# Year 10 Option Subjects

## Knowledge Organiser

## January- April 2023

AMBITION, CONFIDENCE, CREATIVITY, RESPECT, DETERMINATION

Proud to be part of the GREENSHAW LEARNING TRUST

FIVE ACRES HIGH SCHOOL

**Why do we have knowledge organisers?**
Knowledge organisers are a collation of the basic essential knowledge for success in each subject area that will underpin your learning for the term.

They are designed to provide the information you will need to be committing to your long term memory through recall exercises in Low Stakes Quizzing.

**How do we use knowledge organisers?**
You should be using these KOs to create your homework quizzes so that you are practising retrieving information.

1. You can do this by testing yourself on the definition of key terms (both recalling the key term and then swapping to recall the definition), practice labelling diagrams, retrieves reasons and justifications for the main learning points.
2. They can also be used for 'memory dumps' where you try to recall as much of the information about a topic as possible and then use the KP to fill in the gaps.
3. They can also be used in class to assist with retrieval of the core knowledge needed for each subject.

You should have these with you at all times in school and out on your desk in all lessons.

If you lose your KO or it becomes too dishevelled, please purchase a new one from the Head of Year or the School Office.

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# Viking Expansion Year 10 OCRb GCSE History: 1. **Homelands**

## 1 The Vikings in Scandinavia

*Life in the Viking homelands was determined by the geography of Scandinavia*

### The Homelands

**DENMARK** is a **fertile** land of gently rolling hills in the south of **Scandinavia.**

**NORWAY** has a long coastline stretching to the **Arctic.** Along the coast are **inlets** called **fjords.** Inland there are huge mountains.

**SWEDEN** also stretches north to the **Arctic.** It is a land of thick forests and lakes.

### Viking Society

- Viking society was **hierarchical** and divided into three main groups
  - **Jarls** were large landowners and warriors
  - **Bondi** were small landowners who fought for the **jarls**
  - **Thralls** were slaves who had been captured in war
- Viking society was **patriarchal**: women could not be **bondis** or **jarls**, instead running the household and managing the **thralls** when men were away

### Everyday Life

- Vikings lived in wooden **longhouses** which they shared with their animals during the winter
- Most Vikings earned a living by **farming**, **fishing**, or **hunting**
- Viking food came from a variety of sources:
  - **Farming**: milk, eggs, pork, rye bread
  - **Fishing**: herring and shellfish
  - **Hunting**: elk and deer
- Food was preserved by **salting** or **smoking**

## VOCABULARY

| | |
|---|---|
| **Fertile** | Able to grow crops |
| **Patriarchal** | Dominated by men |
| **Polytheistic** | Having lots of different gods |
| **To sacrifice** | To kill something as an offering to the gods |
| **Salting** | Coating food in salt to preserve it |

## 2 Viking ships, seafaring, and trade

***Seafaring was an essential part of living in the Viking homelands***

### Viking Ships

- Viking ships were made of wood and powered by both sails and oars
- Warships - ***skeids*** - were long and narrow, allowing them to travel quickly, reaching Britain in just 2 days
- Cargo ships - ***knarrs*** - were wider and sturdier

### Trade

- Ships allowed the **Vikings** to **trade** with places such as **England**, **Scotland**, and northern **Germany**
- In the 8th Century, trading towns such as **Hedeby** (Denmark) and **Kaupang** (Norway) began to develop
- Each town was protected by a **jarl** and traded in jewellery, cloth, and iron

## 3 Viking beliefs and rituals

***Religion was central to Viking life but it is difficult to know precisely what they believed***

The Vikings believed that the centre of the universe was a sacred tree called **Yggdrasil**, which was split into levels

**Asgard** --- the home of the gods

**Midgard** --- the world of the humans

**Hel** --- the underworld

Viking religion was **polytheistic**. The most important gods were:

**ODIN**

- The ruler of **Asgard**
- God of warriors
- Warriors who died feasted forever in his hall, **Valhalla**

**THOR**

- Odin's son and protector of **Asgard**
- God of sailors
- Carried a hammer

**FREYA**

- The goddess of love and **fertility**
- Her twin brother Freyr was the god of farming

The Vikings **sacrificed** horses as offerings to their gods and held huge **feasts** in their honour.

# Viking Expansion Year 10 OCRb GCSE History: 2. **The Volga Vikings**

## 4 Trade and settlement in Russia

***From the 8th Century, Vikings began to explore, trade with, and settle in the river systems of western Russia***

**c. 750** Vikings from Sweden travelled up the **Neva** and **Volkhov** rivers and settled in **Staraya Ladoga**

**c. 800**

By hauling boats and trade goods over land the Vikings were able to reach two important rivers:

The **River Dnieper** allowed the Vikings to travel south to the **Black Sea** and reach **Constantinople** and the **Byzantine Empire**

The **River Volga** allowed the Vikings to travel South to the **Caspian Sea** and reach **Baghdad** and the **Abbasid Empire**

These **Volga Vikings** exchanged swords, furs, walrus ivory, and slaves for silver and gold

**c. 850**

**Volga Vikings** - known by local **Slavs** as **Rus** - began to settle along the banks of rivers

The **Rus** formed an **elite** who ruled over the **Slavs**

They built the large towns of **Novgorod** and **Kiev**

The **Rus** eventually **assimilated**, speaking Slavic and marrying **Slav** women

## VOCABULARY

| | |
|---|---|
| **Abbasid Empire** | Large and powerful Muslim empire |
| **Assimilated** | Became similar to |
| **Bazaars** | Markets |
| **Byzantine Empire** | Large and powerful Christian empire |
| **Elite** | High status |
| **Mercenaries** | Foreign soldiers hired for money / rewards |
| **Merchants** | People who travel to trade goods |
| **Rus** | The name given to the Vikings in eastern Europe |
| **Slavs** | The people of Eastern Europe |
| **Volga Vikings** | The Vikings who settled in eastern Europe |

## 5 Trade and interaction with the Arab World

***By the 10th Century, Vikings interacted regularly with the Arab world***

- **Baghdad** was the capital of the **Abbasid Empire** and home to over a million people
- **Volga Vikings** travelled down the Volga, crossed the **Caspian Sea**, and trekked by camel to **Baghdad**
- In the city's **bazaars**, Vikings exchanged their goods for:

  **Silk**, transported from China

  Arabic silver coins, called ***dirhams***
- Interactions were not always peaceful: 500 Viking ships raided **Baku** in **913**

## 6 Constantinople and the Byzantine Empire

***At different times the Vikings were traders, raiders, and mercenaries in the Byzantine Empire***

### Traders

- Viking **merchants** traded for wine, olive oil, fruit, and spices in the **bazaars** of **Constantinople**

### Raiders

- **Viking raiders** attacked **Constantinople** in 860, 907, and 940
- Although they were unsuccessful, they forced the **Byzantine emperor** to sign **trade treaties**

### Mercenaries

- The emperor formed an **elite bodyguard** of Vikings called the **Varangian Guard**

# Viking Expansion Year 10 OCRb GCSE History: 3. **Raiders and Invaders**

## 7 Raids in Britain, Ireland, Scotland, and France

***From the 790s, the Vikings began to raid wealthy areas of western Europe***

**Historians have divided the Viking raids on western Europe into four phases:**

**PHASE 1** Vikings raided **Lindisfarne** in 793
**793-830** Hit-and-run attacks on other **coastal monasteries** with 2/3 ships
**PHASE 2** Larger raids with 30-100 ships
**830-850** Raiders travelled up rivers to attack **inland** trading towns

