbeth to the spirits before Macbeth returns home*	"I would have plucked my nipple from its boneless gums and dashed it's brains out, had I so have sworn to you" *Lady Macbeth manipulating Macbeth*	"I have no spur to prick the sides of my intent, only vaulting ambition" *Macbeth to himself*
"Look like the innocent flower but be the serpent under it" *Lady Macbeth to the Macbeth*	"Will all Great Neptune's Oceans wash this blood clean from my hands" *Macbeth after regicide*	"I fear thou has played most foully for it" *Banquo, after Macbeth is King*	"False face must hide what the false heart doth know" *Macbeth to himself*	"Fly good Fleance! Fly!" *Banquo when murderers attack him*
"Never shake thy gory locks at me" *Macbeth to Banquo's ghost*	"All the perfumes of Arabia will not sweeten this little hand" *Lady Macbeth sleepwalking*	"Til Birnham Wood move to Dunsinane I shall not taint with fear" *Macbeth before his death*	"Turn hellhound. Turn" *Macduff to Macbeth before he kills him*	"The dead butcher and his fiendlike queen" *Malcom as king, about Macbeth*

Knowledge of Essential Quotes

"Fair is … *The Witches*	**"So foul …** *Macbeth's first line*	**"O valiant …** *Duncan about Macbeth*	**"Unseamed him …** *Soldier about Macbeth killing Macdonald*	**"Whose horrid image …** *Macbeth when he heard the witches' prophecies*
"I do fear thy nature … *Lady Macbeth about Macbeth*	**"Come you …** *Lady Macbeth before Macbeth returns home*	**"Take my …** **"Make thick …** *Lady Macbeth to the spirits before Macbeth returns home*	**"I would have plucked…** *Lady Macbeth manipulating Macbeth*	**"I have no spur …** *Macbeth to himself*
"Look like the … *Lady Macbeth to the Macbeth*	**"Will all Great …** *Macbeth after regicide*	**"I fear thou …** *Banquo, after Macbeth is King*	**"False face must hide …** *Macbeth to himself*	**"Fly good …** *Banquo when murderers attack him*
"Never shake … *Macbeth to Banquo's ghost*	**"All the perfumes …** *Lady Macbeth sleepwalking*	**"Til Birnham Wood …** *Macbeth before his death*	**"Turn …** *Macduff to Macbeth before he kills him*	**"The dead butcher …** *Malcom as king, about Macbeth*

Ozymandias by Percy Shelley

"Ozymandias" tells the story of a broken statue that once represented a powerful king. Time and nature have destroyed the statue, showing the fleeting nature of human accomplishments. The poem teaches us that even the mightiest rulers and empires will eventually fade away, reminding us of the importance of humility.
The poem is written in the form of a sonnet (traditional love poem) to symbolise the self love of the pharaoh and the ego of mankind.

Key Quotes	"My name is Ozymandias, King of Kings, Look upon my works you mighty and despair"	"the hand that mocked them and the heart that fed"	"the decay of that colossal wreck"

Shelley was a Romantic poet who had a deep appreciation for nature and criticised the government, monarchy and absolute power.

London by William Blake

"London" by William Blake is a poem that explores the negative aspects of city life during the Industrial Revolution. It describes the author's observations of poverty, despair, and the loss of innocence among the people he encounters. The poem criticises the government and the monarchy's Laissez Faire attitudes that contribute to their suffering and emphasises the need for compassion and social change.
Blake includes an allusion to the French Revolution, where the people of France revolted and beheaded the monarchy, to glamourise the idea of a revolution in Britain.

Key Quotes	"Mind-forged manacles I hear"	"Soldiers sigh runs in blood down palace walls"	"Where the chartered Thames does flow"

Blake was a Romantic poet who did not trust the government or the monarchy and wished to draw attention to the suffering of the poor (particularly children) in his work.

Comparing Poetry

P Point

Answer the question

E Evidence

Embed a quote, or pattern of quotes that juxtapose or reinforce each other

A Analyse

Explain the inferences behind the quote in detail using as/so/because/which

Z Zoom

Explain the connotations of a powerful word or technique has and the effect of this

E Effect

Explain what the writer's intention is/ what they are trying to teach the reader

L Link to Context

Explain how these ideas link to the real world
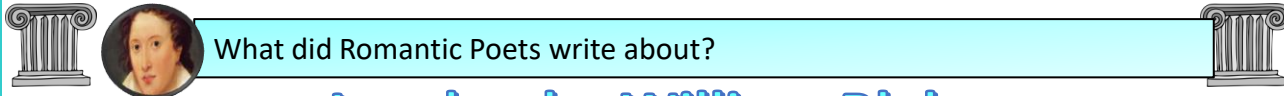
C Compare to second poem in detail

Explain similar or different meanings, messages and methods

Ozymandias by Percy Shelley

1. What is the focus of the poem?

2. What destroys the statue?

3. What does the poem teach us?

4. What form is the poem written in?

5. What does this form symbolise?

Key Quotes

"My name is _____ _____,"

"the hand that _____ _____"

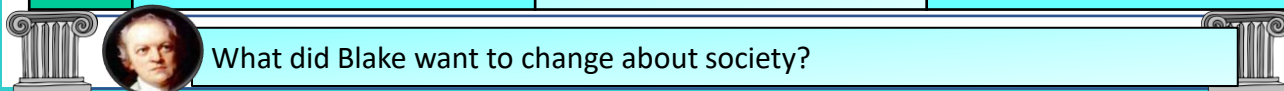"the decay _____ _____"

What did Romantic Poets write about?

London by William Blake

1. What does the poem focus on?

2. What does the poet see as he walks around the city?

3. What does the poem criticise?

4. What allusion does Blake include?

5. What does he include this allusion?

Key Quotes

"Mind-forged _____ _____"

"Soldiers sigh _____ _____"

"Where the _____ _____"

What did Blake want to change about society?

Comparing Poetry

P **Point**

_____

E **Evidence**

_____
_____

A **Analyse**

_____
_____
_____

Z **Zoom**

_____
_____

E **Effect**

_____
_____

L **Link to Context**

_____
_____

C **Compare to second poem in detail**

_____
_____

Extract from The Prelude by William Wordsworth

In "The Prelude" by William Wordsworth, the speaker reflects on a childhood experience of being overwhelmed by the power of nature. He remembers a moment when he rows a boat on a lake, and suddenly a majestic mountain emerges from behind a curtain of mist, leaving him in awe. The moment frightens and humbles him and he dreams about it for a long time after.

The poem is written in one long stanza with enjambment throughout, to emphasise the lack of control the speaker feels when faced with nature.
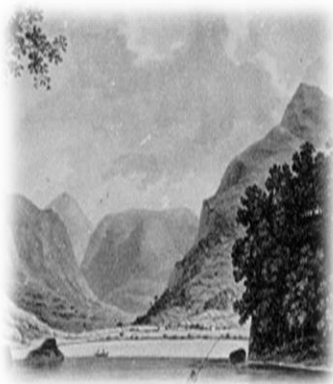
Key Quotes

"went heaving through the water like a swan"	"huge peak. Black and huge as if with voluntary power instinct."	"huge and mighty forms (...) were a trouble to my dreams"

Wordsworth was a Romantic poet who had a deep appreciation for nature's everlasting power and often used nature to escape from conflict in his family

The Charge of the Light Brigade by Alfred Lord Tennyson

"The Charge of the Light Brigade" recounts a heroic but tragic event of The Battle of Balaclava in the Crimean War. It describes the courage and loyalty of a brigade of British cavalry soldiers as they obey a misunderstood order to charge into enemy lines, despite being outnumbered and facing certain death. The poem honours their bravery and self-sacrifice, but raises questions about how far army leaders can be trusted.

Tennyson uses biblical allusions to 'the valley of death' to imply that God was with these heroic men.
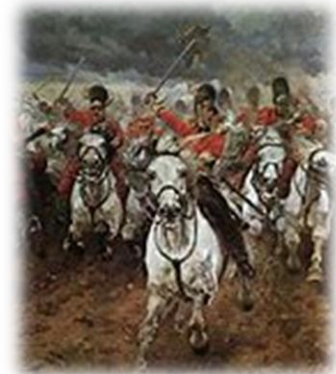
Key Quotes

"Into the valley of death, into the mouth of hell"	"There's not to reason why. There's but to do and die"	"The noble 600"

At this time, most poetry presented war as heroic, glorious and an exciting adventure; writing such a critical poem was unusual for this time period.

My Last Duchess by Robert Browning

"My Last Duchess" by Robert Browning is a poem in which a wealthy Duke speaks about his former wife, who he had killed because of her alleged flirtatiousness. The Duke reveals his jealousy and possessiveness, as well as his desire for control and power. It offers a chilling insight into the mind of a man who sees women as objects to be possessed and controlled.

Browning writes the poem as a dramatic monologue to represent the Duke's ego, status and control, as he is the only character talking without interruption. We only hear his perspective on his relationship.

Key Quotes

"(None puts back the curtains I have drawn for you but I)"	"White mule she rode around the terrace"	"Notice Neptune taming a sea horse which Claus of Innsbruck cast in bronze for me!"

Browning was a Romantic poet of the Victorian era, which was a patriarchal time period that placed a high importance on the social status of the bourgeoisie.

Exposure by Wilfred Owen

"Exposure" by Wilfred Owen is a powerful war poem that captures the harsh reality of soldiers in World War I, that was a contrast to the glory of war promised by Government propaganda. It vividly describes the freezing conditions, fear, and despair they face. Through haunting imagery and vivid descriptions, Owen exposes the brutality and futility of war, urging us to remember its devastating consequences.

Owen personifies the wind to emphasise its power and how the soldiers were just as vulnerable to the destructive forces of nature as the German army.

Key Quotes

"Our brains ache in the merciless iced winds that knive us"	"But nothing happens"	"war lasts, rain soaks clouds sag stormy"

Owen was a WW1 soldier who died in action. He wrote about the horrors of war criticising the way war was glorified in propaganda.

Extract from The Prelude by William Wordsworth

1. What does the speaker reflect on in the poem?
2. What happens on the speakers' journey across the lake?
3. How does the experience affect the speaker?
4. How is the poem structured?
5. Why is the poem structured in this way?
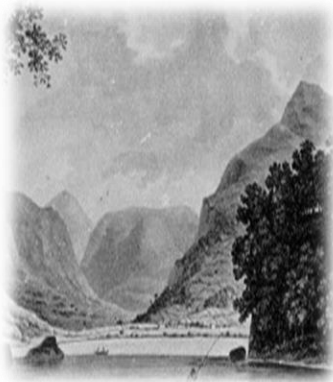
Key Quotes

"went heaving _____ _____"

"huge peak_____ _____ _____."

"huge and mighty _____ _____"

What was Wordsworth inspired by?

The Charge of the Light Brigade by Alfred Lord Tennyson

1. What battle is the poem about?
2. Why were the soldiers in this battle so heroic?
3. What questions does the poem raise?
4. Why does Tennyson use Biblical Allusions?
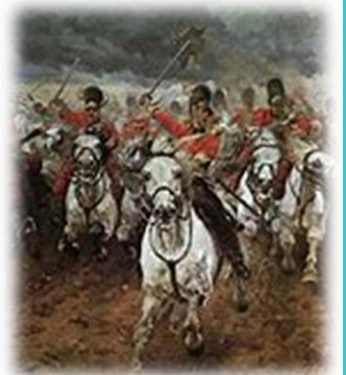
Key Quotes

"Into the valley _____ _____"

"There's not to reason _____ _____"

"noble _____"

Why was this poem unusual for the time period?

My Last Duchess by Robert Browning

1. What is the poem about?
2. What does the poem reveal about the Duke?
3. How does the Duke view women?
4. Give 2 reasons why Browning wrote the poem as a dramatic monologue.

Key Quotes

"(None puts back the _____ _____)"

"White mule _____ _____"

"Notice _____ _____ _____!"

Who had power in Victorian society?

Exposure by Wilfred Owen

1. What does the poem focus un?
2. What is described in the poem?
3. What does Owen want the reader to remember from the poem?
4. Why does Owen personify the wind?

Key Quotes

"Our brains ache _____ _____"

"But nothing _____"

"war lasts, _____ _____"

What did Owen frequently criticise in his poetry?

Storm on the Island by Seamus Heaney

"Storm on the Island" by Seamus Heaney is a poem that explores the power of nature and its impact on human beings. Set on a remote island, the poem describes the fear and vulnerability experienced during a storm. Heaney emphasises the resilience of people and the need to unite in the face of adversity.

The poem is an extended metaphor, that symbolises 'The Troubles' in Northern Ireland. This is created by the semantic field of war, that is used throughout the poem.

Key Quotes

| "spits like a tamed cat turned savage" | "We are bombarded by empty air" | "sea is company, exploding comfortably down the cliffs" |

The Irish Troubles was a conflict in Northern Ireland (1960s-1990s) between Irish Nationalists (who wanted an independent Ireland) and Unionists (who wanted to remain part of the United Kingdom). The conflict involved bombings, shootings, riots and officially ended with the signing of the Good Friday Agreement in 1998.

Bayonet Charge by Ted Hughes

"Bayonet Charge" by Ted Hughes portrays the chaos and horror of war. It follows a soldier who impulsively charges into battle, driven by fear and survival instincts. Through vivid descriptions and intense imagery, Hughes exposes the brutality and dehumanising nature of war, questioning its purpose and consequences.

Hughes uses the symbol of a distressed "yellow hare" to symbolise how the solider himself is in turmoil. This could also be a symbol for how war destroys nature as well as mankind.

Key Quotes

| "suddenly he awoke and was running" | "Yellow hare that rolled like a flame and crawled in a threshing circle" | "Terror's touchy dynamite" |

Many soldiers in WW1 were shocked at the horrific and traumatic conditions of war when they reached the trenches; propaganda had promised them glory and adventure, but the reality of conflict juxtaposed this.

Remains by Simon Armitage

"Remains" by Simon Armitage is a poem that explores the psychological impact of war on an individual. It follows a soldier haunted by guilt after shooting a looter in a conflict, as the forced used to 'tackle' him could be seen as unreasonable. The poem raises questions about the morality of war and the lasting trauma it inflicts on those involved.

Armitage repeats the phrase 'probably armed, possibly not' to emphasise the uncertainty the soldier feels as he considers how he took a human life.

Key Quotes

| "probably armed, possibly not" | "tosses his guts back into his body" | "The drink and the drugs won't flush him out" |

Many soldiers face Post Traumatic Stress Disorder (PTSD) after they have returned from war.

Poppies by Jane Weir

"Poppies" by Jane Weir explores the emotions of a mother whose son has gone off to war. It delves into her memories of him, the anxiety and fear she experiences, and her longing for his safe return. The poem reflects on the sacrifices and heartache associated with conflict. At the end of the poem it is suggested that he has died, yet we are left uncertain, representing the constant uncertainty felt by families of soldiers in war time.

When the mother removes the 'white cat hairs' from her son's uniform, it symbolises her removing his childhood innocence and the comfort of home.

Key Quotes

| "I resisted the impulse to run my fingers through the gelled blackthorns of your hair" | "The world overflowing like a treasure chest" | "I traced the inscriptions on the war memorial and leant against it like a wishbone" |

Weir is a mother to two sons so empathises with the grief felt by mothers of fallen soldiers. The poppy is a symbol of remembrance in all wars.

Storm on the Island by Seamus Heaney

1. What is the poem about?

2. What happens in the poem?

3. What does the poet emphasise?

4. What is the poet an extended metaphor for?

Key Quotes

"spits _____ _____ _____"

"We are bombarded _____"

"sea is company, _____" _____"

What were the Irish Troubles?

Remains by Simon Armitage

1. What is the message of the poem?

2. What/who is the poem about?

3. What does the poem question?

4. What phrase does Armitage repeat?

5. Why does Armitage use repetition?

Key Quotes

"probably armed,_____ _____"

"tosses his guts _____ _____"

"The drink and the drugs _____"

What is PTSD?

Bayonet Charge by Ted Hughes

1. What is the poem about?
2. What does the poem make us realise and question?
3. List 2 things the 'yellow' hare' could symbolise.

Key Quotes

"suddenly _____ _____"

"Yellow _____ _____"

"Terror's _____ _____"

Why were the soldiers of WWI shocked when they reached the trenches?

Poppies by Jane Weir

1. Who is the focus of the poem?

2. What does the speaker think about in the poem?

3. What happens at the end of the poem?

4. Why might the poet have chosen this ending?

5. What could the 'white cat hairs' symbolise?

Key Quotes

"I resisted the impulse to _____ _____ _____"

"The world overflowing _____"

"I traced the inscriptions on _____"

What is the poppy used to symbolise?

War Photographer by Carol Ann Duffy

"War Photographer" by Carol Ann Duffy explores the experiences of a photographer capturing the horrors of war. It highlights the contrast between the photographer's detached professional life and the emotional impact of witnessing suffering. It raises questions about the morality of taking these images, the impact they have in the media and the **responsibility of bearing witness.**
Duffy lists countries where war occurs from across the world, to symbolise widespread and inescapable conflict.

Key Quotes	"Fields which don't explode beneath the feet of children running in nightmare heat"	"Blood stained into foreign dust"	"their eyeballs prick with tears"

The media buy the most shocking war photographs to share. This can be seen a spreading awareness but also making money from people's suffering

Tissue by Imtiaz Dharker

"Tissue" by Imtiaz Dharker reflects on the significance of paper in our lives. It explores how paper, like human connections, can be fragile yet powerful. The poem encourages us to value the small moments and relationships that shape our lives, reminding us of their value.
Dharker uses an ambiguous title that could refer to fragile paper or human flesh. This is to highlight that human life is as delicate as tissue paper.

Key Quotes	"Paper that lets the light shine through, this is what could alter things"	"Maps too. The sun shines through their borderlines"	"Fine slips from grocery shops (...) might fly our lives like paper kites"

Dharker explores how paper overpowers humans and causes conflict across the world (maps, religious documents, money).

The Emigree by Carol Rumens

"The Emigree" by Carol Rumens is about a refugee who has left their home country and reflects on their memories of it. The speaker describes their city with vivid imagery and fondness, while also acknowledging the hardships and changes that forced them to leave. The poem explores themes of identity, nostalgia, and the impact of political events on individuals.
The speaker personifies her home country to emphasise her unbreakable loyalty and connection to it.

Key Quotes	"It may be at war, it may be sick with tyrants"	"I am branded by an impression of sunlight"	"I have no passport. There is no way back at all"

Refugees are often villainised as being invaders. Rumens emphasises that they are victims of war who have not chosen to seek refuge but have found themselves desperate.
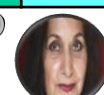
Checking Out Me History by John Agard

"Checking Out Me History" by John Agard explores the importance of learning about neglected or overlooked figures from history, particularly those of non-Western backgrounds. The speaker challenges the traditional curriculum and calls for a more inclusive representation of diverse cultures and achievements. The poem celebrates the strength and resilience of individuals who have been marginalised, encouraging readers to question and reclaim their own histories.
Agard juxtaposes the 'nonsense' of nursery rhymes with the inspirational stories of non-western figures to question the National Curriculum.

Key Quotes	"Dem tell me what dem want to tell me"	"Blind me to my own identity"	"Florence Nightingale" "Mary Seacole"

Agard criticises the 'Eurocentric' view of history and white supremacy in the education he received as a child in Britain.

War Photographer by Carol Ann Duffy

1. What is the poem about?

1. What does the poem raise questions about?

3. Why does Duffy list countries affected by war?

Key Quotes

"Fields which don't explode _____ _____ _____"

"Blood _____ _____"

"their eyeballs _____ _____"

How can publicising images of war be seen as positive as well as negative?

Tissue by Imtiaz Dharker

1. What does the poem reflect on?

2. How does the poem present paper?

3. What does the poem teach us?

4. Why does the poet use an ambiguous title?

Key Quotes

"Paper that lets the light shine through, _____ _____"

"Maps too. _____ _____"

"Fine slips from grocery shops _____ _____"

How does the poem 'Tissue' relate to the theme of conflict?

The Emigree by Carol Rumens

1. What is the poem about?

2. What does the speaker discuss in the poem?

3. What themes are explored in the poem?

4. Why does the speaker personify their home country?

Key Quotes

"It may be at war, _____ _____"

"I am branded by ___ _____ _____"

"I have no passport. _____ _____"

How are refugees often judged?

Checking Out Me History by John Agard

1. What is the poem about?

2. What does the speaker want to change about what is taught at school?

3. What does the poem celebrate?

4. How does the poet use juxtaposition?

Key Quotes

"Dem tell me what dem want to tell me"

"Blind me to my own identity"

"Florence Nightingale" "Mary Seacole"

What did Agard intend to teach his audience with this allegorical poem?

Kamikaze by Beatrice Garland

"Kamikaze" by Beatrice Garland tells the story of a Japanese pilot who contemplates a suicide mission during World War II. It explores the conflict between personal identity and societal pressures. The poem raises questions about the value of individuality and the consequences of blindly following orders, as the pilot is ostracised by his family and community for deciding to return from the mission.

Garland uses lots of natural imagery to explore the impact of war on nature but also to question whether war and conflict is a natural way to behave.

Key Quotes	"Shaven head full of powerful incantations"	"one-way journey into history"	"He must have wondered which had been the better way to die"

In WWII, Japanese people were socially conditioned to glorify Kamikaze pilots. If they returned from the suicide mission they would bring shame upon themselves and their families.

Poetic Form	Explanation	Examples
Sonnet	A poem of 14 lines, traditionally a love poem	Ozymandias
Narrative Poem	Tell a story to present an individual's experience	The Prelude, Kamikaze, Poppies
Dramatic Monologue	A single character speaks directly to an audience.	My Last Duchess
Free Verse Poem	Poems that do not follow any specific rhyme or rhythm patterns	Tissue, War Photographer

Poetic Methods

Metaphor: comparing two things without using "like" or "as," creating vivid and imaginative descriptions.

Imagery: using descriptive language to create sensory experiences, painting a vivid picture in the reader's mind.

Enjambment: when a sentence or phrase continues onto the next line without a pause or punctuation, creating a flow and adding emphasis.

Semantic Field: a group of words related to a specific theme or topic, creating a focused and consistent image.

Caesura: a pause or break in the middle of a line of poetry, often marked by punctuation.

Ambiguity: using language or descriptions that can be interpreted in more than one way, allowing for different meaning.

Symbolism: using objects, images, or actions to represent deeper meanings or ideas.

Allusion: making references to well-known people, events, or stories from literature, history, or mythology.

Repetition: repeating words, phrases, or lines for emphasis.

Onomatopoeia: using words that imitate or mimic sounds, adding a sense of realism or creating a particular mood.
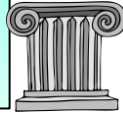
Kamikaze by Beatrice Garland

1. What story is told in the poem?

2. What conflict is explored?

3. What questions does the poem raise?

4. Why does the poet use lots of natural imagery in the poem?

Key Quotes

"Shaven head ___ _____ _____"

"one-way _____ _____"

"He must have _____ _____"

In WW2, how did Japanese people view Kamikaze pilots?

Poetic Form	Explanation	Examples
Sonnet		
Narrative Poem		
Dramatic Monologue		
Free Verse Poem		

Poetic Methods

Complete the definitions of each method

A **metaphor** is... _____

Imagery is... _____

Enjambment is... _____

A **semantic field** is... _____

Ambiguity is... _____

Symbolism is... _____

An **allusion** is... _____

Repetition is... _____

Onomatopoeia is... _____

Geography

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Key Vocabulary

1	Erosion	A process which wears away and removes material
2	Attrition	Rocks smash and break into smaller, smoother, rounder pieces
3	Abrasion	Rocks wear down the cliff
4	Hydraulic Power	Air forced into cracks by water. Pressure rock to break
5	Solution	Sea water dissolves certain rocks
6	Weathering	The wearing away and change in appearance or texture by long exposure to the atmosphere
7	Massmovement	Downhill movement of sediment
8	Swash	Movement of sea water and sediment up the beach
9	Backwash	Movement of sea water and sediment down the beach
10	Constructive	Wave type leading to the build up of a beach (swash stronger than backwash)
11	Destructive	Wave type taking material away, creating steep beaches (backwash stronger than swash)
12	Transportation	The movement of eroded material
13	Deposition	Material transported is dropped due to the sea losing energy
14	Longshore drift	Movement of sediment along a shore by swash and backwash

15	Weathering	• Freeze-thaw • Biological • Chemical
16	Mass Movement:	• Rock fall • Slumping • Sliding

Erosional landforms:

17	Headland	Made up of hard rock → takes longer to erode
18	Bays	Made up of soft rock → quicker rate of erosion
19	Cave	Cracks are widened in the headland through hydraulic power and abrasion
20	Arch	Wave erosion eventually breaks through the cave → forming an arch
21	Stack	Base of the arch gets wider (hydraulic power /abrasion) → roof collapses → leaves a stack
22	Stump	The stack is undercut at the base → collapses to form a stump

Depositional landforms:

23	Beach	Sand & shingle deposited by waves
24	Spit	Made through the processes of longshore drift and deposition
25	Sand Dune	Sand is deposited builds up around an obstacle on the beach

Management strategies:

26		Needed to ensure a balance between nature and the needs of people
27		Hard engineering • Much more expensive • Made from man-made materials
28		Examples of hard engineering strategies: groynes, sea wall, rock armour
29		Soft engineering • Less expensive • Made from more natural materials
30		Examples of soft engineering: Dune creation, Beach nourishment, Managed retreat

Holderness:

31	Mappleton - village on the Holderness Coastline needs protecting due to approximately 2m of erosion per year
32	£2 million was spent on two rock groynes and rock armour
33	Advantages: B1242 road has been protected → people can still travel in and out of the village 50 properties on the cliffs tops been saved from collapsing into the sea Disadvantages: Further south the rate of erosion has increased significantly South of Mappleton people have lost their homes and businesses

Key Vocabulary

1	Erosion	
2	Attrition	
3	Abrasion	
4	Hydraulic Power	
5	Solution	
6	Weathering	
7	Massmovement	
8	Swash	
9	Backwash	
10	Constructive	
11	Destructive	
12	Transportation	
13	Deposition	
14	Longshore drift	

15	Weathering	
16	Mass Movement:	

Erosional landforms:

17	Headland	
18	Bays	
19	Cave	
20	Arch	
21	Stack	
22	Stump	

Depositional landforms:

23	Beach	
24	Spit	
25	Sand Dune	

Management strategies:

26		
27	Hard engineering	
28		
29	Soft engineering	
30		

Holderness:

31	Mappleton –	
32		
33	Advantages:	
	Disadvantages:	

Key Vocabulary

1	Agribusiness	Application of business skills to agriculture
2	Carbon footprint	Measurement of the greenhouse gases we produce
3	Energy mix	Range of energy sources used in a region
4	Export	Send (goods or services) to another country for sale
5	Food miles	The distance covered supplying food to consumers
6	Import	Bring (goods or services) into a country from abroad for sale
7	Mal nourishment	Lack of proper nutrition caused by not eating enough of the nutrients and mineral
8	Organic produce	Food produced without using fertilisers and nutrients
9	Resource Management	The control and monitoring of resources so that they do not become depleted or exhausted
10	Under nourishment	Having insufficient food for good health

Food in the UK:

		Used to be **seasonal/locally sourced**
11		→ Now globally sourced all year → More **disposable income** → Increased demand for greater choice
12	Changing demand	Positive impacts: • Jobs in **LICs** • Higher tax income
13		Negative impacts: • Less land for locals • High water use • Exposure to chemicals
14		**Organic Produce** Since **1990s** increase in demand
15	Larger carbon footprint	Food grown cheaply elsewhere → increase in **food miles**
16		Push now for Buying local; Having an allotment
17	Agri-business	Main aim is profit Impact on the environment Use of **pesticides** & **fertilizers**

Energy in the UK:

18	The changing energy mix	2015 → **31%** from coal 1970 → **91%** was from coal and oil
19		Investing in **renewable energy** (solar)
20	Decreasing	Decreasing **reserves** of **fossil fuels**
21	Domestic supply of oil, coal and gas	**EU** regulations on **emissions** → decrease in **fossil fuel** use
22		**12%** less used in homes since 1970 **60%** less in industry

Water in the UK:

23	Changing demand	Increasing wealth Improved hygiene Increasing industrial and domestic use Increasing population
24	Water quality and pollution management	Water quality is managed by: • Legislation • Education campaigns • Wastewater treatment • Infrastructure
25		Key pollutants: **Fertilisers** and **pesticides** Heavy metals from industry Acid rain
26	Matching supply and demand	Highest population is in the South East = water **deficit** Highest rainfall is in the North West = water **surplus**
27		**80%** of Southern England relies on **groundwater** **50%** are affected by water quality
28	Maintain supply	**Kielder Water Scheme** Moves water from Northumberland to the NE
29		Positive and negative impacts → loss of homes →reliable supply for industry

