



The John of Gaunt School  
A Community Academy

Name

TG

*Year 10*

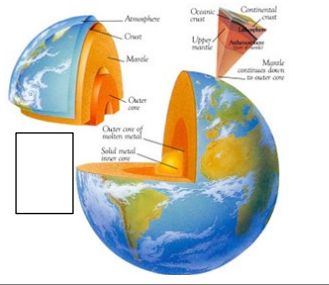
*Knowledge Organisers*

*Term 1 - 2025*

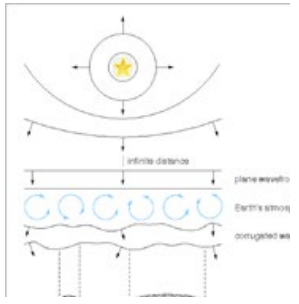
# Astronomy GCSE. Term

## Planet Earth

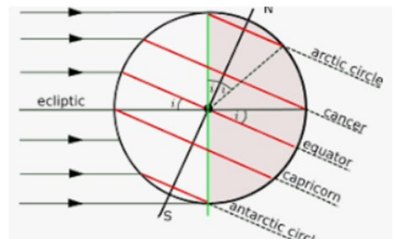
### Structure



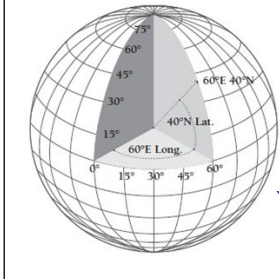
### Atmospheric effects on observations



### Major divisions on the Earth's surface. Astronomical reference points.



### Latitude and Longitude



## 1. Astronomical phenomena visible to the naked eye.

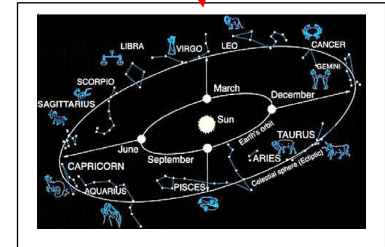
Sun, moon, planets (mercury, venus, mars, Jupiter and Saturn), comets, etc.

## 2. Recognise and be able to draw constellations and asterisms.

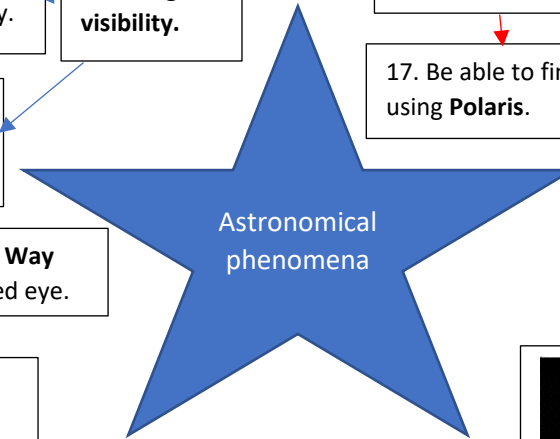
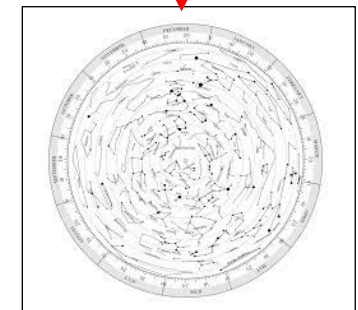
3. **Asterisms** as pointers to locate specific objects in the night sky eg. Ursa Major is a distinctive constellation that can be used to find **Polaris**. (The Pole star).

17. Be able to find the **latitude** of an observer using **Polaris**.

4. Different names for **constellations, asterisms** and **stars** amongst different cultures.



5. Using **Star charts, planispheres, computer programmes** or 'apps' to identify objects in the night sky.



6. The causes and effects of **light pollution** on observations of the night sky.

19. **Factors affecting visibility.**

18. **Naked eye techniques** such as **dark adaption** and **averted vision**.

20. The appearance of the **Milky Way** from Earth as seen with the naked eye.

8. Understand the use of the **equatorial coordinate system** (**right ascension** and **declination**) and the horizontal coordinate system (**altitude** and **azimuth**).

13. **Diurnal motion** of the sky due to the Earth's rotation.

9. Use of the observer's **latitude** to link the **equatorial** and **horizon coordinates** of an object for the observer's **meridian**.

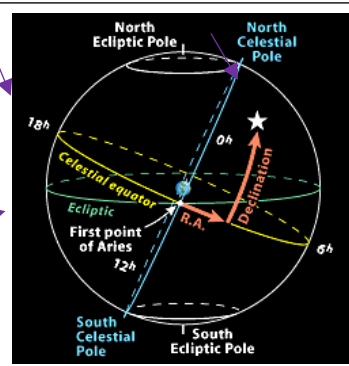
14. Use a star's **declination** to determine whether the star will be **circumpolar** from an observer's **latitude**.

11. Using information on **equatorial and horizon coordinates** to determine the **best time to observe a celestial particular object** or the **best object(s) to observe at a particular time**.

16. Be able to use information about **rising and setting times of stars** to **predict their approximate position in the sky**.

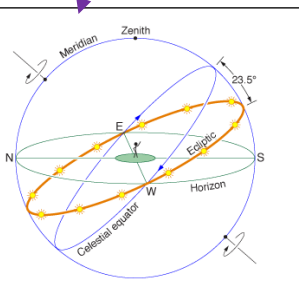
12. Understand the terms; **Cardinal points, culmination, meridian, zenith, circumpolarity.**

15. Apparent motion of **circumpolar stars**, including **upper transit (culmination)** and **lower transit**.

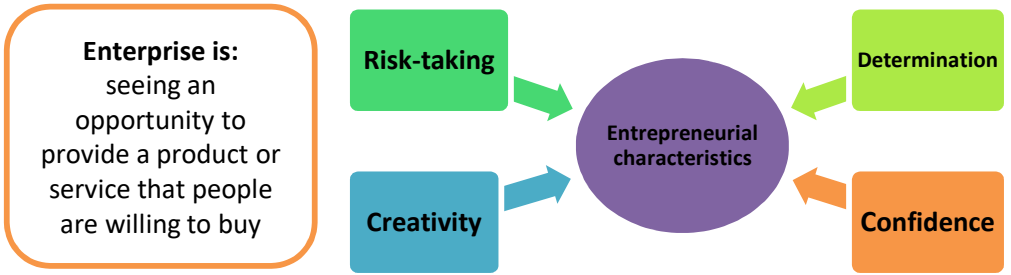


7. Understand the terms; **Celestial sphere, celestial poles** and **celestial equator**.

10. Understand how the **observer's meridian** defines **local sidereal time** and the **objects hour angle**



### 1:1 Role of Business Enterprise and Entrepreneurship



Risk	Reward
<ul style="list-style-type: none"> <li>▪ <b>Financial</b> Possibility of losing money</li> <li>▪ <b>Health</b> The strain of being in charge can affect health</li> <li>▪ <b>Strained relationships</b> Starting a business is time consuming</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Financial</b> Some successful entrepreneurs can make a lot of money</li> <li>▪ <b>Independence</b> Some people like to be their own boss</li> <li>▪ <b>Self-satisfaction</b> Some people like to see and idea work</li> </ul>

**Entrepreneur**  
*A person who takes the risk of starting and running a business*

**Enterprising characteristics**  
*Features of an entrepreneur*

### 1:2 Business Planning

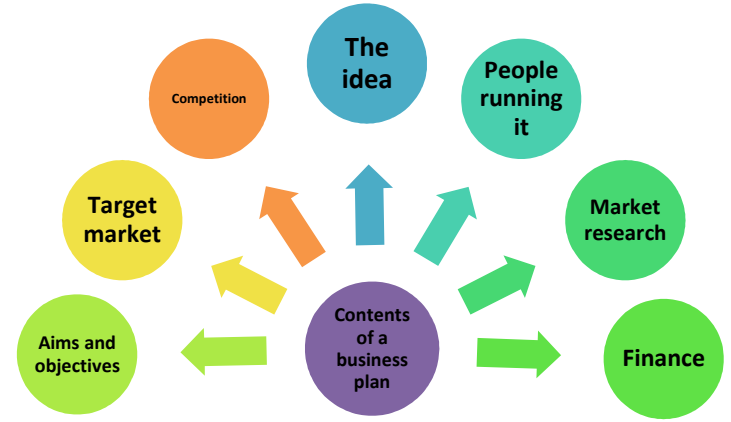
**Purpose of a business plan:**

- To reduce the risk of starting a business
- To help a business succeed

**A business plan:**  
details how a business aims to achieve its objectives

**Role of a business plan:**

- Identify markets
- Helping with finance
- Identifying resources needed
- Achieving aims and objectives



**Business plan**  
*A simple plan which sets out the details of the business*

**Finance**  
*The money needed to start the business*

### 1:3 Business Ownership

Sole trader		Partnership		Private Limited Company (LTD)		Public Limited Company (PLC)	
Advantages	Disadvantages	Advantages	Disadvantages	Advantages	Disadvantages	Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Easy to set up</li> <li>▪ Little finance required</li> <li>▪ Full control</li> <li>▪ Keep all the profits</li> <li>▪ Financial information is private</li> </ul>	<ul style="list-style-type: none"> <li>▪ Unlimited liability</li> <li>▪ Business stops if ill or on holiday</li> <li>▪ Long working hours</li> <li>▪ Shortage of capital</li> <li>▪ Skills shortage</li> <li>▪ No continuity</li> </ul>	<ul style="list-style-type: none"> <li>▪ More capital available</li> <li>▪ Easy to set up</li> <li>▪ More skills available</li> <li>▪ Shared workload</li> <li>▪ Financial information is private</li> </ul>	<ul style="list-style-type: none"> <li>▪ Shared profit</li> <li>▪ Unlimited liability</li> <li>▪ Shortage of capital</li> <li>▪ Slower decision making</li> <li>▪ No continuity</li> </ul>	<ul style="list-style-type: none"> <li>▪ Limited liability</li> <li>▪ Continuity</li> <li>▪ Can raise capital more easily</li> <li>▪ Control over share sale</li> </ul>	<ul style="list-style-type: none"> <li>▪ Financial information available to the public</li> <li>▪ Complex and expensive to set up</li> <li>▪ Sale of shares is restricted</li> <li>▪ Dividends to be paid</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can raise large amounts of capital</li> <li>▪ Easier to borrow money</li> <li>▪ Limited liability for shareholders</li> </ul>	<ul style="list-style-type: none"> <li>▪ Possibility of a takeover</li> <li>▪ Complex and expensive to set up</li> <li>▪ Hard to manage as so large</li> <li>▪ Financial information available to the public</li> </ul>

**Unlimited liability**  
*Responsibility for the debts of the business rests with the owners*

**Capital**  
*Money raised to start or develop a business*

**Deed of partnership**  
*A document setting out the operations of the partnership*

**Sleeping partner**  
*Someone who only invests in a partnership*

**Limited liability**  
*Responsibility for the debts of the business is limited to the amount invested*

**Shareholders**  
*Owners of a limited company*

**Dividend**  
*Money paid to shareholders from business profits*

Term 1 	What is a career? You will be able to identify career sectors Using the careers library Using the know how library	Resources on unifrog What is a career digital workbook What is a career ppt	These are the tasks on unifrog and the suggested time when to do them. You are given the title of the resources so that you can find them yourself but they will appear on unifrog. You will get an email notification. The tasks are tracked. The activities include the teacher powerpoint, which gives suggestions. Sometimes, it might be good to do the activity with a friend or parent so that you can share ideas. The powerpoints are designed for a class of 30 pupils and have the teacher notes to help you. When working on your own, it will take 15 – 30 mins for the activities and longer for the thinking. Create a folder in which to save your worksheets.
	Reflecting on my career What is important to me in my career Record an activity on the activity tool	Reflecting on a career journey workbook Reflecting on a career journey ppt	
Term 2 	Who are employers? How to research employers What skills do employers want? How to find vacancies Am I suitable for that role?	Exploring employer profiles workbook Exploring employer profiles ppt	
	What career is suitable for me? The difference between career and job Learning to use the careers library	What type of career is best for me? Workbook What type of career is best for me? ppt	
Term 3 	Interests profile	Interests profile ppt Interests profile quiz	
	Personality profile Learning about psychometric testing	Personality profile ppt Personality profile quiz Knowledge about psychometric testing through hyperlinks in the ppt	
Term 4 	Work environment profile	Work environment ppt	
	Skills profile What are skills The skills tool	Skills profile ppt Skills quiz What are skills hyperlink in ppt	
Term 6 	Skills test How do your skills compare to other students your age	Skills profile part 2 ppt Skills test – hyperlink in ppt	
	Reflecting on your psychometric tests	Reflecting on your psychometric tests workbook Reflecting on your psychometric tests ppt	

Useful websites to use  
<https://www.johnofgauntschool.org/parents-and-carers/careers-information>  
<https://nationalcareers.service.gov.uk/>  
<https://www.gov.uk/apply-apprenticeship>  
<https://www.ucas.com/>  
<https://www.wiltshire.ac.uk/>  
<https://www.bathcollege.ac.uk/>

Terms 2 - 6	Work Experience		
-------------	-----------------	--	--

### 3. Human Rights

#### Key terms

**Human Rights** – a fundamental right that every person is entitled to have, to be or to do.

**European Court of Human Rights** – the European court in France which hears cases where people feel their human rights have been breached.

**Convention** – an agreement with states covering particular matters.

**Article** – in this sense, a separate clause or paragraph of a legal document or agreement, typically one outlining a single rule or regulation.

**International Humanitarian Laws** – laws which cover the treatment of civilians and prisoners of war, as well as setting out what is illegal in a conflict.