**PHASE 3** The Vikings began **over-wintering** in defendable areas
**850-865**

**PHASE 4** Large Viking army lands in England
**865-** Vikings become **invaders** not raiders

**Historians disagree about the causes of the Viking raids:**

- Shortage of **fertile** land in the **Homelands**
- Wealthy European **monasteries**
- An opportunity for **Jarls** to gain glory
- Divided and weak western Europe
- Improvements in ship technology

**The nature of the Viking raids was different in different parts of western Europe:**

**Britain**

- Raids on monasteries in the 790s (**Lindisfarne**, **Jarrow**, **Iona**)
- Raiders **looted** gold and silver and **ransomed** monks and holy books
- Attacks on market towns in 830s
- Vikings **overwintered** in Kent in 850-1

**Scottish Islands**

- The **Orkney** and **Shetland Islands** offered good **grazing** land
- Viking raiders seized the islands from the Picts around 800

**Ireland**

- 795 to 830, Vikings raided **monasteries**
- From 830, larger raiding fleets arrived and **over-wintered**
- In 841, Vikings established **Dublin** as a base

**Frankish Empire**

- From the 840s, the Vikings sailed up the **River Seine** to attack Rouen and **Paris**
- The Franks' defensive measures included **fortified** bridges
- As a result, raids stopped in the 860s

## 8 Viking warfare

***Viking raiders were feared warriors and sailors***

**Warriors**

Viking warriors used a range of weapons:

**Double-edged swords**

**Battle axes**

**Wooden shields**

**Tactics**

In battle, Viking warriors formed a shield wall

Viking **berserkers** whipped themselves into a frenzy before combat

Raiders murdered monks who resisted, often performing the '**blood eagle**' ritual

**Warships**

By 800, the Vikings had developed ideal ships for raiding. They had:

- ✓ A sail for rapid ocean travel
- ✓ Oars for rowing into the wind and up rivers
- ✓ A shallow **draught** for landing on beaches
- ✓ **Capacity** for over 100 warriors on the largest ships

## 9 The 'Great Heathen Army' and the Danelaw

***In 865, a Viking army invaded England, eventually gaining control of the Danelaw***

The Viking '**Great Heathen Army**' rampaged across England for 14 years

- Vikings demanded **Danegeld** from the **Anglo-Saxons**
- By 878 the army had conquered **East Anglia**, **Mercia**, and **Northumberland**

In 878, the Vikings were defeated by **King Alfred of Wessex** at the **Battle of Edington.**

**Alfred** and **Guthrum**, the Viking leader, agreed the **Treaty of Wedmore:**

- Vikings can settle the **Danelaw** (northeast England)
- **Guthrum** must be **baptised** as a **Christian**

## VOCABULARY

| | |
|---|---|
| **Blood Eagle** | A gruesome Viking execution method |
| **Beserker** | A particularly ferocious Viking warrior |
| **Draught** | The depth of a ship's hull |
| **Fortified** | Defended |
| **Monasteries** | Large, wealthy Christian religious centres |
| **To over-winter** | To stay in one place over the winter, rather than returning home |
| **Ransom** | To demand money to return something / someone |

# Viking Expansion Year 10 OCRb GCSE History: 4. Settlers

## 10 Settlement in western Europe

*The nature of Viking settlement in western Europe varied from place to place*

| | | |
|---|---|---|
| **800** | **Scotland and the islands** | • Vikings established rural settlements in the **Shetland/Orkney Islands**, north of Scotland, and **Isle of Man**, based in **Pict** villages<br>• Place names ending in -ness and -wick suggest Vikings dominated these areas |
| **865** | **England** | • The Danelaw was ruled by **jarls** based in **fortified** trading towns called burhs, such as **Jorvik**<br>• Large numbers of Viking place names (-by, -thorpe) and words (egg, sky, slaughter) suggest significant settlement |
| **911** | **Normandy** | • In 911, the French king offered a Viking, **Rollo**, control of Normandy in return for Christian conversion and protection against raiders<br>• Viking settlement was limited to coastal areas / rivers<br>• The settlers **assimilated** into French society and became **Normans** |
| **914** | **Ireland** | • Viking settlement was limited to coastal towns, such as **Dublin**<br>• **Dublin** was a large trading base with wooden thatched houses<br>• By the 11th Century, Vikings had **assimilated** into Irish society, for example converting to **Christianity** |

## 11 Jorvik

*Archaeological evidence from Jorvik can tell us a lot about Viking settlement*

The Vikings captured **Jorvik** from the **Anglo-Saxons** in 866. By the 11th Century, 10,000 people lived there

- Homes in **Jorvik** were small, wooden structures with a **latrine** outside in the yard
- It's location on the **River Ouse** made **Jorvik** a trading centre for metals, silk, and ivory
- Vikings **minted** coins using Anglo-Saxons designs
- Burials in **churchyards** suggest **Christianity**, although coins often portrayed **Thor** and **Odin**
- Vikings lived alongside **Anglo-Saxons** in **Jorvik** and **intermarriage** was common

## 12 Iceland, Greenland, and North America

*From the 9th Century, the Vikings established settlements across the North Atlantic*

| ICELAND (870-) | GREENLAND (983-) | NORTH AMERICA (1000-) |
|---|---|---|
| • Settlers in **Iceland** found little **fertile** land or wood for houses<br>• Food came from fishing, hunting, and **livestock**<br>• **Iceland** was ruled by the ***Althing***, an **assembly** of chieftains which met once a year | • **Greenland** was discovered by **Erik the Red**<br>• **Greenland** imported wood, metal, and grain from **Iceland** and Europe<br>• In return, **Greenlanders** exported **walrus ivory** and **polar bear furs** | • **Erik's** son, **Leif Eriksson**, attempted to settle in **North America**<br>• He called the region **Vinland** and traded with **Native Americans**<br>• This and later settlements failed however |

## VOCABULARY

| | |
|---|---|
| **Assembly** | A meeting to make decisions |
| **Assimilated** | Became similar to |
| **Intermarriage** | Marriage between different groups |
| **Latrine** | A basic toilet |
| **Livestock** | Farm animals kept for meat and dairy |
| **Picts** | People who lived in Scotland and the islands before the Vikings |

# Viking Expansion Year 10 OCRb GCSE History: 5. **Viking Kings**

## 13 Harald Bluetooth

***Harald Bluetooth was a great warrior king who converted Denmark to Christianity***

### Christianity

- In 965, Harald was **baptised** as a **Christian**
- He forced the **Danes** to become **Christian**, although many still worshipped the old Viking Gods
- The grave site at **Jelling** contains evidence of Christian practices, including a wooden church and a the grave of Harald's father, **Gorm the Old**

### Expanding his Kingdom

- Harald captured the region of **Vik** in Norway
- He moved the Danish capital to **Roskilde** to be nearer Norway
- He built bridges and roads to connect his Empire together
- He **minted** coins to improve trade

### Defence

- To defend his kingdom, Harald built four large wooden forts
- He strengthened the **Danevirke**, a wall to defend against attack from German tribes
- Nevertheless, he was killed by his own son, **Swein**, who had risen in rebellion in 986