Exploitation of resources

30	**Nuclear** sites being **decommissioned** → current plants will close by **2023**
31	**Economic** issues: Jobs; Set up costs; Research,;Reliability
32	**Environmental** costs: Ecosystems damaged; Waste disposal; Emissions and pollution; Radiation leaks

Key Vocabulary

1	Agribusiness	
2	Carbon footprint	
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5	Food miles	
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Food in the UK:

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12	Changing demand	
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Water in the UK:

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26	Matching supply and demand	
27		
28	Maintain supply	
29		

Exploitation of resources

30	
31	
32	

Key vocabulary

1	Aquifer	Rock which can contain water
2	Desalinisation	Removal of salt from sea water
3	Irrigation	Artificial watering of the land
4	Over abstraction	When water is being used more quickly than it is being replaced
5	Porous	Allows water to pass through it
6	Waterborne diseases	Diseases caused by contaminated water
7	Water conflict	Disputes between different regions about the use of water
8	Water deficit	Where water demand is greater than supply
9	Water insecurity	Not having enough clean water for the population
11	Water security	Reliable availability and quality and quantity of water
12	Water stress	Demand exceeds the available amount during a certain time
13	Water surplus	Supply is greater than demand

Factors Affecting Water Availability:

14	Climate	**Tropical**; **temperate**; **mountains**
15	Geology	**Porous** rocks = **aquifer** forms
16	Pollution	**Industrial waste**
17	Over abstraction	High demand exceeds replacement
18	infrastructure	Water lost from leaking pipes
19	Poverty	Prevents access to safe water

20	Waterborne diseases and pollution	Chemicals & waste lead to disease e.g. **cholera**
21		**11%** of world's population is **water insecure**
22		**2.6 billion** lack access to sanitation
23	Food production	Reliant on water 🌾🌾
24	Industrial output	Limited water → no industry → failing economy

Managing Water Supply:

25	Grey water	Wastewater from homes is **recycled** and put to good use
26	Groundwater management	**Regulation** of water levels, pollution and groundwater
27	Water conservation	The **preservation**, control and prevention of pollution
28	Water transfer schemes	Systems of canals and pipes → transport water from one river basin to another
29	Diverting supply and increasing storage	Diverting supply: Expensive; Environmental impacts; Encourage wastage
30		5**0,000** large dams worldwide
31		**Desalination**: Expensive; Becoming more common; UAE, Kuwait and Saudi Arabia use it

China Water Transfer Scheme:

32	**12 trillion gallons** per year **1000 km** **3 routes**; Yangtze to Yellow River basin Cost **US$62 billion**	
33	Reliable supply in the north for **500 million** people	⊕
34	Increased availability of water for **drinking**, **industry** and **irrigation**	⊕
35	Displaced **350,000** people Loss of productive farmland in south	⊖
36	Water **export** may leave south dry	⊖

Sustainable Future:

37	Water conservation	Push taps, mend leaks, drip agriculture
38	Groundwater management	Decrease pumping Decrease use of **fertiliser** and **pesticides**
39	Recycling	Use **reclaimed water** ♲ treated sewage water
40	Grey water	Toilets & irrigation Expensive system

Hitosa Sustainable Water Scheme:

41	**Hitosa; Ethiopia - 1990s** Gravity pipes take water from Mount Bada **140km** pipelines, **100** public water points	
42	Half funding from **Water Aid**	⊕
43	Reliable supply for **65,000 people**	⊕
44	Cattle fattening business	⊕
45	Pipeline needs replacing →30yr	⊖
46	**Hygiene** around taps neglected=disease	⊖
47	Encouraged **migration** to the area	⊖

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34		⊕
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36		⊖

Sustainable Future:

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38	Groundwater management	
39	Recycling	♺
40	Grey water	

Hitosa Sustainable Water Scheme:

41		
42		⊕
43		⊕
44		⊕
45		⊖
46		⊖
47		⊖

History

Topic		Question	Answer
Why was there an economic boom in the 1920s	1	**What are the signs of an economic boom?**	Successful businesses, rising wages, and low unemployment
	2	**How did WWI contribute to the economic boom?**	Other countries damaged, increased demand for US goods, Money loaned to allies with interest
	3	**How did Republican Policies contribute to the boom in the 1920s?**	Laissez-Faire/Low taxes on business so they re-invest, low taxes on people so they spend. Tariffs on imports so people buy American goods.
	4	**What was hire purchase? How did it contribute to the boom?**	Buy now, pay later. Meant more people could afford to buy consumer goods, which increased demand.
	5	**What is the cycle of prosperity?**	A successful economy. More demand leading to increased production, higher employment, more disposable income, more spending.
	6	**Why was mass production so important to the economy in the 1920s?**	Helped to produce consumer goods quickly and cheaply so more people could buy them
	7	**How did the stock market contribute to the USA's economic boom?**	Normal people could buy shares in businesses and made money as their value increased.
1920s Society and Entertainment	8	**What type of dance was danced to Jazz?**	The Charleston
	9	**What year was the first 'talkie' film, called the 'Jazz Singer'?**	1927
	10	**Name one famous actress made a celebrity by the 'star system'**	Clara Bow
	11	**Why were more people able to watch spectator sports such as baseball in the 1920s?**	More disposable income, more car ownership

Year 10 History: America- opportunity for all

Topic		Question	Answer
Why was there an economic boom in the 1920s	1	What are the signs of an economic boom?	
	2	How did WWI contribute to the economic boom?	
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JIM CROW.

Topic		Question	Answer
Racial tension in 1920s	12	What were the Jim Crow Laws?	Laws which enforced segregation of whites and blacks in public places in the South
	13	Members of the KKK were white supremacists. What does this mean?	They believed that the white race was superior/better and wanted to stop African Americans from getting the rights they deserved.
	14	How many members of the KKK were there at its peak in 1925?	6 million
	15	African Americans had the right to vote in the 1920s , but there were three things which discriminated against them from using it. What were they?	Intimidation.. Literacy (reading and writing test, which many AAs couldn't). Poll tax (had to pay money to vote, which many AAs couldn't afford).
Red Scare	16	Russia became communist in 1917. Describe three aspects of what communism is	One party runs the whole country, business owned and run by the state (government), the lives of individuals tightly controlled
	17	Why were so many Americans scared of communism?	The were worried it would ruin their way of life.
	18	Describe America's capitalist society	Governments are elected in free and fair elections, businesses are owned by individuals who enjoy the profit, individual freedom in very important
	19	What were the Palmer Raids in 1919?	A series of raids led by the Mitchell Palmer to capture, arrest and 'send home' suspected communists from the United States. 6000 suspects were arrested

Year 10 History: America-opportunity for all

JIM CROW,

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Topic		Question	Answer
Roosevelt's election	20	What did Franklyn D Roosevelt offer the American people?	A new deal
	21	How did Roosevelt campaign for the presidency?	He toured the country, sometimes making 15 speeches a day
	22	How had Roosevelt helped the depression before becoming president?	He spent $20 million as Governor of New York to help unemployment.
New deal	23	What were the 'three Rs' of the New Deal?	Relief, recovery, reform.
	24	How did the New Deal try to kickstart the American economy	Spending would lead to a cycle of recovery.
	25	How did the New Deal discriminate against women?	The average wage for a women in 1937 was $525 compared to $1000 for men
	26	Why is the TVA an example of permanent change for the better?	Thousands of jobs were created, the land became fertile and quality of life greatly improved.
1950s prosperity	27	What did American Express create in 1958?	A worldwide credit card network that allowed people to purchase items and pay off instalments every month.
	28	How did America's fear of communism help the economy in the 1950s?	The government massively increased military spending
	29	How did the 4 million babies born each year during the 1950s help the economy?	Each infant was thought to be worth $800 to the producers of baby and child products.

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Life Chances

What is it like to take 'A' Levels (Advanced Levels)?
•You will study fewer subjects than you did at GCSE but, as A-levels are advanced qualifications, your will need to develop a much deeper understanding and knowledge of these subjects.
•Because you're picking fewer subjects, A-levels are a good opportunity to start specialising and thinking about potential future careers.
•At A-level, you have a lot less input from teachers and are expected to do more independent study.
•However, you normally go to more lessons, so you can have more time with your teachers to ask questions and work on projects.
•While A-levels are a great entry ticket to university, there are some subjects that certain unis won't accept, and some they will prefer – so do your research!

T-levels (Technical Levels) are a new type of technical qualification, designed for after your GCSEs. They've been developed alongside employers to make sure that what you learn meets the needs of industry and prepares you for work. Here's some key information to give you an idea of what to expect:
•T-levels are **two-year courses**
•They are **equivalent to three A-levels**
•Your time is split: **80% classroom** learning; **20% industry placement**
•Placements are at least 315 hours (approximately 45 days)
•T-levels could help you get into **skilled employment, further study or a higher apprenticeship**.

What is it like to take 'A' Levels (Advanced Levels)?
- You will study fewer subjects than you did at _____ but, as A-levels are _____ qualifications, your will need to develop a much _____ understanding and knowledge of these subjects.
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- .
- .
- .
- .
- .

Apprenticeships

Key points to remember-

- There are many different types and levels of apprenticeships, so do your research.
- Different levels of apprenticeships will have different entry requirements, so make sure you have the grades or qualifications you need.
- When you do an apprenticeship, you are normally required to work as well as study towards a qualification, so it can be quite full-on.
- You can do an apprenticeship in lots of different fields, from media to business, from construction to social care.
- A wide range of businesses offer apprenticeships, from hair salons to digital agencies.
- The web is a good place to start researching the right apprenticeship for you.

Key points to remember-

- Not all are advertised, so it's important to have a good network. Doing work experience and talking to people in local businesses are great ways of finding out about opportunities.
- Much like applying for a job, getting an apprenticeship can be quite competitive.
- As well as your qualifications and previous experience, so-called 'soft skills' are also very important to employers. Example of soft skills include: communication skills, being able to work in a team and independently, the ability to do project work. Basic English and Maths skills are important too.
- As well as giving you on-the-job experience and a wage, an apprenticeship will increase your awareness of the work environment and of the field you work in.
- But be aware that you are aligning yourself to a particular career, which could limit your options later.
- Take the decision to do an apprenticeship seriously: you'll be in a working environment and will be expected to work and behave to certain standards.

APPRENTICESHIP

SCHOOL STUDIES PROFESSION SKILLS PERFORMANCE CAREER MOTIVATION GOALS

Apprenticeships

Key points to remember-
- There are many different types and _____ of apprenticeships, so do your _____.
- Different levels of apprenticeships will have different _____ requirements, so make sure you have the _____ or _____ you need.
- When you do an apprenticeship, you are normally required to _____ as well as _____ towards a qualification, so it can be quite full-on.
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- But be aware that you are _____ yourself to a particular career, which could limit your options later.
- Take the _____ to do an apprenticeship seriously: you'll be in a working environment and will be expected to _____ and behave to certain standards.

APPRENTICESHIP

SCHOOL   STUDIES   PROFESSION   SKILLS   PERFORMANCE   CAREER   MOTIVATION   GOALS

Gender identity
Many people identify as male or female and see their sex and gender as the same thing. For others their gender identity is different from the sex registered on their birth certificate (male or female).

There are different types of sexuality. Here are some terms used:
Straight: attracted to people of the opposite sex.
Gay: attracted to people of the same sex. This term is used by both men and women.
Lesbian: attracted to people of the same sex. This term refers specifically to women.
Bisexual: attracted to both men and women. Some people prefer the term pansexual to indicate that they are attracted to different kinds of people, regardless of gender.
Asexual: not sexually attracted to anyone.

- Some people may be registered as male at birth, but not identify as male.
- Some people may be registered as female at birth, but not identify as female.
- Some people's gender identity sits between male and female, whilst others don't feel male or female in any way.

There are a variety of terms that can be used to describe this, such as gender diverse or non-binary (neither male nor female). Views on gender identity are wide ranging and discussion of the topic can often become contentious.

Gender identity
Many people identify as male or female and see their sex and
_____ as the same thing. For others their gender _____
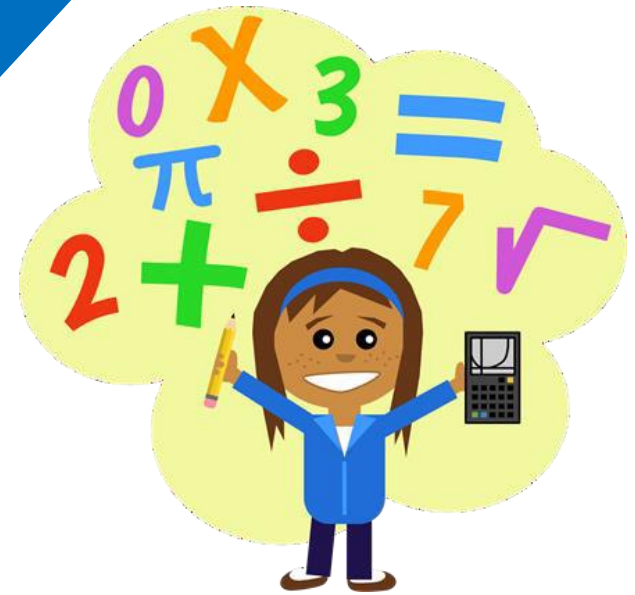is different from the sex registered on their birth _____
(male or female).

• Some ….

• Some …..

• Some…..

There are a variety of terms that can be used to describe this,
such as gender _____ or non-_____ (neither male nor female).
Views on gender identity are wide _____ and discussion of
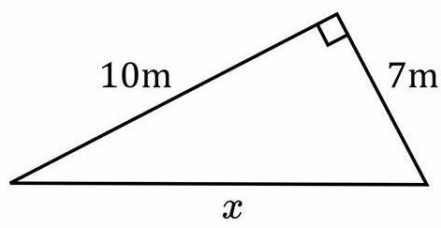the _____ can often become contentious.

**There are different types of sexuality. Here are
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Gay:
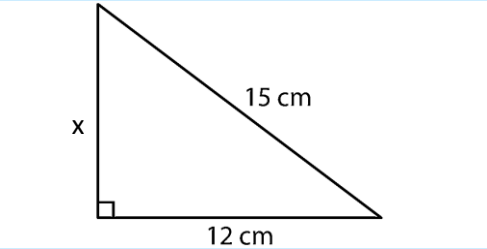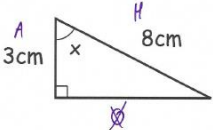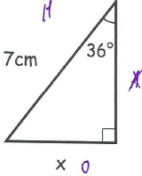
Lesbian:

Bisexual:

Asexual:
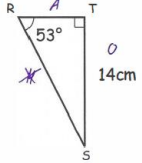
Maths

Helping every person achieve things they never thought they could.

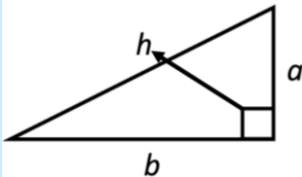Little Lever School
be kind | work hard | take responsibility

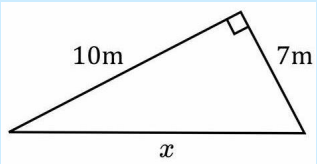|	Key Skill	Thinking Point	WAGOLL
1	Pythagoras' Theorem (finding the length of the hypotenuse)	Pythagoras' Theorem to find the hypotenuse length: $a^2 + b^2 = h^2$	$a^2 + b^2 = h^2$ $7^2 + 10^2 = h^2$ $49 + 100 = h^2$ $149 = h^2$ $\sqrt{149} = h$ $h = 12.2 \ cm \ (1 \ d.p)$
2	Pythagoras' Theorem (finding the length of a shorter side)	To calculate the length of a short side: • $h^2 - b^2 = a^2$, or • $h^2 - a^2 = b^2$	$h^2 - b^2 = a^2$ $15^2 - 12^2 = b^2$ $225 - 144 = b^2$ $81 = b^2$ $\sqrt{81} = b$ $b = 9cm$
3	Trigonometry (working out a missing length or angle)	$\sin \theta = \dfrac{opposite}{hypotenuse}$ $\cos \theta = \dfrac{adjacent}{hypotenuse}$ $\tan \theta = \dfrac{opposite}{adjacent}$	Use trigonometry to work out the size of angle x. $\cos x = \frac{3}{8}$ $x = \cos^{-1}\left(\frac{3}{8}\right)$ 67.98° Use trigonometry to work out the length x. $x = \sin(36) \times 7$ 4.11 ...cm Work out the length of RT. $RT = \frac{14}{\tan 53}$ 10.55 ...cm
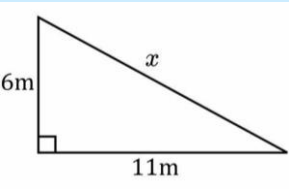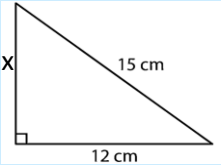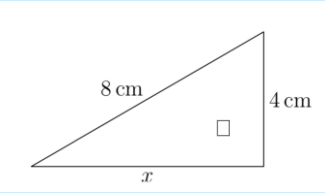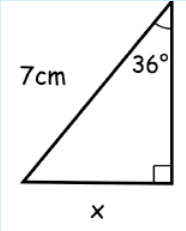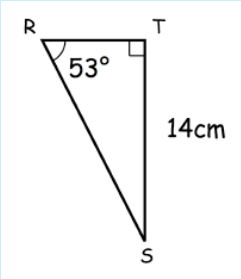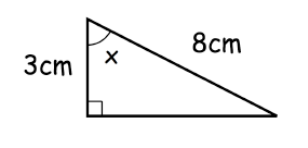
Key vocabulary

<u>Hypotenuse</u>
• The longest side of a right-angled triangle
• Opposite the right angle

	Key Skill	Thinking Point	Practice		
1	Pythagoras' Theorem (finding the length of the hypotenuse)	How do you work out the length of the hypotenuse?	10m 7m x		6m x 11m
2	Pythagoras' Theorem (finding the length of a shorter side)	How do you work out the length of one of the short sides?	X 15 cm 12 cm		8 cm 4 cm x
3	Trigonometry (working out a missing length or angle)	What are the three trigonometric ratios you know for right angled triangles?	7cm 36° x	R T 53° 14cm S	3cm x 8cm

Key vocabulary:

Define hypotenuse, then label it on the triangle
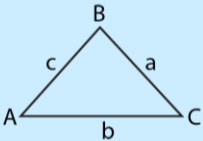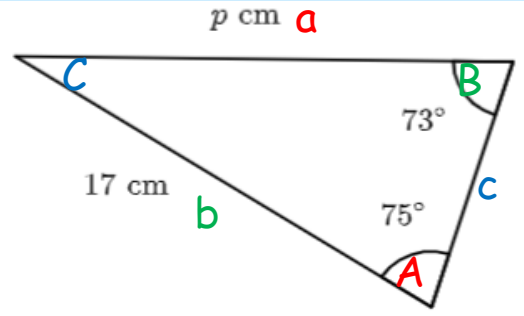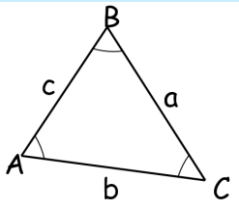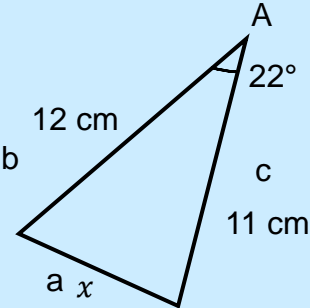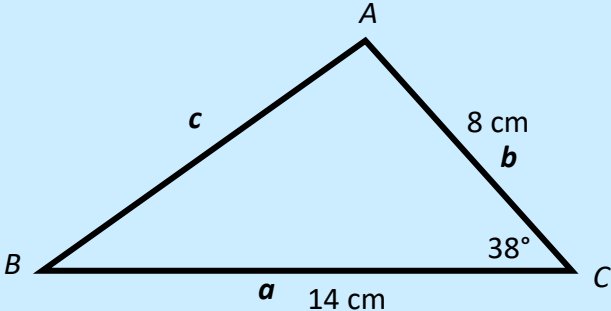
	Key Skill	Thinking Point	WAGOLL
1	Solving Linear Equations	You can use function machines or the balancing method.	$Solve \ \frac{x}{4} - 7 = 5$ $x \rightarrow \boxed{\div 4} \rightarrow \boxed{-7} \rightarrow 5$ $48 \leftarrow \boxed{\times 4} \leftarrow \boxed{+7} \leftarrow 5$ $x = 48$ $Solve \ 5x + 4 = 39$ $-4 \ \{5x + 4 = 39\} \ -4$ $\div 5 \ \{5x = 35\} \ \div 5$ $\{x = 7\}$ $Solve \ \frac{3x-8}{4} = 4$ $\times 4 \ \{\frac{3x-8}{4} = 4\} \ \times 4$ $+8 \ \{3x - 8 = 16\} \ +8$ $\div 3 \ \{3x = 24\} \ \div 3$ $\{x = 8\}$
2	Equations with x (or any variable) on both sides	Rearrange the equation so you have all the variables on one side and all the constants on the other.	$Solve \ 3x + 12 = 2x + 19$ $x + 12 = 19$ $x = 7$ $Solve \ x + 14 = 2x + 6$ $14 = x + 6$ $8 = x$ $x = 8$ $Solve \ 2x + 15 = 5x + 3$ $15 = 3x + 3$ $12 = 3x$ $4 = x$ $x = 4$

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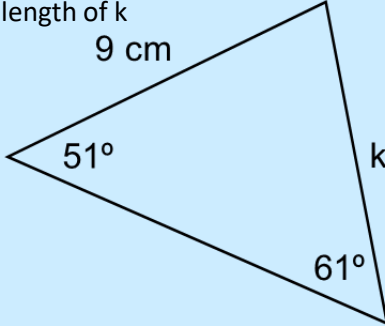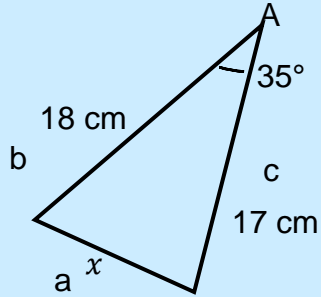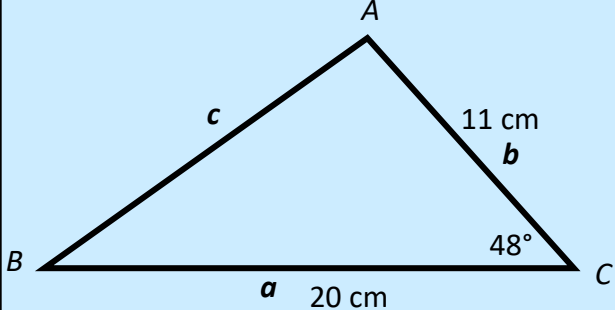
	Key Skill	Thinking Point	WAGOLL
3	Solving Quadratic Equations (using the Quadratic Formula)	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$4x^2 - 5x - 2 = 0$ $a = 4 \quad b = -5 \quad c = -2$ $x = \frac{-(-5) \pm \sqrt{(-5)^2 - 4(4)(-2)}}{8}$ $x = \frac{5 + \sqrt{57}}{8}$ or $\frac{5 - \sqrt{57}}{8}$ 1.568729304 or -0.3187293044 1.569 or -0.319 to 3 d.p.

	Key Skill	Thinking Point	Practice		
1	Solving Linear Equations	Which two methods can you use to solve linear equations?	$Solve \ \dfrac{x}{3} - 7 = 2$	$Solve \ 8x + 1 = 65$	$Solve \ \dfrac{7x - 8}{4} = 5$
2	Equations with x (or any variable) on both sides	What do you need to do to an equation that has a variable on both sides?	$Solve \ 2x + 13 = 5x + 4$	$Solve \ x - 8 = 2x - 15$	$Solve \ 3x + 6 = -x + 46$

Below is higher only

	Key Skill	Thinking Point	Practice		
3	Solving Quadratic Equations (using the Quadratic Formula)	What is the quadratic formula?	Solve: $6x^2 - 7x - 3 = 0$		

	Key Skill	Thinking Point	WAGOLL
1	Sine Rule	Use this to work out a missing angle or side in a triangle when you have information about an angle and the side opposite it, and another angle and the side opposite it. $$\frac{a}{Sin\ A} = \frac{b}{Sin\ B} = \frac{c}{Sin\ C}$$	$$\frac{a}{\sin(A)} = \frac{b}{\sin(B)}$$ $$\frac{p}{\sin(75°)} = \frac{17}{\sin(73°)}$$ $$p = \frac{17}{\sin(73°)} \times \sin(75°) \qquad p = 17.2\ \text{cm}$$
2	Cosine Rule	Can be used to: • Find missing length (if SAS) • Find missing angle (if SSS) $a^2 = b^2 + c^2 - 2bcCosA$	Substitute / Simplify / √ $a^2 = b^2 + c^2 - 2bc\ cos\ A$ $x^2 = 12^2 + 11^2 - (2 \times 12 \times 11 \times cos\ 22)$ $x^2 = 20.22346\ ...$ $x = \sqrt{20.22346\ ...}$ $x = 4.5cm$
3	Using Sine to find area	$$Area = \frac{1}{2}ab\ Sin\ C$$	$$Area = \frac{1}{2}ab\ Sin\ C$$ $$= \frac{1}{2} \times 14 \times 8 \times Sin\ (38)$$ $$= 34.5\ \text{cm}^2$$

	Key Skill	Thinking Point	Practice
1	Sine Rule	What is the sine rule?	Work out the length of k
2	Cosine Rule	What is the cosine rule?	Work out the length of x
3	Using Sine to find area	What is the rule for the area of any triangle?	Work out the area

	Key Skill	Thinking Point	WAGOLL
1	Simplifying	• Divide the numerator and denominator by the highest common factor • You may need to factorise into brackets	Simplify: $\dfrac{15xy^2}{5x}$ coefficients $15 \div 5 = 3$ $= \dfrac{3xy^2}{x}$ variable $x \div x = 1$ $= \dfrac{3y^2}{1}$ $= 3y^2$ Simplify: $\dfrac{x^2 + 5x + 6}{2x + 4}$ $= \dfrac{(x+2)(x+3)}{2(x+2)}$ $= \dfrac{x+3}{2}$
2	Adding and Subtracting	• Make sure both fractions have the same denominator	$\dfrac{x}{5} + \dfrac{3x}{8}$ $\times \frac{8}{8}$ $\times \frac{5}{5}$ Common denominator $= \dfrac{8x}{40} + \dfrac{15x}{40}$ $= \dfrac{23x}{40}$ $\dfrac{x+2}{3} + \dfrac{x+3}{2}$ $\times \frac{2}{2}$ $\times \frac{3}{3}$ Common denominator $= \dfrac{2(x+2)}{6} + \dfrac{3(x+3)}{6}$ $= \dfrac{2(x+2) + 3(x+3)}{6}$ $= \dfrac{2x + 4 + 3x + 9}{6}$ $= \dfrac{5x + 13}{6}$
3	Multiplying and Dividing	• To multiply, multiply both numerators and multiply both denominators. • To divide, use the reciprocal method.	$\dfrac{6x}{2y} \times \dfrac{4y}{5}$ $= \dfrac{6x \times 4y}{2y \times 5}$ $= \dfrac{24xy \div 2}{10y \div 2}$ $= \dfrac{12x}{5}$ $\dfrac{x-2}{x+3} \times \dfrac{x+1}{x-2}$ $= \dfrac{(x-2) \times (x+1)}{(x+3) \times (x-2)}$ $= \dfrac{(x-2)(x+1)}{(x+3)(x-2)}$ $= \dfrac{x+1}{x+3}$

	Key Skill	Thinking Point	Practice	
1	Simplifying	What do you divide the numerator and denominator by to simplify a fraction?	Simplify: $\dfrac{30xy}{5xy}$	Simplify: $\dfrac{x^2 + 7x + 6}{3x + 18}$
2	Adding and Subtracting	What do you need to ensure before you can add or subtract fractions?	$\dfrac{7x}{3} + \dfrac{4x}{5}$	$\dfrac{x + 9}{4} + \dfrac{x + 1}{2}$
3	Multiplying and Dividing	How do you multiply fractions? How do you divide fractions?	$\dfrac{xy}{3} \times \dfrac{x}{y}$	$\dfrac{x + 3}{x - 2} \times \dfrac{x - 1}{x + 1}$

Modern Foreign Languages

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Talk about a past holiday

Forming the perfect tense (passé composé)
The perfect tense is how you say that you have done something in the past. For example, 'I have eaten' or 'I have played'.