#### Key agreements and treaties

Agreement or Treaty	Explanation
Universal Declaration of Human Rights (1948)	Set out, for the first time, basic human rights to be universally protected e.g. rights everyone in the world is entitled to and rights that should be protected worldwide. There are 30 'articles' – each states a right every human is entitled too e.g. The right to life, the right to a fair trial, the right to an education etc.
The European Convention on Human Rights (1950)	a treaty that was drafted in 1950. Each of the numbered "articles" protects a basic human right. They allow people to lead free and dignified lives. 47 states, including the UK, have signed up. That means that the UK commits to protecting the Convention rights. If a person's rights are being breached, and they can't get a solution in the UK under the Human Rights Act, the Convention lets them take their case to the European Court of Human Rights (ECHR). Note: the ECHR is not part of the European Union (EU) – so even when we leave the EU we would still be covered by ECHR decisions
The UN Convention on the Rights of the Child (1990)	54 articles that cover all aspects of a child's life and set out the civil, political, economic, social and cultural rights that all children everywhere are entitled to in order to survive, grow, participate and reach their potential.
The Human Rights Act (1998)	A UK law passed in 1998. It means that you can defend your rights in the UK courts and that public organisations (including the Government, the Police and local councils) must treat everyone equally, with fairness, dignity and respect. 3 main effects: 1. Incorporates the rights set out in the European Convention on Human Rights so if your human rights are breached you can take your case to a British court rather than having to go to the European Court of Human Rights (ECHR) in Strasbourg, France. 2. It requires all public bodies (courts, police, state schools, hospitals, local councils) to respect and protect your human rights. 3. Parliament will try and make sure new laws are compatible (matched) with the rights set out in the European Convention on Human Rights.

#### The role of international law in conflict situations

Within a conflict there are certain laws which are supposed to be adhered to. There are two very important International Humanitarian Laws:

1. The Geneva Conventions – originally signed to ensure the help for wounded soldiers by local people, but they were extended after WW1 and WW2 to include protection for civilians, the banning of chemical and biological weapons, landmines, laser weapons, cluster munitions and the protection of children in armed conflict.
2. The Hague Convention – deals with the conduct of warfare.

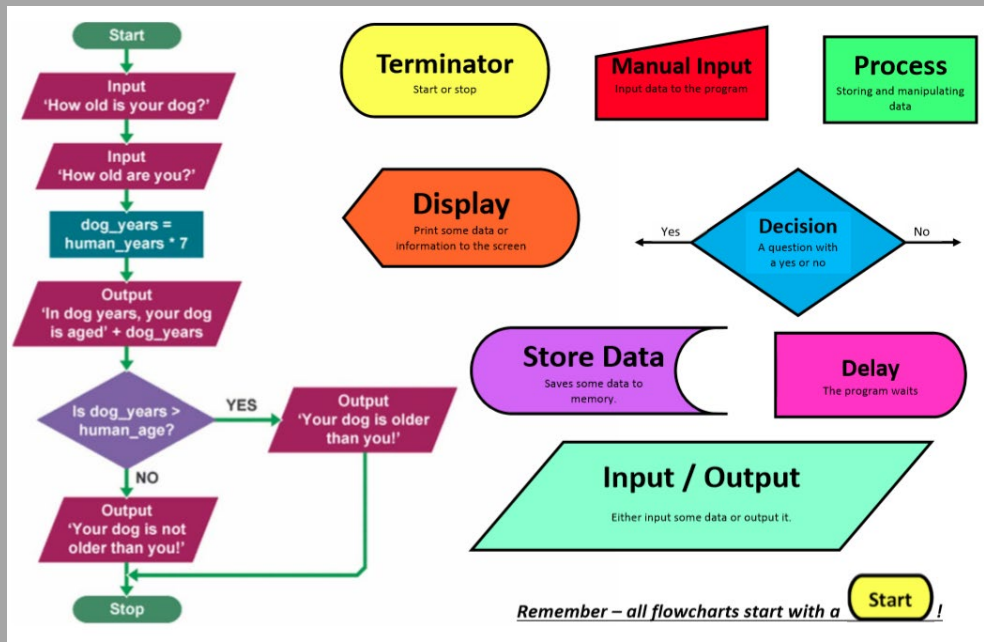
If individuals or governments violate international humanitarian laws, then they can be tried for war crimes at the International Criminal Court in The Hague in the Netherlands.

Key content

Comparative operators	
==	Equal to
!=	Not equal to (or different to)
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Arithmetic operators			
Operation	Symbol	Example	Output
Addition	+	2 + 10	12
Subtraction	-	9 - 6	3
Multiplication	*	5 * 4	20
Division	/	5 / 2	2.5
Floor Division	//	7 // 2	3
Remainder	%	7 % 3	1

Diagrams



Key vocab

Word	Definition
Abstraction	The process of removing unnecessary details and including only the relevant details. It is a method of computational thinking that focusses on what is important in problem solving
Decomposition	The process of breaking a complex problem down into smaller more manageable parts. Dealing with many different stages of a problem at once is much more difficult than breaking a problem down into a number of smaller problems and solving each, one at time.
Flowchart	A method of representing the sequences of steps in an algorithm in the form of a diagram. Sometimes called a Flow diagram
Structure Diagram	A diagram showing a top-down breakdown of a complex problem
Pseudocode	A text based alternative of representing the sequences of steps in an algorithm. Pseudo-code can be thought of as a simplified form of programming code.
OCR Reference Language	You must be able to read this but you can always use Python in your exams— but be precise
Syntax Error	Syntax errors are errors which break the grammatical rules of the programming language. They stop it from being run/translated
Logic Error	Errors which won't stop the program running. Logic errors are errors which produce unexpected output. E.g Outputting an answer that was multiplied when it should have been taken away

More info can be found here:

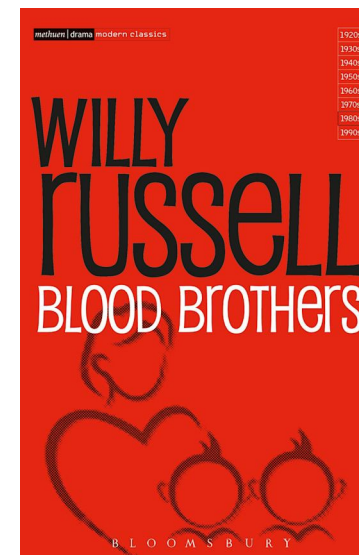
<https://youtu.be/wLJ1n47sGRI>

Word	Definition
Stage positions	Where an actor or prop or set piece is on stage
Stage left/stage right	It is the actor's left or right, as if you were the actor stood on stage looking at the audience
Upstage/down stage	In the past, stages were sloped towards the audience. Walking closer to the audience would literally be walking "down".
Backstage	Out of the view of the audience e.g. the wings or the dressing rooms. It's the stage manager's domain.

Word	Definition
In the round	Audience sit in a circle, staging can't obscure the audience's view and so has to be limited in height and careful attention to movement is required to avoid backs to the audience.
Traverse	Audience sat either side of the stage, similar to a cat-walk. Again staging can't obscure the audience's view and actors should not keep their back to the same section of the audience for too long.
Thrust	Thrust stage: Audience sit on three sides of the stage, this staging type does not have curtains to separate the audience from the stage which makes it difficult to change sets during a performance.
End-on/Proscenium Arch	The audience sit on raked seating, all facing the same direction. 'As if looking through a window', it is easier for an actor to block out the audience and also can create and use elaborate backdrops and sets.
Promenade	The audience are able to move from place to place through a story, allows for a very immersive experience and can draw on the environment for inspiration.

Role	Responsibilities of role
Director	In charge of all artistic elements of the play, works with all other roles, "concept"
Playwright	Writes the play
Performer	Realises a role within the play
Understudy	Learns the cues and lines of blocking of lead part in case of sickness
Light/sound/costume/set designer	Designs, plans and sources for their role
Technician	Work backstage setting up/running technical equipment e.g. microphones, lights, sound
Stage manager	Everything BACKSTAGE. Moves with the production, in charge of props and rehearsal schedule
Theatre manager	Everything FRONT OF HOUSE. Stays in the theatre, in charge of box office and ice cream

By the end of this term you have been introduced to the play-text we are going to study. "Blood Brothers" by Willy Russell. Including characters, themes and context.



# DESIGN TECHNOLOGY YEAR 10 MODULE 1 ENERGY GENERATION AND STORAGE

## KEY WORDS

**Fossil fuels:-** a natural fuel such as coal, oil or gas, formed from the remains of living organisms.

**Global warming:-** an increase in the temperature of the earth's atmosphere caused by the greenhouse effect and increased levels of greenhouse gases.

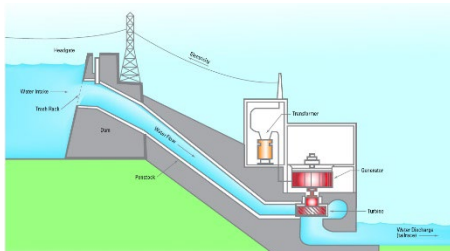
**Fission:-** the process in which uranium atoms are split and produce heat.

**Renewable energy:-** energy from a source that is not depleted when used, such as wind or solar power.

**Hydroelectricity:-** the process which uses a dam to block a river in a valley and channels water through turbines that are used to turn generators for producing electricity.

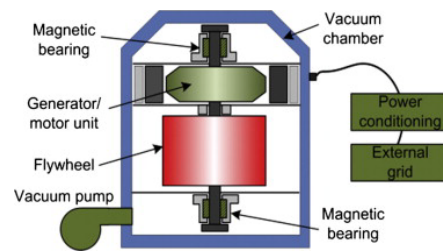
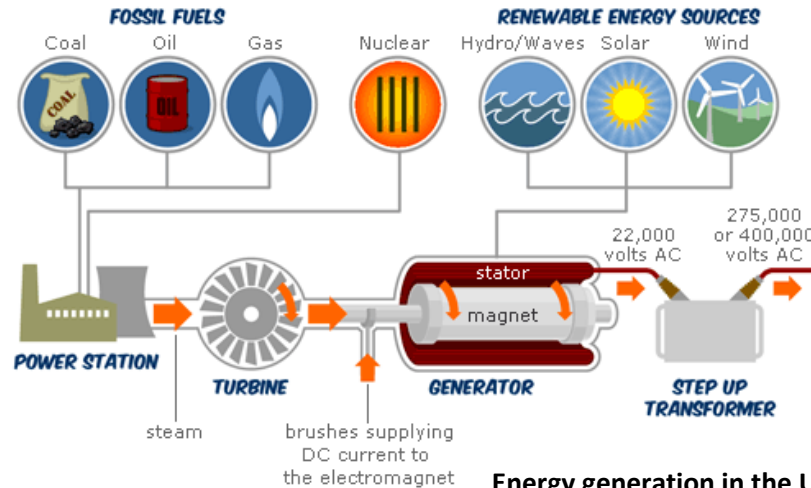
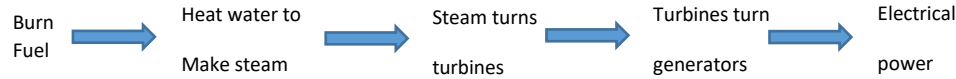
**Biomass:-** growing plants so that they can be burnt, or using decaying plant or animal materials to produce heat.

## Kinetic pumped storage system

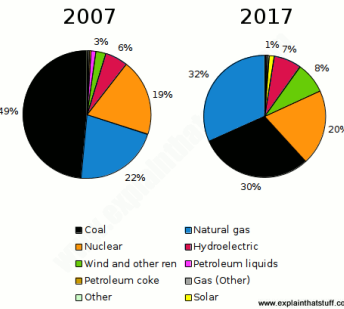


## DESIGN TECHNOLOGY

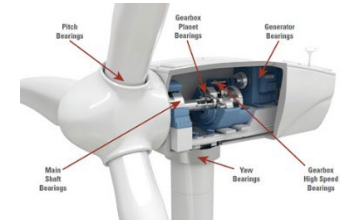
## Fossil fuels generation



## Energy generation in the UK



## Inside a wind turbine



## Alternative Energy Supplies

Renewable energy sources unlike fossil fuels do not tend to produce waste or significantly add to global warming by producing gases.

## Tidal energy supply

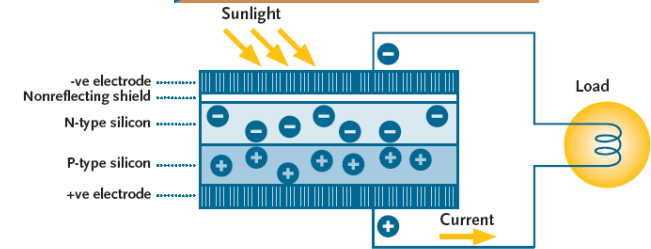
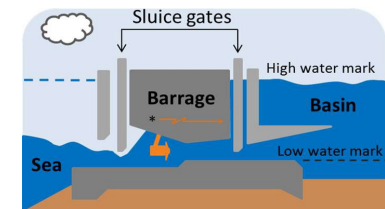
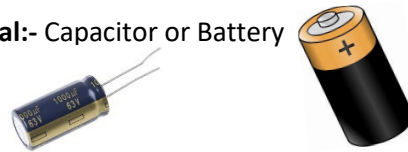


Figure 1 Principle of operation for PV cell

## Ways to store energy

**Mechanical:-** Flywheel or spring as in a clock mechanism.

**Electrical:-** Capacitor or Battery

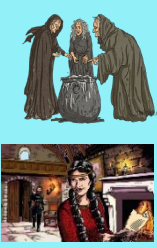
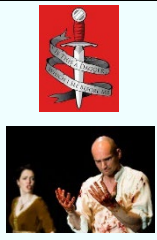





## KEY POINTS

- We rely on energy to power most aspects of our lives, such as light, heat, transport and communication.
- All fuels and biofuels cause pollution when burnt.
- Coal, gas and oil are fossil fuels, and are finite resources.
- Most renewable sources reduce the risk of pollution.
- Many renewables cannot provide a constant supply, unlike fossil fuel or nuclear-powered power stations.
- Storage systems cannot generate power, but are useful for when extra supply is needed quickly, or if it is not possible to connect to a supply.