## 14 Svein Forkbeard

***Svein Forkbeard consolidated his father's kingdom and raided and invaded England***

### Consolidating power

- Like his father, Svein was a Christian king but he **tolerated paganism**
- He **minted** coins and protected **merchants** to improve trade
- In 1000, Svein defeated the King of Norway in battle and added a large part of Norway to his kingdom

### Raiding England

- In 1002, **King Athelred** ordered the execution of all Vikings living in England in the **St Brices Day Massacre**
- In retaliation, from 1003 to 1013 Svein raided England constantly, burning towns like **Norwich** and Exeter
- The English gave thousands of pounds of jewellery and coins in **Danegeld** to stop Swein's attacks

### Invading England

- In 1013 Svein invaded England with a huge fleet
- **Aethelred** fled to Normandy and Svein was crowned king
- Svein died just 5 weeks later and **Aethelred** was welcomed back as king by the English earls

## 15 Cnut the Great

***Cnut became King of England and built a large Anglo-Scandinavian Empire***

### Seizing the English crown

- In 1015, Cnut sailed for England with 160 ships and 10,000 men
- In 1016 he fought a series of battles against **Ethelred's** son, **Edmund Ironside**
- After **Ironside's** death, **Cnut** became king of England

### Ruling England

- **Cnut** defended England against further Viking attacks
- He executed English leaders and replaced them with Viking **jarls**, but there was no large scale settlement
- He increased taxes to pay for defence and worked hard to develop the Church

### Anglo-Scandinavian Empire

- In 1017, Cnut married **Emma of Normandy**, creating an **alliance** with Normandy
- In 1018, Cnut became King of Denmark following the death of his brother, **Harald**
- In 1028, Cnut invaded Norway with a fleet of 50 ships and was named king

## VOCABULARY

| | |
|---|---|
| **To be baptised** | To officially become a Christian |
| **Consolidated** | Made more secure |
| **Danes** | People from Denmark |
| **Jelling** | A Viking grave site in Denmark |
| **Minted coins** | Produced coins |
| **Tolerated** | Put up with |

# Year 10 Geography
# The Challenge of Natural Hazards

## KPI1 - What are Natural Hazards?

Natural hazards are physical events such as earthquakes and volcanoes that have the potential to do damage to humans and property. Hazards include tectonic hazards, tropical storms and forest fires.

**What affects hazard risk?**

- Population growth
- Global climate change
- Deforestation
- Wealth - LICs are particularly at risk as they do not have the money to protect themselves

## KPI 2 Plate tectonics

- The crust is split into major sections called tectonic plates.
- There are 2 types of crust: Oceanic (thin and younger but dense) and Continental (old and thicker but less dense).
- These plates move due to convection currents in the mantle and, where they meet, tectonic activity (volcanoes and earthquakes) occurs.
- Plates either move towards each other (destructive margin) away from each other (constructive) or past each other (conservative).

## KPI3 – Causes of Earthquakes and Volcanoes

| Volcanoes | Earthquakes |
|---|---|
| • Constructive margins – Plate move apart and hot magma rises between the plates e.g. Iceland. Forms Shield volcanoes.<br>• Destructive margins – an oceanic plate subducts under a continental plate. Friction causes oceanic plate to melt and pressure forces magma up to form composite volcanoes e.g. the west coast of South America. | • Constructive margins – usually small earthquakes as plates pull apart.<br>• Destructive margins – violent earthquakes as pressure builds and is then released.<br>• Conservative margins – plates slide past each other. They catch and then as pressure builds it is released e.g. San Andreas fault. |

## KPI4 - Effects of Tectonic Hazards

Primary effects happen immediately. Secondary effects happen as a result of the primary effects and are therefore often later.

| Primary - Earthquakes | Secondary - Earthquakes |
|---|---|
| - Property and buildings destroyed.<br>- People injured or killed.<br>- Ports, roads, railways damaged.<br>- Pipes (water and gas) and electricity cables broken. | - Business reduced as money spent repairing property.<br>- Blocked transport hinders emergency services.<br>- Broken gas pipes cause fire.<br>- Broken water pipes lead to a lack of fresh water. |

## KPI5 - Distribution of tectonic activity

Along plate boundaries. On the edge of continents.
Around the edge of the Pacific.

## KPI6 - Reducing the impact of tectonic hazards

| Monitoring | Prediction |
|---|---|
| Seismometers measure earth movement. Volcanoes give off gases. | By observing monitoring data, this can allow evacuation before event. |
| **Protection** | **Planning** |
| Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity. | Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills. |

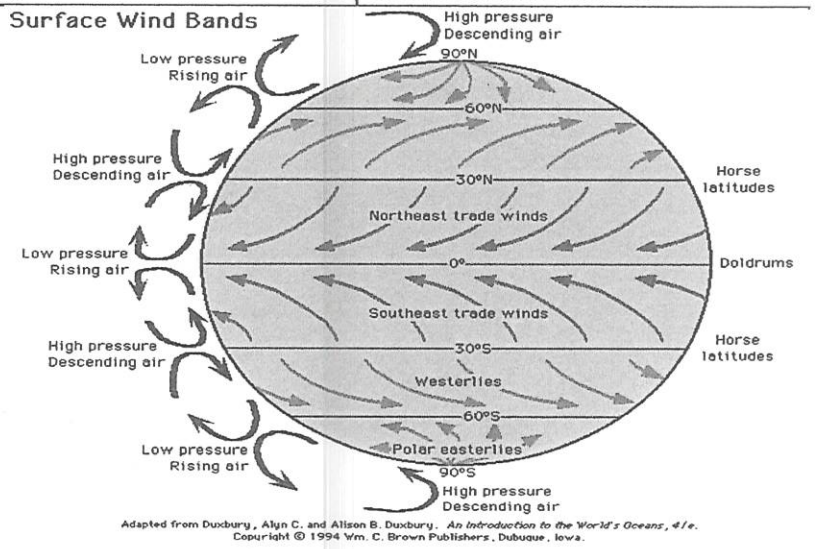
## KPI7 - Comparing Earthquakes – Nepal and New Zealand

| | Nepal. April 2015. Magnitude 7.8. | New Zealand Feb 2011 Magnitude 6.3 |
|---|---|---|
| Primary Effects | 9000 deaths<br>20,000 injured | 185 deaths<br>Significant liquefaction<br>10,000 buildings demolished |
| Secondary Effects | Avalanche on Mount Everest killing 19 people.<br>Loss of income from tourism (which was 8.9% of Nepal's GDP). | Christchurch no longer able to host world cup rugby matches – loss of revenue<br>Bottled water distributed |
| Immediate Responses | Red Cross- tents for 225,000 people.<br>UN and WHO distributed medical supplies to the worst districts.<br>Facebook launched a safety feature so people could indicate they were safe. | Rescue crews came from Japan, UK, Australia<br>Chemical toilets given out to 30,000 residents |
| Long term responses | Rebuilding.<br>World Heritage Sites reopen June 2015.<br>Longer climbing season. | Roads and houses cleared of silt by August<br>Canterbury Earthquake Recovery Authority was created to organise the rebuild. . |

## KPI8 - Global atmospheric circulation

At the equator, the sun's rays are most concentrated. This means it is hotter. This one fact causes global atmospheric circulation at different latitudes.