To form the perfect tense, usually you use an auxiliary verb. To do this, take the correct form of the verb avoir (to have) and add a past participle (reference to the past).

For example, to say 'I have eaten' you use **j'ai** for 'I have' and add **mangé** for eaten. So it is **j'ai 'mangé.**

Mangé (ate) is the past participle of manger (to eat).

Forming a past participle:

Regular ER verbs	Take the ER ending off, and add é. For example MANGER changes to mangé.	J'ai mangé = I have eaten
Regular IR verbs	Take the IR ending off and add i. For example, FINIR (to finish) changes to fini.	J'ai fini = I have finished
Regular RE verbs	Take the RE ending off and add u. For example RÉPONDRE (to respond) changes to répondu	J'ai répondu = I have responded

Note: there are some verbs that do not follow the above rule. These are called 'irregular verbs'. One example is BOIRE (to drink) which changes to bu. J'ai bu = I drank

When forming the perfect tense for some verbs, you need to use **ÊTRE** as the auxiliary verb instead of AVOIR

Examples of verbs that take être are aller (to go), sortir (to go out).
RECAP of the auxiliary verb Être = to be

J'ai	I have
Tu as	You have (singular/informal)
Il a	He has
Elle a	She has
On a	One has(we have)
Nous avons	We have
Vous avez	You have(formal/plural)
Ils ont	They have (masculine/mixed)
Elles ont	They have (feminine)

Je suis	I am
Tu es	You are(singular/informal)
Il est	He is
Elle est	She is
On est	One is (we are)
Nous sommes	We are
Vous êtes	You are (formal/plural)
Ils sont	They are (masculine/mixed)
Elles sont	They are (feminine)

Talk about a past holiday

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Examples of verbs that take être are aller (to go), sortir (to go out).
RECAP of the auxiliary verb Être = __ _____

In French you do not say "I went" instead you say "I am gone".
Je suis allé
I am gone (e.g. I went)

Il est allé
He is gone (e.g. he went)

To make it even trickier, the past participle agrees with the person using it.

Verb	Masculine	Feminine
ALLER (to go)	Je suis allé (I am gone) Ils sont allés (they are gone)	Je suis allée (I am gone) Elles sont allées (they are gone)
SORTIR (to go out)	Je suis sorti (I am went out)	Je suis sortie (I am went out)

Countries:

Allemagne - Germany
Angleterre - England
Écosse - Scotland
Espagne - Spain
États-Unis - USA
France - France
Grèce - Greece
Italie - Italy
Irlande - Ireland
Pays de Galles - Wales

Describe Francophone festivals and traditions

Here are some useful verbs to use when talking about celebrations:
fêter / célébrer - to celebrate
décorer - to decorate
s'habiller - to dress up
offrir un cadeau - to give a present
recevoir un cadeau - to receive a present
As in the UK, Christmas and New Year are big celebrations for many people.
Here is some useful vocabulary to get started talking about them:
Nouvelle année - New Year
le Jour de l'An - New Year's Day
Le sapin - Christmas tree
la coutume - custom/tradition
Les feux d'artifice - fireworks
le jour férié - public holiday/bank holiday
la fête - party/festival
Noël - Christmas
la veille de Noël - Christmas Eve
le réveillon du nouvel an - New Year's Eve
père Noël - Father Christmas
la tradition - tradition
Le chant de Noël - Christmas carol

Festivals in France
La Saint-Valentin - Valentines Day
Pâques - Easter
La fête des Mères - Mothers Day
14 Juillet / la fête nationale française - Bastille Day
Le poisson d'avril - April Fool's Day

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__ _____(e.g. I went)

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Verb	Masculine	Feminine

Countries:

Describe Francophone festivals and traditions

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Festivals in France

Forming the perfect tense of reflexive verbs

Use a reflexive verb to describe an action that you do to yourself, or that 'reflects back' to yourself. They must include a **reflexive pronoun**, which changes depending on who is the subject of the verb. In the perfect tense, **all reflexive verbs take the auxiliary verb être** and the past participle must agree with the subject of the verb.

Here is an example of a reflexive verb in the perfect tense:

Here is an example of a reflexive verb in the perfect tense:

se laver	to wash (yourself)
je **me suis** lavé(e)	I washed (myself)
tu **t'es** lavé(e)	you washed (yourself)
il/elle/on **s'est** lavé(e)(s)	he/she/one washed (himself/herself/oneself)
nous **nous sommes** lavé(e)s	we washed (ourselves)
vous **vous êtes** lavé(e)(s)	you washed (yourself)
ils/elles **se sont** lavé(e)s	they washed (themselves)

Remember When using être as an auxiliary verb, the past participle agrees with the subject.

Elle est allé**e** à la banque. - She went to the bank.

Ils sont allés à la banque. - They went to the bank.

Describe a future visit to a Francophone festival

Using the verb aller (to go) to describe a future event

You can use the verb **aller** to describe what you are going to do in the future.

To do this, use the correct part of **aller** plus an **infinitive verb.**

For example, je vais manger = I am going to eat. This is because **je vais** means I am going and **manger** means to eat.

Another example is je vais aller = I am going to go

Aller (to go) in the present tense		Infinitive
Je vais = I am going Tu vas = You (informal) are going Il va = He is going Elle va =She is going On va = On is (we are) going Nous allons = We are going Vous allez = You plural/polite are going Ils vont = They are going (m) Elles vont = They are going (f)	**+**	aller - to go Visiter / rendre visite - to visit fêter - to celebrate décorer - to decorate s'habiller - to dress up offrir un cadeau - to give a present recevoir un cadeau - to receive a present

Forming the perfect tense of reflexive verbs

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Here is an example of a reflexive verb in the perfect tense:

se laver	to wash (yourself)

Remember When using être as an auxiliary verb, the past participle agrees with the subject.

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Another example is je vais aller =

Aller (to go) in the present tense		Infinitive
	+	

Describe where I live now and the house of my dreams

Rooms of the house

Dans ma maison il y a = in my house there is
Dans la maison de mes rêves il y aurait = In my dream house there would be

Une cuisine = a kitchen
Une a manger = a dining room
un grenier = an attic
Une salle de jeux = a games room
un salon = a living room
Une cave = a basement
Une chambre = a bedroom
Une salle de bain = a bathroom
un garage = a garage
Un jardin = a garden

RECAP: Adjectival agreement and placement

confortable = cosy
Vieux / vieille = old
Joli(e) = beautiful/pretty
bien éclairé(e) = well lit
grand(e) = big
petit(e) = small

In French adjectives usually come **after the noun**.
For example:
Un canapé **confortable**
A **comfortable** sofa

However there are some exceptions to the rule. Learn this acronym to help you remember:

Beauty (beau/belle, joli(e))
Age (vieux / vieille)
Grandness (super, grand, superbe)
Size (grand(e), petit(e))
Any adjectives that are BAGS go **before** the noun.

For example:
Une **petite** maison
A **little** house

Adjectives also change based on the **gender** of the noun:
Masculine:
Un canapé **vert**
A **green** sofa

Feminine:
Une commode **verte**
A green chest of draws

Plural:
Les canapé **verts**.
The **green** sofas

Describe where I live now and the house of my dreams
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A **noun** refers to a person, a thing or a concept. Unlike in English, all French nouns have a gender. This means that each noun is **masculine** or **feminine**, and any **article** accompanying it has to be masculine or feminine too. In English, these articles are **'the'**, **'a'** (or **'an'**) and **'some'**.

	masculine	feminine	plural
the	le	la	les
a (or **an**), **some**	un	une	des

There are some rules that help work out the gender. Masculine nouns often end in:

- -eau, eg le château – castle
- -isme, eg le racisme – racism
- -ment, eg le médicament – medicine

Feminine nouns often end in:

- -ade, eg la promenade – walk
- -ode, eg la mode – fashion
- -ude, eg l'habitude – habit
- -ance, eg la confiance – confidence
- -ence, eg la licence – degree
- -ette, eg la vedette – film star
- -sion, eg la télévision – television
- -tion, eg la natation – swimming
- -ure, eg la nourriture – food

Masculine and feminine nouns

All female family members are feminine and all male family members are masculine. For example:

- la tante - aunt
- la sœur - sister
- le grand-père - grandfather
- le frère – brother

- For job titles, the gender depends on whether it is a man or a woman doing the job. Sometimes the word for the job changes depending on the gender. For example:

Masculine	Feminine	English
le directeur	la directrice	headteacher, director
le coiffeur	la coiffeuse	hairdresser
l'infirmier	l'infirmière	nurse

Units of measurement, languages and meals are masculine. For example:

- le litre - litre
- le français - French
- le petit déjeuner - breakfast

Year 10 French:

A **noun** refers to a person, a thing or a concept. Unlike in English, all French nouns have a gender. This means that each noun is **masculine** or **feminine**, and any **article** accompanying it has to be masculine or feminine too. In English, these articles are **'the'**, **'a'** (or **'an'**) and **'some'**.
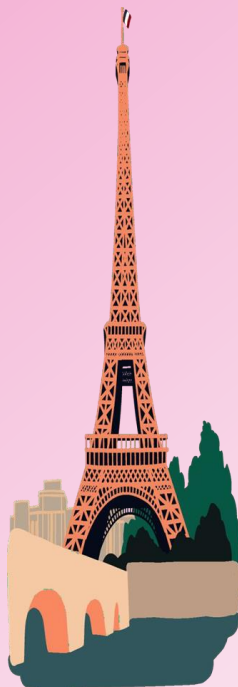
	masculine	feminine	plural
the			
a (or **an**), **some**			

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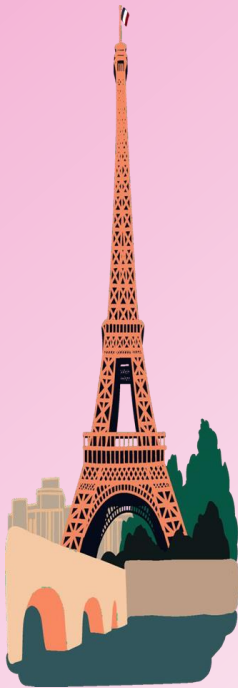
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Masculine and feminine nouns

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For job titles, the gender depends on whe... ...an or a woman doing the job. Sometimes the word for the job cha... ...es depending on the gender. For example:

Units of measurement, languages and meals are masculine. For example:

Describe my dream house.

The conditional tense is used to describe what someone would do or what would happen in the future. It can also be used to express ambitions and intentions. For example:

Si c'était possible je voudrais habiter dans une grande maison et il y aurait une piscine.
If it were possible I would live in a big house and there would be a swimming pool.
How to form the conditional tense.

To conjugate verbs in the conditional tense follow these simple steps.
1.Take an infinitive. Your infinitive is the stem.

(Remember infinitives end in er, re or ir.)

2.Add the conditional tense endings. Note: these are the same endings as the imperfect tense

	Stem	Conditional endings	Example	English
je	regarder	-ais	je regarderais	I would watch
tu	manger	-ais	tu mangerais	you would eat
il/elle/on	jouer	-ait	il/elle/on jouerait	he/she/it would play
nous	finir	-ions	nous finirions	we would finish
vous	partir	-iez	vous partiriez	you would leave
ils/elles	vendr	-aient	ils/elles vendraient	they would sell

The same verbs that have **irregular** stems in the simple future have irregular stems in the conditional:

Infinitive	Future stem	Example	English
avoir (to have)	aur-	j'aurais	I would have
être (to be)	ser-	tu serais	you would be
faire (to do)	fer-	il ferait	he would do
aller (to go)	ir-	elle irait	she would go
devoir (to have to)	devr-	nous devrions	we would have to/we should
pouvoir (to be able to)	pour-	vous pourriez	you would be able to/you could
vouloir (to want to)	voudr-	ils voudraient	they would want to
voir (to see)	verr-	elles verraient	they would see

The conditional of vouloir means 'would like'. Je voudrais is a very common phrase and it can be followed by either a **noun** or another **verb** (in the infinitive). For example:

•Je voudrais une baguette et deux croissants. – I would like a baguette and two croissants.
•Nous voudrions partir cet après-midi. – We would like to leave this afternoon.
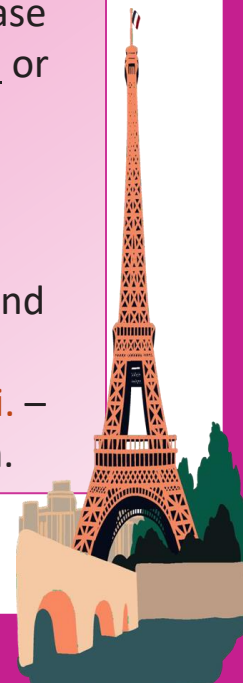
Describe my dream house.

The <u>conditional tense</u> is used to describe what someone would do or what would happen in the future. It can also be used to express ambitions and intentions. For example:

If it were possible I would live in a big house and there would be a swimming pool.

How to form the conditional tense.

To conjugate verbs in the conditional tense follow these simple steps.
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The conditional of vouloir means 'would like'. Je voudrais is a very common phrase and it can be followed by either a **noun** or another **verb** (in the infinitive). For example:

– I would like a baguette and two croissants.

• – We would like to leave this afternoon
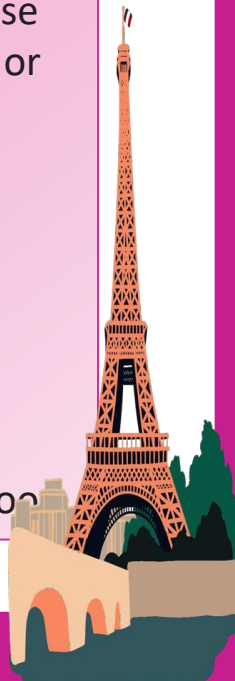
Talk about my town.

You can use both the present tense and the imperfect tense to talk about your town.

Dans ma ville il y a = In my town there is
Dans ma ville il y avait = In my town there used to be
c'est = it is
C'était = it was / used to be

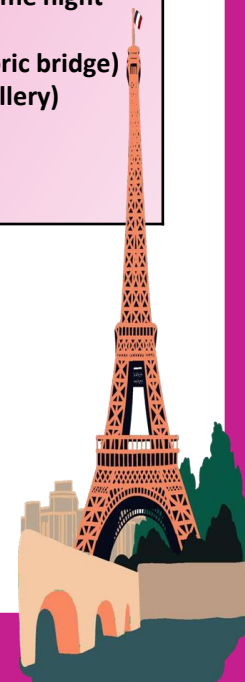| Positives about your town	Negatives about your town
c'est un endroit intéressant (it's an interesting place)	c'est ennuyeux (it's boring)
On peut se promener/balader (you can walk around)	il n'y a rien à voir (there is nothing to see)
il y a beaucoup de magasins à l'intérieur (there are lots of shops inside)	Ça ne m'intéresse pas du tout (it doesn't interest me at all)
ça m'intéresse (it interests me)	il n'y a pas de bons magasins (there's no good shops)
il y a beaucoup de choses à faire (there are lots of things to do)	c'est sale (it's dirty)
c'est divertissant (it's entertaining)	c'est pollué (it's polluted)
les gens sont gentils (the people are nice)	es bondé (it's crowded)
il y a beaucoup de bars et de restaurants (there are lots of bars and restaurants)	c'est bruyant (it's noisy)
	c'est trop cher (it's too expensive)

Location	Verb	Place in town
Où j'habite (where I live)	il y a (there is)	un bâtiment célèbre (a famous building)
Dans ma ville (dans ma ville)		une mosquée (a mosque)
	il y avait (there used to be)	une église (church)
Près de ma ville (près de ma ville)		un marché aux puces (a flea market)
		un quartier historique (a historic neighbourhood)
Dans les banlieues		un aquarium
Dans ma ville (dans ma ville)		un parc d'attraction (a theme park)
		une fête foraine (a fun fair)
Dans le centre ville		un club de jeunes (a youth club)
		un centre sportif (a sports centre)
Dans mon quartier (In my neighbourhood)		une route piétonne (a pedestrian road)
		un lac (a lake)
		une rivière (a river)
Dans ma rue (On my street)		une forêt (a forest)
		quelques discothèques (some night clubs)
Près de ma maison (Near to my house)		un pont historique (a historic bridge)
		une galerie d'art (an art gallery)
Pas loin de chez moi (Not far from my house)		
Sur la côte (on the coast)		

Talk about my town.

You can use both the present tense and the imperfect tense to talk about your town.
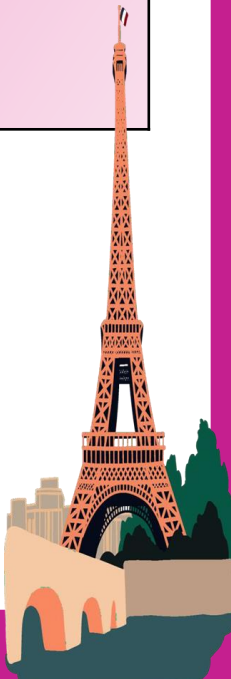
Dans ma ville il y a =
Dans ma ville il y avait =

c'est =
C'était =

Positives about your town	Negatives about your town

Location	Verb	Place in town

Talk about a past holiday
RECAP: Ir (to go) in the preterite tense

Remember in Spanish the **ending** of a verb tells you who you are talking about and what the tense is.
Examples:
¿Fuiste a España?
You went to Spain?
Mis primos **fueron** a Italia
My cousins went to Italy

Countries:
Alemania - Germany
Escocia - Scotland
España - Spain
Estados Unidos - USA
Francia - France
Gales - Wales
Grecia - Greece
Italia - Italy
Irlanda - Ireland
Inglaterra - England

Remember in Spanish it is the **end of the verb** that tells you the tense and who you are talking about.
For example:
We know that 'bail**é**' is in the preterite past tense and it is the "I" form as it ends in '**é**'

Grammar explanation - the preterite tense

The Spanish **preterite tense** is used to describe **completed actions in the past**. For example:

- Fui al cine ayer (I went to the cinema yesterday).
- Viajamos en tren (We travelled by train).
- Mi hermana hizo sus deberes (My sister did her homework).

In order to conjugate verbs in the preterite tense you:

1. Take an infinitive.

(Remember infinitives end in ar, er or ir.)

2. Remove the ar, er or ir to form the stem

For example the stem of habl**ar** would be habl

3. Add correct ending to the stem

	AR verbs	ER / IR verbs
yo (I)	é	í
tú (you)	aste	iste
él/ella (he/she)	ó	ió
nosotros (we)	amos	imos
vosotros (you plural)	astais	isteis
ellos/ellas (they masculine / they feminine)	aron	ieron

Talk about a past holiday
RECAP: Ir (to go) in the preterite tense

Remember in Spanish the **ending** of a verb tells you who you are talking about and what the tense is.
Examples:
¿Fuiste a España?

Mis primos **fueron** a Italia

Countries:

Remember in Spanish it is the ___ ___ ____ _____ that tells you the tense and who you are talking about.
For example:
We know that '_____' is in the preterite past tense and it is the "I" form as it ends in '**é**'

Grammar explanation - the preterite tense

The Spanish **preterite tense** is used to describe **completed actions in the past**. For example:

- •Fui al cine ayer
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	AR verbs	ER / IR verbs
yo (I)		
tú (you)		
él/ella (he/she)		
nosotros (we)		
vosotros (you plural)		
ellos/ellas (they masculine / they feminine)		

Describe a visit to a Hispanic festival

Here are some useful verbs to use when talking about celebrations:
brindar - to toast
celebrar - to celebrate
decorar - to decorate
disfrazarse - to dress up
regalar - to give a present
recibir un regalo - to receive a present
As in the UK, Christmas and New Year are big celebrations for many people. Here is some useful vocabulary to get started talking about them:

el Año Nuevo - New Year
el árbol de Navidad - Christmas tree
la costumbre - custom/tradition
los fuegos artificiales - fireworks
el día festivo - public holiday/bank holiday
la fiesta - party/festival
la Navidad - Christmas
la Nochebuena - Christmas Eve
la Nochevieja - New Year's Eve
Papá Noel - Father Christmas
la tradición - tradition

el villancico - Christmas carol

Hispanic festivals

La Tomatina - La Tomatina is a festival that is held in the Valencian town of Buñol, in the east of Spain, in which participants throw tomatoes and get involved in a tomato fight purely for entertainment purposes.

Las Fallas - Las Fallas de Valencia is an annual celebration of the coming of spring, celebrated by burning artistic monuments and setting off fireworks.

Semana Santa (Holy Week) - Holy Week in Spain is the annual tribute of the Passion of Jesus Christ celebrated by Catholic religious brotherhoods (Spanish: hermandad) and fraternities that perform penance processions on the streets of almost every Spanish city and town during the Holy Week –the last week of Lent, immediately before Easter

El Día de los Muertos (The Day of the Dead) - a Mexican holiday where families welcome back the souls of their deceased relatives for a brief reunion that includes food, drink and celebration.

Describe a visit to a Hispanic festival

Here are some useful verbs to use when talking about celebrations:

Hispanic festivals

Describe a future to a Hispanic festival

Using the verb IR (to go) to describe a future event

You can use the verb **ir** to describe what you are going to do in the future.

To do this, use the correct part of **ir** plus an **infinitive verb.**

For example, voy a comer = I am going to eat. This is because **voy a** means I am going and **comer** means to eat.

Another example is voy a ir = I am going to go

Ir (to go) in the present tense

Ir (to go) in the present tense		Infinitive
Voy a = I am going Vas a = You are going Va a = He/she is going Vamos a = We are going Vais = You plural go Van a = They are going	**+**	ir- to go visitar - to visit brindar - to toast celebrar - to celebrate decorar - to decorate disfrazarme - to dress up regalar - to give a present recibir un regalo - to receive a present

Describing location

You can give more details about where you live by using **está** (is).

For example:

•**Vivo en una ciudad pequeña.** *Está* **en la costa y** *está* **cerca de Aberdeen** - I live in a town. *It is* on the coast and *is* near to Aberdeen.
•**Vivo en un pueblo en la montaña.** *Está* **lejos de la capital** - I live in a village in the mountains. *It is* far from the capital.

Use the table below to give more detail about where you live.

Spanish	English
está	it is
cerca de	near to
lejos de	far from
en la costa	on the coast
en la montaña	in the mountains
en el campo	in the countryside
en el centro	in the centre
en el norte/sur/este/oeste	in the north/south/east/west

Describe a future to a Hispanic festival

Using the verb IR (to go) to describe a future event

You can use the verb **ir** to describe what you are going to do in the future.

To do this, use the correct part of **ir** plus an **infinitive verb.**

For example, = I am going to eat. This is because **voy a** means I am going and **comer** means to eat.

= I am going to go

Ir (to go) in the present tense

Ir (to go) in the present tense		Infinitive
	+	

Describing location

You can give more details about where you live by using **está** (is).

For example:

•**Vivo en una ciudad pequeña.** *Está* **en la costa y** *está* **cerca de Aberdeen** –

•**Vivo en un pueblo en la montaña.** *Está* **lejos de la capital-**

Use the table below to give more detail about where you live.

Spanish	English

Describe where I live now and the house of my dreams

Rooms of the house

En mi casa hay = in my house there is

En la casa de mis sueños habría = In my dream house there would be

Una cocina = a kitchen

Un comedor = a dining room

Un desván = an attic

Una sala de juegos = a games room

Un salón = a living room

Un sótano = a basement

Un dormitorio = a bedroom

Un cuarto de baño = a bathroom

Un garaje = a garage

Un jardín = a garden

RECAP: Adjectival agreement and placement

acogedor/a = cosy

antiguo/a = old

bonito/a = beautiful/pretty

luminoso/a = well lit

grande = big

pequeño/a = small

In Spanish adjectives usually come **after the noun**. Adjectives also change based on the **gender**

of the noun:

Masculine:

Un piso pequeño

A small flat

Feminine:

Una casa pequeña

A small house

Remember in Spanish all nouns have a gender. A noun is a person, place or thing.

All nouns in Spanish have a gender. That means they are either masculine or feminine.

Although it might seem strange at first that nouns have a gender in Spanish, there are luckily

lots of patterns and clues to help you to remember if a noun is masculine or feminine.

Masculine nouns

Most nouns that end in -o are masculine.

For example:

el teléfono - telephone

el perro - dog

Male family members are always masculine.

For example:

hermano - brother

padre - father

Days of the week and months are also masculine.

For example:

lunes - Monday

diciembre - December

Feminine nouns

Most nouns that end in -a are feminine.

For example:

la casa - house

la pierna - leg

Female family members are always feminine.

For example:

hermana - sister

madre - mother

There are also some groups of endings that are always feminine.

For example:

-ión - estación - station

-dad - universidad - university

-tad - dificultad - difficulty

Another way to tell the gender of a noun is to look at its article.

The words "a" and "the" are articles in English.

Describe where I live now and the house of my dreams
Rooms of the house

RECAP: Adjectival agreement and placement

Remember in Spanish all nouns have a gender. A noun is a person, place or thing.
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Masculine nouns
Most nouns that end in -o are masculine.
For example:

Male family members are always masculine.
For example:

Days of the week and months are also masculine.
For example:

Feminine nouns

Most nouns that end in -a are feminine.
For example:

There are also some groups of endings that are always feminine.
For example:

Another way to tell the gender of a noun is to look at its article.
The words "a" and "the" are articles in English.

Articles in Spanish

	A	The	My
Masculine	Un	El	Mi
Feminine	Una	La	Mi
Masculine Plural	Unos	Los	Mis
Feminine Plural	Unas	Las	Mis

Ser (to be)

Spanish	English
Soy Eres Es	I am You are He/she/it is
Somos Sois Son	We are You (plural) are They are

When to use SER or ESTAR

There are two verbs for **'to be'** in Spanish, **ser** and **estar** that you can use to talk about where you live.

Ser is used for **permanent qualities**, like your **name**, your **place of origin**, and your **physical appearance**.

Estar is used to talk about **temporary situations**, such as **how you're feeling** right now or **location**.

For example:

- **Ser**
  - **Mi pueblo _es_ grande** - My town _is_ big. This is a **description**.
- **Estar**
  - **Mi pueblo _está_ lejos de Mánchester** - My town _is_ far from Manchester. This is a **location**.

Estar (to be)

Spanish	English
Estoy Estás Está	I am You are He/she/it is
Estamos Estáis Están	We are You (plural) are They are

Articles in Spanish

	A	The	My
Masculine			
Feminine			
Masculine Plural			
Feminine Plural			

Ser (to be)

Spanish	English

When to use SER or ESTAR

There are two verbs for **'to be'** in Spanish, **ser** and **estar** that you can use to talk about where you live.

___ is used for **permanent qualities**, like your **name**, your **place of origin**, and your **physical appearance**.

_____ is used to talk about **temporary situations**, such as **how you're feeling** right now or **location**.

For example:

- **Ser**
  - - My town *is* big. This is a **description**.
- **Estar**
  - - My town *is* far from Manchester. This is a **location**.

Estar (to be)

Spanish	English

Describe my dream house.

The conditional tense is used to describe what someone would do or what would happen in the future. It can also be used to express ambitions and intentions. For example:

Si fuera posible viviría en una casa grande y la casa tendría una piscina.
If it were possible I would live in a big house and the house would have a swimming pool.

How to form the conditional tense.

To conjugate verbs in the conditional tense follow these simple steps.
1.
Take an infinitive.

(Remember infinitives end in ar, er or ir.)

2.Add the conditional tense endings. The endings are the same for -ar, -er and -ir verbs.

	ending	vivir (to live)	meaning
yo (I)	ía	viviría	I would live
tú (you)	ías	vivirías	You would live
él/ella (he/she)	ía	viviría	He/she would live
nosotros (we)	íamos	viviríamos	We would live
vosotros (you plural)	íais	viviríais	You (plural) would live
ellos/ellas (they masculine / they feminine)	ían	vivirían	They would live

Some verbs like tener (to have) are irregular verbs. This means they don't always follow the same pattern as other verbs. To change tener (to have) to the conditional tense you use the irregular stem **tendr** plus the endings above.

For example -

I would have = **tendr**ía

Describe my dream house.

The <u>conditional tense</u> is used to describe what someone would do or what would happen in the future. It can also be used to express ambitions and intentions. For example:

If it were possible I would live in a big house and the house would have a swimming pool.

How to form the conditional tense.

To conjugate verbs in the conditional tense follow these simple steps.
1.
Take an _____.

(Remember infinitives end in ___, _____ or ir.)

2.Add the conditional _____ endings. The endings are the same for -ar, -er and -ir verbs.

	ending	vivir (to live)	meaning

Some verbs like tener (to have) are irregular verbs. This means they don't always follow the same pattern as other verbs. To change tener (to have) to the conditional tense you use the irregular stem **tendr** plus the endings above.

For example -

I would have =

Talk about my town.

You can use both the present tense and the imperfect tense to talk about your town.