The Tragedy of  
**MACBETH**  
By WILLIAM SHAKESPEARE

**Plot Summary**

<p><b>Act 1</b></p>		<p>The play opens with three <b>'wyrd sisters' (witches)</b> on a moor. We then hear that a soldier named <b>Macbeth</b> bravely fought in a battle to defend Scotland. Macbeth, with another general named <b>Banquo</b>, meets the three witches. They tell Macbeth he will be promoted to be Thane of Cawdor and then King of Scotland and tell Banquo that his descendants will be kings. Soon after, <b>King Duncan</b> names Macbeth Thane of Cawdor as a reward for his success. The King plans to visit Macbeth's castle. <b>Lady Macbeth</b> receives news from her husband about the prophecy. She vows to help him become king.</p>
<p><b>Act 2</b></p>		<p>Macbeth returns to his castle. Lady Macbeth persuades him to seize the crown. They plot together to murder King Duncan, who arrives shortly after. When everyone is asleep, Lady Macbeth gives the guards drugged wine so Macbeth can kill Duncan. Macbeth regrets it immediately. Lady Macbeth returns the bloody daggers to Duncan's room before <b>Macduff</b> arrives. When Macduff discovers the murder, Duncan's sons - <b>Malcolm</b> and <b>Donalbain</b> - flee, fearing for their own lives. They are blamed.</p>
<p><b>Act 3</b></p>		<p>Macbeth becomes King of Scotland but is plagued by insecurity and paranoia. He remembers the prophecy that Banquo's descendants will be kings and arranges for Banquo and his son <b>Fleance</b> to be killed. Banquo is murdered, but his son escapes. At a banquet that night, Macbeth sees the ghost of Banquo and worries everyone with his strange behaviour.</p>
<p><b>Act 4</b></p>		<p>Macbeth visits the witches. They make three more prophecies:</p> <ol style="list-style-type: none"> <li>1. Macbeth will be safe until Birnam Wood marches to Dunsinane.</li> <li>2. No man born of a woman will harm Macbeth.</li> <li>3. Macbeth should beware Macduff.</li> </ol> <p>Macbeth becomes tyrannical, slaughtering anyone who threatens him, including Macduff's family. Macduff has already gone to seek Malcolm in England. Malcolm is unsure but Macduff persuades him to lead an army against Macbeth.</p>
<p><b>Act 5</b></p>		<p>Macbeth feels safe in his castle at Dunsinane until he is told that Birnam Wood is moving towards him. Malcolm's army is carrying branches from the forest as camouflage. Meanwhile, Lady Macbeth feels so guilty that she sleepwalks, trying to wash imagined blood off her hands, before committing suicide. In the middle of battle, Macduff challenges Macbeth. Macbeth learns Macduff was born by caesarean and realises he is doomed. Macduff kills Macbeth and brings his head to Malcolm. Malcolm declares peace and is crowned King of Scotland.</p>

**Themes**

<p><b>Ambition</b> Macbeth is unable to resist the power of his ambition. It is his <b>hamartia</b>. Lady Macbeth is also ambitious. Both characters commit <b>treason</b> to fulfil their ambitions – ultimately leading to their downfalls.</p>
<p><b>Appearance and reality</b> Shakespeare introduces this theme when the witches chant 'Fair is foul and foul is fair' in the first scene. This is a play where appearances cannot be trusted. What might appear good, often turns out to be evil.</p>
<p><b>Power</b> The play is filled with power struggles. Lady Macbeth and the witches have the power to <b>manipulate</b> Macbeth. Shakespeare also questions if fate is more powerful than free will, through the prophecies. The power of God cannot be ignored as it seems Macbeth and Lady Macbeth are punished for committing <b>regicide</b> (a sin against God).</p>
<p><b>Chaos and Disorder</b> At the beginning of the play, everything is in order. However, when Duncan is murdered, the natural order is upset. From that point, there is chaos and disorder. This is shown through the disturbed mental states of Macbeth and Lady Macbeth, the unhappy state of Scotland and even the weather.</p>
<p><b>Guilt</b> Macbeth and Lady Macbeth are plagued by guilt after killing Duncan. Their guilt drives them each mad, in different ways. In the play the <b>motif</b> of blood represents guilt.</p>

**Key Vocabulary**

<p>tragedy</p>	<p>A play which deals with the downfall of a character and ends unhappily.</p>
<p>hamartia</p>	<p>The fatal flaw of a tragic hero</p>
<p>ambition</p>	<p>A strong desire to achieve something.</p>
<p>tyrant</p>	<p>A cruel and oppressive ruler.</p>
<p>treason</p>	<p>The crime of betraying one's country, especially by trying to get rid of an existing ruler</p>
<p>regicide</p>	<p>Killing the monarch (king or queen)</p>
<p>Machiavellian</p>	<p>Cunning, scheming and showing no moral principles – especially plotting to gain power</p>
<p>pathos</p>	<p>Something which makes an audience feel pity and fear</p>
<p>catharsis</p>	<p>The process of releasing strong emotions</p>
<p>soliloquy</p>	<p>Lines spoken by a character on stage directly to the audience</p>

**Quotations to Learn**

<p>"Fair is foul and foul is fair" <i>(The Witches)</i></p>	<p>"A little water clears us of this deed" <i>(Lady Macbeth)</i></p>	<p>"I am in blood, stepped in so far" <i>(Macbeth)</i></p>	<p>"come you spirits, unsex me here" <i>(Lady Macbeth)</i></p>
<p>"Look like th' innocent flower, But be the serpent under it" <i>(Lady Macbeth)</i></p>	<p>"Would all great Neptune's ocean wash this blood from my hands?" <i>(Macbeth)</i></p>	<p>"I have no spur to prick the sides of my intent, Only vaulting ambition" <i>(Macbeth)</i></p>	<p>"This dead butcher and his fiend-like queen" <i>(Malcolm)</i></p>
<p>"So foul and fair a day I have not seen" <i>(Macbeth)</i></p>	<p>"Out, damned spot" <i>(Lady Macbeth)</i></p>	<p>"Unseam'd him from the nave to the chaps" <i>(Messenger – about Macbeth)</i></p>	<p>"Macbeth has murdered sleep" <i>(Macbeth)</i></p>

# Macronutrients, fibre and water



## Macronutrients

Macronutrients provide energy. The macronutrients are:

- carbohydrate;
- protein;
- fat.

Macronutrients are measured in grams (g).

## Alcohol

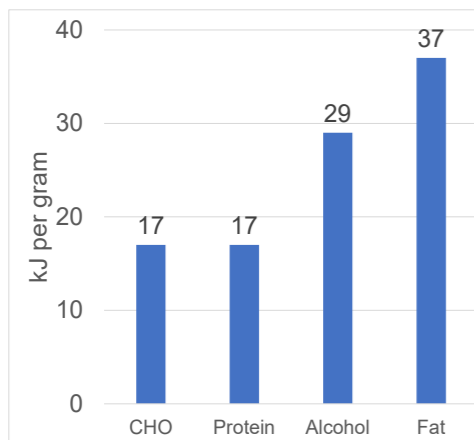
Alcohol is not considered a nutrient, but is a source of energy in the diet.

The government recommends no more than 14 units of alcohol per week for both men and women.

## Energy from food

- Energy intake is measured in joules (J) or kilojoules (kJ), but many people are more familiar with Calories (kcal).
- Different macronutrients, and alcohol, provide different amounts of energy.

	Energy per gram
Carbohydrate	16kJ (3.75 kcals)
Protein	17kJ (4 kcals)
Alcohol	29kJ (7kcals)
Fat	37kJ (9 kcals)



## Protein

- Made up of building blocks called amino acids.
- There are 20 amino acids found in protein.
- Eight amino acids have to be provided by the diet (called essential amino acids).

The essential amino acids (EAAs) are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

In young children, additional amino acids, e.g. histidine and tyrosine, are sometimes considered to be essential (or 'conditionally essential') because they may be unable to make enough to meet their needs.

## Recommendations

- 0.75g/kg bodyweight/day in adults.

Sources:

**Animal sources:** meat; poultry; fish; eggs; milk; dairy food.

**Plant sources:** soya; nuts; seeds; pulses, e.g. beans, lentils; mycoprotein.

## Protein complementation

Different food contains different amounts and combinations of amino acids.

Vegans and vegetarians can get all the amino acids they need by combining different protein types at the same meal. This is known as protein complementation.

Examples are:

- rice and peas;
- beans on toast;
- hummus and pitta bread;
- bean chilli served with rice.

## Carbohydrate

All types of carbohydrate are compounds of carbon, hydrogen and oxygen. They can be divided into three main groups according to the size of the molecule.

These three types are:

- monosaccharides (e.g. glucose);
- disaccharides (e.g. lactose);
- polysaccharide (e.g. sucrose).

The two types main of carbohydrate that provide dietary energy are starch and sugars. Dietary fibre is also a type of carbohydrate.

Starchy carbohydrate is an important source of energy.

Starchy foods - we should be choosing wholegrain versions of starchy foods where possible.

## Recommendations

- Total carbohydrate - around 50% of daily food energy.
- Free sugars include all sugars added to foods plus sugars naturally present in honey, syrups and unsweetened fruit juice (<5% daily food energy).
- Fibre is a term used for plant-based carbohydrates that are not digested in the small intestine (30g/day for adults).

## Fibre

- Dietary fibre is a type of carbohydrate found in plant foods.
- Food examples include wholegrain cereals and cereal products; oats; beans; lentils; fruit; vegetables; nuts; and, seeds.

Dietary fibre helps to:

- reduce the risk of heart disease, diabetes and some cancers;
- help weight control;
- bulk up stools;
- prevent constipation;
- improve gut health.

## Fat

Sources of fat include:

- saturated fat;
- monounsaturated fat;
- polyunsaturated fat.

Fats can be saturated, when they have no double bonds, monounsaturated, when they have one double bond, or polyunsaturated, when they have more than one double bond.

## Recommendations

- <35% energy, Saturated fat <11% energy.

A high saturated fat intake is linked with high blood cholesterol levels.

## Sources:

**Saturated fat:** fatty cuts of meat; skin of poultry; butter; hard cheese; biscuits, cakes and pastries; chocolate.

**Monounsaturated fat:** edible oils especially olive oil; avocados; nuts.

**Polyunsaturated fatty acids:** edible oils especially sunflower oil; seeds; margarine; spreadable fats made from vegetable oils and oily fish.

**Dietary reference values (DRVs)** are a series of estimates of the energy and nutritional requirements of different groups of healthy people in the UK population. They are not recommendations or goals for individuals.

**Reference Intakes** are guidelines for the maximum amount of energy (calories), fat, saturated fat, sugars and salt consumed in a day (based on a healthy adult female).

## Tasks

1. Create an infographic on macronutrients. Focus on the definition of each nutrient, daily recommendations and source.
2. Keep a food diary for four days and calculate the macronutrients provided per day. <http://explorefood.foodafactoflife.org.uk>

## Key terms

**Dietary reference values:** Estimated dietary requirements for particular groups of the population.

**Essential amino acids:** 8 of the different amino acids found in proteins from plants and animals that have to be provided by the diet.

**Macronutrients:** Nutrients needed to provide energy and as the building blocks for growth and maintenance of the body.

**Protein complementation:** Combining different protein types at the same meal to ensure all EAAs are ingested.

**Reference Intakes:** Guidelines for the maximum amount of nutrients consumed.

## Hydration

- Aim to drink 6-8 glasses of fluid every day.
- Water, lower fat milk and sugar-free drinks including tea and coffee all count.
- Fruit juice and smoothies also count but should be limited to no more than a combined total of 150ml per day.

20% of water is provided by food such as soups, yogurts, fruit and vegetables.

The other 80% is provided by drinks such as water, milk and juice.

Drinking too much water can lead to 'water intoxication' with potentially life threatening hyponatraemia.

This is caused when the concentration of sodium in the blood gets too low.

For more information, go to: <https://bit.ly/36KUnji>

## What is an Ecosystem?

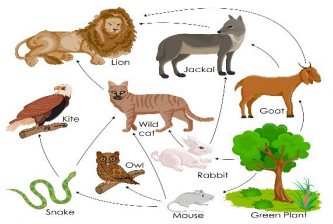
An ecosystem is a system in which organisms interact with each other and with their environment.

## Ecosystem Components

**Abiotic** These are **non-living**, such as air, water, heat and rock.

**Biotic** These are **living**, such as plants, insects, and animals.

<b>Flora</b>	Plant life occurring in a particular region or time.
<b>Fauna</b>	Animal life of any particular region or time.

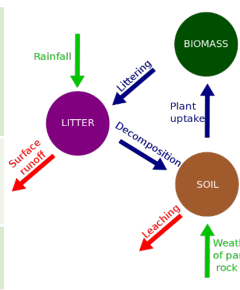


## Food Web and Chains

Simple **food chains** are useful in explaining the basic principles behind ecosystems. They show only one species at a particular trophic level. **Food webs** however consists of a network of many food chains interconnected together.

## Nutrient cycle

Plants take in **nutrients** to build into new organic matter. Nutrients are taken up when animals eat plants and then returned to the soil when animals die and the body is broken down by **decomposers**.

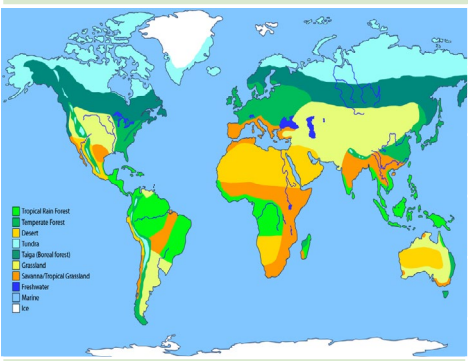


**Litter** This is the **surface layer** of vegetation, which over time breaks down to become **humus**.

**Biomass** The total **mass of living organisms** per unit area.

## Biomes

A biome is a **large geographical area of distinctive plant and animal groups**, which are adapted to that particular environment. The climate and geography of a region determines what type of biome can exist in that region.