High pressure = dry
Low pressure = wet
As the air heats it rises – causing low pressure. As it cools, it sinks, causing high pressure. Winds move from high pressure to low pressure. They curve because of the Coriolis effect (the turning of the Earth)



# Year 10 Geography – The Challenge of Natural Hazards

**KPI9 - Tropical Storms**

Occur in low latitudes between 5° and 30° north and south of the equator (in the tropics). Ocean temperature needs to be above 27° C. Happen between summer and autumn.

**KPI10 - Sequence of a Tropical Storm**

1. Air is heated above warm tropical oceans.
2. Air rises under low pressure conditions.
3. Strong winds form as rising air draws in more air and moisture causing torrential rain.
4. Air spins due to Coriolis effect around a calm eye of the storm.
5. Cold air sinks in the eye so it is clear and dry.
6. Heat is given off as it cools powering the storm.
7. On meeting land, it loses source of heat and moisture so loses power.

**KPI11 - Extreme weather in the UK**

UK weather is getting more extreme due to climate change. Temperatures are more extreme and rain is more frequent and intense leading to more flooding events. Since 1980 average temperature has increased 1 degree and winter rainfall has increased.

**KPI12 - Beast from the East**

**CAUSE:**

- Changes in the jet led to cold air from the east (continent) prevailing. The cold air picked up moisture from the North Sea and the precipitation was snow.

**EFFECTS:**

- Some rural areas experienced lows of -12 degrees Celsius.
- The extreme cold led to the snow remaining, and strong winds of 60-70mph caused snow drifts as high as 7m.
- Many coastal areas issued with flood warnings as well.
- Thousands of schools and shops were forced to close for several days due to the harsh conditions
- British Airways cancelled a huge number of short-haul flights from airports like Heathrow

**MANAGEMENT & RESPONSES:**

- Snow ploughs and gritters sent out to improve the roads
- Red weather warnings issued advising people not to leave their houses unless in an emergency
- Public Health England urged people to plan ahead and stock up on food

**KPI13 -** Typhoon Haiyan, Philippines, November 2013

| Primary Effects | Secondary Effects |
|---|---|
| At least 6300 killed<br>5m Storm Surge<br>90% buildings in Tacloban destroyed | $14 Billion of damage<br>Water supply polluted<br>130,000 houses destroyed, Public Order – Looting<br>Airports unusable for supplies |
| **Immediate Responses** | **Long-term Responses** |
| 1,069 emergency shelters set up in public buildings.<br>Disaster Emergency Committee helped<br>UK government sent shelter kits for families | UN appeal raised $300 million.<br>Typhoon warning systems have been improved.<br>Oxfam replaced fishing boats |

**KPI14 -** Climate Change – natural or human?

Evidence for climate change shows changes before humans were on the planet. So some of it must be natural. However, the rate of change since the 1970s is unprecedented.

KPI15 - Evidence for Climate Change

The Met Office has reliable climate evidence since 1914 – but we can tell what happened before that using several methods.

- Ice and Sediment Cores: Ice sheets are made up of layers of snow, one per year. Gases trapped in layers of ice can be analysed. Ice cores from Antarctica show changes over the last 400 000 years.
- Remains of organisms found in cores from the ocean floor can be traced back 5 million years.
- Pollen Analysis: Pollen is preserved in sediment. Different species need different climatic conditions.
- Tree Rings: A tree grows one new ring each year. Rings are thicker in warm, wet conditions This gives us reliable evidence for the last 10 000 years
- Temperature Records: Historical records date back to the 1850s. Historical records also tell us about harvest and weather reports.

**KPI17 -** Effects of Climate Change

| Social | Environmental |
|---|---|
| - Winter deaths decrease with milder winters.<br>- Crop yields affected by up to 12% in South America but will increase in Northern Europe but will need more irrigation.<br>- Droughts reduce food and water supply in sub-Saharan Africa. Water scarcity in South and South East UK.<br>- Increased flood risk. 70% of Asia is at risk of increased flooding<br>- Declining fish in some areas affect diet and jobs.<br>- Increased extreme weather | - Sea level rise leads to flooding and coastal erosion.<br>- Ice melts threaten habitats of polar bears.<br>- Warmer rivers affect marine wildlife.<br>- Forests in North America may experience more pests, disease and forest fires.<br>- Coral bleaching and decline in biodiversity. |

**KPI18 –** Causes of Climate Change

| Natural | Human |
|---|---|
| - Orbital changes – The sun's energy on the Earth's surface changes as the Earth's orbit is elliptical its axis is tilted on an angle.<br>- Solar Output – sunspots increase to a maximum every 11 years.<br>- Volcanic activity – volcanic aerosols reflect sunlight away reducing global temperatures temporarily. | - Fossil fuels – release carbon dioxide with accounts for 50% of greenhouse gases.<br>- Agriculture – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for met and rice increase contribution.<br>- Deforestation – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to plane to absorb carbon through photosynthesis |

**KPI19 -** Managing Climate Change

| Mitigation | Adaption |
|---|---|
| - Alternative energy production will reduce $CO_2$ production.<br>- Planting Trees – helps to remove carbon dioxide.<br>- Carbon Capture – takes carbon dioxide from emission sources is stored underground.<br>- International Agreements e.g. the Paris Climate Agreement. | - Changes in agricultural systems need to react to changing rainfall and temperature patterns and threat of disease and pests.<br>-Managing water supplies – eg. by installing water efficient devices and increasing supply through desalination plants. Water harvesting through artificial glaciers and fog catchers.<br>- Reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts. |

**KPI20 –** Planning, Prediction and Protection of Tropical Storms

| | | |
|---|---|---|
| Monitoring wind patterns allows path to be predicted. Use of satellites to monitor path to allow evacuation | Avoid building in high risk areas<br>Emergency drills<br>Evacuation routes | Reinforced buildings and stilts to make safe, Flood defences e.g. levees and seawalls, Replanting Mangroves |

# Year 10 Geography
# The Changing Economic World

| KPI 1 What is development? | |
|---|---|
| Development is an improvement in living standards through better use of resources. | |
| Economic | This is progress in economic growth through levels of industrialisation and use of technology. |
| Social | This is an improvement in people's standard of living. For example, clean water and electricity. |
| Environmental | This involves advances in the management and protection of the environment. |

| KPI2 Measuring development | |
|---|---|
| These are used to compare and understand a country's level of development. | |
| Economic indicators examples | |
| Employment type | The proportion of the population working in primary, secondary, tertiary and quaternary industries. |
| Gross Domestic Product per capita | This is the total value of goods and services produced in a country per person, per year. |
| Gross National Income per capita | An average of gross national income per person, per year in US dollars. |
| Social indicators examples | |
| Infant mortality | The number of children who die before reaching 1 per 1000 babies born. |
| Literacy rate | The percentage of population over the age of 15 who can read and write. |
| Life expectancy | The average lifespan of someone born in that country. |
| Mixed indicators | |
| Human Development Index (HDI) | A number that uses life expectancy, education level and income per person. |

| KPI3 Variations in the level of development | |
|---|---|
| LICs | Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living. |
| NEEs | These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages. |
| HICs | These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services. |

**KPI4 - Causes of uneven development**

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa.