En mi pueblo hay = In my town there is

En mi pueblo había = In my town there used to be

Es = it is

Era = it used to be

Positives about your town	Negatives about your town
es un lugar interesante (it's an interesting place)	es aburrido (it's boring)
se puede caminar (you can walk around)	no hay nada que ver (there's nothing to see)
hay muchas tiendas adentro (there are lots of shops inside)	no me interesa nada (it doesn't interest me at all)
me interesa (it interests me)	no hay buenas tiendas (there aren't any good shops)
hay muchas cosas que hacer (there's lots of things to do)	es sucio (it's dirty)
es entretenido (it's entertaining)	es contaminado (it's polluted)
la gente es simpática (the people are nice)	es abarrato (it's crowded)
hay muchos bares y restaurantes (there are a lot of bars and restaurants)	es ruidoso (it's crowded)
	es demasiado caro (it's too expensive)

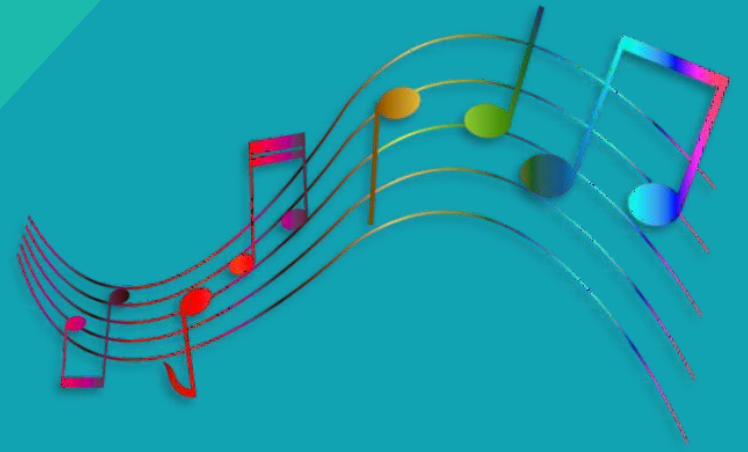| Location	Verb	Place in town
Donde vivo (Where I live)	hay (there is)	un edificio famoso (a famous building)
En mi pueblo (in my town)	había (there used to be)	una mezquita (a mosque)
Cerca de mi pueblo (near my town)		una iglesia (a church)
		un mercado de pulgas (flea market)
En las afueras (on the outskirts)		un barrio histórico (a historic neighbourhood)
		un acuario (an aquarium)
En mi ciudad (in my city)		un parque de atracciones (a theme park)
		una feria (funfair)
En el centro de la ciudad (In the city centre)		un club juvenil (a youth club)
		un polideportivo (a sports centre
En mi barrio (in my neighbourhood)		un camino peatonal (pedestrian road)
		un lago (a lake)
En mi calle (on my street)		un río (a river)
		un bosque (wood)
Cerca de mi casa (near my house)		unas discotecas (night clubs)
		un puente histórico (historic bridge)
No muy lejos de mi casa (not far from my house)		una galería de arte (an art gallery)
Por la costa (by the coast)		

Talk about my town.

You can use both the present tense and the imperfect tense to talk about your town.

Positives about your town	Negatives about your town

Location	Verb	Place in town

Music and Music Technology

Year 10 Music: Areas of Study

Ternary

Section A	Section B	Section A
The initial ideas are introduced. This section usually ends with a perfect cadence in the tonic key.	A contrasting section that is sometimes known as an episode.	Either an exact repeat or slightly altered version of the first section.

Variation

Theme	Variation 1	Variation 2	Variation 3
This could be in a certain structure- perhaps binary or ternary.	Some ways in which the theme could be transformed are: • Decoration and embellishment • A change of instrumentation, temp, key, harmony, metre or rhythm • Developing the theme using a variety of devices such as imitation, inversion, sequence, diminution or augmentation • Presentation the theme at a different pitch • Developing harmonies and rhythms with a tune • Introducing additional or new melodies • Varying the style		

Binary

Section A	Section B
Starts in the tonic key but modulates to a related key at the end of the section. This section is usually unfinished when played on its own.	Starts in the same key as the end of section A but the music works it way back to the tonic. It is usually longer than the A section but balances the piece.

Forms / Devices

AoS1
Musical Forms & Devices

Sequence
Repetition of a melodic or harmonic phrase in the same part, but at a higher or lower pitch

Arpeggio/Broken Chord
When the notes of a chord are played separately in succession

Imitation
A contrapuntal device, when a melodic idea is copied in another part

Motif
A short, musical idea, melodic or rhythmic

Repetition
When sounds, sequences, melodies or rhythms are repeated

Ornamentation
Decorate or embellish the music. Popular examples of ornaments are trill, mordents and turns.

Baroque
Simple melodies, ornaments, terraced dynamics, energetic and relentless rhythmic movement, major/ minor, keys mainly string instruments with some woodwind, use of the harpsichord, basso continuo.

Bach, Handel, Vivaldi, Corelli, Lully,

Classical
Balanced, regular phrases, functional harmony, wider range of dynamics, focus on piano, elegant and graceful 'symmetrical' style, frequent changes of mood and timbre, alberti bass.
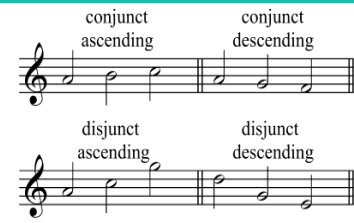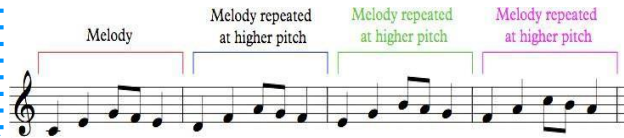
Haydn, Mozart, Beethoven

Romantic
Melodies were lyrical, distinct thematic ideas, leitmotifs, expressive, richer harmonies with chromaticism, more variation in dynamics, rhythms and creative freedom, programmatic music, larger brass section.

Schubert, Mendelssohn, Chopin, Schumann, Wagner

Year 10 Music: Areas of Study

Ternary

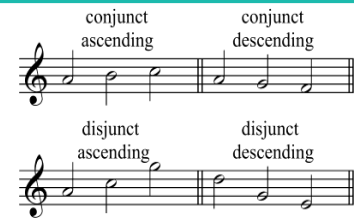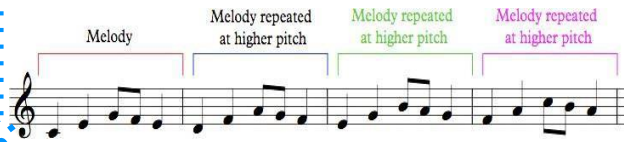| Section A	Section B	Section A
The initial ideas are introduced. This section usually ends with a perfect cadence in the tonic key.	A contrasting section that is sometimes known as an episode.	Either an exact repeat or slightly altered version of the first section.

Variation

Theme	Variation 1	Variation 2	Variation 3
This could be in a certain structure- perhaps binary or ternary.	Some ways in which the theme could be transformed are:		

Binary

Section A	Section B
Starts in the tonic key but modulates to a related key at the end of the section. This section is usually unfinished when played on its own.	Starts in the same key as the end of section A but the music works it way back to the tonic. It is usually longer than the A section but balances the piece.

Forms

Devices

AoS1
Musical Forms & Devices

Sequence
Repetition of a melodic or harmonic phrase in the same part, but at a _____ or _____ pitch

conjunct ascending   conjunct descending
disjunct ascending   disjunct descending

Melody   Melody repeated at higher pitch   Melody repeated at higher pitch   Melody repeated at higher pitch

Imitation
A contrapuntal device, when a melodic idea is _____ in another part

Arpeggio/Broken Chord
When the notes of a chord are played _____ in succession

Motif
A _____, musical idea, melodic or rhythmic

Repetition
When sounds, sequences, melodies or _____ are repeated

Trill
Mordents
Appoggiatura
Acciaccaturas
Turns

Ornamentation
Decorate or embellish the music. Popular examples of ornaments are trill, mordents and turns.

Baroque
Simple _____, ornaments, terraced dynamics, energetic and relentless rhythmic movement, major/minor, keys mainly string instruments with some woodwind, use of the _____, basso continuo.
Bach, Handel, Vivaldi, Corelli, Lully,

Classical
Balanced, _____ phrases, functional harmony, wider range of dynamics, focus on piano, elegant and graceful 'symmetrical' style, frequent changes of mood and timbre, alberti bass.
Haydn, _____, Beethoven

Romantic
Melodies were _____, distinct thematic ideas, leitmotifs, expressive, richer harmonies with chromaticism, more variation in dynamics, rhythms and creative freedom, programmatic music, larger brass section.
Schubert, _____, Chopin, Schumann, Wagner

In Jazz & Blues, the drummer keeps a steady beat. The bass player lays down a 'groove' and supports the improvisation sections. The keyboard player comps and improvises the chords whilst the other instruments Improvise virtuosic solos.

Jazz & Blues

12-bar blues

Head arrangement

Key features in most jazz bands are: the instruments, use of improvisation, the pentatonic scale, head arrangement, melodic riffs, blues notes, use of the blues scale, call and response and jazz virtuoso with solo sections.

Baroque

Basso Continuo
Double bass and harpsichord providing harmony

Classical

String Quartet
2 Violina, a viola & cello. 4 movements.

Classic Blues band

Modern Jazz band

Musicals use **various vocal ensembles** which are known as the chorus. This features multiple vocal parts like **Soprano, Alto, Tenor and Bass.**

Romantic

String Quartets with a piano. Experimentation with different combinations of instruments to improve tone quality and overall sound.

There are various instrumental ensembles that accompany the singers onstage.

Large-scale musicals can use a full orchestra of musicians, but smaller shows may only use a small rock band.

AoS2
Music for Ensemble

Chamber Ensemble

Musical Theatre

A small group of classical musicians.

Sonority

Individual tone colour or tone quality. The tone colour of different combinations of instruments can result in very different effects. It is its relative loudness and 'feel' compared with other sounds.

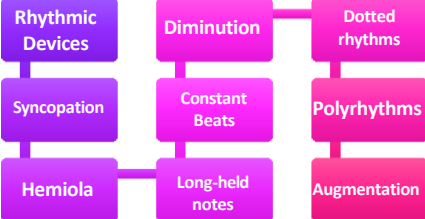| Texture	
Monophonic	Single melodic line or parts together in unison
Homophonic	One melody heard with an accompaniment of chords
Polyphonic	A number of melodies heard at one, like imitation and counterpoint

Ensemble

A group of performers, usually between 2 and 8. Examples include: basso continuo, string quartet, jazz and blues trios, a rhythm section and vocal ensembles (duets, trios, backing vocals).

Year 10 Music: Areas of Study

In Jazz & Blues, the drummer keeps a steady _____. The bass player lays down a '_____' and supports the improvisation sections. The keyboard player comps and improvises the chords whilst the other instruments Improvise virtuosic solos.

Baroque

<u>Basso Continuo</u>
Double bass and _____providing harmony

Classical

<u>String Quartet</u>
2 Violina, a viola & cello. 4 movements.

Romantic

String Quartets with a piano. Experimentation with different combinations of _____to improve tone quality and overall sound.

A small group of classical musicians.

Jazz & Blues

12-bar blues

Head arrangement

Classic Blues band

Key features in most jazz bands are: the instruments, use of improvisation, the _____scale, head arrangement, melodic riffs, blues notes, use of the blues scale, call and response and jazz virtuoso with solo sections.

Modern Jazz band

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Music for Ensemble

Sonority

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Texture	
Monophonic	
Homophonic	
Polyphonic	

Ensemble

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Year 10 Music: Areas of Study

Rhythmic Devices
- Diminution
- Dotted rhythms
- Syncopation
- Constant Beats
- Polyrhythms
- Hemiola
- Long-held notes
- Augmentation

Tempo
Allegro – fast/lively
Andante – walking pace
Adagio – slowly
Accelerando – gradually getting faster
Ritardando – gradually getting slower
Rubato – not sticking to time, free

Use of dynamics
Different timbres
Vary textures
Tonality

Harmony
Diatonic – chords that relate to specific keys.
Chromatic – chords that are not in the key.
Dissonant – chords that clash causing tension and conflict.

Melody
- Balanced phrases
- Balance between steps and leaps
- Climactic Point
- A strong 'shape'
- A strong sense of key
- Use of repetition

Elements

Devices

Leitmotif
A short musical theme or idea linked with a character, object, place or idea.

Thematic Transformation
- Add or subtract from the idea
- Change the instrumentation
- Change the pitch, dynamics, tempo or note-values
- Use inversion, augmentation or diminution
- Alter some of the musical characteristics
- Vary the texture
- Change the key

Minimalism
Small cells of music gradually evolving to create a hypnotic effect.

Pedal notes
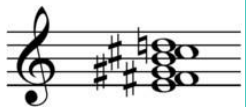A harmonic device where the same note is sustained or repeated.

Ostinato
Melodic, rhythmic or harmonic patterns

Cluster chords
Clashing notes together to build suspense.

Layering
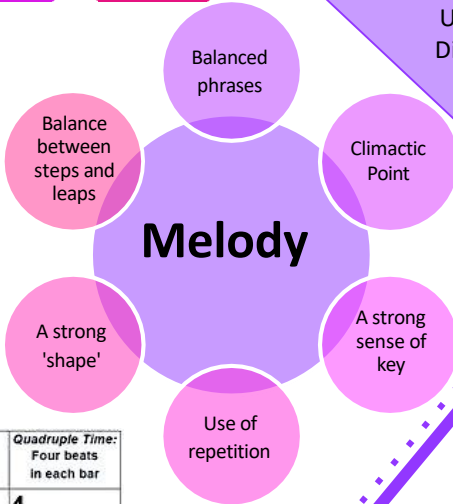Building up musical ideas to fill out the texture

Duple Time: Two beats in each bar	Triple Time: Three beats in each bar	Quadruple Time: Four beats in each bar
2/4	3/4	4/4

Simple Time
The main beat is a crochet beat

Duple Time: Two beats in each bar	Triple Time: Three beats in each bar	Quadruple Time: Four beats in each bar
6/8	9/8	12/8

Compound Time
The main beat is a dotted crotchet beat

AoS3 Film Music

Origins
Silent movies were accompanied by pianists or small orchestras in the theatres. This was normally music written specifically for the film, existing classical music or popular music of the time. Sound with pictures was developed in 1927 with the film *'The Jazz Singer'*.

Function
To create atmosphere; to underscore the dialogue; for scene changes or montages; to set the era, time or period; to correspond with the visuals (mickey-mousing); to arouse a collective emotion from the audience; to build tension and suspense.

Music for Film
Diegetic: music contained within the action e.g. a club singer performing on stage

Non-Diegetic: the background music supporting the on-screen action. This is not heard by the on-screen actors but the audience.

Rhythmic Devices

- Rhythmic Devices
- Diminution
- Dotted rhythms
- Syncopation
- Constant Beats
- Polyrhythms
- Hemiola
- Long-held notes
- Augmentation

Tempo

Allegro – _____
Andante – _____
Adagio – _____
Accelerando – _____
Ritardando – _____
Rubato – _____

Use of dynamics
Different timbres
Vary textures
Tonality

Harmony

_____ – chords that relate to specific keys.

_____ – chords that are not in the key.

_____ – chords that clash causing tension and conflict.

Melody

- Balanced phrases
- Balance between steps and leaps
- Climactic Point
- A strong 'shape'
- A strong sense of key
- Use of repetition

Simple Time

The main beat is a _____

Duple Time: Two beats in each bar	Triple Time: Three beats in each bar	Quadruple Time: Four beats in each bar
2/4	3/4	4/4

Duple Time: Two beats in each bar	Triple Time: Three beats in each bar	Quadruple Time: Four beats in each bar
6/8	9/8	12/8

Compound Time

The main beat is a dotted crotchet beat

Elements / Devices

AoS3 Film Music

Leitmotif

A short musical theme or idea linked with a _____, _____, place or idea.

Thematic Transformation

- Add or subtract from the idea
- Change the instrumentation
- Change the pitch, dynamics, tempo or note-values
- Use inversion, augmentation or diminution
- Alter some of the musical characteristics
- Vary the texture
- Change the key

Minimalism

Small cells of music gradually evolving to create a hypnotic effect.

Pedal notes

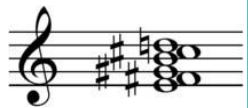A harmonic device where the same note is _____ or _____.

_____
Melodic, rhythmic or harmonic patterns

Cluster chords

Clashing notes together to build suspense.

Layering

Building up musical ideas to fill out the texture

Origins

Silent movies were accompanied by pianists or small orchestras in the theatres. This was normally music written specifically for the film, existing _____ or popular music of the time. Sound with pictures was developed in 1927 with the film *'The Jazz Singer'*.

Function

To create _____; to underscore the dialogue; for scene changes or montages; to set the era, time or period; to correspond with the visuals (mickey-mousing); to arouse a collective emotion from the audience; to build _____ and _____.

Music for Film

_____: music contained within the action e.g. a club singer performing on stage

_____: the background music supporting the on-screen action. This is not heard by the on-screen actors but the audience.

Rock & Pop

Pop
Commercial genre which has mass audience appeal.

Rock
Harsher and more serious form of popular music.

Bass Guitar
Strings are plucked or 'slapped'. Bass holds the low notes in a bass line.

Drum kit
A collection of different sized drums and cymbals. Drummers keep the beat and add fills to add interest.

Electric Guitar
Supports the rhythm by strumming the chords

Structure
Most rock & pop structures are in verse- chorus form or 32-bar song form.

Melody
Hooks – catchy & memorable
Repetition and symmetry

Harmony
Most chords are in **root position.** There is **parallel movement** towards the tonic. The chords stick to the key using mainly (I, ii, IV, V, vi and sometimes viiº).

AoS4 Popular Music

Bhangra
Bhangra emerged in the UK as a type of fusion which features music from the Punjab region of India combined with other popular styles.

Traditional Punjab music used the folk instruments of the country, with the main emphasis on percussion and string instruments.

Dhol

Tabla

Sarangi

Tumbi

Sitar

Chaal
The chaal rhythm is played by the dhol in a kind of swing rhythm.
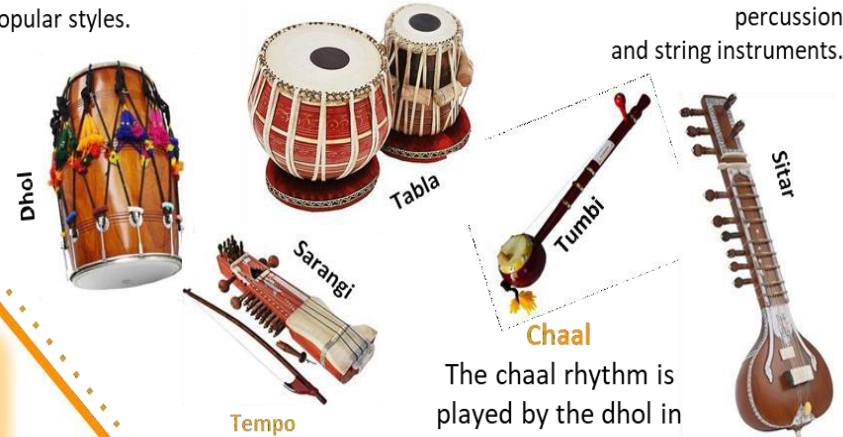
Tempo
Fast/moderate, lively, upbeat.

Melody
Quite repetitive, simple, limited in range, uses embellishments to decorate, often dips at the end of phrases, uses microtonal intervals. Ideas are sung or played. Shouted phrases of 'Hoi!'

Structure
Traditional verse-chorus

Rhythm
Chaal rhythm, syncopation, 4 beats in a bar.

Technology
Uses drum machines, synths, samples, mixing and scratching.

Lyrics
Punjabi language, often mixed with English covering social subjects.

Digital Electronic Rock
A genre of rock music that relies on electronic and digital instruments: synths, moogs and drum machines. These genres are: House, Techno, Trance, Dubstep, Indietronica. The reproduction of acoustic sounds can also be edited: remixing, panning, delay, reverb, phasing and looping.

Fusion
Fusion is what happens when two or more different musical styles or genres are blended. Ray Charles combined musical elements of gospel and jazz-influenced blues. The Pogues combines Celtic music with punk by playing with traditional Irish instruments. Afro Celt Sound System combine African, Celtic and Dance Music through instrumentation and elements.

Pop
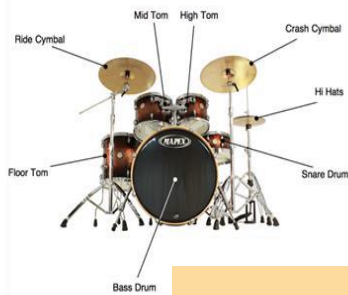Commercial genre which has mass audience appeal.

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Bhangra

Traditional Punjab music used the folk instruments of the country, with the main emphasis on percussion and string instruments.

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Badinerie
BACH

1738-39

The Baroque period
- Complex melodic lines with ornamentation
- Terraced dynamics
- Polyphonic texture
- Harpsichord and strings
- Basso Continuo

Tonality
Section A begins in **B minor** and ends in **F# minor**
Section B: the opposite, beginning in **F# minor** and ending in **B minor**.

Instrumentation
Instrumentation: (Transverse) Flute String Orchestra Harpsichord (Basso Continuo).

Dynamics
Mostly **forte**
Use of **terraced dynamics**

X   Y

Melody
The movement is based on two short musical **ideas** (X and Y).
The flute part has a two-octave pitch **range**.
The movement includes **ornaments** and **compositional devices** typical of the Baroque era:

Trills: Bars 8^1, 10^1, 15^2, 27^2, 30^1 and 32^1
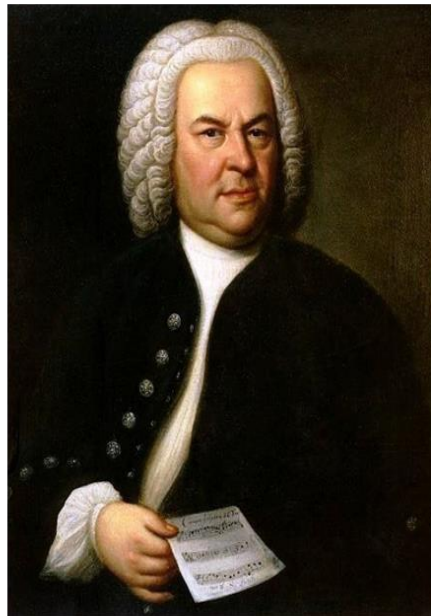**Appoggiaturas**: Bars 33^1 and 40^1
Sequences: $6^2 - 10^1$ and bars $28^2 - 32^1$.

Rhythm
Simple ostinato rhythms, forming the basis of the two short musical ideas (X and Y)
Consist almost totally of **quavers** and **semi- quavers**.
The time signature is 2/4 throughout
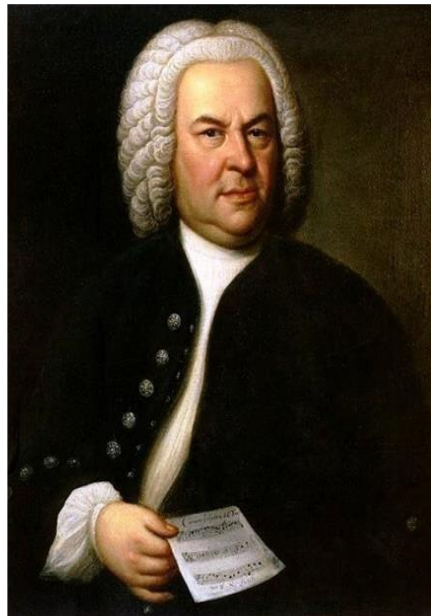
Tempo
Allegro

Texture
Homophonic (**melody and accompaniment**).
Flute and the cello provide the main musical material
1st violin participates occasionally
2nd violin and viola provide harmony with less busy musical lines.

Structure
Binary form (AB), with each section repeated once (AABB)

Section A	Bars $0^2 - 16^1$	16 bars
Section B	Bars $16^2 - 40^1$	24 bars

Harmony
Diatonic throughout.
Section A **modulates** from the **tonic** to the **dominant minor** and Section B does the opposite.
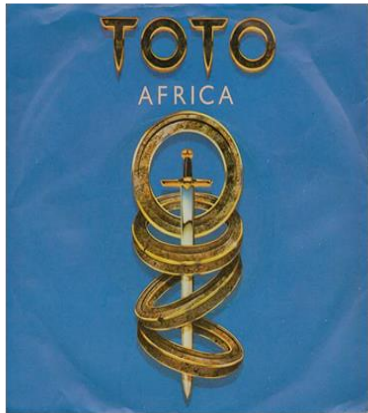**Imperfect** and **perfect cadences** are clearly presented throughout.
Chords frequently occur in **inversion** with occasional use of **V7** in third inversion.
A **Neapolitan sixth chord** is used in bar 35.
Suspensions also occur in bars 8^1, 10^1 and 32^1.

Badinerie
BACH

1738-39

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- Complex melodic lines with ornamentation
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Simple ostinato rhythms, forming the basis of the two short musical ideas (X and Y)
Consist almost totally of **quavers** and **semi- quavers**.
The time signature is ____

Tempo
Allegro

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Harmony
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Chords frequently occur in **inversion** with occasional use of **V7** in third inversion.
A ____ **sixth chord** is used in bar 35.
Suspensions also occur in bars 8^1, 10^1 and 32^1.

Africa

TOTO

1981
Toto IV
David Paich & Jess Porcaro

Texture
Homophonic: melody and accompaniment
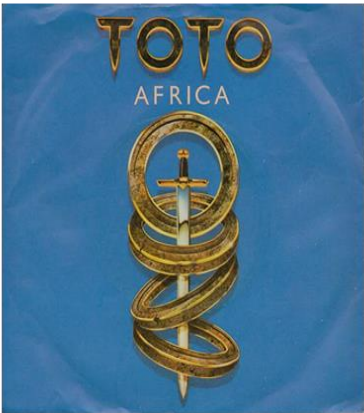
Instrumentation
Rock Band: drum kit (keeps the groove) with additional percussion, lead guitar (plays solos and chords), bass guitar (holds the bassline), synthesizers (emphasizes the chords and leads the solo instrumental section), lead singer (sings the lyrics and melody). And male backing vocals (harmonies).

Melody
Mostly conjunct (moving in step) and includes occasional use of the pentatonic scale. The pitch range of the vocal line is just less than two octaves on the printed score, but it is wider on the recording with the vocal improvisations towards the end of the song.

Harmony
The harmony is **diatonic,** the chords used are based on the key of the piece. Power chords and inversions.

Rhythm
Ostinato rhythms, consisting almost totally of quavers, with constant use of syncopation. The time signature is 2/2 (split common time) throughout.

Tempo
Moderately fast

Dynamics
Mainly mezzo forte, choruses are forte

Intro	Verse 1/2	Chorus 1/2	Link	Instrumental	Chorus 3	Outro
Bars 1-4	Bars 5-39 Bars 14-39	Bars 40-57	58-65	66-82	Bars 40-92	Bars 93-96
B major	B major	A major	B major	B major	A major	B major
Syncopated chordal riff A running into ostinato riff B based on E pentatonic scale.	Mostly syllabic, syncopated rhythms that are conjunct. Final chord is sustained for drum fill.	Vocal texture builds on each line, mostly syllabic with melisma on the final melody.	Same as intro but only repeated once instead of three times.	Chords based on the verse but with instrumental melody based on riff B.	New e. guitar riff, lyrics are repeated with solo vocal improvisation	Same as intro, texture gradually decreases as the music repeats to fade out.

Africa
TOTO

1981
Toto IV

_____ **& Jess Porcaro**

Texture
_____ : melody and accompaniment

Melody
Mostly _____ (moving in step) and includes occasional use of the pentatonic scale. The pitch range of the vocal line is just less than two octaves on the printed score, but it is wider on the recording with the vocal improvisations towards the end of the song.

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Harmony
The harmony is _____ the chords used are based on the key of the piece. Power chords and inversions.

Rhythm
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Tempo
Moderately fast

Dynamics
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Intro	Verse 1/2	Chorus 1/2	Link	Instrumental	Chorus 3	Outro
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MELODY

Direction Rising   Falling

Repetition Doing the same thing again, without any changes.

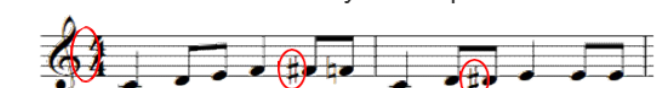**Contrast** Doing something completely different.

Imitation Doing the same thing again, with some changes (similar).

Ostinato A short repeated idea.

Chromatic The melody uses notes that aren't in the scale / key of the piece.

Range
High or low.