Coniferous forest
Deciduous forest
Tropical rainforests
Tundra
Temperate grasslands
Tropical grasslands
Hot deserts.

The **most productive biomes** – which have the greatest biomass- grow in climates that are **hot and wet**.

## Biome's climate and plants

Biome	Location	Temperature	Rainfall	Flora	Fauna
<b>Tropical rainforest</b>	Centred along the Equator.	Hot all year (25-30°C)	Very high (over 200mm/year)	Tall trees forming a canopy; wide variety of species.	Greatest range of different animal species. Most live in canopy layer
<b>Tropical grasslands</b>	Between latitudes 5°- 30° north & south of Equator.	Warm all year (20-30°C)	Wet + dry season (500-1500mm/year)	Grasslands with widely spaced trees.	Large hoofed herbivores and carnivores dominate.
<b>Hot desert</b>	Found along the tropics of Cancer and Capricorn.	Hot by day (over 30°C) Cold by night	Very low (below 300mm/year)	Lack of plants and few species; adapted to drought.	Many animals are small and nocturnal: except for the camel.
<b>Temperate forest</b>	Between latitudes 40°- 60° north of Equator.	Warm summers + mild winters (5-20°C)	Variable rainfall (500-1500m /year)	Mainly deciduous trees; a variety of species.	Animals adapt to colder and warmer climates. Some migrate.
<b>Tundra</b>	Far Latitudes of 65° north and south of Equator	Cold winter + cool summers (below 10°C)	Low rainfall (below 500mm/ year)	Small plants grow close to the ground and only in summer.	Low number of species. Most animals found along coast.

# Unit 1b The Living World

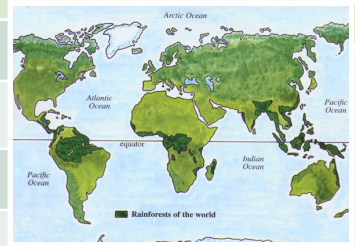


## Tropical Rainforest Biome

Tropical rainforest covers about **6%** of the Earth's land surface yet they are home to **over half of the world's plant and animals**.

## Interdependence in the rainforest

A rainforest works through **interdependence**. This is where the plants and animals **depend on each other** for survival. If one component changes, there can be **serious knock-on effects** for the entire ecosystem.



## Distribution of Tropical Rainforests

Tropical rainforests are **centred along the Equator** between the Tropic of Cancer and Capricorn. Rainforests can be found in South America, central Africa, South-East Asia & North West Australia. **The Amazon** is the world's largest rainforest and takes up the majority of northern South America, encompassing countries such as Brazil and Peru.

## Rainforest nutrient cycle

The **hot, damp conditions** on the forest floor allow for the **rapid decomposition** of dead plant material. This provides plentiful nutrients that are easily absorbed by plant roots. However, as these nutrients are in high demand from the many fast-growing plants, they do not remain in the soil for long and stay close to the surface. If vegetation is removed, the soils quickly become **infertile**.

## Climate of Tropical Rainforests

- Temperatures are consistently above **25°C**.
- Due to the **presence of clouds**, temperatures rarely rise above **32°C**.
- Most afternoons have heavy showers.
- At night with no clouds insulating, temperature drops.

## CASE STUDY: UK Ecosystem: Epping Forest, Essex

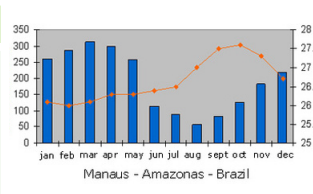
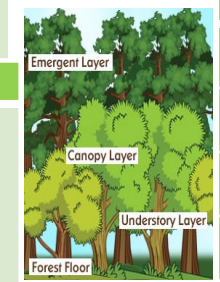


This is a typical English lowland deciduous woodland. **70% of the area** is designated as a **Site of Special Scientific Interest (SSI)** for its biological interest, with **66%** designated as a **Special Area of Conservation (SAC)**.

Components & Interrelationships	Management
<b>Spring</b> Flowering plants (producers) such as bluebells store nutrients to be eaten by consumers later.	- Epping has been managed for centuries. - Currently now used for <b>recreation and conservation</b> . - Visitors <b>pick fruit</b> and berries, helping to <b>disperse seeds</b> . - Trees cut down to encourage <b>new growth for timber</b> .
<b>Summer</b> Broad tree leaves grow quickly to <b>maximise photosynthesis</b> .	
<b>Autumn</b> Trees shed leaves to <b>conserve energy</b> due to sunlight hours decreasing.	
<b>Winter</b> Bacteria <b>decompose</b> the leaf litter, releasing the nutrients into the soil.	

## Layers of the Rainforest

<b>Emergent</b>	Highest layer with trees reaching <b>50 metres + e.g. Kapok trees</b>
<b>Canopy</b>	Most life is found here as it receives <b>70% of the sunlight</b> and <b>80% of the life</b> .
<b>Under Canopy</b>	Consists of trees that reach <b>20 metres high</b> .
<b>Shrub Layer</b>	Lowest layer with <b>small trees</b> that have adapted to living in the <b>shady conditions</b>





# Tropical Rainforests: Case Study Malaysia









Malaysia is a LIC country in south-east Asia. 67% of Malaysia is a tropical rainforest with 18% of it not being interfered with. However, Malaysia has the fastest rate of deforestation compared to anywhere in the world

Adaptations to the rainforest		Rainforest indigenous people (tribes)
<b>Buttress roots</b>	Large external base ridges support the huge trees.	Many tribes have developed sustainable ways of survival. The rainforest provides inhabitants with... <ul style="list-style-type: none"> <li>• <b>Food</b> through hunting and gathering.</li> <li>• <b>Natural medicines</b> from forest plants.</li> <li>• <b>Homes and boats</b> from forest wood.</li> </ul>
<b>Drip Tips</b>	Allows heavy rain to <b>run off leaves easily</b> .	
<b>Lianas &amp; Vines</b>	<b>Climb</b> trees to reach sunlight in the canopy.	


## Issues related to biodiversity

Why are there high rates of biodiversity?	What are the causes of deforestation?
<ul style="list-style-type: none"> <li>• <b>Warm and wet climate</b> encourages a wide range of vegetation to grow.</li> <li>• There is <b>rapid recycling of nutrients</b> to speed plant growth.</li> <li>• Most of the rainforest is <b>untouched</b>.</li> </ul>	<p><b>Logging</b> </p> <ul style="list-style-type: none"> <li>• Most widely reported cause of destruction to biodiversity.</li> <li>• Timber is harvested to create <b>commercial items</b> such as furniture and paper.</li> <li>• <b>Violent confrontation</b> between indigenous tribes and logging companies.</li> </ul> <p><b>Agriculture</b> </p> <ul style="list-style-type: none"> <li>• Large scale <b>'slash and burn'</b> of land for ranches and palm oil.</li> <li>• Increases <b>carbon emissions</b>.</li> <li>• <b>River siltation and soil erosion</b> increasing due to the large areas of <b>exposed land</b>.</li> <li>• Increase in <b>palm oil</b> is making the <b>soil infertile</b>.</li> </ul>

Main issues with biodiversity decline	Mineral Extraction	Tourism
<ul style="list-style-type: none"> <li>• <b>Keystone species</b> (a species that is important to other species) are extremely important in the rainforest ecosystem. Humans are threatening these vital components.</li> <li>• <b>Decline in species</b> could cause tribes being unable to survive.</li> <li>• <b>Plants &amp; animals</b> may become <b>extinct</b>.</li> <li>• Key plants used in medicine are <b>extinct</b>.</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>• <b>Precious metals/ores</b> are found in the rainforest.</li> <li>• Areas <b>mined</b> can experience <b>soil and water contamination</b>.</li> <li>• <b>Indigenous people</b> are becoming <b>displaced</b> from their land due to roads being built to transport products.</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>• <b>Mass tourism</b> is resulting in the building of hotels in extremely <b>vulnerable areas</b>.</li> <li>• Lead to <b>negative relationship</b> between the government and indigenous tribes</li> <li>• Tourism has <b>exposed animals</b> to human diseases.</li> </ul>

Impacts of deforestation	Energy Development	Road Building
<p><b>Economic development</b> </p> <ul style="list-style-type: none"> <li>+ Mining, farming and logging creates employment and tax income for government.</li> <li>+ Products such as palm oil provide valuable income for countries.</li> <li>- The loss of biodiversity will reduce tourism.</li> </ul> <p><b>Soil erosion</b> </p> <ul style="list-style-type: none"> <li>- Once the land is <b>exposed by deforestation</b>, the soil is more <b>vulnerable to rain</b>.</li> <li>- With <b>no roots to bind soil together</b>, soil can easily be <b>washed away</b>.</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>• The <b>high rainfall</b> creates ideal conditions for <b>hydro-electric power (HEP)</b>.</li> <li>• The <b>Bakun Dam</b> in Malaysia is key for creating energy in this developing country, however, both people and environment have suffered.</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>• <b>Roads</b> are needed to bring supplies and <b>provide access</b> to new mining areas, settlements and energy projects.</li> <li>• In Malaysia, logging companies use an <b>extensive network of roads</b> for heavy machinery and to transport wood.</li> </ul>

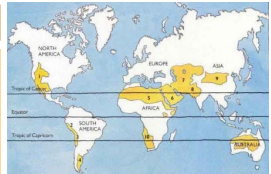
## Sustainability for the Rainforest

Climate Change
<p></p> <ul style="list-style-type: none"> <li>-When rainforests are cut down, the climate becomes <b>drier</b>.</li> <li>-Trees are <b>carbon 'sinks'</b>. With greater deforestation comes more greenhouse emissions in the atmosphere.</li> <li>-When trees are burnt, they <b>release more carbon in the atmosphere</b>. This will enhance the <b>greenhouse effect</b>.</li> </ul>
<p>Uncontrolled and unchecked exploitation can cause irreversible damage such as loss of biodiversity, soil erosion and climate change.</p> <p>Possible strategies include:</p> <ul style="list-style-type: none"> <li>• <b>Agro-forestry</b> - Growing trees and crops at the same time. It prevents soil erosion and the crops benefit from the nutrients.</li> <li>• <b>Selective logging</b> - Trees are only felled when they reach a particular height, or only certain trees are taken, not all.</li> <li>• <b>Education</b> - Ensuring local people understand the consequences of deforestation</li> <li>• <b>Afforestation</b> - If trees are cut down, they are replaced.</li> <li>• <b>Forest reserves</b> - Areas protected from exploitation by laws</li> <li>• <b>Ecotourism</b> - tourism that promotes the environment &amp; conservation</li> </ul>

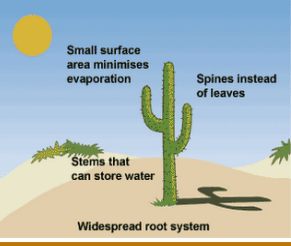

# Thar Desert – India/Pakistan or the Mojave in the SW of the USA




The Thar Desert is located on the border between India and Pakistan in Southern Asia whereas the Mojave is located in the South West of the USA

Distribution of the world's hot deserts	Major characteristics of hot deserts
<p>Most of the world's hot deserts are found in the <b>subtropics</b> between <b>20 degrees and 30 degrees north &amp; south</b> of the Equator. The <b>Tropics of Cancer and Capricorn</b> run through most of the world's major deserts.</p> 	<ul style="list-style-type: none"> <li>• <b>Aridity</b> – hot deserts are extremely dry, with annual rainfall below <b>250 mm</b>.</li> <li>• <b>Heat</b> – hot deserts rise over <b>40 degrees</b>.</li> <li>• <b>Landscapes</b> – Some places have dunes, but most are <b>rocky with thorny bushes</b>.</li> </ul>

Hot Deserts inhabitants	Climate of Hot Deserts
<ul style="list-style-type: none"> <li>- People often live in large <b>open tents to keep cool</b>.</li> <li>- Food is often <b>cooked slowly</b> in the <b>warm sandy soil</b>.</li> <li>- <b>Head scarves</b> are worn by men to provide <b>protection from the Sun</b>.</li> </ul>	<p></p> <ul style="list-style-type: none"> <li>• <b>Very little rainfall</b> with less than <b>250 mm</b> per year.</li> <li>• It might only rain <b>once every two to three years</b>.</li> <li>• Temperatures are <b>hot in the day</b> (45 °C) but are <b>cold at night</b> due to little cloud cover (5 °C).</li> <li>• In winter, deserts can sometimes receive occasional frost and snow.</li> </ul>  <p>T = 25.9 °C P = 18 mm</p>

Adaptations to the desert	Desert Interdependence
<p></p> <ul style="list-style-type: none"> <li>• <b>Small surface area</b> minimises evaporation</li> <li>• <b>Spines instead of leaves</b></li> <li>• <b>Stems that can store water</b></li> <li>• <b>Widespread root system</b></li> </ul>	<p>Different parts of the hot desert ecosystem are <b>closely linked together and depend on each other</b>, especially in such a harsh environment.</p> 

Opportunities and challenges in the Hot desert	
Opportunities	Challenges
<ul style="list-style-type: none"> <li>• <b>There are valuable minerals for industries and construction</b>. E.g. <b>gypsum &amp; phosphorus</b></li> <li>• <b>Energy resources</b> such as coal and oil can be found in these deserts</li> <li>• <b>Great opportunities for renewable energy</b> such as solar power.</li> <li>• <b>Thar and Mojave deserts</b> has attracted tourists.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>The extreme heat makes it difficult to work outside for very long</b>.</li> <li>• <b>High evaporation rates from irrigation canals and farmland</b>.</li> <li>• <b>Water supplies are limited, creating problems for the increasing number of people moving into the area</b>.</li> <li>• <b>Access through the desert is tricky as roads are difficult to build and maintain, and tarmac can melt in the heat</b>.</li> </ul>

Causes of Desertification		Strategies to reduce Desertification
<p><b>Desertification means the turning of semi-arid areas (or drylands) into deserts.</b></p>	<p><b>Climate Change</b> </p> <p>Lower rainfall and rising temperatures have meant less water for plants.</p>	<ul style="list-style-type: none"> <li>• <b>Water management</b> - growing crops that don't need much water.</li> <li>• <b>Tree Planting</b> - trees can act as windbreakers to protect the soil from wind and soil erosion.</li> <li>• <b>Soil Management</b> - leaving areas of land to rest and recover lost nutrients.</li> <li>• <b>Technology</b> – using less expensive, sustainable materials for people to maintain. i.e. sand fences, terraces to stabilise soil and solar cookers to reduce deforestation.</li> </ul>
<p><b>Fuel Wood</b></p> <p>People rely on wood for fuel. This removal of trees causes the soil to be exposed.</p>	<p><b>Overgrazing</b></p> <p>Too many animals mean plants are eaten faster than they can grow back. Causing soil erosion.</p>	
<p><b>Over-Cultivation</b></p> <p>If crops are grown in the same areas too often, nutrients in the soil will be used up causing soil erosion.</p>	<p><b>Population Growth</b></p> <p>A growing population puts pressure on the land leading to more deforestation, overgrazing and over-cultivation.</p>	

**Summary 1954-60**

By the early 1950s, slavery had been abolished and black Americans were equal to white Americans by law. However, black Americans were not actually treated as equal, as all over the USA black Americans lived in the worst areas and had access to the worst facilities. This was at its worst in the South, as most Southern states had a system of segregation which kept black and white communities separate. For example, local laws meant black Americans could not use the same toilets or restaurants as white people. Black Americans had the right to vote, but were stopped by a system that deliberately discriminated against them, by threats and by violence. Some black Americans in the South tried to improve their lives by joining the civil rights movement to campaign for equality. During the early stages of the civil rights movement, progress was made in education and the Montgomery Bus Boycott, with the culmination of the Civil Rights Act in 1957. However, with this progress being made, Southern opposition to civil rights grew as attempts were made to hinder the success of the movement.