**KPI 4 Physical factors affecting uneven development**

| Natural Resources | Natural Hazards |
|---|---|
| • Fuel sources such as oil.<br>• Minerals and metals for fuel.<br>• Availability for timber.<br>• Access to safe water. | • Risk of tectonic hazards.<br>• Benefits from volcanic material<br>• Frequent hazards undermines redevelopment. |
| **Climate** | **Location/Terrain** |
| • Reliability of rainfall to benefit farming.<br>• Extreme climates limit industry and affects health.<br>• Climate can attract tourists. | • Landlocked countries may find trade difficulties.<br>• Mountainous terrain makes farming difficult. |

| KPI 6 Consequences of Uneven Development | |
|---|---|
| Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration. | |
| Wealth | People in more developed countries have higher incomes than less developed countries. |
| Health | Better healthcare means that people in more developed countries live longer than those in less developed countries. |
| Migration | If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living. |

**KPI5 Human factors affecting uneven development**

| Aid | Trade |
|---|---|
| • Aid can help some countries develop key projects for infrastructure faster.<br>• Aid can improve services such as schools, hospitals and roads.<br>• Too much reliance on aid might stop other trade links becoming established. | • Countries that export more than they import have a trade surplus. This can improve the national economy.<br>• Having good trade relationships.<br>• Trading goods and services is more profitable than raw materials. |
| **Education** | **Health** |
| • Education creates a skilled workforce meaning more goods and services are produced.<br>• Educated people earn more money, meaning they also pay more taxes. This money can help develop the country in the future. | • Lack of clean water and poor healthcare means a large number of people suffer from diseases.<br>• People who are ill cannot work so there is little contribution to the economy.<br>• More money on healthcare means less spent on development. |
| **Politics** | **History** |
| • Corruption in local and national governments.<br>• The stability of the government can affect the country's ability to trade.<br>• Ability of the country to invest into services and infrastructure. | • Colonialism has helped Europe develop, but slowed down development in many other countries.<br>• Countries that went through industrialisation a while ago, have now develop further. |

# Year 10 Geography
# The Changing Economic World

**Case Study: Economic Development in India**

**KPI10 Location & Importance**

- Following the Second World War, weakened British forces retreated from India and in 1947, India declared independence and formed its own country.
- Importance: Large coastline with deep harbours. Connected to Europe via the Suez Canal.

**KPI 11 Impacts of India's development**

| Political | Social |
|---|---|
| Many factory jobs are for unskilled, young women on minimum pay. India's middle class is growing with more managerial and well-paid jobs, e.g. in IT. | The quality of life has not improved for all Indians. In 2004, 62% of Indian's paid a bribe to get a job done.<br><br>However, life expectancy has improved from 57 years in 1990 to 68 years in 2015. |

**KPI12 - Environmental Problems of Industrial Development**

India has massively increased its greenhouse gas emissions as manufacturing has grown. In Bangalore problems are caused by industrial growth as harmful pollutants have entered the city's 200 lakes. Mining and oil extraction also cause problems because in Mumbai in 2010 6,000 barrels of oil leaked endangering local birds.

**KPI13 The role of TNCs in India**

TNCs = Transnational corporation
Advantages and Disadvantages of TNC investment

- Coca-Cola offer training and education. Coca-Cola runs some community schemes in Africa and SE Asia.
- Coca-Cola employs more than 25,000 people in India. Indirectly, Coca-Cola has created an estimated 150,000 jobs in related industries.
- Coca-Cola draws around 510,000 litres of water each day from boreholes and open wells leading to water shortages in many areas.

**KPI 14 Aid & Debt relief in India**

The 2008/09 oil spills devastated swamps and its ecosystems.
Industry has caused toxic chemicals to be discharged in open sewers - risking human health.
80% of forest have been cut down. This also increases $CO^2$ emissions.
Short term aid – the UK sent £10 million, a rescue team and 1,200 tents after the earthquake in 2001. Long term aid - up until 2015 India received £200 million from the UK to tackle poverty. 'Top down' aid - dams have been built to generate HEP which in turn improves the economy. 'Bottom up' aid – the charity WaterAid trains local people to maintain village handpumps.

Case Study: Economic Change in the UK

KPI 15 UK in the Wider World

Importance: The UK has one of the largest economies in the world. The UK has global transport links i.e. Heathrow and the Eurostar.

| KPI 16 Causes of Economic Change | KPI 17 Towards Post-Industrial |
|---|---|
| De-industrialisation and the decline of the UK's industrial base. Globalisation has meant many industries have moved overseas, where labour costs are lower. Government investing in supporting vital businesses. | The quaternary industry has increased, whilst secondary has decreased.<br>Numbers in primary and tertiary industry has stayed the steady.<br>Big increase in professional and technical jobs. |

**KPI 18 Cambridge Science Park**

A major quaternary industry on the outskirts. Good transport access to the A14 and M11. A good location for sourcing highly educated workers from Cambridge University. Staff benefit from attractive working conditions. Attracts clusters of related high-tech businesses.

**KPI 19 Change to a Rural Landscape - South Cambridgeshire**

Cambridge growing - Current population is 155,000 but will increase to 175,000 by 2026.

| Social | Economic |
|---|---|
| Rising house prices have caused tensions in villages.<br>Villages are unpopulated during the day causing loss of identity.<br>Resentment towards poor migrant communities. | Lack of affordable housing for local first time buyers.<br>Sales of farmland has increased rural unemployment.<br>Influx of poor migrants puts pressures on local services. |

**KPI 20 Improvements to Transport**

- Road improvements: Building of a south west superhighway (A303) by spending £2bn to widen the road.
- Railway improvements: London Crossrail costing £16.8bn to improve journey times across London and bring an additional 1.5 million people within 45 minutes of central London.
- Airport improvements: Build a new runway at Heathrow airport at a cost of £18.6 bn. Predicted to bring more jobs
- and money to the UK. Many people are concerned about the noise from a new runway.
- Port improvements: Liverpool2 building cost £400 million and has doubled the ports capacity to 1.5 million containers each year.

**KPI 21 UK North/South Divide**

Evidence for a North South Divide:

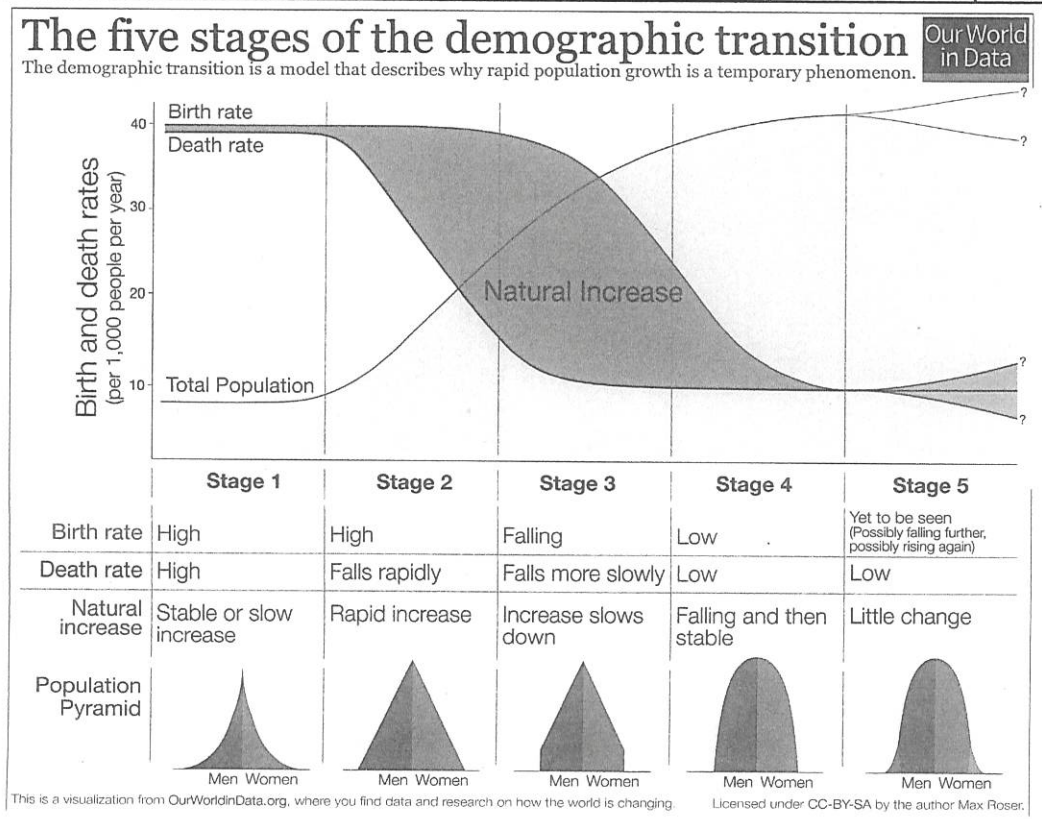
- - Lower life expectancy in North, e.g. life expectancy in Manchester 2013 = 71.8 (male) and 77.8 (female). Higher life expectancy in South, e.g. male life expectancy in East Dorset 2013 = 83.1, female life expectancy I Kensington and Chelsea = 84.7.

Solutions:

- Businesses such as the BBC have moved their businesses to cities in the North.
- Enterprise Zones have been created to encourage new businesses.
- The government has proposed improved transport links including a high speed railway link connecting major northern cities

# Year 10 Geography
# The Changing Economic World

| KPI 7 The Demographic Transition Model | | | | | |
|---|---|---|---|---|---|
| The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country. | STAGE 1 | STAGE 2 | STAGE 3 | STAGE 4 | STAGE 5 |
| | High DR, High BR<br>Steady | BR Low<br>Declining DR<br>Very High | Rapidly falling DR<br>Low BR<br>High | Low DR<br>Low BR<br>Zero | Slowly Falling DR<br>Low BR<br>Negative |
| | e.g. Tribes | e.g. Kenya | e.g. India | e.g. UK | e.g. Japan |




| KPI 8 Reducing the Global Development Gap | |
|---|---|
| Microfinance Loans<br>This involves people in LICs receiving smalls loans from traditional banks.<br>+ Loans enable people to begin their own businesses<br>- Its not clear they can reduce poverty at a large scale. | Foreign-direct investment<br>This is when one country buys property or infrastructure in another country.<br>+ Leads to better access to finance, technology & expertise.<br>- Investment can come with strings attached that country's will need to comply with. |
| Aid<br>This is given by one country to another as money or resources.<br>+ Improve literacy rates, building dams, improving agriculture.<br>- Can be wasted by corrupt governments or they can become too reliant on aid. | Debt Relief<br>This is when a country's debt is cancelled or interest rates are lowered.<br>+ Means more money can be spent on development.<br>- Locals might not always get a say. Some aid can be tied under condition from donor country. |
| Fair trade<br>This is a movement where farmers get a fair price for the goods produced.<br>+ Paid fairly so they can develop schools & health centres.<br>-Only a tiny proportion of the extra money reaches producers. | Technology<br>Includes tools, machines and affordable equipment that improve quality of life.<br>+ Renewable energy is less expensive and polluting.<br>- Requires initial investment and skills in operating technology |

| KPI 9 Case Study: Reducing the Development Gap In The Gambia | |
|---|---|
| Location and Background | -In 20% of GDP comes from tourism<br>-Gambia has few natural resource deposits and relies heavily on remittances from workers overseas and tourist receipts<br>-150,000 people visit per year |
| Gambia is an LIC located on west coast of Africa. Location makes it an attractive place for visitors to explore the tropical blue seas, skies and palm filled sandy beaches in the winter. | |
| Development Problems | Multiplier effect |
| - Tourists do not always spend much money outside their resorts.<br>- Ebola and terrorist threats have had a detrimental effect on tourist numbers<br>- Tourism is seasonal many a winter sun destination | -Jobs from tourism have meant more money has been spent in shops and other businesses.<br>-Government has invested in infrastructure to support tourism.<br>-Poverty rates declines from 58% to 48% Health improvements. |

# Y10 FRENCH MODULE 5: LE GRAND LARGE

| | | |
|---|---|---|
| 1 | During the summer holidays | Pendant les grandes vacances |
| 2 | I really like to spend time with my friends in town | j'aime beaucoup passer du temps avec mes amis en ville |
| 3 | however we normally go abroad | pourtant on va normalement à l'étranger |
| 4 | Last year I went to France | L'année dernière je suis allée en France |
| 5 | with my family for two weeks | avec ma famille pendant deux semaines |
| 6 | We stayed at a campsite in the southwest of France | Nous sommes restés au camping dans le sud-ouest de la France |
| 7 | I would say that it was really relaxing | Je dirais que c'était vraiment relaxant |
| 8 | despite the fact that we did not have electricity! | malgré le fait qu'on n'avait pas d'électricité! |
| 9 | Nevertheless, I would have preferred to stay in a hotel or a villa | Néanmoins, j'aurais préféré rester dans un hôtel ou un villa |
| 10 | because it would be more comfortable | car ça serait plus confortable. |
| 11 | Next year we will go to Spain | L'année prochaine on ira en Espagne |
| 12 | I'm looking forward to it | j'attends avec impatience |
| 13 | because we will stay in a big villa! | parce qu'on restera dans un grand villa! |
| 14 | I have always dreamed of going to New York. | J'ai toujours rêvé d'aller à New York. |
| 15 | I would like to see the monuments there and do some shopping. | J'aimerais y voir les monuments et faire des achats. |
| 16 | I have never gone to the United States so I hope that my dreams will come true one day. | Je ne suis jamais allée aux États-Unis donc j'espère que mes rêves se réaliseront un jour |
| 17 | Last month I travelled to Wales all alone | Le mois dernier j'ai voyagé au Pays de Galles toute seule |
| 18 | to visit my grandparents, it was completely disastrous! | pour visiter mes grands-parents, c'était complètement désastreux! |
| 19 | I had packed all my luggage | J'avais préparé tous mes bagages |
| 20 | but I forgot them at home! | mais je les ai oublié chez moi! |

# Grade 7+ Show Off Language

| Opinions |
|---|
| **malgré le fait que-**In spite of the fact that |
| **je dois avouer que-** I must admit that |
| **j'attends ça avec impatience-** I'm excited for it/that (I await it with impatience) |
| **j'en ai marre-** I'm tired of it |
| **soit...soit...-** either...or... |
| **je suis mal à l'aise avec-** I am uncomfortable with |
| Subjunctive |
| **bien que je sois (paresseux/se)-** even though I am (lazy) |
| **il faut que je fasse-** I have to do |
| **c'est dommage qu'il soit-** it's a shame that it's |
| **je doute qu'il soit important de + infinitive-** I doubt that it's important to... |
| Si clauses + conditional |
| **si j'avais l'occasion-** if I had the opportunity (I would...) |
| **si j'étais riche-** If I were rich (I would...) |
| **si j'avais le temps** - If I had the time (I would...) |
| **si je pouvais** - If I could (I would...) |
| Past Tense |
| **j'aurais aimé + infinitive-** I would have liked (to...) |
| **j'avais décidé que-** I had decided that |
| **j'avais toujours rêvé de + infinitive-** I had always dreamed of... |
| **je me suis rendu(e) compte que-** I realised that |
| **j'étais ravi(e) que-** I was delighted that... |
| **j'étais en train de + infinitive-** I was in the middle of (doing...) |
| Connectives |
| **néanmoins-** nevertheless |
| **du coup-** thus/therefore |
| **au lieu de-** instead of |
| **après avoir fait cela-** After having done that... |