Big or Small.

Interval The distance between two notes

2nd   4th
3rd
5th   6th   Octave
7th
*Count the start note & end note

Type of movement
Conjunct (Moving In Step)

Disjunct (Moving In Leaps)

Sequence Doing the same shape idea but at a different pitch.

Triadic The tune is based on notes from the chords / triads.

Ornaments Trills   Mordents
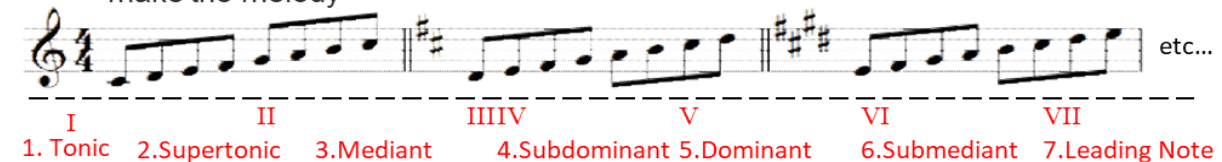
Written   Played   Written   Performed

Scale The series of notes in a key that are used to make the melody

etc...

I   II   IIIIV   V   VI   VII
1. Tonic   2.Supertonic   3.Mediant   4.Subdominant 5.Dominant   6.Submediant   7.Leading Note

MELODY

Rising   Falling

Doing the same thing again, without any changes.

Doing something completely different.

Doing the same thing again, with some changes (similar).

A short repeated idea.

The melody uses notes that aren't in the scale / key of the piece.
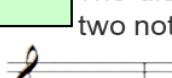
High or low.   **Range**

Big or Small.

The distance between two notes

2nd   4th

3rd

5th   6th   Octave

7th
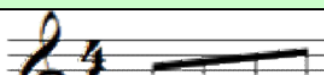
Trills   Mordents

Written   Played   Written   Performed

The series of notes in a key that are used to make the melody

etc...

I	II	IIIIV	V	VI	VII
1.Tonic	2.Supertonic	3.Mediant	4.Subdominant 5.Dominant	6.Submediant	7.Leading Note

Type of movement

Doing the same shape idea but at a different pitch.

The tune is based on notes from the chords / triads.

ARTICULATION

(How the notes are played)

Not Dynamics…

Articulation is the way the performer plays / sings the note, not how loud they do it. That would be Dynamics instead.

More Than One…
You can write more than one type of articulation for the same note. For example:

Staccato & Accented

Staccato

Staccato means short and detached /seperated. *You will likely hear a gap between each note.*
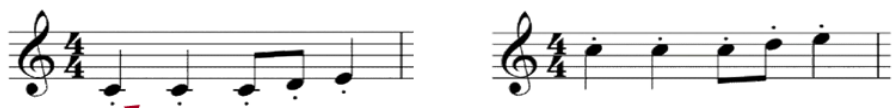
Shown by writing a **dot** just above/below the head of the note.

Accented

Give extra emphasis or force to the marked notes.
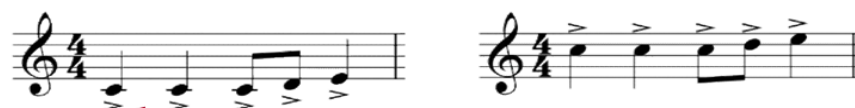
Shown by writing an **accent** above/below the head of the note.

Legato
To play the music smoothly, without breaks between notes.

Slurred
Playing the notes in a legato style, without breaks between notes.

Shown with a **slur** on the score.

How? Some examples:

String Instruments - Play the notes without changing the direction of the bow.

Don't change direction until you've finished the slurred notes

Brass & Wind Instruments - Only tongue the first note, not the others.

Glissando

You can glissando upwards or downwards

A slide between two notes.

Marked with a **glissando** on the score.

Some Associated Markings On Vocal Music…

Phrase markings
Slurs drawn onto the score to show singers what to sing in one breath.

Twin - kle, twin - kle,   li - ttle   star
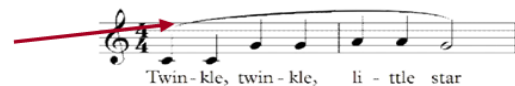
Syllabic
Where the music is written with one note per syllable.

Twin- kle, twin- kle,   li - ttle star

Melismatic
Where the music is written with more than one note per syllable.

A slur is used to show the notes on one syllable

Glo - - - - - - ri-a.

ARTICULATION

(How the notes are played)

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You can write more than one type of articulation for the same note. For example:

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Shown by writing a **dot** just above/below the head of the note.

Give extra emphasis or force to the marked notes.

Shown by writing an **accent** above/below the head of the note.

To play the music smoothly, without breaks between notes.

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A slide between two notes.

Marked with a **glissando** on the score.
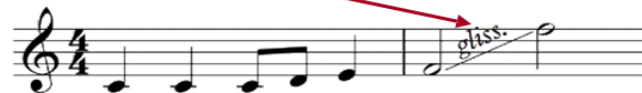
Some Associated Markings On Vocal Music…

Slurs drawn onto the score to show singers what to sing in one breath.

Twin - kle, twin - kle,   li - ttle star

Where the music is written with one note per syllable.

Twin- kle, twin- kle,   li - ttle star

Where the music is written with more than one note per syllable.

Glo — — — — — — ri-a.

A slur is used to show the notes on one syllable

DYNAMICS

(The volume of the music)

Describing What You Hear

Comment on any changes - don't sum up the whole example with one word (unless it doesn't change!)

The music starts… then… the music ends...

Writing Dynamics

Dynamics can create contrast in music.

Dynamics can add expression to the music.

Dynamics can allow the listener to hear the most important lines in the music.

On The Score

Dynamics are marked underneath the music, to show the instrument how loudly it should play:

p

If it is a piano, the dynamics usually go in-between the two staves:

p

For singers, dynamics usually go above the stave, so that they don't get mixed up with the lyrics:

p

Twin – kle, Twin – kle,   li – ttle   star

Marking	Italian Term	Meaning
pp	Pianissimo	Very Quiet
P	Piano	Quiet
mp	Mezzo Piano	Moderately Quiet
mf	Mezzo Forte	Moderately Loud
f	Forte	Loud
ff	Fortissimo	Very Loud
![crescendo]	Crescendo	Getting Louder
![diminuendo]	Diminuendo	Getting Quieter
sfz	Szorzando	Sudden Accent

Shh

!!!

Change gradually

Baroque Period: Dynamics were rarely used (no crescendos and diminuendos). Use of <u>Terraced Dynamics</u>.

Classical Period: Some dynamics, to add contrast.

Romantic Period: Lots of crescendos & diminuendos and a large range of dynamics to add expression.

Writing Your Own Dynamics

If using crescendos and diminuendos, make sure you say how loud/quiet you want the music to get. This will clearly show what you want.

p

p   *mf*

DYNAMICS

(The volume of the music)
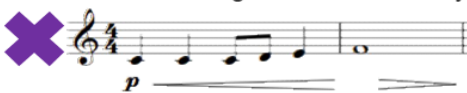
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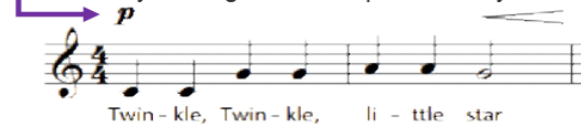
Writing Dynamics

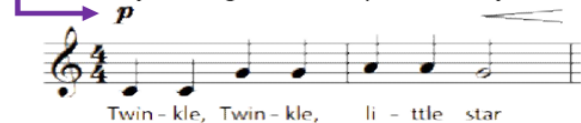Dynamics can create contrast in music.

Dynamics can add expression to the music.

Dynamics can allow the listener to hear the most important lines in the music.

Marking	Italian Term	Meaning
pp		
P		
mp		
mf		
f		
ff		

Shh

!!!

	Crescendo	Getting Louder
	Diminuendo	Getting Quieter
	Szorzando	Sudden Accent

Change gradually

Period: Dynamics were rarely used (no crescendos and diminuendos). Use of Terraced Dynamics.

Period: Some dynamics, to add contrast.

Period: Lots of crescendos & diminuendos and a large range of dynamics to add expression.

Writing Your Own Dynamics

If using crescendos and diminuendos, make sure you say how loud/quiet you want the music to get. This will clearly show what you want.

✖ p

✔ p mf
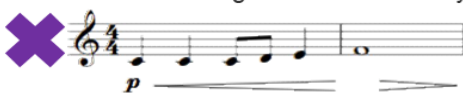
TEXTURE

Monophonic
Music with only one part (one note at a time).
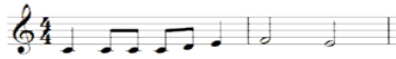
*You can have as many players or singers as you want on the same part so long as it is the only part. No chords!

Antiphonal
Two groups of musicians play/respond to each other from two different performing positions.

Melody & Accompaniment
A melody (tune) plus some accompanying chords or ideas.

Tune
Accompaniment

Homophonic
All parts move in chords at the same time.

Moving at the same time
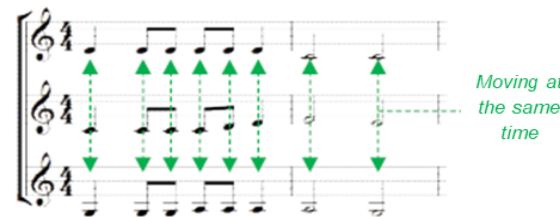
*Homo-phonic = same-sound… they have the same rhythm

Polyphonic
Several (2 or more) independent lines of music.

Tune / Line 1
Tune / Line 2
Tune / Line 3

*Poly-phonic = many-sounds… several (two or more) different tunes.

Call And Response
One idea played/sung and then another performer(s) responding.

Call
Response

Octaves
When parts move together, an octave apart.

*Same note name but different pitch.
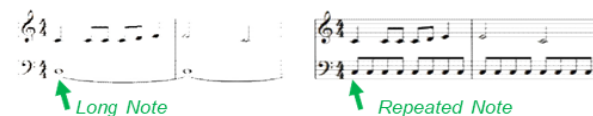
What Is The Instrument's Role

Melody – The tune.

Accompaniment – The parts supporting the tune.

Countermelody – A second melody that fits with the main tune.

Bass Line – The lowest sounding part.

Alberti Bass
Accompaniment found mainly in the left hand part of piano music.
Don't play all three notes of the triad together; break them up into four equal notes. Usually lowest, highest, middle, highest.

Why doesn't Mr Edwards like playing an Alberti Bass? It gives him the EBGBs.

Pedal
A long or repeated <u>note</u> – *usually in the bass.*

Long Note
Repeated Note

Drone
Long or repeated <u>notes</u> – *usually a 5th apart.*

Long Notes
Repeated Notes

Basso Continuo
The part given to instruments in The Baroque Period that played the bass line and chords, accompanying the melody, using figured bass.

8 6 6   4 3
  4

*Harpsichord, bass viol, organ, lute…

TEXTURE

Music with only one part (one note at a time).

*You can have as many players or singers as you want on the same part so long as it is the only part. No chords!

Two groups of musicians play/respond to each other from two different performing positions.

A melody (tune) plus some accompanying chords or ideas.

Tune

Accompaniment

All parts move in chords at the same time.

Moving at the same time

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One idea played/sung and then another performer(s) responding.

Call

Response

When parts move together, an octave apart.

*Same note name but different pitch.

– The tune.

– The parts supporting the tune.

– A second melody that fits with the main tune.

– The lowest sounding part.

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Don't play all three notes of the triad together; break them up into four equal notes. Usually lowest, highest, middle, highest.

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Long Note

Repeated Note

Long or repeated notes – *usually a 5th apart.*

Long Notes

Repeated Notes

The part given to instruments in The Baroque Period that played the bass line and chords, accompanying the melody, using figured bass.

*Harpsichord, bass viol, organ, lute…

8 6 6   4 3
   4

STRUCTURE

Structure – The order that things happen in.

First… then… this is followed by… at the end.

Song Form

Intro Verse Chorus Middle 8 Bridge Outro

Binary Form - Music in two parts

Section A and Section B.

A

B

Section B contrasts Section A in some way. Usually both sections are repeated.

Ternary Form - Music in three parts

Section A, Section B, Section A.

 A

 B

 A

The 2nd Section A can be an exact repeat of the 1st Section A, or a slightly altered version.

Strophic Form - Same music repeated each section.

Section A, Section A, Section A.

All verses have the same music.

e.g. Hymns, Folk Songs…

Rondo Form – The opening section keeps returning, with contrasting sections in between.

Section A, Section B, Section A, Section C, Section A.

A – First section / idea

B – Contrasting section / idea

*

A – First section / idea
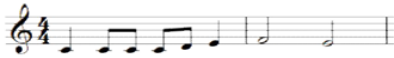

C – New contrasting section / idea

*

A – First section / idea
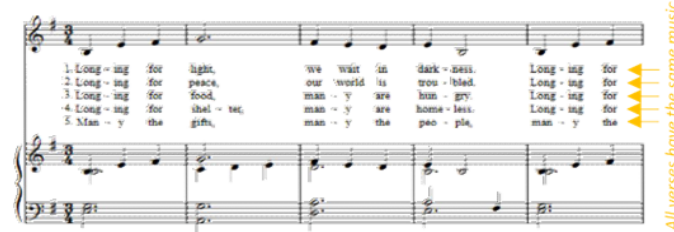
* The contrasting sections are called 'episodes'.

Minuet & Trio – Dance founded in 17th-18th Century Europe. In Triple time and moderato. Both are in binary form. Trio is like a second Minuet but contrasting in some way.

Minuet		Trio		Minuet	
Section A (Repeated)	Section B (Repeated)	Section A (Repeated)	Section B (Repeated)	Section A (No Repeat)	Section B (No Repeat)
In tonic key. Ends with key change.	*In related key. Ends with change back to tonic key.*	*More contrast – new key or change of instruments. Ends with key change.*	*In related key. Ends with key change back to starting key of trio.*	*Keys are same as first time playing Minuet.*	

Variation Form – A theme / section is then followed by other sections (variations), changing and developing the first theme / section in different and imaginative ways.

Theme	Variation 1	Variation 2	Variation 3
The original idea / section	*There are many ways you can transform the theme:* *Change the instrumentation, tempo, key, harmony, metre, rhythm… Use imitation, inversion, sequence, diminution, augmentation… Developing harmonies without the tune… Introducing new tunes… Varying the style…*		

Year 10 Music:

STRUCTURE

[_____] – The order that things happen in.

First… then… this is followed by… at the end.

[_____] - Music in two parts

Section A and Section B.

A

B

Section B contrasts Section A in some way. Usually both sections are repeated.

[_____] **Form** – The opening section keeps returning, with contrasting sections in between.

Section A, Section B, Section A, Section C, Section A.
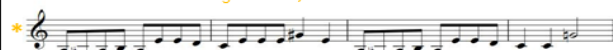
A – First section / idea

B – Contrasting section / idea
*

A – First section / idea

C – New contrasting section / idea
*

A – First section / idea

* The contrasting sections are called 'episodes'.

[_____] **Form** - Music in three parts

Section A, Section B, Section A.

A

B

A

[_____] **Form**

Intro Verse Chorus Middle 8 Bridge Outro

[_____] **Form** - Same music repeated each section.

Section A, Section A, Section A.

All verses have the same music.

e.g. Hymns, Folk Songs…

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HARMONY & TONALITY

(The chords and keys used in the music)

Key Signature

The sharps or flats at the start of a piece of music, showing what key the music is in.

Modulation

Musical word for key change. Most common changes: to **Dominant** or **relative Major/Minor**.

Major and Minor Key Signatures

Key Signatures

Major Keys
C
F   G
Bb   Minor Keys   D
A   E
G   B
Eb   C   F#   A
Ab   C#   E
Db/C#   Cb/B
Gb/F#
Bb/A#   Eb/D#   Ab/G#

Circle of Fifths

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www.MusicCrashCourses.com
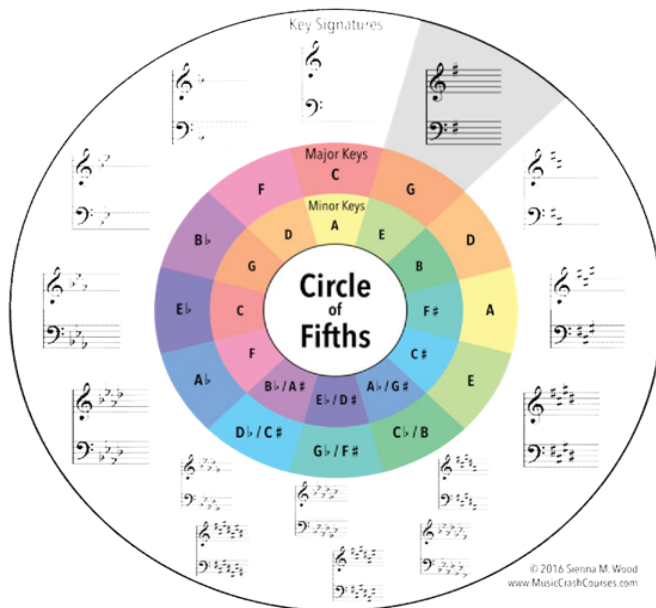
*When you write music in a minor key you also need to raise the 7th note (leading note) up one small step - e.g. A minor uses G#s, not Gs.

Identifying The Tonality...

Tonal - In a major or Minor Key
Atonal - There is no sense of key
Modal - Uses 'old-fashioned' scales called modes
Pentatonic - The music only uses 5 notes

Chords

Triad - A chord with three notes (See below)

Power Chord – Only playing the Root and Fifth of a triad (used in Rock music)

Dissonance - Clashing notes played together

Consonance - Notes that fit / sound nice together

Primary Chords - The three most commonly used chords used in music: I, IV, V

Secondary Chords - The other chords: II, III, VI, VII

Chord Sequence - The order the chords in a piece of music follow (containing cadences at the ends of phrases)

Cadences

The last two chords in a phrase.
Only sounds 'complete' if ends on chord I.

Sounds Complete		
Perfect Cadence	V *Dominant*	I *Tonic*
Plagal Cadence	IV *Subdominant*	I *Tonic*

Sounds Incomplete		
Imperfect Cadence	*Can be other* I *Tonic*	V *Dominant*
Interrupted Cadence	V *Dominant*	*Not chord I* Minor Chord

*Sometimes the final cadence of a piece in a minor key ends with a major chord instead of the expected minor chord. This effect is known as a **Tierce de Picardie**.

Diatonic

Music only uses notes that are found in the key signature of the piece

Chromatic

Music uses the notes found in the key of the piece but also adds in extra accidentals (# / b)

Triad A Chord with three notes:

5th
3rd
Root Note

Inversions Changing which note of a chord is the lowest sounding:

Root Position   1st Inversion   2nd Inversion

The root note is lowest   The 3rd is lowest   The 5th is lowest

HARMONY & TONALITY

(The chords and keys used in the music)

[ ]
The sharps or flats at the start of a piece of music, showing what key the music is in.

[ ]
Musical word for key change. Most common changes: to **Dominant** or **relative Major/Minor**.

Major and Minor Key Signatures

Circle of [ ]

When you write music in a minor key you also need to raise the 7th note (leading note) up one small step - e.g. A minor uses G#s, not Gs.

[ ]
In a major or Minor Key
There is no sense of key
Uses 'old-fashioned' scales called modes
The music only uses 5 notes

[ ]

[ ] - A chord with three notes (See below)

[ ] – Only playing the Root and Fifth of a triad (used in Rock music)

[ ] - Clashing notes played together

[ ] Notes that fit / sound nice together

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The last two chords in a phrase.
Only sounds 'complete' if ends on chord I.

Sounds Complete		
[ ] Cadence	V *Dominant*	I *Tonic*
[ ] Cadence	IV *Subdominant*	I *Tonic*
Sounds Incomplete		
		*Can be other
[ ] Cadence	I *Tonic*	V *Dominant*
		*Not chord I
[ ] Cadence	V *Dominant*	Minor Chord

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Diatonic
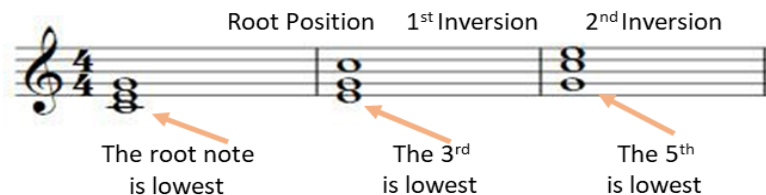Music only uses notes that are found in the key signature of the piece

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INSTRUMENTATION

(The instruments you can hear and what they are doing – sometimes called 'orchestration')

Instrumental Ensembles

Solo - 1 performer
Duet - 2 performers
Trio - 3 performers
Quartet - 4 performers

Types Of Voices

Soprano	(Female)	HIGH
Treble	(Boy)	
Alto	(Female)	
Countertenor	(Male Alto)	
Tenor	(Male)	
Bass	(Male)	LOW

*SATB Choir: Soprano, Alto, Tenor & Bass

Instruments Of The Orchestra

TIMPANI

TRUMPET TROMBONE TUBA

PERCUSSION

HARP

CLARINET BASSOON

HORN

PIANO

FLUTE OBOE

VIOLIN II

VIOLA

VIOLIN I

CONDUCTOR

CELLO

BASS

STRINGS   WOODWINDS   HARP/PIANO   BRASS   PERCUSSION

Rock & Pop Instruments

Electric Guitar

Acoustic Guitar

Singers

Bass Guitar

Keyboard / Synthesizer

Drum Kit

Saxophone

Trumpet

*Lead instrument = Often an electric guitar ('lead guitar'). Plays melody or harmonises with the singer & often has a solo.

Jazz Instruments

Rhythm Section
Backup / Accompaniment for the melody. Sometimes still improvise and get solos.

*The Groove: Double Bass
*The Beat: Drum Kit
*The Chords: Piano
(Sometimes Guitar)

Front Line Instruments
Instruments that play melodies / improvise. Stand in front of the rhythm section.

*Trombone
*Saxophone

Soprano   Alto   Tenor

Musical Periods

Baroque Period (1600-1750)
*Small orchestra - Mostly Strings + Basso Continuo
*Basso Continuo - The part given to instruments playing the bass line & chords accompanying the melody. (Harpsichord, bass viol, organ, lute…)

Classical Period (1750-1810)
*Basso Continuo gradually stopped being used
*Pianoforte introduced & Clarinet invented
*String Quartet very popular (Violin x2, Viola, Cello)

Romantic Period (1810-1910)
*Piano music very popular (Instrument further improved)
*Large Orchestra
*Tone / construction of instruments improved

Instrumental Techniques - The way you play / use an instrument.

Some Examples

String Instruments
*Pizzicato (Pizz.) - Plucking the strings
*Arco / Bowed - Using a bow on the strings
*Double Stopping - Playing two strings at the same time

String & Brass Instruments
*Con Sordino (Con Sord.) - Playing with a mute (changes the sound produced)
*Tremolo - Quickly repeating the same note ('trembling')

Voices
*Falsetto - A technique used by men to sing at a much higher pitch

Voices, Brass, Woodwind and String Instruments
*Vibrato – Make the note waver up and down to add expression

Other Vocal Terms

Acapella
Singing without any accompanying instruments.

Chorus
Music written for a choir.

Backing Vocals
Sing harmonies / support the lead singer.

INSTRUMENTATION

(The instruments you can hear and what they are doing – sometimes called 'orchestration')

Instrumental Ensembles

1 performer
2 performers
3 performers
- 4 performers

Instruments Of The Orchestra

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TRUMPET   TROMBONE   TUBA

PERCUSSION

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HORN

PIANO

FLUTE   OBOE

VIOLIN II

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CELLO

B A S S

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Electric Guitar

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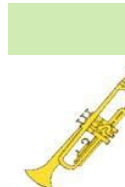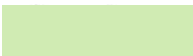
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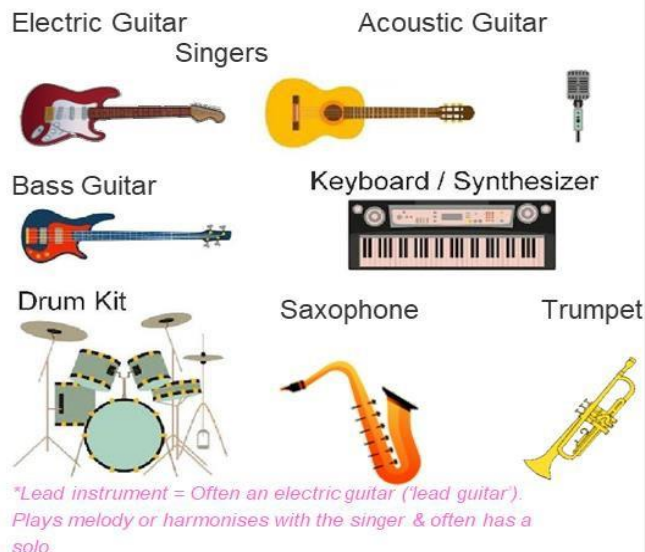
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Other Vocal Terms

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Chorus
Music written for a choir.

Backing Vocals

RHYTHM & TEMPO

(The Patterns Of Note Lengths & Silences)   (The Speed Of The Music)

Reading Rhythms

You need to be able to read all the different note lengths if you want to pass GCSE music. If you keep forgetting, look over them again!

Working Out The Tempo

Tap your toe to the pulse of the music and think, 'how fast am I tapping'.

*If you tap your whole foot you might put off other pupils.

Durations

Beats	Note	Rest	Name
4	𝅝	▬	Semibreve
2	𝅗𝅥	▬	Minim
1	♩	𝄽	Crotchet
1/2	♪	𝄾	Quaver
1/4	𝅘𝅥𝅯	𝄿	Semiquaver

Dotted Notes

If a dot is added to a note (or rest), add on half of what the note is already worth:

- 𝅗𝅥.   3 beats   *2 (+1)
- ♩.   1 ½ beats   *1 (+ 1/2)
- ♪.   ¾ beat   *1/2 (+ 1/4)

Pause

If this symbol is written, stop the pulse of the music & pause on the note.

Triplet

Three notes played evenly in the space of two notes:

Tempo Markings

Marking	Meaning
Allegro / Vivace	Fast or Lively
Allegretto	Quite Fast (Not as fast as Allegro)
Moderato / Andante	Moderate / A Walking Pace
Adagio / Lento	Slowly

Marking	Meaning
Accelerando	Gradually Speed Up
Ritardando / Rallentando rit. rall.	Gradually Slow Down

Marking	Meaning
♩ = 60 *60bmp	60 beats per minute *(One every second)*
♩ = 120 *120bmp	120 beats per minute *(Two every second)*

Syncopation Playing off (or in-between) the beat / pulse

On The Beat
Playing on one of the beats that you would 'tap your toe' to

Off-beat
Playing in-between the beats you would 'tap your toe' to

Swung Rhythms *A main feature of Jazz

Written rhythms are played differently to give a swing feeling.

e.g   𝅘𝅥𝅮𝅘𝅥𝅮 = ⌐3⌐ ♪ ♪

Rubato *Translates as 'to steal time'

Not sticking strictly to the tempo - to add feeling *(Romanitc Period!)*

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(The Patterns Of Note Lengths & Silences)   (The Speed Of The Music)

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Durations

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4			
2			
1			
1/2			
1/4			

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If a dot is added to a note (or rest), add on half of what the note is already worth:

3 beats   *2 (+1)*

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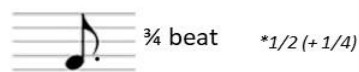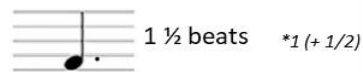
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Adagio / Lento	
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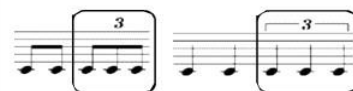
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Written rhythms are played differently to give a swing feeling.

e.g

Rubato *Translates as 'to steal time'*

Not sticking strictly to the tempo - to add feeling *(Romanitc Period!)*

TIME SIGNATURE / METRE

(How the pulse is grouped into bars)

Common Time

4/4 is also known as common time. Instead of 4/4 you can write: **C**

Cut Common Time

2/4 is also known as cut-common time.
Instead of 2/4
You can write: **¢**

Time Signatures

Written at the start of the music (and anywhere it changes) to show how many beats there are per bar, plus what type of beat

Simple Time Signatures *Each beat can be divided into two equal halves*

1 & 2 & 3 & 4 &

4 crotchet beats per bar

1 & 2 & 3 &

3 crotchet beats per bar

1 & 2 &

2 crotchet beats per bar

Compound Time Signatures *Each beat is dotted and can't be divided into two equal halves*

1 2 3 4 5 6 7 8 9 10 11 12

4 dotted crotchet beats per bar (12 quavers)

1 2 3 4 5 6 7 8 9

3 dotted crotchet beats per bar (9 quavers)

1 2 3 4 5 6

2 dotted crotchet beats per bar (6 quavers)

Listening Examples Go to Youtube to hear some examples of different metres:

2/4	Slaidburn March	*A march is usually in 2/4 (Left, Right, Left, Right... = 1, 2, 1, 2...)*
3/4	Shostakovich's Waltz No.2	*A waltz is a dance, usually in 3/4*
4/4	All That Jazz (from Chicago)	*Chicago is a Musical*
5/4	Take Five (By Dave Brubeck)	*Listen out for the jazz style*
7/4	The start of Money (By Pink Floyd)	*Listen out for the opening bass riff*
6/8	We Are The Champions (By Queen)	*Queen are a famous British Rock Band*
12/8	The Way You Make Me Feel (By Michael Jackson)	*Count 1&a 2&a 3&a 4&a*

Irregular Time Signatures

Time signatures that <u>can't</u> be divided into equal groups of 2 or 3.