Progress in Education	The Montgomery Bus Boycott
One of the biggest segregation issues in the South was education. The Brown V. Topeka case was significant in ruling against segregation in schools. However, with no timescale placed on desegregation, this was still a problem in Southern schools as seen in the case of the Little Rock Nine. As threats of violence increased, civil rights groups became aware of the power of the media to help their cause.	Rosa Parks was arrested after refusing to give up her bus seat for a white man. This sparked the bus boycott which lasted 381 and almost all black people in Montgomery took part. As head of the MIA, Martin Luther King became the voice of the campaign. He understood the importance of publicity, which was crucial for success. The boycott ended in 1956 with the Supreme Court decision to segregate public transport.

<b>1954</b> Brown v. Topeka case ruled AGAINST segregated education	<b>1955</b> Murder of Emmett Till, a 14 year old African American, by the KKK	<b>1955</b> Start of Montgomery Bus Boycott— December (Rosa Parks)	<b>1956</b> Montgomery Bus Boycott ends. Segregation on public transport ruled unlawful
---	---	--	---

**Enquiry Question: What kind of change could African Americans see in the period 1954-1960?**



Key Figures	
<b>Emmet Till</b>	A 14-year-old from Chicago who was murdered in 1955 by two white men whilst visiting relatives in Mississippi. His mother insisted on an open-casket at his funeral which gained much publicity for
<b>Linda Brown</b>	In 1951, the Browns and 12 other families went to court to fight for their black children to be able to attend the nearest school which was 'white' in the Brown V. Topeka case.
<b>Rosa Parks</b>	In 1955, Parks was arrested after refusing to give up her seat on a bus for a white person. This sparked the Montgomery Bus Boycott.
<b>Martin Luther King</b>	Civil Rights leader who came to prominence during the Montgomery

**Challenge**

*Why did Emmett Till's mother decide to have an open viewing of his body at the funeral home?*

*Why did Rosa Parks become the figurehead of the Montgomery Bus Boycott?*

*What impact did the Little Rock 9 have on attitudes towards integration in the South?*

<b>1956</b> The Southern Manifesto signed by Southern Politicians to encourage segregation	<b>1957</b> President Eisenhower used National Guard to protect 9 black students at Little Rock High School	<b>1957</b> Civil Rights Act: all people had right to vote and Federal Government to look for racial discrimination	<b>1960</b> Civil Rights Act: aimed to protect voting rights of black citizens
--	---	---	--

# GCSE History

## Development of Civil Rights Movement

Key Concepts	
<b>Federal</b>	The central US government responsible for laws that govern the whole country.
<b>State</b>	All US states have their own governments and laws.
<b>Supreme Court</b>	The top court for the whole of the USA. It has the power to overrule state laws if necessary.
<b>Literacy Test</b>	Baffling tests designed to prevent black Americans from voting.
<b>Senators</b>	US politicians, members of the Senate.
<b>Lynching</b>	The murder of African Americans.



Other Resources	
<a href="https://www.bbc.co.uk/bitesize/guides/zpcwmn/revision/1">https://www.bbc.co.uk/bitesize/guides/zpcwmn/revision/1</a>	
<a href="https://www.youtube.com/watch?v=S64zRnnn4Po">https://www.youtube.com/watch?v=S64zRnnn4Po</a>	
<a href="https://www.youtube.com/watch?v=JeE2WqIHFTc">https://www.youtube.com/watch?v=JeE2WqIHFTc</a>	



SCAN ME



Key Vocabulary	
<b>Segregation</b>	Separating groups due to their race e.g. separate housing, education, health care, or public transport for black and white people.
<b>Discrimination</b>	Treating people unfairly because of their race or religion.
<b>Jim Crow Laws</b>	'Black code' laws enforcing segregation, named after 'Jim Crow' (a lazy, stupid black character played by a white comedian).
<b>Integration</b>	Black and white people sharing facilities e.g. the same schools.
<b>NAACP</b>	(National Association for the Advancement of Coloured People). A pressure group founded in 1909 that focused on eliminating racial discrimination and on fighting for civil rights in the courts.
<b>CORE</b>	(Congress of Racial Equality). Established in 1942, this group used non-violent direct action protests e.g. the first group to use the tactic of sit-ins.
<b>Non-violent direct action</b>	Forms of protest that don't include violence e.g. boycotts, sit-ins.
<b>Plessy V. Ferguson</b>	'Separate but equal' - A law of 1896 said segregation was allowed if conditions for blacks and whites were equal
<b>Desegregation</b>	Removal of the policy of segregation
<b>WPC</b>	(Women's Political Council) set up in Montgomery in 1946 to fight discrimination.
<b>MIA</b>	(Montgomery Improvement Association) led by Martin Luther King, set up to improve the lives of black people in Montgomery and to continue the bus boycott.
<b>Boycott</b>	Refusal to use a service if you believe it is doing something wrong (e.g. discriminating against black people on buses).
<b>Dixiecrats</b>	Democratic Party senators from Southern States who opposed black voting rights.
<b>Ku Klux Klan (KKK)</b>	(Ku Klux Klan) A secret society of white people in the South who believed in white supremacy and used violence against black people (and other minority groups).
<b>WCC</b>	(White Citizens' Council) petitioned and campaigned against desegregation .
<b>Southern Manifesto</b>	A document written by Congress in 1956 opposing racial integration of public places.
<b>SCLC</b>	(Southern Christian Leadership Council) set up church-based protests, Martin Luther King was one of its leaders.

## Health and Social Care Component 1: adapting to change

### Key terms:

#### Recap:

**Life events:** are unexpected or expected events that can affect development.

**Expected:** is a belief that something is about to happen

**Unexpected:** not thought of as likely to happen.

#### New terms:

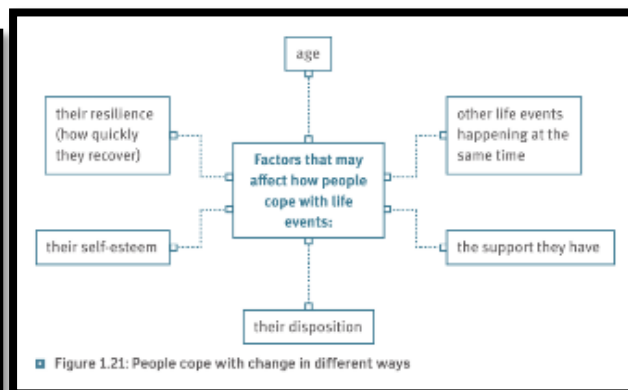
**Resilience:** an ability to come to terms with and adapt to changes that happen in life.

**Support:** to give help/assistance to another person.

**Understanding change:** Thinking about how change may affect people, thinking about how they can adapt to the change.

**Giving time:** people may need a long time to adapt to changes in their life. They may need support to do this.

**Effective support:** is about giving people the confidence they need to adapt



event	Why some people may find this difficult
<b>accident</b>	May feel a loss of old self (self-image) May feel a loss of skills and abilities
<b>redundancy</b>	May feel a loss of routine, colleagues and friends May feel a loss of earnings
<b>Moving house</b>	May feel a loss of neighbours and friends May feel anxious because of a change of environment
<b>Starting a family</b>	May feel a loss of independence May miss old lifestyle

**Formal support:** advice/help given by professionals who are trained, and paid, to give support to people. E.g. doctor, midwife, therapist.

**Information and advice:** Information and advice is important because it helps people understand; where to go for help, choices available to them, how to make healthy choices.

**Financial support:** some people will need money to help them adapt to changes, for example an individual with a change of physical condition might need financial assistance to adapt their home to make it easier to move around in.

**Childcare:** childcare may be needed to support parents who have a long-term health condition or is disabled. It can support a lone parent after a divorce or provide respite care for children who need 24 hour care.

**Transport:** Transport can support people with mobility problems. A car could be adapted to support someone who is unable to walk after an accident.

Table 1.6: The positive and negative effects of some life circumstances

Life circumstances	Possible positive effects	Possible negative effects
Moving house	Excitement because of new experiences, opportunities to meet new people and discover new areas	<ul style="list-style-type: none"> <li>Anxiety and stress at the physical and mental pressures of moving</li> <li>Possible loss of close friends/neighbours</li> </ul>
Starting or moving school	Opportunities to build new friendships and relationships and learn new things	<ul style="list-style-type: none"> <li>Anxiety about learning new routines and building relationships</li> <li>Young children may feel insecure when leaving parents for the first time</li> </ul>
Exclusion from education	May remove the stress that caused the exclusion	<ul style="list-style-type: none"> <li>Can lower self-image and self-esteem</li> <li>Missed schooling may affect learning and loss of friendships</li> </ul>
Redundancy	Opportunities to take on new/different challenges or career	<ul style="list-style-type: none"> <li>Can lower self-image and self-esteem</li> <li>Loss of earning may impact on diet/lifestyle choices, ability to socialise</li> </ul>
Imprisonment	May provide opportunities for: <ul style="list-style-type: none"> <li>learning</li> <li>developing new skills</li> <li>making different life choices.</li> </ul>	<ul style="list-style-type: none"> <li>Can lower self-image and self-esteem</li> <li>Loss of independence</li> <li>Loss of social contact</li> </ul>
Retirement	<ul style="list-style-type: none"> <li>Reduced stress</li> <li>More time to spend with family</li> <li>More time to take on new interests and hobbies</li> </ul>	<ul style="list-style-type: none"> <li>Loss of relationships with colleagues</li> <li>Loss of self-image if people lack purpose in life</li> </ul>



**Informal support:** support given by partners, family and friends.

**Reassurance:** words of advice and comfort to make someone feel less worried.

**Advice:** Family and friends are a good source of advice because they know a person's background, needs and can recognise if someone is not coping.

**Security:** Make someone feel safe

**Practical support:** help can be given by supporting everyday tasks, providing childcare, helping with transport.

## KEY TERMINOLOGY:

**Denotation:** actual/literal meaning e.g. a candle.

**Connotation:** deeper meanings e.g. a candle might connote hope or light, or have religious connotations.

**Codes and conventions:** the elements of media

language that usually occur in particular forms

(e.g. magazines or adverts) or genres (e.g. sitcom).

**Narrative:** how stories are structured and communicated.

**Genre:** the type or category of product (e.g. crime, sitcom).

**Intertextuality:** where a media product refers to another text to communicate meaning to the audience.

## KEY CONTENT:

**The various forms of media language used to create and communicate meanings in media products, for example:**

**Visual codes:** elements that relate to the look of a product, e.g. mise-en-scène, colour palette, layout and design.

**Technical codes:** e.g. camera shots/ angles, editing.

**Audio codes:** e.g. non-diegetic music, effects, dialogue.

**Language codes:** written or spoken words.

**Apply it...** analyse how these elements of media language are used in the set products e.g. *the red, white and black colour palette on the set GQ cover connotes masculine strength and power to appeal to the target audience.*

## KEY CONTENT:

**How choice (selection, combination and exclusion) of elements of media language influences meaning in media products, for example:**

- How the selection and combination of camera shots **creates narrative** in the *set television episodes* or *music videos*.
- How the written text anchors meanings in the images on the *set newspaper front pages* to **portray aspects of reality**
- What has been excluded from the *set print advertisements*— and how the **point of view** might be different if alternative elements had been included.
- How the combination of design elements, images and cover lines **conveys messages and values** on the *set magazine front covers*.

**Apply it...** analyse how the choices producers make about media language communicates meanings in the set products.

E.g. *the combination of images and headline on the front page of The Sun (for assessment from 2021) conveys patriotic values and communicates a point of view that MPs should vote for the Brexit Bill.*

**Give examples to support this point.**

## WHERE WILL I NEED TO STUDY/ APPLY MEDIA LANGUAGE?

### COMPONENT 1: Section A

**Question 1 will require analysis of one of the set products detailed on Page 11 of the Specification:** magazine front covers, newspaper front pages, film posters and print adverts.

### COMPONENT 2: Section A

**Question 1 will require analysis of media language or representation in an extract from the set television crime drama or sitcom.**

### COMPONENT 2: Section B

**Question 3 will require analysis of media language or representation in the set music products detailed on page 19 of the Specification:** music videos and online media.