# Y10 SPANISH MODULE 5: CIUDADES

| | | |
|---|---|---|
| 1 | I live in Coleford which is a quite small town near to Bristol. | Vivo en Coleford que es un pueblo pequeño, cerca de Bristol |
| 2 | It is located in the southwest of England. It is surrounded by woods. | Está situado en el suroeste de Inglaterra. Está rodeado de bosques. |
| 3 | Usually there is bad weather, it always rains | Generalmente hace mal tiempo, siempre llueve |
| 4 | I would say that there is not a lot to do for young people | Diría que no hay mucho que hacer para los jóvenes |
| 5 | However there is a cinema, a supermarket and some shops | Sin embargo , hay un cine, un supermercado y unas tiendas |
| 6 | I prefer to live in a city because there are more things to do | Prefiero vivir en una ciudad porque hay más que hacer |
| 7 | I love to go shopping in the city centre and at the shopping centre | Me encanta ir de compras en El centro y en el centro comercial |
| 8 | In my town you can go on a boat trip and you can go up to the tower | En mi pueblo se puede ir de excursión y se puede subir a la torre |
| 9 | Before my town was more quiet and there was not much traffic | Antes mi pueblo era más tranquilo y no había mucho tráfico |
| 10 | Last year I visited London with my family. We rented a bike which was cool. | El año pasado visité Londres con mi familia. Alquilamos una bici que fue guay |
| 11 | Tomorrow if there is good weather, I will go to the beach with my sister | Mañana si hace buen tiempo iré a la playa con mi hermana |
| 12 | I will buy clothes and shoes because I love fashion | Compraré ropa y zapatos porque me encanta la moda |
| 13 | However, if it rains I will rest and read books at home | Sin embargo, si llueve descansaré y leeré libros en casa |
| 14 | I prefer to shop online because it is more comfortable | Prefiero comprar en línea porque es más cómodo |
| 15 | I love second-hand shops because there are many bargains | Me encantan las tiendas de segunda mano porque hay muchas gangas |
| 16 | I would say that the best about my town is that there are many green spaces | Diría que lo mejor de mi pueblo es que hay muchos espacios verdes |
| 17 | But the worst is the public transport | Pero lo peor es el transporte público |
| 18 | I would invest in bike lanes because is better for the environment | Invertiría en rutas para bicis porque es mejor para el medio ambiente |
| 19 | Last year I went to Perú. The city was beautiful and the people were welcoming. | Lo peor de mi pueblo es que hay tanto tráfico. |
| 20 | The food was delicious and I would like to go back again. | La comida era deliciosa y me gustaría volver otra vez. |

## Year 10 RE GCSE FULL Paper One – Christian worship and practices

| | |
|---|---|
| **Liturgical** | Church service that follows a set order and structure. |
| **Non liturgical** | A service that doesn't have a set order or structure. |
| **Informal** | Type of non-liturgical worship that is spontaneous e.g. Quaker and charismatic Christian worship |
| **Prayer** | Speaking to God |
| **Lords Prayer** | Set prayer taught by Jesus aka the 'Our Father' |
| **Sacraments** | Christian rituals where believers receive God's grace (free gift of love) |
| **Eucharist** | Aka Holy Communion. Christian sacrament that uses bread and wine to re-enact the Last Supper and commemorate the death and resurrection of Christ. |
| **Baptism** | Baptism: Christian sacrament representing entrance into the Christian faith. Usually involves water |
| **Transubstantiation** | The belief that the bread and wine actually become the body and blood of Christ |
| **Memorialism** | Christ is not present, the Eucharist is carried out in remembrance of Jesus |

**KPI1:To understand what is meant by worship and different forms of worship.**

- Worship is an act of showing **devotion** to God.
- Worship can be formal or informal, in a group or done individually (private worship).
- Liturgical worship involves a set format for worship, it can contain **liturgies.**
- Non liturgical worship is where there is no set structure, or where worship may be spontaneous. Informal worship is worship is more relaxed it is sometimes **charismatic,** it can be help at any time.

**KPI2: To investigate the nature of prayer and its significance.**

- Christians describe prayer as a conversation with God. Prayer can be silent or said out loud. It can use set words, or a person's own words.
- There are many different kinds of prayer, including: adoration - praising God for his greatness - confession - owning up to sin and asking for God's forgiveness thanksgiving - thanking God for his many blessings, petition - asking God for something, - intercession - asking God to help others who need it,

Most Christians believe prayer deepens a person's faith. Praying can help the believer come to a greater understanding of God's purpose for their lives.

**KPI3: To explore the sacrament of baptism and the different forms amongst the church.**

- **Infant Baptism**-In some Christian denominations babies are baptised as a symbol of welcome and belonging to the family of the Church. In this ceremony water is sprinkled on the baby's head as a symbol of new life and of being washed clean from sin. Parents and godparents promise to bring the baby up in the Christian faith following Jesus's example.
- **Adult baptism-** In some denominations people are not baptised until they are old enough to make the promise to follow Jesus Christ for themselves. Christians try to follow Jesus's example. He was baptised as an adult.

**KPI5- To apply key religious teachings to the topic of worship**

Prayer: The Lord's prayer: Matthew 6:9-13 "Give us today our daily bread and forgive us"
Baptism- The Great Commission: Matthew 28:19 "Go and make disciples of all nations, baptising them in the name of the Father and of the Son and of the Holy Spirit."
Eucharist: 1 Corinthians 11:23-26 "This is my body, do this in remembrance of me, this cup is the new covenant, drink it in remembrance of me."

**KPI4: To be able to understand the sacrament of Holy Communion and the different ways Christians celebrate communion.**

- The **Eucharist**, which is also called the Holy Communion, Mass, the Lord's Supper or the Divine Liturgy, is a sacrament accepted by almost all Christians.
- The Eucharist is a **re-enactment** of the Last Supper, the final meal that Jesus Christ shared with his disciples before his arrest, and eventual crucifixion.
- Although all denominations recognise the importance of the Eucharist, they differ about its meaning. Roman Catholics believe that although the bread and wine physically remain the same, it is transformed beyond human comprehension into the body, blood soul and divinity of Jesus. This is called **Transubstantiation.**

In some churches (e.g. Roman Catholic) people come to the front to receive communion from the priest, usually in the form of a wafer and some alcoholic wine from a single cup In other churches (e.g. non-conformist) bread is usually set on a table alongside nonalcoholic wine in small cups and anyone who wishes to can take some.