NOT EQUAL LENGTHS

Regular Time Signatures

Time signatures that <u>can</u> be divided into equal groups of 2 or 3.

EQUAL LENGTHS

Writing Your Own Music

You must make sure every bar adds up to the correct number of beats.
Changing metre is a good way to create contrast in your work.

TIME SIGNATURE / METRE

(How the pulse is grouped into bars)

Time

4/4 is also known as common time. Instead of 4/4 you can write: **𝐂**

Cut Common Time

2/4 is also known as cut-common time.
Instead of 2/4
You can write: **𝄵**

Time Signatures

Written at the start of the music (and anywhere it changes) to show how many beats there are per bar, plus what type of beat

Time Signatures *Each beat can be divided into two equal halves*

1 & 2 & 3 & 4 &
4/4
4 crotchet beats per bar

1 & 2 & 3 &
3/4
3 crotchet beats per bar

1 & 2 &
2/4
2 crotchet beats per bar

Time Signatures *Each beat is dotted and can't be divided into two equal halves*

1 2 3 4 5 6 7 8 9 10 11 12
12/8
4 dotted crotchet beats per bar (12 quavers)

1 2 3 4 5 6 7 8 9
9/8
3 dotted crotchet beats per bar (9 quavers)

1 2 3 4 5 6
6/8
2 dotted crotchet beats per bar (6 quavers)

Listening Examples Go to Youtube to hear some examples of different metres:

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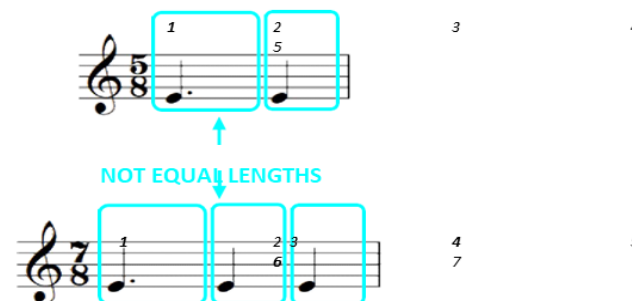
5/8
1 | 2 5 | 3 | 4

NOT EQUAL LENGTHS

7/8
1 | 2 3 6 | 4 7 | 5

Regular Time Signatures

Time signatures that can be divided into equal groups of 2 or 3.

4/4   3/4

EQUAL LENGTHS

12/8   6/8
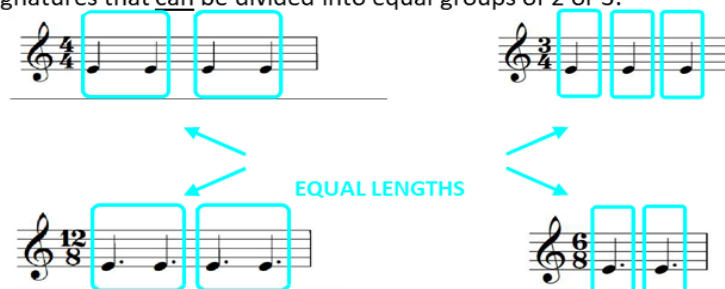
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You must make sure every bar adds up to the correct number of beats. Changing metre is a good way to create contrast in your work.

Year 10 Music:

Western Classical Music

Baroque Period	Classical Period	Romantic Period
1600-1750	1750-1810	1810-1910
Bach, Vivaldi, Handel	Mozart, Haydn, Beethoven	Chopin, Schubert, Wagner
Ornaments	Balanced, regular phrases	Use of the leitmotif
Terraced Dynamics	Alberti Bass	Music more expressive
Major & Minor Keys	Wider range of dynamics	Huge range of dynamics
Harpsichord	Pianoforte introduced	Use of chromatic chords
Small Orchestra (Mostly Strings)	Wider range of mood	Unusual Key Changes
Basso Continuo	Orchestra got bigger	Large Orchestra
	Elegant/Graceful style	Use of Rubato

STYLE

Minimalism

*Started in 20th Century

*Composers - Philip Glass…

*Based upon Repetition

*Uses small motifs that gradually change

*Slow changing harmony

Jazz & Blues

*The 12 Bar Blues

I	I	I	I
IV	IV	I	I
V	IV	I	I/V

*Swung rhythms

*Extended chords: 7th, 9th…

*Blue notes – 'bending' some notes by a semitone

*Improvisation - Performers make up music in the performance

*Rhythm Section - Drums, Double Bass, Piano/Guitar

*Front Line Instruments - Saxophones, Trumpets, Trombones

*Walking Bass - The bass plays a steady rhythm & walks up/down the notes of the chord or scale.

Fusion - Mixing more than one style of music together

For example…

Bhangra - Came to UK in 1980s. Mixing traditional Indian music & pop music.

Tempo	Structure	Melody
Lively and Upbeat	Verse / Chorus structure	Quite repetitive. Simple. Decorated.
Rhythm	**Instruments**	**Technology**
Syncopation. 4 beats per bar.	Indian instruments (e.g. Dhol, Tabla, Sitar) & Pop Instruments	Drum machines. Synths. Scratching.

Pop & Rock Music

*Pop - Commercial music which appeals to lots of people

*Rock - Generally 'more aggressive' but also includes rock-ballads.

*Instruments - (See instruments sheet!)

Intro	The beginning. Sets the mood & style. Usually just instruments.
Verse	Tells the story. Lyrics change each time but tune stays the same.
Chorus	The main message of the song. Same words and tune each time.
Bridge	A section that links two other sections.
Middle 8	A contrasting section of new ideas – usually 8 bars long.
Outro	Extra bit of music to finish off the song.

*Riff - A repeated pattern. Can help make the song memorable.

*Examples:

The Who	Jimmy Hendrix	The Beatles
Pink Floyd	The Sex Pistols	The Clash
AC/DC	David Bowie	Queen

Film Music

*Genre - Action, Adventure, Horror, Romance, War, Sci-fi, Western…

*Composers - John Williams, James Horner, Jerry Goldsmith

*Think, how do the musical features represent what is happening on-screen?
e.g.
Car Chase: Fast tempo, loud dynamics, sudden changes in melody direction…
WWII Film: Military instruments, fanfare, monophonic to represent isolation…
Large Theme Park Scene: Big Orchestra, Loud Dynamics, Fast/exciting rhythms…
Horror Scene: Dissonant chords and use of repeated pattern to build tension…

*Leitmotif - A short musical idea linked to a specific character / thing

Musical Theatre

*A theatrical story told through music, singing, acting and dance

*Types: Jukebox, Film-to-stage, Sung-through (no speaking), Disney…

*Composers - Andrew Lloyd Webber, Leonard Bernstein, Stephen Sondheim…

*Overture - The music played before the musical begins, usually featuring the musical's main themes.

*Solo - Song for one character *Duet - Song for two characters

*Chorus - Song for usually the whole 'company' to sing

*Recitative - A song which does not have a memorable tune (more speech-like), often used to fill in the story if the show is all sung.

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*Slow

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*

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***Chorus** - Song for usually the whole 'company' to sing

***Recitative** - A song which does not have a memorable tune (more speech-like), often used to fill in the story if the show is all sung.

Year 10 Music Technology:

Term	Definition
Audio Interface	• A device capable of converting audio signal from a microphone or guitar/ synth into a digital signal so it can enter a computer. Audio interfaces usually connect to a computer via a USB cable
Bouncing	• Exporting a track to a format like an mp3 or wav file
Channel	• Refers to one track of audio on a computer, part of the mixer or mixing desk
Chorus	• The chorus effect is an audio modulation effect that splits the original signal in the audio circuit into multiple signals, resulting in a chorus delayed signal that comes right after and alters the dry signal's pitch. It thickens the tone and creates an epic feeling. • Although it is best-used washing sounds and making supporting layers of your mix ambient, the chorus effect can have many purposes. One of the most obvious examples is how it can make your guitar feel like a "chorus" of guitars.
Clipping	• Another word for 'distorting' or 'peaking'
Compression	• Compression, along with reverb, is probably one of the most used effects in a DAW. Simply put, compression makes the loudest bits quieter, and the quietest bits louder (it 'compresses' the extremes). • When done correctly, this usually produces a more pleasant listening experience
DAW	• DAW is an acronym that means 'digital audio workstation'. It is sometimes spelt out when spoken (dee, ay, double you), or pronounced like 'door' (which sounds silly and can be confusing, especially if you are explaining something and you are standing by an actual door). • It can refer to any software used for sequencing and creating music; whether recorded or synthesised. GarageBand, Logic, Soundtrap and Cubase are examples of popular DAWs
Delay	• The delay audio effect is a made-by-man audio processing technique that stores a copy of the original signal in a storage medium and plays it back when defined by the producer. The most commonly used one is slapback delay, a type of delay which plays back the reflection right after the original input. The delay audio effect can be used to push an element back in the mix or to give it a wider stereo image. • This time-based audio effect makes productions more interesting by adding rhythmic variety and adding more depth to the mix.
Distortion	• In theory, the distortion effect is any type of alteration in the audio waveform. In music, the most common type of distortion is produced by adding a lot of gain to your audio . By doing so you create a fuzzy or gritty feeling to your electrical instrument.
Effects	• Many DAW packages have a number of built-in effects, including reverb, echo, delay. These and others can be used creatively in composition. • For learners composing using electronic or traditional instruments, these effects could be created with devices such as loop stations.

Year 10 Music Technology:

Term	Definition
What is **audio interface?**	
Define **bouncing**	
What is a **channel?**	
Define **chorus**	
What is **clipping?**	
What is **compression?**	
What is **DAW?**	
Define **delay**	
Explain **distortion**	
What are **effects?**	

Year 10 Music Technology:

Term	Definition
Envelope (ADSR)	• In music technology, envelope describes the 'shape' of a sound. For example, hitting a piano key will create an immediate, loud 'start' of the sound (**a**ttack), followed by a reduction in volume (**d**ecay). • This quieter sound will continue for a time (**s**ustain), before fading to nothing (**r**elease). The acronym ADSR is used to describe these four stages in a sound's envelope. As well as describing sounds, playing with envelope parameters is a vital part of synthesised sound
EQ	• EQ, or equalisation, is a versatile tool that is used to make your music sound better (in a nutshell). With EQ, you can boost (turn up) or cut (turn down) various frequencies in a track or project.
Equalization	• Equalization is a producing technique that controls volume in the audio frequency spectrum. We can equalize or completely filter (volume 0) by dropping/raising the volume of certain frequencies or even a frequency range. • Equalization is key to having a good mix, it creates space for instruments to breathe and be heard without interference from other instruments. It enhances the stereo experience because each sound is in its place, if well equalized of course.
FX	• Short for 'effects'. Common effects include reverb, chorus, distortion, and flange - processes or devices applied to a signal to alter its sound
Gain	• How loud a signal is before it goes through an amplifier. Can be another word for volume, and another word for guitar distortion
Latency	• Latency is the delay between inputting a signal (such as playing a key on a controller), the processing of the signal in the DAW, and the playback of that signal. • Poor latency can cause problems, like out of time recordings, or audio effects that don't work as intended. The most common solution is to buy more expensive equipment
Live and recorded sound	• Live sound is being performed in the moment, whereas recorded sound has already been performed and stored for playback at a later point. A music technology composition could include a combination of live and recorded sound, with or without effects being added to either or both.
Loop	• A repeated section of a song, often using imported samples
Mastering	• The final stages after mixing has been complete, the icing on the cake which makes tracks on a wider body of work sound uniform, and often also makes them louder
MIDI	• Another acronym (**m**usical **i**nstrument **d**igital **i**nterface), this is pronounced as a word (like the French for 'midday'). MIDI is complicated, so just remember a 'MIDI track' is one that can be easily edited in a DAW.

Year 10 Music Technology:

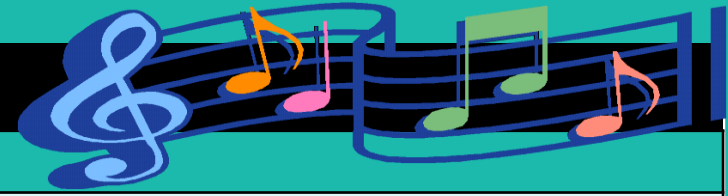| Term	Definition
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Year 10 Music Technology:

Term	Definition
MIDI Controller	• A controller is a device which sends 'musical' information to the computer, often using MIDI. MIDI controllers often look like a (musical) keyboard, and send information such as frequency (pitch), duration, or velocity (dynamics), to a DAW. • They can be used to 'trigger' (start) certain events in live performance, such as beginning/ending a loop, or adding/changing an effect. They don't always look like keyboards; you may see drum pads, a guitar controller, or even a wind controller (that you blow into) used to send data to your computer
Mixing	• Applying processing and levelling audio recordings with the goal of making a balanced and listenable end product
Mixing Desk	• A unit which can control the routing and processing of audio signals. Some may have the functionality to connect to a computer, but not always. They are used commonly for live music or larger recording studio set ups. This is represented in GarageBand by each track's controls (Volume, Pan etc)
Panning	• Panning is the act of distributing the audio signal in a stereo field with panning controls. It can make sounds appear to come from different places in the left-right audio spectrum, therefore creating more space and width in the mix.
Plug-In	• A piece of software either included in a DAW or that can be loaded within a DAW and used for audio/MIDI processing. These can be used for effects such as EQ, Compression & Reverb
Quantising/ Quantisation	• When working with MIDI tracks, quantising can be used to 'make music sound in time'. It does this by 'snapping' each note to a predetermined point in the bar, depending on the settings. For example, 1/4 quantising will snap each note to the nearest quarter note, or crotchet, or 4th of a bar (it makes sense, trust me). • A general rule of thumb is to quantise to the shortest note value in a phrase (so if semi-quavers are used, try 1/16 quantisation). Be aware that this doesn't fix really out of time music, and it can remove some of the organic, musical qualities of a track
Recordings	• During the process of composing and producing a music technology composition a number of recordings will probably be made. These may be "dry" so that effects can be added later or may incorporate effects from the point of recording. At the end of the process, they should be mixed down into a final stereo recording.
Reverb	• Reverb is a complex echo resulting from multiple echoes reflecting on a hard surface many times, and with different amplitudes. These reverberations happen around us daily, but we're too busy to pay attention. If you take time to notice next time you're in an indoor pool or a church, that feeling of multiple echoes vibrating back to you when you speak is reverb. The sound waves bounce so fast that they lay on top of each other, creating what we call reverberations. • This audio effect is a great way to create a feeling of spaciousness in your mix and can help unify all the elements of your song. It generally works great on vocals and guitars.

Year 10 Music Technology:

Term	Definition
What is a **MIDI controller?**	
Define **mixing**	
What is a **mixing desk?**	
Define **panning**	
What is a **plug-in?**	
Define **quantising/ quantisation**	
Define **Recordings**	
What is a **reverb?**	

Year 10 Music Technology:

Term	Definition
Sample	• A sample is any pre-existing piece of audio that can be imported into a project and used as part of a track. The recorded 'loops' that come with GarageBand are samples, as is the hook from *Bootylicious* by Destiny's Child (it originally comes from the track *Edge of Seventeen* by Stevie Nicks). • Finding, editing, and reusing samples is a key part of much electronically produced music
Sampling	• Taking a short audio recording and manipulating this to include it in a new composition. • For example, the tempo and/or pitch of the sample could be changed, it could be reversed, it could be cut into smaller samples and rearranged, or short sections could be repeated to give a stuttering effect.
Scores and lead sheets	• The way in which music is written down, either as a traditional score (such as may be produced in software like Sibelius) or in a lead sheet which communicates the information in a different way, possibly graphically, using chord symbols, software screenshots with annotation, or in tab notation used by guitarists and drummers
Software instrument	• A virtual instrument (usually opened within a DAW), which interprets MIDI data and outputs it as the sound of an instrument
Tempo	• The speed of music. In BPM (beats per minute), 60 BPM for example is one beat a second
Velocity	• The force at which a note is played

Year 10 Music Technology:

Term	Definition
What is a **sample?**	
Define **sampling**	
What are **scores and lead sheets?**	
Define **software instrument**	
Define **tempo**	
Define **velocity**	

PE

Helping every person achieve things they never thought they could.

Little Lever School

be kind | work hard | take responsibility

Year 10 Core PE: Qualities of a Leader

Confidence

A leader must be confident to speak to a group and lead them. They must believe in their own abilities.

Leading your own warm up – including a pulse raiser, dynamic stretches and a skill-based activity

Effective Communication

Talking and listening to teammates

Encouraging teammates

Supporting them instead of criticizing them

Knowledge of the sport and its rules

A leader must know the ins and outs of a sport to have a positive influence on their teammates

Punctuality

Being on time

Little Lever School

be kind | work hard | take responsibility

Little Lever School
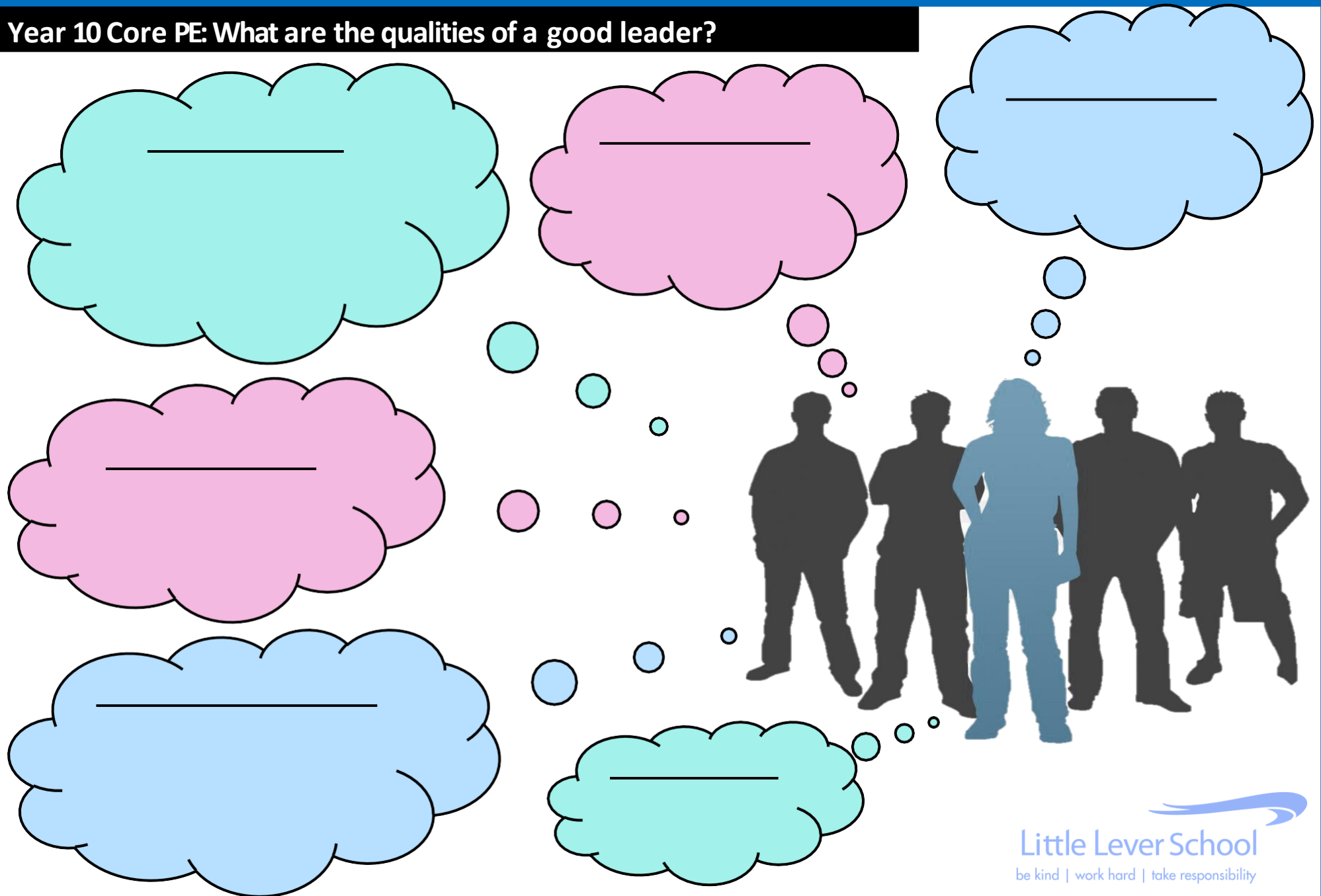
be kind | work hard | take responsibility

Sportsmanship

Applauding opponents when they do something well. Admitting if a foul is made of if the ball is out of play. Playing fair.

Whistle

You need to blow your whistle to get the attention of the players

Signal

Use arm signals to give a visual cue of what decision you have made

Gamesmanship

Bending the rules to gain an advantage. Not classed as cheating.

Etiquette

Polite behaviour in sport. Shaking hands with opponents. Complimenting them if they do something well.

Restart

Know how to restart the game correctly

Attacking & Defending Tactics

Zonal Defending	Defending a space rather than a person
Looking for a space	Move away from defenders and into space to receive a pass
Person on person defending	Staying close to a player and 'marking' them by following them wherever they go.
Communicating	• Using names to ask for a pass or to get the attention of the receiver • Talking to teammates to keep the defence in an organised shape
Triangles	Create angles to pass and receive quickly with no defenders in between
Closing the space	Closing the space between you and the attacker to make it difficult for them
Width	Use width to attack and stretch defences, such as the inverted U.

Define the attacking & defending tactics below:

Zonal Defending	
Looking for a space	
Person on person defending	
Communicating	
Triangles	
Closing the space	
Width	

Year 10 Core PE: Fitness

Motor Competence

Muscular Strength	The amount of force you can put out or the amount of weight you can lift.
Muscular Endurance	Perform exercises to failure so that you improve your muscular endurance.
Speed	Moving your body fast as possible.
Agility	Changing direction rapidly, whilst maintaining speed and precision.
Flexibility	A joint or series of joints to move through an unrestricted, pain free range of motion.
Balance	Even distribution of weight enabling someone or something to remain upright and steady.
Co-ordination	Throw with one hand catch with the other.
Reaction Time	How fast an athlete is able to respond to a stimulus.
Cardiovascular Fitness	To exercise the whole body for long periods
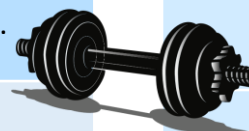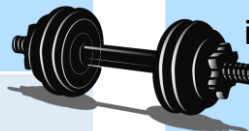
Rules, Strategies and Tactics

- With all of the movements completed to improve muscular strength the correct technique must be used as this would stop any injuries or muscular injuries occurring.

- With all of the movements completed to improve agility and speed the correct technique must be used as this would stop any injuries or muscular injuries occurring.
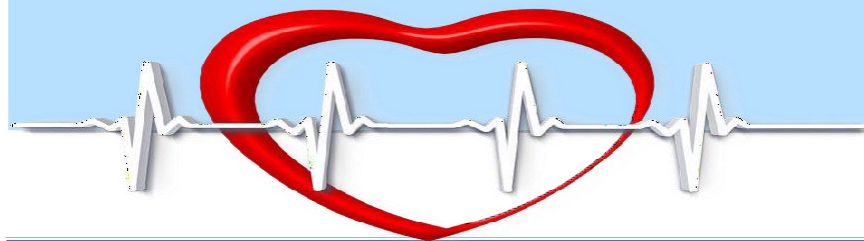
Healthy Participation

Muscles	Gluteal, hamstrings, quadriceps, gastrocnemius
Fitness components	Aerobic, anaerobic, warm up, cool down, circuit, continuous, fartlek

Year 10 Core PE: Fitness

Motor Competence- define each term below:

Muscular Strength	
Muscular Endurance	
Speed	
Agility	
Flexibility	
Balance	
Co-ordination	
Reaction Time	
Cardiovascular Fitness	
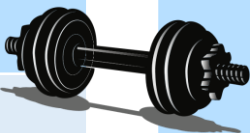
Rules, Strategies and Tactics

Explain the rules and strategies to fitness below:
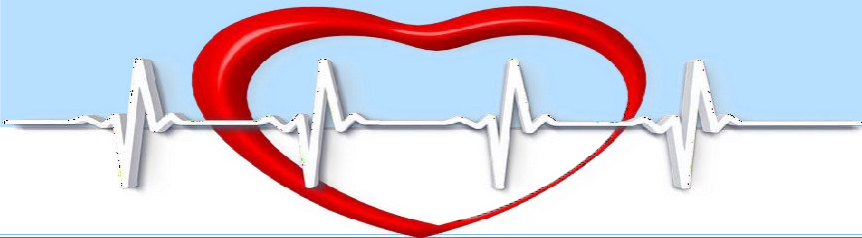
Healthy Participation

What are the muscles used during fitness workouts?	
What are the fitness components?	

Digital and Social media:

❑ Social networking
❑ Media sharing sites
❑ Live streaming and technology on the move
❑ Websites/blogs

Social and digital media	Different source types for example Twitter
Streaming sites	For example, YouTube
Technology on the move	Tablets and phones
Websites and blogs	For example Sky Sports, F1 fanatic, CAUGHTOFFSIDE, the sporting blog

Different forms of broadcast media

Television	Freeview, SMART TV and subscription services
Radio	Specific sport internet streaming services and radio providers
Podcasts	iTunes, Amazon Music; That Peter Crouch Podcast

Print media sources

Newspapers	Broadsheet, tabloids, the Guardian, The Daily Mail
Magazines	Monthly subscriptions, FourFourTwo, Rugby World
Books	History, skill books, Sam Warburton - open side

Year 10 Option PE: The Media

SKY sports

List examples of digital and social media:

- ❏ Social networking
- ❏ Media sharing sites
- ❏ Live streaming and technology on the move
- ❏ Websites/blogs

	Different source types for example Twitter
	For example, YouTube
	Tablets and phones
	For example Sky Sports, F1 fanatic, CAUGHTOFFSIDE, the sporting blog

List the different forms of broadcast media:

	Freeview, SMART TV and subscription services
	Specific sport internet streaming services and radio providers
	iTunes, Amazon Music; That Peter Crouch Podcast

What are print media sources?

	Broadsheet, tabloids, the Guardian, The Daily Mail
	Monthly subscriptions, FourFourTwo, Rugby World
	History, skill books, Sam Warburton - open side

What are the **positive** effects of the media?

Participation	Raising the Profile of Sport	Education	Revenue

Participation

How the media can help promote sport to increase awareness and improve participation levels:

- Inspiring others to participate

- Creating and adopting role models

Examples include:

- Exposure and coverage more likely to inspire others to participate – grass roots increase (netball after Commonwealth gold, cycling after 2012 Olympic success)

- 'Influencers' through social networks

- How this exposure and coverage might remove some barriers to participation

Raising the Profile of Sport

How the media can share positive messages and raise the profile of sports, break down barriers, promote the health and fitness industry

- Sports initiatives that seek to increase participation

- Promotion of an active, healthy lifestyle

Examples may include:

- Initiatives – how the media use topical role models and famous people (celebrities) to promote current initiatives

- Rise in home health and fitness industry – online, live and on demand fitness classes

Education

How the media can share positive updates and overviews of sports and their developments

- Exposure for emerging and minority sports

- Continued education of performers and spectators in emerging sports and changes to existing sports

Includes:

- Examples of emerging/new and minority sports – such as handball, walking football

- Increase in media sources – this increases exposure and wider demographic reached so new initiatives are easily promoted

- Education/changes: rules, new technologies, new variations to attract more spectators and participants

Revenue

How the media positively influences the revenue from sport:

- Promotional opportunities for business and commercial sport

- Sport as a commodity

- The Golden Triangle

Includes:

- Sport using the media to sell itself, the media uses sport to sell newspapers, TV channels, with many sports dependent on media money as source of revenue

- Sport changing rules and adapts competitions to attract spectators and media coverage (e.g. 20/20 cricket)

- How sport performers promote themselves and their sport using social networks

- Sponsors of main events (e.g. Olympics)

What are the positive effects of the media?