### COMPONENT 3

Learners will be assessed on their ability to use media language to communicate meanings in the production work (Non-Exam Assessment).

## KEY CONTENT:

**Codes and conventions of media language: how they develop and become established as 'styles' or genres, for example:**

How the conventions of a genre (e.g. crime drama or sitcom) have developed and solidified.

**How they may vary over time, for example:**

How the conventions of a form (e.g. print advertising) have changed, due to new technologies and changing social/ cultural contexts.

**Apply it...** analyse how the contemporary set print advert, film poster, television programme and music videos show developments from the older/ historical set products you have studied.

E.g. *The Spectre poster uses digital technology to construct an enigmatic layered main image in contrast to the montage of drawn images depicting narrative scenes in the historical poster.*

## KEY CONTENT:

**Intertextuality, including how inter-relationships between media products can influence meaning:**

Several set products use intertextuality, for example the set music videos by Katy Perry and Taylor Swift are constructed as 'mini-films' and show the influence of other texts.

**Apply it...** identify references to other texts in the set products you have studied and think about how these communicate meanings.

E.g. *Roar includes intertextual references to the well known 1969 film, The Jungle Book, in the use of visual codes and elements of narrative. These familiar references can communicate meanings (e.g. about a human 'taming' the jungle) and create humour.*

## THEORETICAL PERSPECTIVES AND CONTEXTS:

**GENRE, including:**

**Principles of repetition and variation:** products usually include typical genre conventions that audiences recognise, and also different elements to engage the audience/ keep the genre 'fresh'.

**The dynamic nature of genre:** genres are not 'set in stone', they change and develop over time.

**Hybridity** (combining elements of two or more genres in a product) and **intertextuality** provide further variation and offer something 'new' to engage audiences.

**Apply it...** consider how these ideas apply to the set products you have studied for Component 2.

**NARRATIVE theories:**

**Propp's theory must be studied:** the key character types (hero, villain, 'princess', father, donor, helper, dispatcher, false hero) and their role in the stages of the narrative.

**Apply it...** consider how Propp's character types could apply to the set products you have studied.

Other theories, such as Todorov's theory (equilibrium, disruption, resolution), Levi-Strauss' Binary Oppositions or Barthes' Action and Enigma codes may also be studied.

**CONTEXTS: Historical, Social, Cultural, Political:**

How the media language in the set products reflects the contexts of production in terms of:

- themes, values, messages, viewpoints
- genres, styles, technologies, media producers.

## APPLYING MEDIA LANGUAGE: PRACTICAL TASKS

**Art skills not important!**

1. Choose a different song by Katy Perry or Taylor Swift: **storyboard 20 shots for a new music video.** Include some performance and narrative to reflect conventions. Think about the range of camera shots and the mise-en-scène to communicate the meanings in the lyrics to your audience.
2. **Design a front cover for a new magazine** in a genre of your choice. Sketch the layout and design, paying close attention to the colour palette, the font style and the main image. Write 5 cover lines, aiming to communicate messages and use language codes.

### Instruments/Line Up

Typical Band Line Up  
Vocals/Backing Vocals  
Drum kit  
Electric Guitar  
Bass Guitar  
Keyboard/Piano  
Synthesiser  
Bhangra – Dhol, Drum Machine,  
Synthesiser, Tumbi, Sitar

### Texture

The typical of rock and pop music texture is melody and accompaniment.

### Rhythm/Beat lengths

- Emphasising beats 1 and 3
- Syncopation – off beat rhythms
- Minim – 2      Crotchet – 1
- Quaver – 1/2      Semiquaver – 1/4

### Melody

The melody lines tend to be:

- Conjunct – moving in step
- Repetitive
- Syllabic – each syllable has one note
- Melisma – dragging lots of notes over one syllable

### Popular Music

- Popular music covers music from 1960s – present day in a popular style. You will look at Rock, Pop, Bhangra and Fusions.
- You will listen to a range of music and analyse the musical elements, instruments and technological effects used.



## AoS 4

## Popular Music

### Technological Effects

- Reverb – lots of repetitions of one sound after each other
- Echo – a single repeated sound
- Panning – the distribution of sound in the stereo field
- Vocoder – making the voice sound robotic
- Autotune – making the voice sound in tune

### Harmony

- Based on simple and repeating chord patterns.
- Mainly using chords I, IV, V, VII
- Use off riffs (repeating bass line patterns)

### Structure

The songs tend to be in verse-chorus structure

- Verse – repeated section but with new lyrics
- Chorus – the main section of the song that is repeated
- Intro – Introduction/starting section
- Outro – Ending section
- Bridge – A contrasting section
- Middle 8 - 8 bar section in the middle of a song
- Loops – repeating patterns
- Sampling – taking a sample from another song and using it in another recording

### Tempo and Time Signature

The tempo could be:

- Adagio (slow)
- Andante/Moderato (medium)
- Allegro (Fast)

The time signature (beats in a bar) is generally in 4/4 (four beats in a bar)

### Dynamics

Most songs are mezzo-forte (medium loud) in the verse whilst the choruses are forte (loud).

### Tonality

Major – Uplifting/happy/bright tone  
Minor – Sad/sombre tone

### Energy Stores and Systems

Energy Stores	
kinetic	Moving objects have kinetic energy.
thermal	All objects have thermal energy.
chemical	Anything that can release energy during a chemical reaction.
elastic potential	Things that are stretched.
gravitational potential	Anything that is raised.
electrostatic	Charges that attract or repel.
magnetic	Magnets that attract or repel.
nuclear	The nucleus of an atom releases energy.

Energy can be transferred in the following ways:

**Mechanically** – when work is done;

**Electrically** – when moving charge does work;

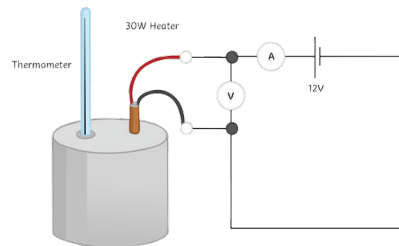
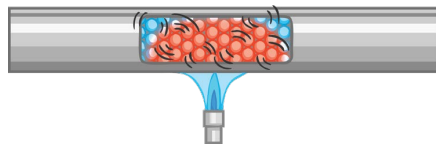
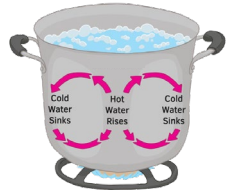
**Heating** – when energy is transferred from a hotter object to a colder object.

**Radiation** – when energy is transfer via a wave.

### Conservation of Energy

Energy can never be created or destroyed, just transferred from one form to another. Some energy is transferred usefully and some energy gets transferred into the environment. This is mostly wasted energy.

**Convection** – when a liquid or a gas is heated, the particles move faster. This means the liquid or gas becomes less dense. The denser region will rise above the cooler region. This is a convection current.



### Equations

#### Kinetic energy

$$E_k = \frac{1}{2}mv^2$$

(J) (kg)(m/s)

#### Potential energy

$$E_p = mgh$$

(J) (kg)(N/kg)(m)

#### Elastic Potential

$$E_e = \frac{1}{2}ke^2$$

(J) (N)(m)



Combined science HT – physics – energy

#### Power

power = energy transferred ÷ time

$$P (W) = E (J) \div t (s)$$

power = work done ÷ time

$$P (W) = W (J) \div t (s)$$

#### Specific Heat Capacity

$$\Delta E = m \times c \times \Delta \theta$$

(J) (kg) (J/kg °C) (°C)

#### Efficiency

$$\text{efficiency} = \frac{\text{useful output energy transfer}}{\text{total input energy transfer}}$$

**Conduction** – when a solid is heated, the particles vibrate and collide more, and the energy is transferred.

Word	Definition
Insulation	Reduces the amount of heat lost.
Lubrication	Can be used to reduce the friction between the surfaces.
Friction	The resistance that one surface or object encounters when moving over another.
Efficiency	A measure of how much work or energy is conserved in a process
Specific Heat Capacity	The energy required to raise the temperature of a 1kg mass of a given substance by 1 degree C

### Investigating Specific Heat Capacity

Method:

- Using the balance, measure and record the mass of the copper block in kg.
- Wrap the insulation around the block.
- Put the heater into the large hole in the block and the block onto the heatproof mat.
- Connect the power pack and ammeter in series and the voltmeter across the power pack.
- Using the pipette, put a drop of water into the small hole.
- Put the thermometer into the small hole and measure the temperature.
- Switch the power pack to 12V and turn it on.
- Read and record the voltmeter and ammeter readings – during the experiment, they shouldn't change.
- Turn on the stop clock and record the temperature every minute for 10 minutes.
- Record the results in the table.
- Calculate work done and plot a line graph of work done against temperature.

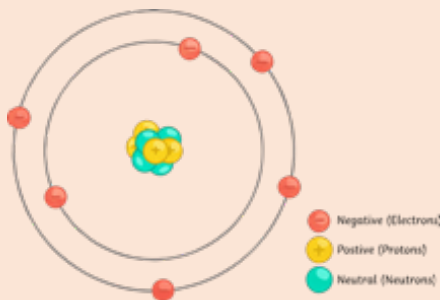
**Atoms**

Contained in the nucleus are the protons and neutrons. Moving around the nucleus are the electron shells. They are negatively charged.

Subatomic particle	Mass	Charge
Proton	1	+1
Neutron	1	0
Electron	Very small	-1

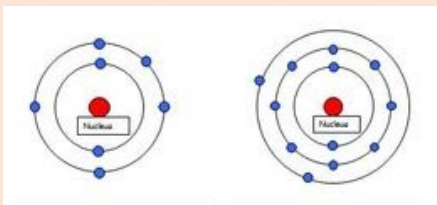
Overall, atoms have no charge; they have the same number of protons as electrons.

An ion is a charged particle - it does not have an equal number of protons to electrons.



**Electronic Structure**

Electrons are found in shells. A maximum of two in the most inner shell, then eight in the 2<sup>nd</sup> and 3<sup>rd</sup> shell. The inner shell is filled first, then the 2<sup>nd</sup> then the 3<sup>rd</sup> shell.



**Chemical Equations**

A chemical reaction can be shown by using a word equation.

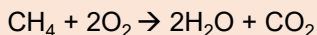
e.g. magnesium + oxygen → magnesium oxide

On the left-hand side are the reactants, and the right-hand side are the products.

They can also be shown by a symbol equation.

e.g.  $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$

Equations need to be balanced, so the same number of atoms are on each side. To do this, numbers are put in front of the compounds.



**Alkali Metals**

The alkali metals (group 1 elements) are soft, very reactive metals. They all have one electron in their outer shell, making them very reactive. They are low density. As you go down the group, they become more reactive. They get bigger and it is easier to lose an electron that is further away from the nucleus.

They form ionic compounds with non-metals. They react with water and produce hydrogen.

**Halogens**

The halogens are non-metals: fluorine, chlorine, bromine, iodine. As you go down the group they become less reactive. It is harder to gain an extra electron because its outer shell is further away from the nucleus. The melting and boiling points also become higher.

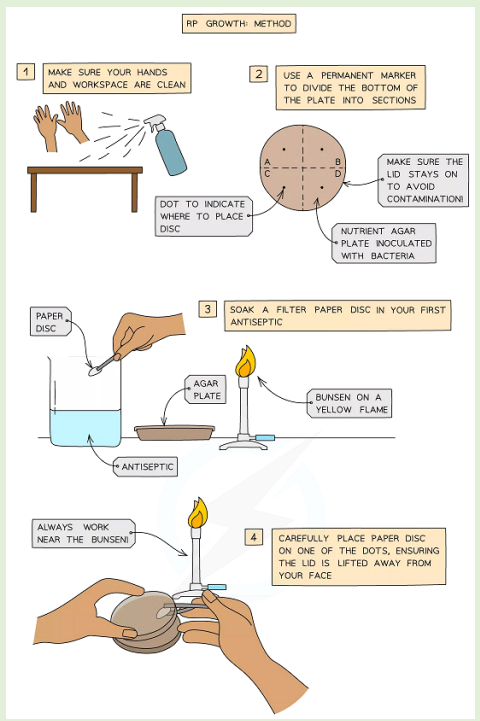
Word	Definition
Relative Atomic Mass	the ratio of the average mass of one atom of an element to one twelfth of the mass of an atom of carbon-12.
Ion	An ion is an atom or molecule with a net electrical charge.
Isotope	Isotopes are two or more types of atoms that have the same atomic number and position in the periodic table, and that differ in nucleon numbers due to different numbers of neutrons in their nuclei.

**Noble Gases**

The noble gases (group 0 elements) include: helium, neon and argon. They are un-reactive as they have full outer shells, which makes them very stable. They are all colourless gases at room temperature.

The boiling points all increase as they go down the group – they have greater intermolecular forces because of the increase in the number of electrons.

**Culturing Microorganisms in the Lab:** Use agar jelly which contains nutrients. The bacteria will form colonies on the agar. Use inoculating loops to add the bacteria to the agar jelly. In a school lab the microorganisms are kept at 25°C to prevent the growth of any harmful bacteria.



**Stem Cells**

Uses of stem cells:

- Replacing faulty blood cells;
- making insulin producing cells;
- making nerve cells.

For Stem Cell Research	Against Stem Cell Research
Curing patients with stem cells - more important than the rights of embryos.	Embryos are human life.
They are just using unwanted embryos from fertility clinics, which would normally be destroyed.	Scientists should find other sources of stem cells.

**The Transition Metals**

The transition metals are a block of elements found between groups 2 and 3 in the middle of the periodic table.

Examples of transition metals include copper, nickel and iron with many more included.

They have all the properties you would expect metals to have, such as being strong, shiny and conductors of electricity and heat.

Transition metals make very good catalysts; this means they speed up a reaction without being used up themselves. Iron is used as a catalyst during the Haber process when making ammonia.

Transition metals can form more than one ion. For example, copper can take the form of  $Cu^+$ ,  $Cu^{2+}$  and iron can be  $Fe^{2+}$  and  $Fe^{3+}$ . The ions are often coloured and the compounds they are found in are also coloured.

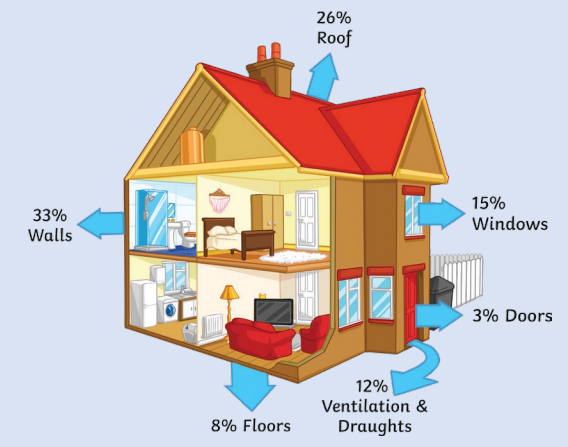
Sc scandium	Ti titanium	V vanadium	Cr chromium	Mn manganese	Fe iron	Co cobalt	Ni nickel	Cu copper	Zn zinc
Y yttrium	Zr zirconium	Nb niobium	Mo molybdenum	Tc technetium	Ru ruthenium	Rh rhodium	Pd palladium	Ag silver	Cd cadmium
La lanthanum	Hf hafnium	Ta tantalum	W tungsten	Re rhenium	Os osmium	Ir iridium	Pt platinum	Au gold	Hg mercury
Ac actinium	Rf rutherfordium	Db dubnium	Sg seaborgium	Bh bohrium	Hs hassium	Mt meitnerium	Ds darmstadtium	Rg roentgenium	

KS4 Triple science



**Insulation** – reduces the amount of heat lost. In your home, you can prevent heat loss in a number of ways:

- thick walls;
- thermal insulation, such as:
- loft insulation (reducing convection);
- cavity walls (reduces conduction and convection);
- double glazing (reduces conduction).



Trends in energy resources – most of our electricity is generated by burning fossil fuels and nuclear. The UK is trying to increase the amount of renewable energy resources. The governments are aware that non-renewable energy resources are running out; targets of renewable resources have been set. Electric and hybrid cars are also now on the market.

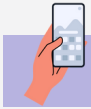
However, changing the fuels we use and building renewable power plants cost money. Many people are against the building of the plants near them and do not want to pay the extra in their energy bills. Hybrid and electric cars are also quite expensive.



## LA PERSONALIDAD

**Mi nombre / Me llamo**  
**Soy / Es una persona ...**  
**Soy como ...**  
**Soy / Es ...**  
**bueno/a**  
**divertido/a**  
**interesante / optimista**  
**positivo/a / práctico/a**  
**responsable / social**  
**\* tímido/a**  
**trabajador/a**  
**tranquilo/a**

My name is / I am called  
 I am / He / She is a person  
 I am like...  
 I am / He/She is...  
 good  
 funny, amusing  
 interesting / optimistic  
 positive / practical  
 responsible / social  
 shy  
 hard-working  
 calm, tranquil, relaxed.



## MI VIDA DIGITAL

¿Qué haces con tu móvil?  
 ¿Qué haces con tu ordenador/portátil?

**Escucho música**  
**Mando / Recibo mensajes**  
**Leo las noticias**  
**\*Envío correos electrónicos**  
**\*Saco fotos / Grabo vídeos**  
**Uso aplicaciones como ...**  
**Utilizo las redes sociales**  
**No tengo ordenador**  
**Chateo en línea/con mis amigos**  
**Hago compras / \*llamadas**  
**Soy \*adicto/a a ...**  
**Mis amigos y yo ...**  
**\*sacamos fotos / subimos vídeos**  
**no jugamos**  
**Prefiero / Preferimos / Prefiere... aplicaciones como ...**  
**compartir/subir imágenes ...**  
**\* enviar correos electrónicos**

**What do you do on your phone?**  
**What do you do on your computer/laptop?**  
 I listen to music  
 I send / receive messages  
 I read the news  
 I send emails  
 I take photos / record videos  
 I use apps like ...  
 I use social media  
 I don't have a computer  
 I chat online/to my friends  
 I shop / I make calls  
 I am addicted to ...  
 My friends and I ...  
 take photos / upload videos  
 don't play videogames much  
 I / We / They prefer (to) ...  
 apps like ...  
 share/upload images ...  
 send emails



## ADVERBIOS DE FRECUENCIA

¿Cuánto tiempo pasas ...?

**Paso ... horas al día**  
**Siempre**  
**Todo el tiempo**  
**Todos los días / A menudo**  
**De vez en cuando**  
**A veces**  
**(Casi) Nunca**  
**Una vez / dos veces a la semana**  
**Los fines de semana**

**How much time do you spend...?**

*I spend ... hours per day*  
*Always*  
*All the time*  
*Every day / Often*  
*From time to time*  
*Sometimes*  
*(Almost) Never*  
*Once /twice a week*  
*At the weekends*

**hacer compras por Internet**  
**jugar \*en directo a ...**  
**ver vídeos/programas**  
**ver documentales/series**

*shop on the Internet*  
*play ... live*  
*watch videos/programmes*  
*watch documentaries/series*



## EN TU TIEMPO LIBRE

¿Qué actividades haces en tu tiempo libre?

**En mi tiempo libre ...**  
**Si tengo / tenemos tiempo, ...**  
**Si tengo / tenemos dinero, ...**  
**voy / vamos al/a la ...**  
**leo / veo / bailo / escucho...**

**What activities do you do in your free time?**

*In my free time ...*  
*If I / we have time, ...*  
*If I / we have money, ...*  
*I / we go to the ...*  
*I read / watch /dance / listen to ...*

**juego al/a la / hago ...**  
**porque me ayuda a ...**  
**estar en forma**  
**olvidarme de todo**  
**mantenerme en contacto con ...**  
**¿Eres miembro de algún club?**  
**Soy miembro de un equipo (local).**

*I play /do ...*  
*because it helps me to ...*  
*keep fit*  
*forget everything*  
*stay in touch with ...*  
*Are you a member of a club?*  
*I am a member of a (home) team.*



## OPINIONES

¿Qué actividades te gusta hacer?

**(No) Me gusta (mucho) ...**  
**(No)Me encanta ...**  
**(No) Me interesa (nada) ...**

**Prefiero / Preferimos ...**  
**escuchar música/mis canciones favoritas**  
**estar en casa con mi familia**  
**hacer ciclismo / ir a conciertos**  
**jugar al fútbol/voleibol/tenis**  
**montar a caballo**  
**salir con mis amigos**  
**ver películas en mi portátil/móvil**  
**ver películas/una comedia en el cine**  
**leer (libros/novelas de ...).**  
**(No) Hago muchas actividades porque es/son ...**  
**aburrido/a(s) / difícil(es)**  
**divertido/a(s)/ emocionante(s)**  
**fácil(es) / guay**  
**relajante(s) / terrible(s)**

**What activities do you like doing?**

*I (don't) (really) like ...*  
*I (don't) love ...*  
*I am (not) interested in ... (at all)*  
*I prefer / We prefer ...*  
*listening to music/my favourite songs*  
*being at home with my family*  
*goingcycling / going to concerts*  
*playing football/volleyball*  
*horse riding*  
*going out with my friends*  
*watching films on my laptop/mobile*  
*watching films/a comedy in the cinema*  
*reading (... books/novels).*  
*I (don't) do many activities because it is/they are ...*  
*boring / difficult*  
*fun/ exciting*  
*easy / cool*  
*relaxing/ terrible*

¿Qué deportes haces?

**Juego al/a la ...**  
**Practico / Hago ...**  
**(el) atletismo**  
**(el) baile / ciclismo / deporte**  
**(el) fútbol / baloncesto / tenis**  
**(la) natación**

**What sports do you do?**

*I play ...*  
*I practise / I do ...*  
*athletics*  
*dance / cycling / sport*  
*football/basketball / tennis*  
*swimming*

**RED BOLD** = this word will appear in higher exams only  
 \* = this word won't appear in reading or listening exams, but you may use it in your own sentences.



## LOS PLANES

<b>¿Qué vas / vamos a hacer?</b>	<b>What are you / we going to do?</b>
<b>Este fin de semana / Primero</b>	<i>This weekend / First</i>
<b>Luego</b>	<i>Later/afterwards</i>
<b>*Por la mañana/tarde/noche</b>	<i>In the morning/afternoon/evening</i>
<b>Quiero / Queremos ...</b>	<i>I / We want to ...</i>
<b>Mis amigos/padres y yo vamos a ...</b>	<i>My friends/parents and I are going to ...</i>
<b>(No) Voy a ...</b>	<i>I am (not) going to ...</i>
<b>descansar / estar en casa</b>	<i>rest / be at home</i>
<b>hacer deporte/los deberes</b>	<i>do sports/homework</i>
<b>ir de compras</b>	<i>go shopping</i>
<b>ir al parque/cine/centro comercial</b>	<i>go to the park/cinema/ shopping centre</i>
<b>ir a un restaurante</b>	<i>go to a restaurant</i>
<b>ir a la piscina</b>	<i>go to the pool</i>
<b>limpiar mi habitación</b>	<i>clean my bedroom</i>
<b>salir (por la tarde)</b>	<i>go out (in the afternoon)</i>
<b>tomar un café</b>	<i>have a coffee</i>
<b>mandar mensajes a mis amigos</b>	<i>send messages to my friends</i>
<b>hacer tareas</b>	<i>do chores</i>
<b>No puedo ...</b>	<i>I can't ...</i>
<b>porque tengo que ...</b>	<i>because I have to ...</i>
<b>hacer los deberes</b>	<i>do my homework</i>
<b>salir con mis padres/abuelos</b>	<i>go out with my parents/grandpas</i>
<b>trabajar / cuidar a mi perro</b>	<i>work/look after my dog</i>
<b>¿Tienes planes?</b>	<b>Do you have (any) plans?</b>
<b>(No) Tengo planes para ...</b>	<i>I (don't) have plans for ...</i>
<b>hoy / mañana</b>	<i>today / tomorrow</i>
<b>este fin de semana</b>	<i>this weekend</i>
<b>el viernes/sábado/domingo</b>	<i>Friday/Saturday/Sunday</i>
<b>la semana próxima/que viene</b>	<i>next week</i>
<b>Estoy libre. / No puedo ir.</b>	<i>I am free. / I can't come.</i>
<b>Lo siento. / ¡Claro que sí!</b>	<i>I'm sorry. / Of course!</i>
<b>No tengo dinero.</b>	<i>I don't have (any) money.</i>
<b>De acuerdo.</b>	<i>OK.</i>
<b>¿A qué hora quedamos?</b>	<i>What time shall we meet?</i>
<b>A las (diez) en (la *cafetería).</b>	<i>At (ten o'clock) at (the café).</i>
<b>¿Quedamos a las (cuatro)?</b>	<i>Shall we meet at (four o'clock)?</i>



## EL FIN DE SEMANA PASADO

<b>¿Qué hiciste ...?</b>	<b>What did you do ...?</b>
<b>El fin de semana pasado / Ayer El sábado/domingo pasado</b>	<i>Last weekend / Yesterday</i>
<b>La semana pasada</b>	<i>Last Saturday/Sunday</i>
<b>El mes pasado</b>	<i>Last week</i>
<b>Hace ... días</b>	<i>Last month</i>
<b>Hace una semana ...</b>	<i>... days ago</i>
<b>comí / bebí ...</b>	<i>A week ago ...</i>
<b>compré una entrada para un partido de fútbol</b>	<i>I ate / I drank ...</i>
<b>escuché música</b>	<i>I bought a ticket to a football match</i>
<b>no hice mucho</b>	<i>I listened to music</i>
<b>fui a un restaurante</b>	<i>I didn't do much</i>
<b>fui a un concierto</b>	<i>I went to a restaurant</i>
<b>gané una competición (de natación)</b>	<i>I went to a concert</i>
<b>me quedé en casa todo el día</b>	<i>I won a (swimming) competition</i>
<b>hablé con mi amigo en el parque</b>	<i>I stayed at home all day</i>
<b>salí con mi amigo al centro comercial</b>	<i>I spoke to my friend at the park</i>
<b>fui al gimnasio y *entrené</b>	<i>I went out to the shopping centre with my friend</i>
<b>jugué a los *videojuegos</b>	<i>I went to the gym and trained</i>
<b>Mi familia y yo ...</b>	<i>I played videogames</i>
<b>comimos en un restaurante (peruano)</b>	<i>My family and I ...</i>
<b>fuimos a la piscina</b>	<i>(we) ate at a (Peruvian) restaurant</i>
<b>salimos a comer</b>	<i>(we) went to the pool</i>
	<i>(we) went out to eat</i>



## OPINIONES PASADO

<b>¿Qué tal fue?</b>	<b>How was it?</b>
<b>¿Por qué (no) te gustó?</b>	<b>Why did you (not) like it?</b>
<b>Me gustó / Me encantó</b>	<i>I like it / I loved it</i>
<b>No me gustó (nada)</b>	<i>I didn't like it (at all)</i>
<b>porque fue ...</b>	<i>because it was ...</i>
<b>aburrido/a / emocionante</b>	<i>boring / exciting</i>
<b>fantástico/a / guay / terrible</b>	<i>fantastic / cool / terrible</i>