Participation	Raising the Profile of Sport	Education	Revenue
How the media can help promote sport to increase awareness and improve participation levels: • - • - Examples include: • - • - • -	How the media can share positive messages and raise the profile of sports, break down barriers, promote the health and fitness industry • - • - Examples may include: • - • -	How the media can share positive updates and overviews of sports and their developments • - • - Includes: • - • - • -	How the media positively influences the revenue from sport: • - • - • - Includes: • - • - • - • -

What are the **negative** effects of the media?

External factors affecting decline in live spectatorship	Ethical appropriateness of sponsors	How the media is assisting a widening wealth divide in sport	Impact of wider global issues on sport/ performers and spectators	Media demands affecting sport fixture scheduling
To include: • Effect on clubs and surrounding communities; Pay Per View (PPV), live streaming, social networks, increased technology and multiple devices • Links between gambling online and attendance at live sports events	**Examples may include:** • Gambling logos: might this be banned? • Alcohol sponsors: American National Football league • Formula1: tobacco being banned since 2005 • Ethical sponsors: fast/junk food, energy drinks • Individual athletes: diet/supplement products	**Examples may include:** • Premiership football: agents' fees for top transfers, wages, TV rights compared to lower leagues and other sports • Gender divide in earnings • Divide between top sports and 'growing'/minority sports	**Examples may include:** • Reduction in live spectator sport due to current affairs (e.g. pandemics) • Major competition hosts - travel restrictions or different time zones/climates	**Examples may include:** • Christmas calendar for Premiership football • Major events/tournaments – international breaks • Major event (World Cup) impact on leagues/ participants

sky sports box office

What are the **negative** effects of the media?

External factors affecting decline in live spectatorship	Ethical appropriateness of sponsors	How the media is assisting a widening wealth divide in sport	Impact of wider global issues on sport/ performers and spectators	Media demands affecting sport fixture scheduling
To include: • - • -	Examples may include: • - • - • - • - • -	Examples may include: • - • - • -	Examples may include: • - • -	Examples may include: • - • - • -

Negative Impacts On Sport and Sports Performers

Coverage of inappropriate behaviour on-field and off-field	Rejection of sporting heroes	Scrutiny and criticism of participants including officials, performers and leaders	Increased pressure on athletes to look a certain way and links to mental health
Includes a broad range of media sources – one off or repeated poor behaviour is for all to see up close, replayed, archived forever.	Research examples of current sporting heroes. Examples from 2020 may include: • Sir Bradley Wiggins • Danny Cipriani • Victoria Pendleton	Impact in society: Aggression seen in football fans, aggression against officials at grass roots.	Different body types appropriate to different sports but not understood by the media. E.g. female strength athletes having a body type which is not usually promoted as the standard ideal of what a woman should look like

What are the **negative** impacts on sport and sports performers?

1.	2.	3.	4.
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Religious Education

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility

Key Words

Absolute	Unchanging, eternal
Ascension	Jesus returning to be with God in heaven, 40 days after his resurrection.
Atonement	Forgiveness from God.
Crucifixion	Being nailed to the cross to die.
Divine	God
Eternal	Has always existed and will continue to exist forever.
Holy/sacred	Extremely special
Immanent	Involved in the world.
Incarnation	The idea that Jesus was fully God and fully human.

Luke 1:37

The Nature of God

Christians believe in **one God**, who is the **creator** and the **sustainer** of all that exists.
They believe God is:
Omnipotent - which means he is almighty and has unlimited power
Omnibenevolent – which means he is all loving, caring and kind.
Just – which means he is a perfect and fair judge.

The Trinity

Christians believe God is three persons in one. This idea is called the **Trinity**.
Each person of the Trinity is fully God but the three persons of the Trinity are not the same.
The **Father** is the creator of all life.
The **Son** is Jesus Christ who is both fully human and fully God.
The **Holy Spirit** is the unseen power at work in the world, especially answering prayers.
'We believe in One God, Father, Son and Holy Spirit' (Nicene Creed).

Key Words

Absolute	
Ascension	
Atonement	
Crucifixion	
Divine	
Eternal	
Holy/sacred	
Immanent	
Incarnation	

Luke 1:37

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'We believe in One ____, Father, Son and Holy Spirit' (Nicene _____).

Year 10 RE:

Key Words	
Just	Fair
Omnibenevolent	All loving, caring and kind
Omnipotent	All powerful
Omniscient	All knowing, all seeing
Original Sin	The first sin, committed by Adam and Eve.
Resurrection	Being raised from the dead.
Salvation	Being saved
Sin	Disobeying God.
Transcendent	Beyond this world
Trinity	The three persons of God – Father, Son and Holy Spirit.

Incarnation
Christians believe that God was **incarnated** (born) in human form as Jesus Christ.
Mary became pregnant by the power of the Holy Spirit and gave birth, even though she was a virgin. For Christians, this is proof of Jesus' status as the Son of God.
Christmas is the festival that celebrates the incarnation.
'The word became flesh' (John)

Crucifixion
Jesus travelled to Jerusalem to preach and celebrate the Jewish festival of Passover. While he was praying in the Garden of Gethsemane with his disciples (followers) he was arrested and then put on trial by the Jewish Sanhedrin (court). They accused him of blasphemy – saying he was God. He was later sentenced to death by the Roman Governor, Pontius Pilate.

Jesus was nailed to a cross to die. He said to the thief next to him, **'Today, you will be with me in paradise'** (Luke)
In his last moments Jesus was able to forgive those who were killing him, showing Christians how important forgiveness is. This event is remembered on Good Friday.
'Forgive them father, they know not what they do.' (Luke)

Year 10 RE:

Key Words	

<u>**Incarnation**</u>

Crucifixion

Jesus travelled to _____ to preach and celebrate the Jewish festival of _____. While he was praying in the Garden of _____ with his disciples (followers) he was arrested and then put on _____by the Jewish Sanhedrin (court). They accused him of _____– saying he was God. He was later sentenced to _____ by the Roman Governor, _____ Pilate.

Jesus was nailed to a cross to die. He said to the thief next to him, '_____' (Luke)

In his last moments Jesus was able to _____ those who were killing him, showing Christians how important forgiveness is. This event is remembered on _____ Friday.
'_____.' (Luke)

Ascension - This is when Jesus went up to heaven.

For 40 days after the resurrection, many of Jesus' disciples said they had met him alive in various places around Jerusalem.

The, Jesus ascended into heaven to be with God the Father once again.

'While he was blessing them, he left them and was taken up into heaven.' (Luke)

Why is the belief in the Ascension important to Christians?
- It illustrates God's omnipotence (power). Jesus is now **'at the right hand of the mighty God.'** (Luke)
- It demonstrates that Jesus had done what he needed to do - died to save us from sin - and so it was time to go back to God.
- It shows them that they have an 'advocate' with God – someone who is looking out for them.
- It shows there is a place or all humans with God.

Resurrection

The resurrection is the Christian belief that after Jesus died and was buried, he rose from the dead.

Early on the Sunday morning after his crucifixion, three women visited his tomb expecting to find his body there. They were asked **'Why do you look for the living among the dead? He is not here, he has risen!'** (Luke)

Why is the belief in the Resurrection important to Christians?
- It shows God is omnipotent. He had the power to overcome death.
- Christians believe that if you follow Jesus' teachings and get baptised, they can also overcome death. They can achieve salvation and receive the gift of eternal life with God.
- It makes death less frightening.
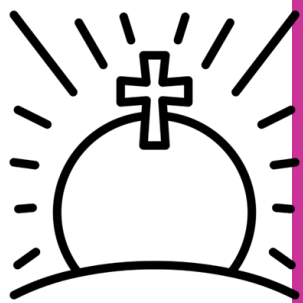
Ascension –

Resurrection
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Early on the Sunday morning after his crucifixion, three women visited his tomb expecting to find his body there. They were asked
'_____
_____' (Luke)

Why is the belief in the Ascension important to Christians?

Why is the belief in the Resurrection important to Christians?
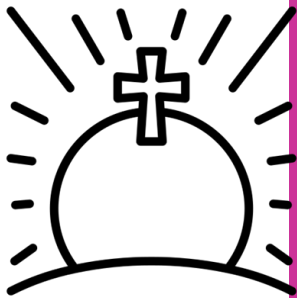
Science

Helping every person achieve things they never thought they could.

Little Lever School
be kind | work hard | take responsibility
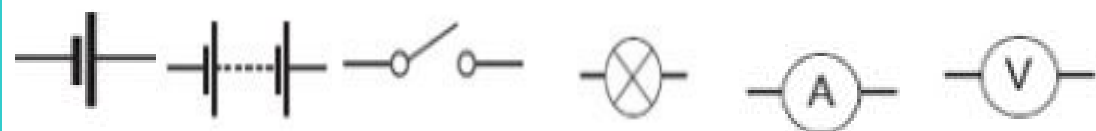
Cell	Battery	Switch	Lamp	Ammeter	Volt meter
Store of chemical energy	*Two or more cells in series*	*Breaks circuit, turning current off*	*Lights when current flows*	*Measures current*	*Measures potential difference*

Diode	LED	LDR	Fuse	Resistor	Variable resistor	Thermistor
Current flows one way	*Emits light when current flows*	*Resistance low in bright light*	*Melts when current is too high*	*Affects the size of current flowing*	*Allows current to be varied*	*Resistance low at high temp*

Circuit symbols

Electrons carry current. Electrons are free to move in metal.

R = V ÷ I

Resistance = Potential difference ÷ Current

Current, potential difference and resistance

Current and Charge

Thermistor	LDR
Resistance varies with temperature	*Resistance varies with light intensity*
Resistance decreases as temperature increases.	Resistance decreases as light increases.

Current	*Flow of electrical charge*	Ampere (A)
Potential difference (p.d.)	*How much electrical work is done by a cell*	Volts (V)
Charge	*Amount of electricity travelling in a circuit*	Coulombs (C)

Q = I X t

Series and parallel circuits

Changing current	*Change the p.d. of the cells*
	Add more components

Charge = Current X time

Controlling current

Ammeter	*Set up in series with components*
Voltmeter	*Set up parallel to components*

Series circuit	Current is the same in all components.	Total p.d. from battery is shared between all the components.	Total resistance is the sum of each component's resistance.
Parallel circuit	Total current is the sum of each component's current.	p.d. across all components is the same.	Total resistance is less than the resistance value of the smallest individual resistor.

Series	Parallel
A circuit with one loop	*A circuit with two or more loops*

Total p.d	*If cells are joined in series, add up individual cell values*

Circuit symbols

Current and Charge

Current, potential difference and resistance

$R = V \div I$

Thermistor | LDR

Current		
Potential difference (p.d.)		
Charge		

$Q = I \times t$

Changing current

Ammeter	
Voltmeter	
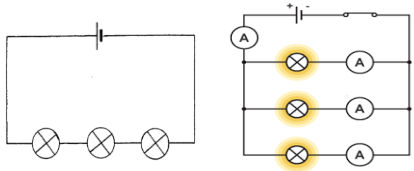
Controlling current

Series circuit			
Parallel circuit			

Series and parallel circuits

Series	Parallel

Total p.d

Resistance (Ω)	*A measurement of how much current flow is reduced*
The higher the resistance, the more difficult it is for current to flow.	
Increasing resistance, reduces current.	
Increasing voltage, increases current.	

Energy transfers

Work is done when charge flowing.

Power (W) = potential difference X current

Power = (current)² X resistance

Energy transferred = Power X time

$P = I^2 \times R$

$E = P \times t$

Ohmic conductor	*At a constant temperature, current is directly proportional to the p.d. across the resistor.*
Filament lamp	*As current increases, the resistance increases. The temperature increases as current flows.*
Diode	*Current flows when p.d. flows forward. Very high resistance in reverse.*

Current – Potential difference graphs

National Grid	*Distributes electricity generated in power stations around UK*

Step-up transformers	Step-down transformers
Increase voltage, decrease current	*Decrease voltage, increase current*
Increases efficiency, reduces heat loss.	Makes safer for houses.

Domestic uses and safety

Alternating current	Direct current
p.d. switches direction many times a second, current switches direction	*p.d. remains in one direction, current flows the same direction*
Generator.	Cell or battery.

'Earthing' a safety device; Earth wire joins the metal case.

SEPS only

Static electricity

Like charges	*Repel*
Unlike charges	*Attract*

Static electricity	*Electrical charge is stationary*	When two insulating material are rubbed together, electrons move from one material to the other.
Shocks		Walking on carpet causes friction. Electrons move to the person and charge builds up. When the person touches a metal object, the electrons conduct away, making a spark.
Electric fields		Charged objects create electric fields around them. Strongest closest to the object. The field direction is the direction of force on a positive charge. Add more charge increases field strength.

Mains supply

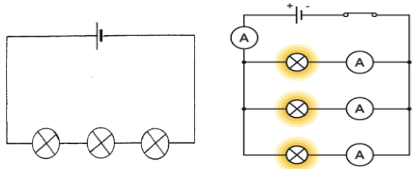*Frequency 50Hz, 230V*

Thermistor	LDR
Resistance varies with temperature	*Resistance varies with light intensity*
Resistance decreases as temperature increases.	Resistance decreases as light increases.

3 pin plug	*Live - Brown*	Carries p.d from mains supply.	p.d between live and earth = 230V
	Neutral - Blue	Completes the circuit.	p.d. = OV
	Earth – Green and Yellow stripes	Only carries current if there is a fault.	p.d. = 0V

Resistance (Ω)	*A measurement of how much current flow is reduced*
P = I² X R	

Energy transfers

Ohmic conductor	
Filament lamp	
Diode	
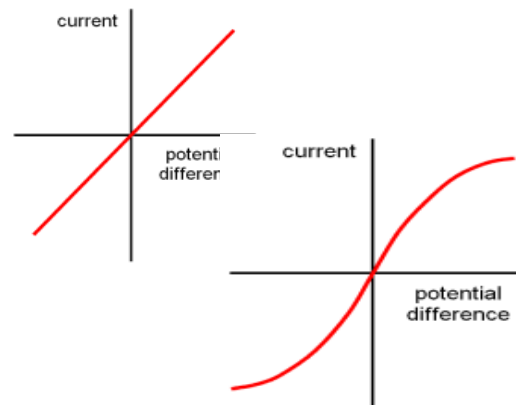
Current – Potential difference graphs

National Grid	

$P = I^2 X R$

$E = P X t$

Step-up transformers	Step-down transformers

Domestic uses and safety

Alternating current	Direct current

Mains supply

SEPS only

Static electricity

Like charges	
Unlike charges	

Static electricity	*Electrical charge is stationary*

Shocks	.

Thermistor	LDR
.	
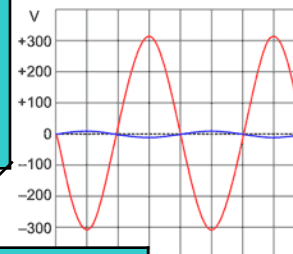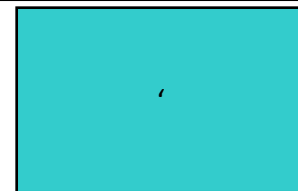
3 pin plug	Live -		
	Neutral -		
	Earth –		

Electric fields	.

M_r — *The sum of the relative atomic masses of the atoms in the numbers shown in the formula*

The sum of the M_r of the reactants in the quantities shown equals the sum of the M_r of the products in the quantities shown.

$2Mg + O_2 \rightarrow 2MgO$

$48g + 32g = 80g$

$80g = 80g$

Mass appears to increase during a reaction — *One of the reactants is a gas*

Magnesium + oxygen → magnesium oxide

Mass appears to decrease during a reaction — *One of the products is a gas and has escaped*

Calcium carbonate → carbon dioxide + calcium oxide

Mass changes when a reactant or product is a gas

Relative formula mass (M_r)

Limiting reactants (HT only)

Chemical measurements

The reactant that is completely used up

Limits the amount of product that is made

Less moles of product are made.

Whenever a measurement is taken, there is always some uncertainty about the result obtained

Can determine whether the mean value falls within the range of uncertainty of the result

1. Calculate the mean
2. Calculate the range of the results
3. Estimate of uncertainty in mean would be half the range

Example:
1. Mean value is 46.5s
2. Range of results is 44s to 49s = 5s
3. Time taken was 46.5s ± 2.5s

Conservation of mass — *No atoms are lost or made during a chemical reaction*

Mass of the products equals the mass of the reactants.

Balanced symbol equations — *Represent chemical reactions and have the same number of atoms of each element on both sides of the equation*

$H_2 + Cl_2 \rightarrow 2HCl$

Subscript numbers show the number of atoms of the element to its left.

Normal script numbers show the number of molecules.

Conservation of mass and balanced symbol equations

Moles (HT only)

Amounts of substances in equations (HT only)

Using moles to balance equations (HT only)

Concentration of solutions

Measured in mass per given volume of solution (g/dm³)

Conc. = $\frac{mass (g)}{volume (dm^3)}$

HT only Greater mass = higher concentration. Greater volume = lower concentration.

The balancing numbers in a symbol equation can be calculated from the masses of reactants and products

Convert the masses in grams to amounts in moles and convert the number of moles to simple whole number ratios.

Chemical amounts are measured in moles (mol)

Mass of one mole of a substance in grams = relative formula mass

One mole of H_2O = 18g (1 + 1 + 16)

One mole of Mg = 24g

Avogadro constant — *One mole of any substance will contain the same number of particles, atoms, molecules or ions.*

6.02×10^{23} per mole

One mole of H_2O will contain 6.02×10^{23} molecules
One mole of NaCl will contain 6.02×10^{23} Na^+ ions

Number of moles = $\frac{mass (g)}{A_r}$ or $\frac{mass (g)}{M_r}$

How many moles of sulfuric acid molecules are there in 4.7g of sulfuric acid (H_2SO_4)?
Give your answer to 1 significant figure.

$\frac{4.7}{98}$ = 0.05 mol

(M_r of H_2SO_4)

Chemical equations show the number of moles reacting and the number of moles made

$Mg + 2HCl \rightarrow MgCl_2 + H_2$

One mole of magnesium reacts with two moles of hydrochloric acid to make one mole of magnesium chloride and one mole of hydrogen

If you have a 60g of Mg, what mass of HCl do you need to convert it to $MgCl_2$?

A_r : Mg =24 so mass of 1 mole of Mg = 24g
M_r : HCl (1 + 35.5) so mass of 1 mole of HCl = 36.5g

So 60g of Mg is 60/24 = 2.5 moles

Balanced symbol equation tells us that for every one mole of Mg, you need two moles of HCl to react with it.

So you need 2.5x2 = 5 moles of HCl

You will need 5 x 36.5g of HCl= 182.5g

Year 10 science: Quantitative chemistry

M_r

The reactant that is completely used up

Mass appears to increase during a reaction

Mass appears to decrease during a reaction

Relative formula mass (M_r)

Limiting reactants (HT only)

Chemical measurements

Whenever a measurement is taken, there is always some uncertainty about the result obtained

Mass changes when a reactant or product is a gas

Example:

Conservation of mass

Concentration of solutions

Measured in mass per given volume of solution (g/dm³)

Balanced symbol equations

Conservation of mass and balanced symbol equations

Moles (HT only)

Amounts of substances in equations (HT only)

Using moles to balance equations (HT only)

Chemical amounts are measured in moles (mol)

Avogadro constant

Chemical equations show the number of moles reacting and the number of moles made

A measure of the amount of starting materials that end up as useful products

Atom economy = $\dfrac{\text{Relative formula mass of desired product from equation}}{\text{Sum of relative formula mass of all reactants from equation}}$ x 100

High atom economy is important or sustainable development and economic reasons

Calculate the atom economy for making hydrogen by reacting zinc with hydrochloric acid:

$Zn + 2HCl \rightarrow ZnCl_2 + H_2$

M_r of H_2 = 1 + 1 = 2
M_r of Zn + 2HCl = 65 + 1 + 1 + 35.5 + 35.5 = 138

Atom economy = $^2/_{138}$ × 100
= $^2/_{138}$ × 100 = 1.45%

This method is unlikely to be chosen as it has a low atom economy.

Atom economy

Concentration of a solution is the amount of solute per volume of solution

Concentration = $\dfrac{amount\ (mol)}{volume\ (dm^3)}$
(mol/dm³)

What is the concentration of a solution that has 35.0g of solute in 0.5dm³ of solution?
35/0.5 = 70 g/dm³

Using concentrations of solutions in mol/dm³ (HT only, chemistry only)

Titration

If the volumes of two solutions that react completely are known and the concentrations of one solution is known, the concentration of the other solution can be calculated.

$2NaOH(aq) + H_2SO_4(aq) \rightarrow Na_2SO_4(aq) + 2H_2O(l)$
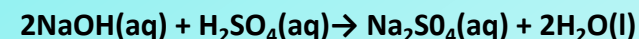
It takes 12.20cm³ of sulfuric acid to neutralise 24.00cm³ of sodium hydroxide solution, which has a concentration of 0.50mol/dm³.

Calculate the concentration of the sulfuric acid in mol/dm³:

0.5 mol/dm³ x (24/1000) dm³ = 0.012 mol of NaOH
The equation shows that 2 mol of NaOH reacts with 1 mol of H_2SO_4, so the number of moles in 12.20cm³ of sulfuric acid is (0.012/2) = 0.006 mol of sulfuric acid

Calculate the concentration of sulfuric acid in mol/ dm³
0.006 mol x (1000/12.2) dm³ =0.49mol/dm³

HT only:
200g of calcium carbonate is heated. It decomposes to make calcium oxide and carbon dioxide. *Calculate the theoretical mass of calcium oxide made.*

$CaCO_3 \rightarrow CaO + CO_2$
M_r of $CaCO_3$ = 40 + 12 + (16x3) = 100
M_r of CaO = 40 + 16 = 56
100g of $CaCO_3$ would make 56 g of CaO
So 200g would make 112g

Percentage yield

Use of amount of substance in relation to volumes of gases (HT only, chemistry only)

Calculate the concentration of sulfuric acid in g/ dm³:
H_2SO_4 = (2x1) + 32 + (4x16) = 98g
0.49 x 98g = 48.2g/dm³

Yield is the amount of product obtained	*It is not always possible to obtain the calculated amount of a product*	The reaction may not go to completion because it is reversible.
		Some of the product may be lost when it is separated from the reaction mixture.
		Some of the reactants may react in ways different to the expected reaction.

Equal amounts of moles or gases occupy the same volume under the same conditions of temperature and pressure

The volume of one mole of any gas at room temperature and pressure (20°C and 1 atmospheric pressure) is 24 dm³

No. of moles of gas = $\dfrac{\text{vol of gas (dm}^3)}{24dm^3}$

Percentage yield is comparing the amount of product obtained as a percentage of the maximum theoretical amount

% Yield = $\dfrac{\text{Mass of product made}}{\text{Max. theoretical mass}}$ x 100

A piece of sodium metal is heated in chlorine gas. A maximum theoretical mass of 10g for sodium chloride was calculated, but the actual yield was only 8g.
Calculate the percentage yield.

Percentage yield = 8/10 x 100 =80%

What is the volume of 11.6 g of butane (C_4H_{10}) gas at RTP?

M_r : (4 x 12) + (10 x 1) = 58

11.6/58 = 0.20 mol

Volume = 0.20 x 24 = 4.8 dm³
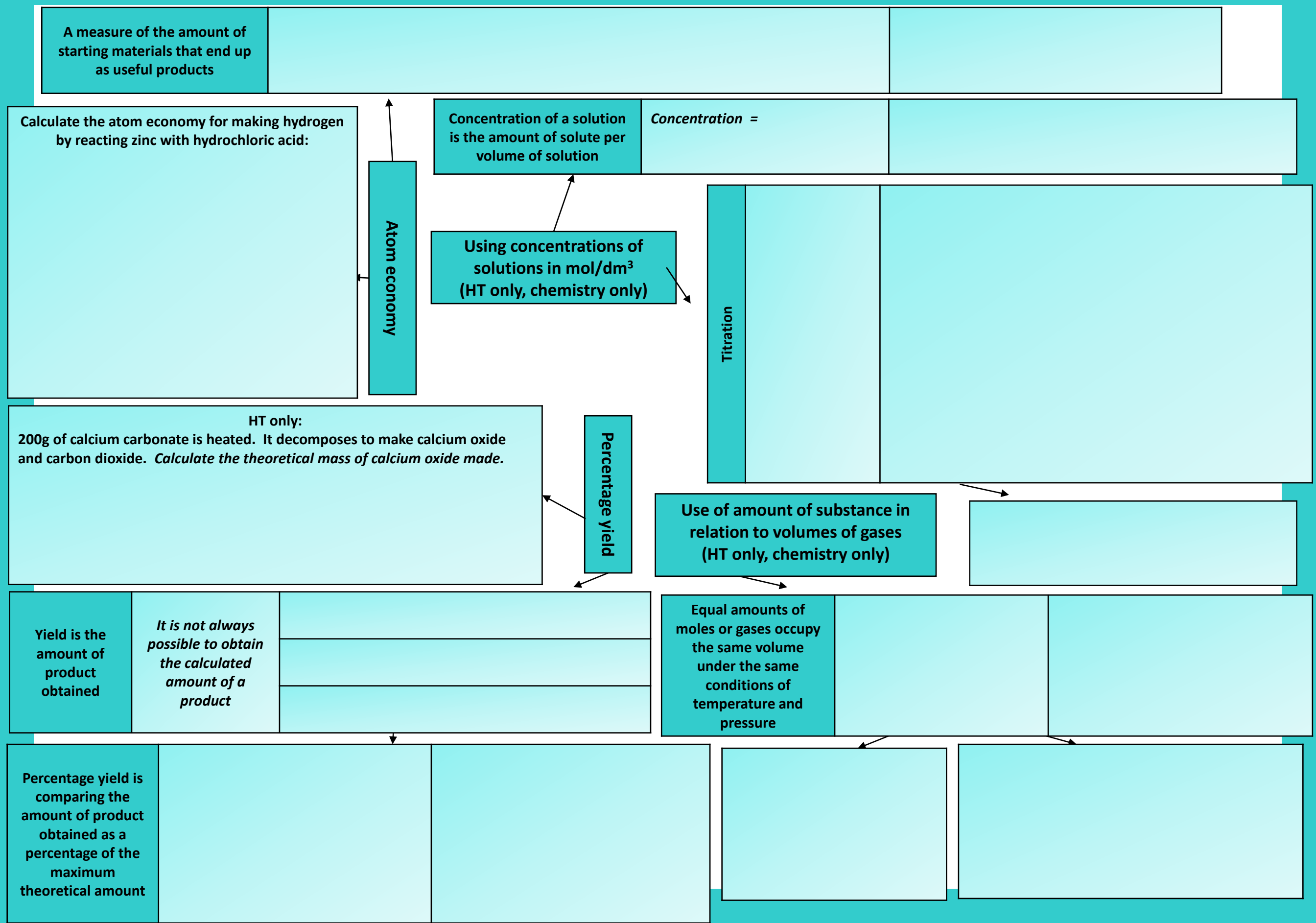
6g of a hydrocarbon gas had a volume of 4.8 dm³. Calculate its molecular mass.

1 mole = 24 dm³, so 4.8/24 = 0.2 mol

M_r = 6 / 0.2 = 30

If 6g = 0.2 mol, 1 mol equals 30 g

A measure of the amount of starting materials that end up as useful products

Calculate the atom economy for making hydrogen by reacting zinc with hydrochloric acid:

Atom economy

Concentration of a solution is the amount of solute per volume of solution

Concentration =

Using concentrations of solutions in mol/dm³
(HT only, chemistry only)

Titration

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It is not always possible to obtain the calculated amount of a product

Equal amounts of moles or gases occupy the same volume under the same conditions of temperature and pressure

Percentage yield is comparing the amount of product obtained as a percentage of the maximum theoretical amount

Year 10 science: Energy changes

Endothermic	Energy is taken in from the surroundings so the temperature of the surroundings decreases	• Thermal decomposition • Sports injury packs
Exothermic	Energy is transferred to the surroundings so the temperature of the surroundings increases	• Combustion • Hand warmers • Neutralisation

Types of reaction

Ionic half equations	Negative electrode: $2H_2 (g) + 4OH^- (aq) \rightarrow 4H_2O (l) + 4e^-$	Positive electrode: $O_2 (g) + 2H_2O (l) + 4e^- \rightarrow 4OH^- (aq)$
Hydrogen fuel cells	Word equation: hydrogen + oxygen → water	Symbol equation: $2H_2 + O_2 \rightarrow 2H_2O$
	Advantages: • No pollutants produced • Can be a range of sizes	Disadvantages: • Hydrogen is highly flammable • Hydrogen is difficult to store

Fuel cells (SEPS only)

Breaking bonds in reactants	Endothermic process
Making bonds in products	Exothermic process

Reaction profiles — Show the overall energy change of a reaction

Reaction profiles

Activation energy	Chemical reactions only happen when particles collide with sufficient energy	The minimum amount of energy that colliding particles must have in order to react is called the activation energy.