## UN DÍA FATAL

<b>¿Qué pasó el fin de semana pasado?</b>	<b>What happened last weekend?</b>
<b>Tuve un día ...</b>	<i>I had a(n) ... day</i>
<b>difícil / *estresante / *fatal</b>	<i>difficult / stressful / awful</i>
<b>*horroroso / malo / terrible</b>	<i>horrific / bad / terrible</i>
<b>porque ...</b>	<i>because ...</i>
<b>comí ... / no comí (nada)</b>	<i>I ate ... / I didn't eat (anything)</i>
<b>llegué muy tarde</b>	<i>I arrived very late</i>
<b>no hice los deberes</b>	<i>I didn't do my homework</i>
<b>pasé todo el día enfrente de la televisión</b>	<i>I spent all day in front of the television</i>
<b>me caí</b>	<i>I fell</i>
<b>Fui/Fuimos a ...</b>	<i>I/We went to ...</i>
<b>un concierto / un partido</b>	<i>a concert / a match</i>
<b>ver una película de ...</b>	<i>watch a ... film</i>
<b>y ...</b>	<i>and ...</i>
<b>la voz del cantante fue terrible</b>	<i>the singer's voice was terrible</i>
<b>el grupo / la banda fue</b>	<i>the group / band were horrific</i>
<b>*horroroso/a</b>	<i>my team lost</i>
<b>mi equipo perdió</b>	<i>the sound didn't work</i>
<b>el sonido no funcionó</b>	<i>I lost ...</i>
<b>Perdí ...</b>	<i>my mobile / dog / friends</i>
<b>el móvil / al perro / a mis amigos</b>	<i>I lost it/them in/at ...</i>
<b>Lo/La/Los/Las perdí en ...</b>	<i>I found it/them in/at ...</i>
<b>Lo/La/Los/Las encontré en ...</b>	<i>home / the city</i>
<b>casa / la ciudad</b>	<i>the car / the train</i>
<b>el coche / el tren</b>	<i>the stadium / the metro/ underground</i>
<b>el estadio / el metro</b>	
<b>¿Qué vas a hacer el fin de semana próximo?</b>	<b>What are you going to do next weekend?</b>
<b>El fin de semana próximo</b>	<i>Next weekend</i>
<b>El sábado próximo</b>	<i>Next Saturday</i>
<b>La próxima vez</b>	<i>Next time</i>
<b>(no) voy a ...</b>	<i>I am (not) going to ...</i>
<b>ir al estadio</b>	<i>go to the stadium</i>
<b>ver otra película de terror</b>	<i>watch another horror film</i>
<b>viajar en ...</b>	<i>travel by ...</i>

# OCR Sports Science Knowledge Organiser



## Nutrition and Sports Performance (R183)

### Topic Area 1: Nutrients needed for a healthy, balanced nutrition plan )

<p><b>The characteristics of a balanced nutrition plan(1.1)</b></p> <p>Meeting the nutritional requirements of an individual</p> <ul style="list-style-type: none"> <li>□ Including foods from all of the food groups</li> <li>□ Carbohydrates: Fats</li> <li>Proteins</li> <li>Fibre</li> <li>Water</li> <li>Vitamins and minerals</li> <li>□ Containing a variety of foods</li> <li>□ Suiting the needs/tastes of the individual</li> </ul>	<p><b>The role of nutrients in sport and their sources (1.2) - Carbohydrates and fats</b></p> <p>Carbohydrates give a quick supply of energy – sugars and starchy carbohydrates</p> <p>Simple carbohydrates – oranges, biscuits</p> <ul style="list-style-type: none"> <li>• Complex carbohydrates - rice, potatoes</li> </ul> <p>Fats – give a slower supply of energy and transport some vitamins around the body – include good fats and bad fats</p> <p>Bad fats – vegetable oil, lard</p> <ul style="list-style-type: none"> <li>• Good fats – nuts, salmon</li> </ul>	<p><b>The role of nutrients in sports and their sources (1.2)-Proteins, water, fibre ,vitamins and minerals</b></p> <p>Proteins repair muscle damage</p> <ul style="list-style-type: none"> <li>□ Fibre helps digestion and prevents constipation</li> <li>□ Water keeps the body hydrated, regulate temperature, helps remove waste products</li> <li>□ Vitamins and minerals help strengthen bones, maintain a healthy immune system</li> </ul>
<p><b>What nutrients are</b> (e.g. chemicals a living organism needs in order to live and grow)</p>	<div style="display: flex; align-items: center;">   </div> <div style="text-align: center; margin-top: 20px;"> <p><b>Healthy Eating &amp; Sports Nutrition</b></p>  </div>	

# OCR Sports Science Knowledge Organiser

### Topic Area 2:Applying differing dietary requirements to varying types of sporting)

<p><b>2.1: The dietary requirements of endurance/aerobic activities</b></p> <p><b>2.1.1: Before endurance/aerobic activity:</b></p> <ul style="list-style-type: none"> <li>Hydration</li> <li>Carbohydrate loading</li> </ul> <p><b>2.1.2: During endurance/aerobic activity:</b></p> <ul style="list-style-type: none"> <li>Maintain hydration</li> <li>Maintain carbohydrate levels</li> </ul> <p><b>2.1.3: After endurance/aerobic activity</b></p> 	<p><b>2.2:The dietary requirements of short intense/anaerobic activities</b></p> <p><b>2.2.1: Before short intense/anaerobic activities:</b></p> <ul style="list-style-type: none"> <li>Use of carbohydrates (not carbohydrate loading)</li> <li>Use of proteins</li> </ul> <p><b>2.2.2: During short intense/anaerobic activities</b></p> <p><b>2.2.3: After short intense/anaerobic activities:</b></p> <ul style="list-style-type: none"> <li>Rehydrate immediately</li> <li>Reload appropriate nutrients</li> </ul>	<p><b>2.3: The dietary requirements of strength based activities</b></p> <p><b>2.3.1. Before strength based activities:</b></p> <ul style="list-style-type: none"> <li>High in protein</li> <li>Limit excess body fat</li> </ul> <p><b>2.3.2. During strength based activities</b></p> <p><b>2.3.3 After strength based activities:</b></p> <ul style="list-style-type: none"> <li>Rehydrate immediately</li> <li>Reload appropriate nutrients</li> </ul> 
--	---	---

Term 1 	Get work experience ready Not sure where to start with work experience? This course helps you cut through common myths, recognise your unique strengths, and craft a compelling CV/resumé.	Resources on unifrog  Lloyds bank video 'get work experience ready' starter level	These are the tasks on unifrog and the suggested time when to do them. You are given the title of the resources so that you can find them yourself but they will appear on unifrog. You will get an email notification. The tasks are tracked. The activities include the teacher powerpoint, which gives suggestions. Sometimes, it might be good to do the activity with a friend or parent so that you can share ideas. The powerpoints are designed for a class of 30 pupils and have the teacher notes to help you. When working on your own, it will take 15 – 30 mins for the activities and longer for the thinking. Create a folder in which to save your worksheets.
	What are my employability skills You will learn about the skills which employers consider to be important	What are my employability skills ppt What are my employability skills workbook	
Term 2 	The CV tool This video will talk you through how to create your CV using unifrog	Overview: CV and Resumé tool video	
	How to find a placement A guide to get you thinking about finding a placement	A guide to work placements video	
Term 3 -5 	Once you've found a placement How do you contact employers?	WEXCV and cover letters ppt WEXCV and cover letter workbook	
	Once you've been accepted onto a placement The placements tool Part 1 The placements tool Part 2	The placements tool video How to add a placement	
Term 5 	Wellbeing on placement Name examples of reasonable adjustments an employer could make in response to mental health	Wellbeing in the workplace ppt Wellbeing in the workplace workbook	Useful websites to use <a href="https://www.johnofgauntschool.org/parents-and-carers/careers-information">https://www.johnofgauntschool.org/parents-and-carers/careers-information</a> <a href="https://nationalcareers.service.gov.uk/">https://nationalcareers.service.gov.uk/</a> <a href="https://www.gov.uk/apply-apprenticeship">https://www.gov.uk/apply-apprenticeship</a> <a href="https://www.ucas.com/">https://www.ucas.com/</a> <a href="https://www.wiltshire.ac.uk/">https://www.wiltshire.ac.uk/</a> <a href="https://www.bathcollege.ac.uk/">https://www.bathcollege.ac.uk/</a>
	Health and safety Learning to be safe on placement	WEX – health & safety ppt WEX – health & safety workbook	
Term 6 	Review You will review your WEX experience and will your employer	Reviewing a placement ppt	

## Health and Social Care Knowledge Organiser: Component 2 Health and Social Care Services and Values

**Learning Aim A: Understand the different types of health and social care services and barriers to accessing them**

**Learning Aim B: Demonstrate care values and review own practice**

*Providing good health and social care services is very important and a set of 'care values' exist to ensure this happens. Care values are important because they enable people who use health and social care services to get the care they need and to be protected from different sorts of harm.*

### **A1 Health and social care services**

#### **1. Different health care services and how they meet service user needs**

- Primary care, e.g. dental care, optometry, community health care
- Secondary & tertiary care, e.g. specialist medical care
- Allied health professionals, e.g. physiotherapy, occupational therapy, speech and language therapy, dieticians

#### **2. Different social care services and how they meet service user needs**

- Services for children and young people, e.g. foster care, residential care, youth work
- Services for adults or children with specific needs (learning disabilities, sensory impairments, long-term health issues) e.g. residential care, respite care, domiciliary care
- Services for older adults, e.g. residential care, domiciliary care
- Role of informal social care provided by relatives, friends and neighbours

### **B1 Care values**

- Empowering and promoting independence by involving individuals, where possible, in making choices
- Respect for the individual by respecting service users' need, beliefs and identity
- Maintaining confidentiality
- Preserving the dignity of individuals to help them maintain privacy and self-respect
- Effective communication that displays empathy and warmth
- Safeguarding and duty of care
- Promoting anti-discriminatory practice by being aware of types of unfair discrimination and avoiding discriminatory behaviour



### **A2 Barriers to accessing services**

#### **1. Types of barriers and how they can be overcome by the service providers and users**

- Physical barriers, e.g. issues getting into and around the facilities
- Sensory barriers, e.g. hearing and visual difficulties
- Social, cultural and psychological barriers, e.g. lack of awareness, differing cultural beliefs, social stigma, fear of loss of independence
- Language barriers, e.g. differing first language, language impairments
- Geographical barriers, e.g. distance of provider, poor transport links
- Intellectual barriers, e.g. learning difficulties
- Resource barriers for service provider, e.g. staff shortages, lack of local funding, high local demand
- Financial barriers, e.g. charging for services, cost of transport, loss of income while accessing services

### **B2 Reviewing own application of care values**

#### **1. Key aspects of a review**

- Identifying own strengths and areas for improvement against the care values
- Receiving feedback from teacher or service user about own performance
- Responding to feedback and identifying ways to improve own performance





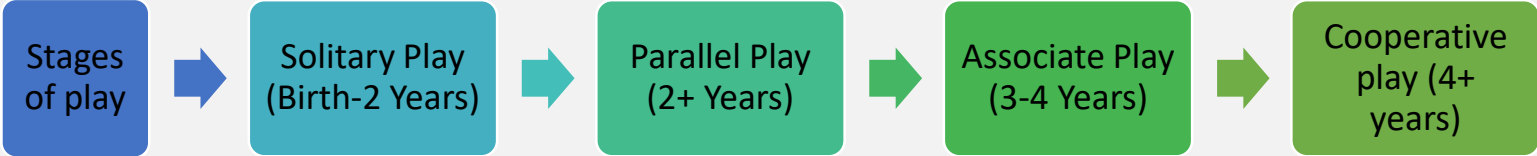
# Child Development Year 10 term 1 Observations

Method of observation	What the method involves
Narrative	A detailed written description of what is being observed over a short period of time.
Checklist	A list of possible skills is produced so that the observer can check off the child's skills as they are observed.
Snapshot	A brief note is made about a child to capture something they do or a skill they use.
Time sample	Capturing information about what a child is doing at particular times of the day. It could be how they play or how they behave.

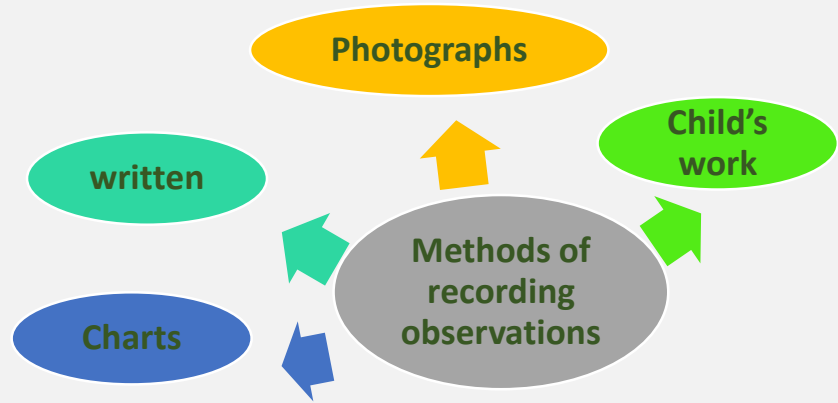
Observations are used to:

1. Find out if child is meeting an expected developmental norm
2. Understand a child's stage of play and what they enjoy doing
3. Find out what type of play the child likes to take part in

Key word	Definition
<b>Solitary Play</b>	When a child plays alone and does not take any notice of how other children are playing, they are at the solitary stage of play
<b>Parallel play</b>	Parallel play describes the stage when children play alongside each other but do not talk about or join in the other's play
<b>Associate Play</b>	Associate play happens when a child plays with another child but they do not plan their play
<b>Co-operative Play</b>	Children who discuss their play and plan what should happen are at the cooperative stage of play



Type of play	Definition	Examples of this type of play
<b>Creative play</b>	Where children experiment with materials, collage, painting, music, imagination	Collage making, painting, model making, music and dance
<b>Physical Play</b>	Play that involves gross motor skills, the muscles and moving around	Playing football, riding a scooter/tricycle, playing on swings/slides/climbing frame
<b>Manipulative play</b>	Children use their hands, (fine motor skills) e.g to move or turn things to make them fit.	Threading beads, puzzles, drawing/painting, construction
<b>Co-operative play</b>	Play which takes account of others actions within their play together; sharing, group play	Board games, role play, playing tag or football
<b>Imaginative play</b>	Children act out their ideas, they may role play certain situations such as shopping or imaginative, such as being in space.	Role play, puppets, small world, plays/drama



**LAST PAGE**