The energy change of reactions (HT only)

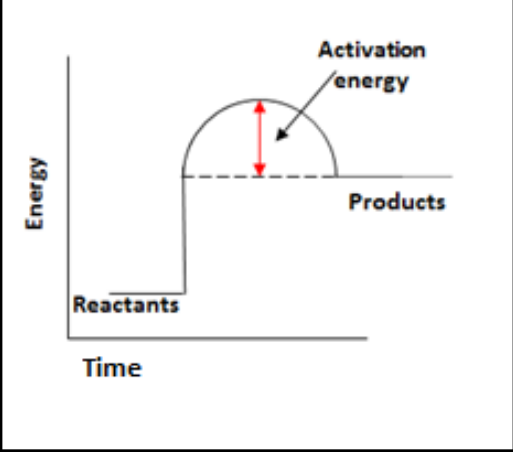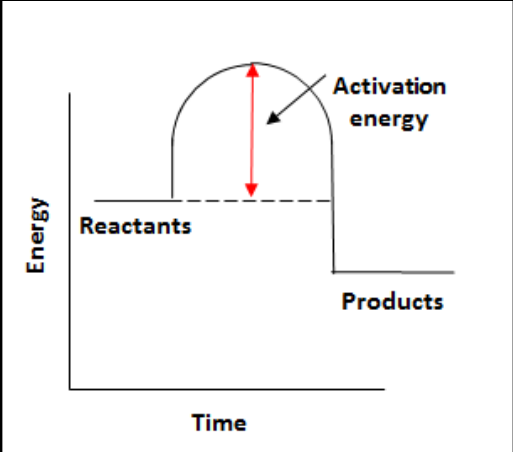| Overall energy change of a reaction	Exothermic	Energy released making new bonds is greater than the energy taken in breaking existing bonds.
	Endothermic	Energy needed to break existing bonds is greater than the energy released making new bonds.

Cells and batteries (SEPS only)

Simple cell	Make a simple cell by connecting two different metals in contact with an electrolyte	Increase the voltage by increasing the reactivity difference between the two metals.
Batteries	Consist of two or more cells connected together in series to provide a greater voltage.	
Non-rechargeable cells	Stop when one of the reactants has been used up	Alkaline batteries
Rechargeable cells	Can be recharged because the chemical reactions are reversed when an external electrical current is supplied	Rechargeable batteries

Bond energy calculation	Calculate the overall energy change for the forward reaction $N_2 + 3H_2 \rightleftharpoons 2NH_3$ Bond energies (in kJ/mol): H-H 436, H-N 391, N≡N 945
	Bond breaking: 945 + (3 x 436) = 945 + 1308 = 2253 kJ/mol Bond making: 6 x 391 = 2346 kJ/mol Overall energy change = 2253 - 2346 = -93kJ/mol Therefore reaction is exothermic overall.

Endothermic		Products are at a higher energy level than the reactants. As the reactants form products, energy is transferred from the surroundings to the reaction mixture. The temperature of the surroundings decreases because energy is taken in during the reaction.
Exothermic		Products are at a lower energy level than the reactants. When the reactants form products, energy is transferred to the surroundings. The temperature of the surroundings increases because energy is released during the reaction.

Year 10 science: Energy changes

Types of reaction

Endothermic		
Exothermic		

Ionic half equations

Negative electrode:	Positive electrode:

Hydrogen fuel cells

Word equation:	Symbol equation:
Advantages:	Disadvantages:

Fuel cells (SEPS only)

The energy change of reactions (HT only)

Breaking bonds in reactants	
Making bonds in products	

Reaction profiles

Overall energy change of a reaction

Exothermic	
Endothermic	
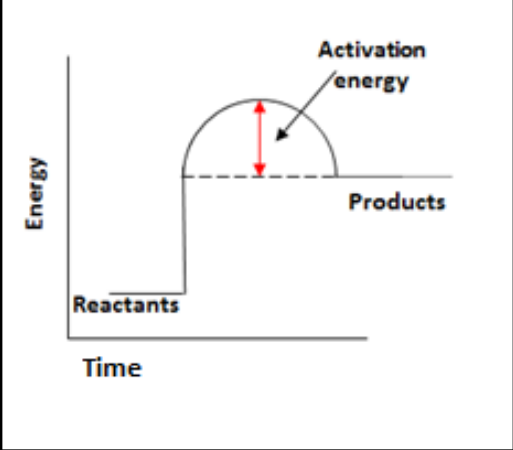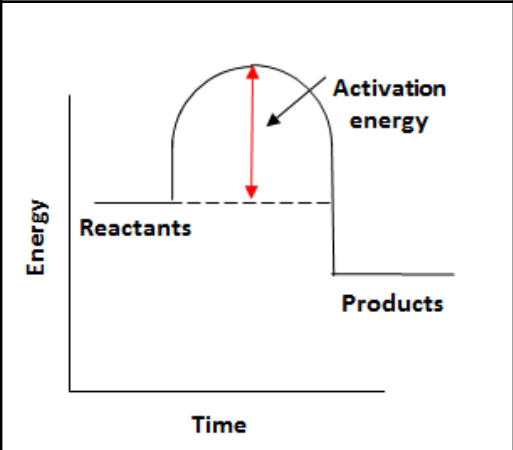
Bond energy calculation

Cells and batteries (SEPS only)

Simple cell		
Batteries		

Non-rechargeable cells		
Rechargeable cells		

Reaction profiles

Activation energy

Endothermic		
Exothermic		

Endothermic: Activation energy, Energy, Products, Reactants, Time

Exothermic: Activation energy, Energy, Reactants, Products, Time

Structures of the eye

Retina	Light sensitive cell layer.
Optic nerve	Carries impulse to brain.
Sclera	Protects the eye.
Cornea	Transparent layer that covers the pupil and iris.
Iris	Pigmented layer, controls size of pupil.
Ciliary muscles	Controls thickness of lens.
Suspensory ligaments	Connects lens to ciliary muscles.

Sense organ containing receptors sensitive to light intensity and colour

The iris can dilate the pupil (aperture) to let in more light in dim conditions

The Eye (SEPS only)

Diagram labels: suspensory ligament, sclera, cornea, retina, iris, optic nerve, ciliary muscles

Accommodation is the process of changing the shape of the lens to focus

Near object	**Far object**
Ciliary muscles contract, suspensory ligaments loosed, lens get thicker, light is more refracted.	Ciliary muscles relax, suspensory ligaments pulled tight, lens pulled thin, light is only slightly refracted.

Hyperopia (long sightedness)	**Myopia (short sightedness)**
Treated using a convex lens so the light is focused on the retina.	Treated using a concave lens so light is focused on the retina.
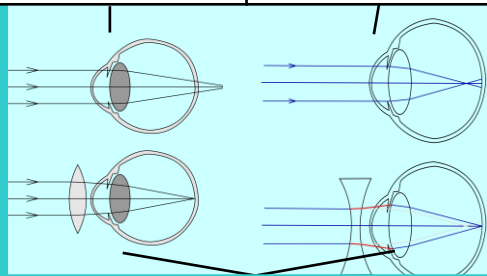
New technologies now include hard/soft contact lens, laser surgery to change the shape of the cornea and a replacement lens in the eye.

Neuroscientists have been able to map regions of the brain by studying patients with brain damage, electrical stimulation and MRI.

(HT) The complexity and delicacy of the brain makes investigating and treating brain disorders very difficult

Treating brain damage and disease e.g. Lobotomy – cutting part of the cerebral cortex

Benefit: thought to alleviate the symptoms of some mental illnesses.

Risks: bleeding in the brain, seizures, loss of brain function. Procedure was abandoned in the 1950s due to risk.

The human nervous system

Enables humans to react to their surroundings and to co-ordinate their behaviour

Human control systems include
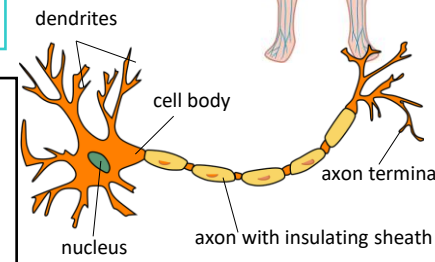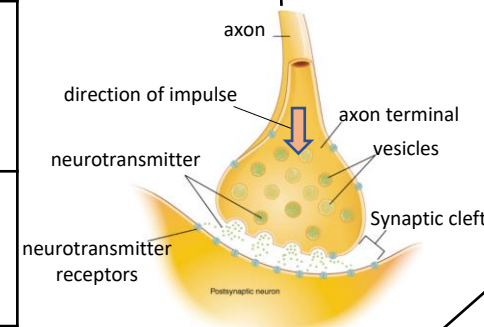
Cells called receptors	Detect stimuli (changes in environment).
Coordination centres	e.g. brain, spinal cord and pancreas that receive information from receptors.
Effectors	Muscles or glands, which bring about responses to restore optimum levels.

Body diagram labels: brain, spinal cord, nerves

The Brain (SEPS only)

The brain controls complex behaviour. It is made of billions of interconnected neurones.

Head diagram labels: cerebral cortex, cerebellum, medulla

The brain has different regions that carry out different functions.

Cerebral cortex	Largest part of the human brain. Higher thinking skills e.g. speech, decision making.
Cerebellum	Balance and voluntary muscle function e.g. walking, lifting.
Medulla	Involuntary (automatic) body functions e.g. breathing, heart rate.

Typical motor neurone

Neurone diagram labels: dendrites, cell body, nucleus, axon with insulating sheath, axon terminal

Synapse (gap where two neurones meet).

Synapse diagram labels: axon, direction of impulse, neurotransmitter, neurotransmitter receptors, axon terminal, vesicles, Synaptic cleft, Postsynaptic neuron
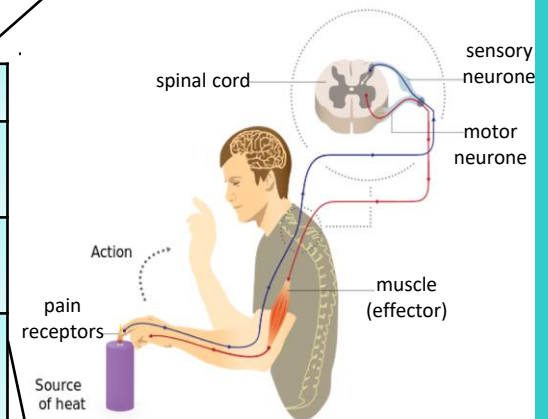
Information from receptors passes along cells (neurones) as electrical impulses to the central nervous system (CNS)

The CNS is the brain and the spinal cord.

Coordinates the response of effectors; muscles contracting or glands secreting hormones

Stimulus	Lights switch on
Receptor	Cells in retina
Coordinator	CNS
Effector	Muscles connected to iris
Response	Pupils get smaller

Reflex arc

Receptor	Detect stimuli.
Sensory neurone	Long axon carries impulse from receptor to spinal cord.
Synapse	Gap where neurones meet. Chemical message using neurotransmitter.
Relay neurone	Allows impulses to travel between sensory and motor neurones in the spinal cord.
Motor neurone	Long axon carries impulse from receptor to effector.
Effector	Muscle or gland that carries out response.

Reflex diagram labels: spinal cord, sensory neurone, motor neurone, Action, muscle (effector), pain receptors, Source of heat

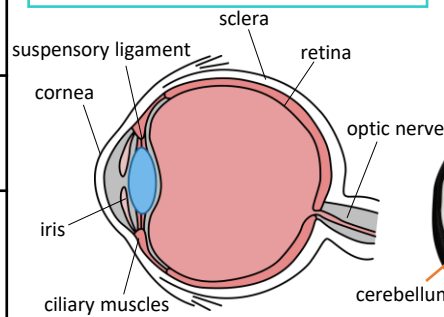**Reflex actions are automatic and rapid; they do not involve the conscious part of the brain and can protect humans from harm.**

Structures of the eye

Retina	.
Optic nerve	.
Sclera	
Cornea	.
Iris	
Ciliary muscles	
Suspensory ligaments	

Accommodation is the process of changing the shape of the lens to focus

Near object	Far object

Hyperopia (long sightedness)	Myopia (short sightedness)
	.

.

The Eye (SEPS only)

suspensory ligament
sclera
cornea
retina
iris
optic nerve
ciliary muscles

cerebral cortex
cerebellum
medulla

(HT) The complexity and delicacy of the brain makes investigating and treating brain disorders very difficult

Treating brain damage and disease
e.g. Lobotomy – cutting part of the cerebral cortex

Benefit:

Risks:

The human nervous system

Human control systems include

Cells called receptors	
Effectors	
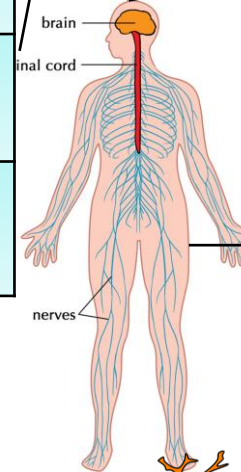
The Brain (SEPS only)

The brain has different regions that carry out different functions.

Cerebral cortex	
Cerebellum	
Medulla	

brain
spinal cord
nerves

dendrites
cell body
axon terminal
axon with insulating sheath
nucleus
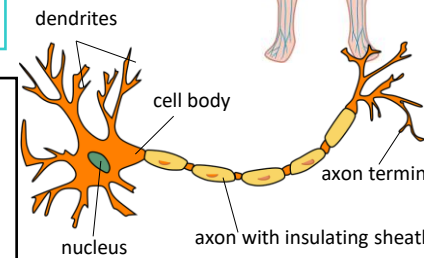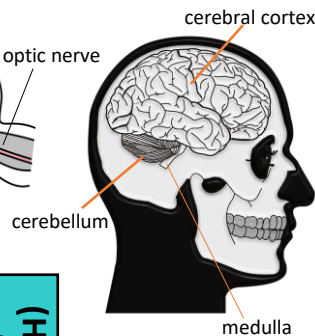
Typical motor neurone

Synapse (gap where two neurones meet).

axon
direction of impulse
axon terminal
vesicles
neurotransmitter
Synaptic cleft
neurotransmitter receptors
Postsynaptic neuron

Reflex arc

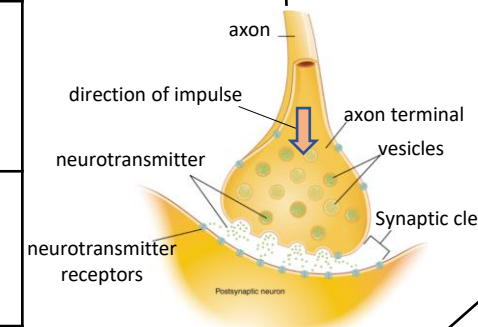| Receptor	
Sensory neurone	
Synapse	
Relay neurone	
Motor neurone	
Effector	
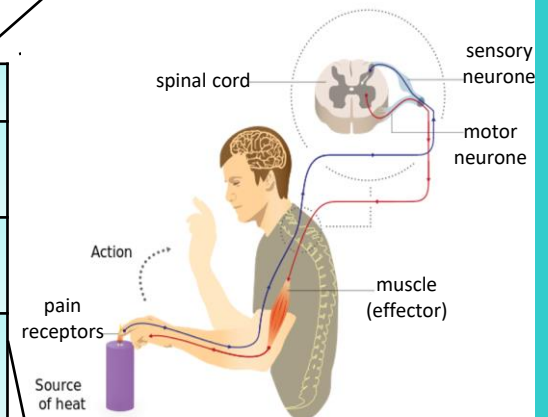
Information from receptors passes along cells (neurones) as electrical impulses to the central nervous system (CNS)

Stimulus	
	Cells in retina
Coordinator	
	Muscles connected to iris
Response	

spinal cord
sensory neurone
motor neurone
Action
muscle (effector)
pain receptors
Source of heat

Homeostasis

Response to internal and external change

Controls in the human body

Blood glucose concentration	These automatic control systems may involve nervous responses or chemical responses.
Body temperature	
Water levels	

The regulation of internal conditions of a cell or organism to maintain optimum conditions for function.

Homeostasis maintains optimal conditions for enzyme action and all cell functions.

Thermoregulatory centre (hypothalamus)

Control of body temperature (SEPS only)

Monitoring body temperature

Thermoregulatory centre	Contains receptors sensitive to the temperature of the blood.
Skin	Contains temperature receptors, sends nervous impulses to the thermoregulatory centre.

Body temperature

Too high	Blood vessels dilate (vasodilation), sweat produced from sweat glands.
Too low	Blood vessels constrict (vasoconstriction), sweating stops, muscles contract (shivering).

(HT) Thermal energy is lost from blood near the surface of the skin, sweat evaporates transferring thermal energy.

(HT) Thermal energy loss at the surface of the skin is reduced, respiring muscles cells transfer chemical to thermal energy.

Human endocrine system

Male   Female

Pituitary gland — Pineal gland
Thyroid
Adrenal gland — Thymus
— Pancreas
— Ovaries
Testes

Endocrine system

Composed of glands which secrete chemicals called hormones directly into the bloodstream.

The blood carries the hormone to a target organ where is produces an effect. Compared to the nervous system effects are slower but act for longer.

Pituitary gland

'Master gland'; secretes several hormones into the blood

Stimulates other glands to produce hormones to bring about effects.

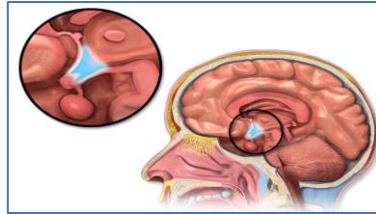## Water and nitrogen balance (SEPS only)

If body cells lose or gain too much water by osmosis they do no function efficiently.	*Uncontrolled water/ion urea loss*	Water exhaled in lungs, water, ions and urea in sweat.
	Controlled water/ion/urea loss	Via the kidneys in urine.

(HT only) digestion of proteins results in excess amino acids. In the liver they are de-aminated to form toxic ammonia which is converted to urea

Kidney failure is treated by organ transplant or dialysis.

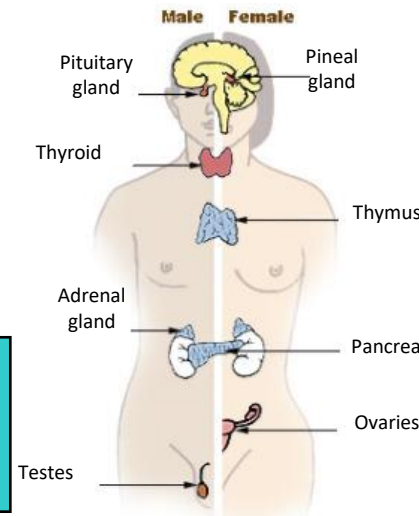| Kidney function	*Maintain water balance of the body.*	Produce urine by filtration of the blood and selective reabsorption of glucose, ions and water.
(HT only) ADH	*Acts on kidney tubules to control water levels.*	Released by pituitary gland when blood is too concentrated. Water is reabsorbed back into the blood from the kidney tubules **(NEGATIVE FEEDBACK).**
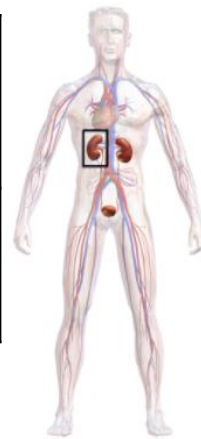
A dialysis machine removes urea from the blood by diffusion while maintaining ion and glucose levels.

Control of blood glucose concentration

Negative feedback (HT only)

Adrenaline	Produced in adrenal glands, increases breathing/heart rate, blood flow to muscles, conversion glycogen to glucose. Prepares body for 'fight or flight'.
Thyroxine	Produced in the thyroid gland, stimulates the basal metabolic rate. Important in growth and development.

Increasing thyroxine levels prevent the release of thyroid stimulating hormone which stops the release of thyroxine.

Blood glucose concentration	
Monitored and controlled by the pancreas	
Too high	**(HT only)** Too low
Pancreas produces the hormone insulin, glucose moves from the blood into the cells. In liver and muscle cells excess glucose is converted to glycogen for storage.	Pancreas produces the hormone glucagon that causes glycogen to be converted into glucose and released into the blood.

(HT) Rising glucose levels inhibit the release of glucagon in a negative feedback system. Insulin is released to reduce glucose levels and which cause the pancreas to release glucagon

Diabetes	
Type 1	*Type 2*
Pancreas fails to produce sufficient insulin leading to uncontrolled blood glucose levels. Normally treated by insulin injection.	Obesity is a risk factor. Body cells no longer respond to insulin. Common treatments include changing by diet and increasing exercise.

Response to internal and external change

Controls in the human body

| Monitoring body temperature | Thermoregulatory centre | |
| | Skin | |

| Body temperature | Too high | |
| | Too low | |

(HT)

(HT)

Control of body temperature (SEPS only)

Human endocrine system

Male Female

Pituitary gland
Pineal gland
Thyroid
Thymus
Adrenal gland
Pancreas
Ovaries
Testes

Endocrine system

Pituitary gland

Water and nitrogen balance (SEPS only)

Homeostasis

If body cells lose or gain too much water by osmosis they do no function efficiently.

Control of blood glucose concentration

Blood glucose concentration	
Monitored and controlled by the pancreas	
Too high	(HT only) Too low

Negative feedback (HT only)

| Adrenaline | |
| Thyroxine | |

Kidney function

(HT only) ADH

Diabetes	
Type 1	Type 2

FSH and LH are used as 'fertility drugs' to help someone become pregnant in the normal way

In Vitro Fertilisation (IVF) treatment.

Involves giving a mother FSH and LH to stimulate the maturation of several eggs

The eggs are collected from the mother and fertilised by sperm from the father in a laboratory.

The fertilised eggs develop into embryos.

At the stage when they are tiny balls of cells, one or two embryos are inserted into the mother's uterus (womb).

Potential disadvantages of IVF	Emotional and physical stress.
	Success rates are not high.
	Multiple births risk to mother and babies.

Hormones are used in modern reproductive technologies to treat infertility

The use of hormone to treat infertility (HT only)

Contraception

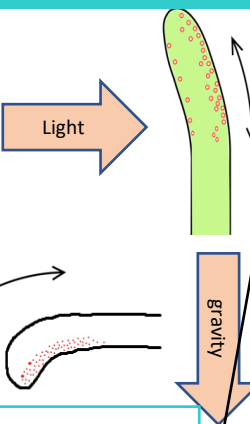| Fertility can be controlled by hormonal and non hormonal methods | Oral contraceptives | Contain hormones to inhibit FSH production so that no eggs mature. |
	Injection, implant, skin patch	For slow release of progesterone to inhibit the maturation and release of eggs for months or years.
	Barrier methods	Condoms or diaphragms which prevent sperm reaching the egg.
	Intrauterine devices	Prevent implantation of an embryo or release a hormone.
	Spermicidal agents	Kill or disable sperm.
	Abstaining	Avoiding intercourse when an egg may be in the oviduct.
	Surgery	Male or female sterilisation.

Plant responses using hormones (auxins)

Plants produce hormones to coordinate and control growth

Light

gravity

Light (phototropism)	Light breaks down auxins and they become unequally distributed in the shoot. The side with the highest concentration of auxins has the highest growth rate and the shoot grows toward the light.
Gravity (geotropism or gravitropism)	Gravity causes an unequal distribution of auxins. In roots the side with the lowest concentration has the highest growth rate and the root grows in the direction of gravity.
	In new shoots from a seedling the unequal distribution of auxins causes the shoot to grow away from gravity.

(HT only) Gibberellins are important in initiating seed germination.

(HT only) Ethene controls cell division and ripening of fruits.

Use of plant hormones (HT only)

Plant growth hormones are used in agriculture and horticulture	Auxins	Weed killers, rooting powders, promoting growth in tissue culture.
	Ethene	Control ripening of fruit during storage and transport.
	Gibberellins	End seed dormancy, promote flowering, increase fruit size.

Plant hormones (SEPS ONLY)

Hormones in human reproduction

During puberty reproductive hormones cause secondary sexual characteristics to develop
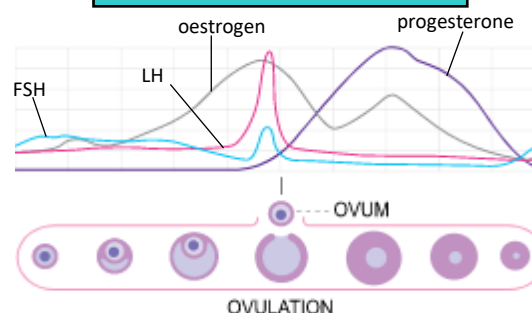
Oestrogen (main female reproductive hormone)	Testosterone (main male reproductive hormone)
Produced in the ovaries. At puberty eggs being to mature releasing one every 28 days – **ovulation**.	Produced in the testes stimulation sperm production.

(HT only) a graph of hormone levels over time

oestrogen   progesterone

FSH   LH

OVUM

OVULATION

Male   Female

Pituitary gland
Pineal gland
Thyroid
Thyr
Adrenal gland
Pan
Ova
Testes

| Menstrual cycle | Follicle stimulating hormone (FSH) | Causes maturation of an egg in the ovary. | **(HT)** FSH stimulates ovaries to produce oestrogen. |
| | Luteinising hormone (LH) | Stimulates release of an egg. | **(HT)** Oestrogen stops FSH production and stimulates LH production in pituitary gland. |
| | Oestrogen and progesterone | Oestrogen builds and progesterone maintains the uterus lining. | |
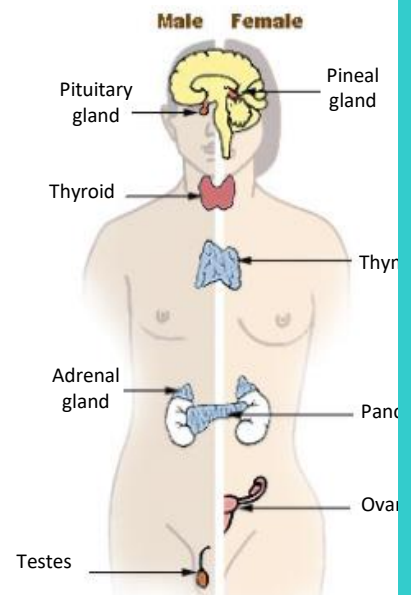
In Vitro Fertilisation (IVF) treatment.

Involves giving a mother FSH and LH to stimulate the maturation of several eggs

Potential disadvantages of IVF
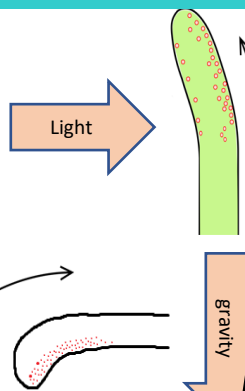
The use of hormone to treat infertility (HT only)

Light

gravity

Plant responses using hormones (auxins)

	Light (phototropism)	
	Gravity (geotropism or gravitropism)	

(HT only)   (HT only)

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Use of plant hormones (HT only)

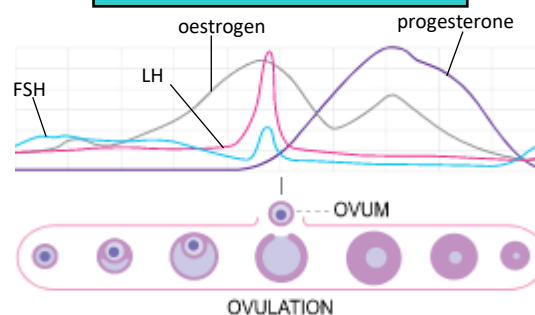| Plant growth hormones are used in agriculture and horticulture	Auxins	
	Ethene	
	Gibberellins	

Plant hormones (SEPS ONLY)

Hormones in human reproduction

During puberty reproductive hormones cause secondary sexual characteristics to develop

Oestrogen (main female reproductive hormone)	Testosterone (main male reproductive hormone)

Male   Female

Pituitary gland — Pineal gland

Thyroid

Thyr

Adrenal gland — Pan

Testes — Ova

Contraception

Oral contraceptives	
Fertility can be controlled by hormonal and non hormonal methods	
Intrauterine devices	
Spermicidal agents	
Male or female sterilisation.	

(HT only) a graph of hormone levels over time

oestrogen   progesterone

FSH   LH

OVUM

OVULATION

Menstrual cycle	Follicle stimulating hormone (FSH)		(HT)
			(HT)
	Oestrogen and progesterone		