## RE GCSE FULL Paper One – Christian worship and practices

| | |
|---|---|
| Pilgrimage | A journey made to a holy site for religious reasons. |
| Christmas | Christian festival celebrating the incarnation of Jesus |
| Easter | Christian festival commemorating the death and resurrection of Christ |
| Food banks | The Trussell Trust is a Christian charity that provides emergency food to people in crisis |
| Street pastors | Christian volunteers who provide free help and support to people, especially those who are out on a Friday or Saturday night. |
| Mission | A vocation or calling to spread the teachings of Jesus.<br>The Great Commission: Jesus instruction to his followers to go and spread his message "Go and make disciples of many nations" |
| Evangelism | Spreading the teachings of Jesus |
| Church growth | Church attendance is falling in the UK, but is increasing rapidly in places like Africa |
| Reconciliation | The worldwide Church has a mission to heal people's relationship with God and with one another. |
| Persecution | Christians in places like North Korea and Syria are being persecuted by being attacked, forced to pay extra taxes or forbidden from certain jobs |

**KPI9:**

- **Missionary** work means an organised effort to spread Christianity.
- Christians have suffered **persecution** in the past. Just after Jesus had died, many people began joining the new religion that Jesus had started called Christianity.
- Under the role of Roman Emperor Nero Christians were persecuted for their beliefs. Many of Jesus' disciples were persecuted and died horrible deaths such as being crucified or boiled alive.
- **Tearfund** are a Christian charity. They believe their duty is to follow the example of Jesus and help the poor and needy. They work in over 50 countries and provide short and long term aid.

**KPI6- To describe the role and importance of pilgrimage.**

A **pilgrimage** is a journey made for areligious reason. The believer makes a physical journey but it is also a spiritual journey toward God. Pilgrims may visit the Holy Land, particularly Jerusalem, because it is where Jesus lived and died. Christians go on pilgrimage to grow closer to God and seek a cure for an illness.

The pilgrimage site of **Lourdes** is near the Pyrenees mountains in France. Every year, it is visited by millions of pilgrims, particularly Roman Catholics.

**Iona:** Scottish island where Christians of all denominations go to pray, read the Bible and meditate

**KPI7: To investigate Christian festivals**

**Christmas** is a Christian festival remembering the birth of Jesus. Here are some of the ways it is celebrated: the story of Jesus' birth (the nativity) is re-told by children through nativity plays, church services often including carol singing, Some Christians start Christmas day with a midnight communion service (mass), gifts might be given or received which reminds Christians of the gift of Jesus

**Easter** remembers the crucifixion and resurrection of Jesus.

- Holy week begins with Palm Sunday, on Maundy Thursday, Jesus shared the last supper with his disciples.
- On good Friday Jesus was crucified by the Romans. Throughout the gospels, Jesus says that he will have to die but that his death will save many.
- Jesus was resurrected on Easter Sunday. Easter is celebrated by giving eggs which are a symbol of new life, Christians might attend church and share communion.

**KPI8: The role of the church in the local community: Food Banks**

**The Trussell Trust**

- Founded in 1997 it provides emergency food help and support to people in the UK.
- Based on the parable of the sheep and goats to aim to end poverty and relieve hunger of people
- Food is donated by churches, supermarkets, schools and business and care professionals identify people in need and give vouchers so that they can get food to help them in the short term.

**Street Pastors**

- The parable of the sheep and goats shows how Christians should help others and show agape
- Street pastors started in 2003 in London with volunteers to work on the streets to patrol areas to provide a reassuring presence to people at night
- They want to help people in practical ways working with the council and the police. They go out to listen to people, giving advice about where they can go, or to offer flip flops to girls whose shoes have broken or space blankets to help keep people warm

Year 10 – Hospitality and Catering - LO1 Understanding the Environment

| Types of Food Service | Sectors of the H&C Industry | Job Roles in the H&C Industry | Factors Affecting the Success of H&C |
|---|---|---|---|
| ***Plate:***<br>Meals are pre-plated in the kitchen<br>Good portion control methods.<br>All plates are consistent in the food presentation.<br>***Silver:***<br>This type of service requires more training for waiting staff, it is a skill.<br>Food is fully cooked in the kitchen but presented on platters.<br>A silver spoon and fork are used to serve food from a platter to a guest's plate at a table.<br>***Buffet:***<br>Food set up along a table.<br>The food can be hot or cold.<br>It can be self-service or served by staff, or a mixture of the two.<br>Poor portion control when people help themselves and can go back for more.<br>***Vending:***<br>Food service from a machine.<br>Food can be served 24 hours.<br>Usually snacks are served in this way but it can also be hot meals. | ***Residential - Commercial:***<br>Hotels, Guest houses, Bed and breakfast, Inns, Pubs, Farmhouses, Holiday camps/parks, Glamping (luxury camping), Cruise ships, Long-distance trains, airlines, motorway services, youth hostels.<br>***Residential - none commercial:***<br>NHS Hospitals, NHS nursing and care homes, emergency services, prisons, colleges/universities, boarding schools, Army/Navy/Air Force, Hostels/shelters, private nursing and care homes.<br>***Non-residential commercial:***<br>Restaurants, bistros, cafes, dining rooms, canteens, tearooms, coffee shops, takeaway and fast food outlets, pubs, bars, clubs, casinos, street food, pop-up restaurants, mobile/roadside food vans, motorway services, visitor/tourist attractions (theme parks, museums, zoos, etc), sports stadiums, concerts/gig venues. | ***Managers:***<br>Day to day running of business, Finances, security, Employment/dismissal of staff, staff training and development, customer satisfaction, business development/planning, health, safety and welfare of staff and customers, cleaning and maintenance of building, following health, safety and employment laws, problems and complaints.<br>***Administrators (secretaries, assistant managers, accountants, cashiers):***<br>Smooth running of business/departments, organising the manager's diary, sending letters, emails, making phone calls, typing, filing, organising staff and customer details, books, taxation, etc, ordering supplies (cleaning materials, food/drink), managing events, organising IT support. | ***Money:***<br>Needed for: food, ingredients, equipment, health and safety, wages/pensions/national insurance, cleaning materials, waste disposal, pest control, administration, heating/ lighting/gas, maintenance work and gardening, breakages/repairs.<br>***Making a profit:***<br>Ordering ingredients/materials, wastage, trained and skilled workforce, popular menu choices, range of services offered, breakages/repairs, planning for events, feedback/reviews from customers, economy of country.<br>***Customer service & satisfaction:***<br>quick and well run service, take action on customer feedback, staff who listen to customers, staff who understand customers' needs and wants, provides what customers expect, well trained, helpful staff, complaints promptly and politely dealt with.<br>***Trends:***<br>Information and computer technology - satellite technology and beacons, customer relationship management systems, social media. Food/drink trends, environmental sustainability. |

Year 10 – Hospitality and Catering - LO1 Understanding the Environment (continued)

| Types of Food Service (cont) | Sectors of the Hospitality and Catering Industry (cont) | Job Roles in the H&C Industry (cont) | Policies, Laws and Regulations |
|---|---|---|---|
| ***Fast Food:***<br>Customers collect food from a counter. Quick and simple method. Food served in disposable packaging-bad for the environment.<br>***Gueridon:***<br>Food is cooked, finished or presented to the guest at a table, from a moveable trolley.<br>This might involve flambéing an item, carving it, cooking on a hot stone/plate or tossing a salad.<br>Turns food into entertainment and creates an atmosphere of sophistication.<br>***Counter:***<br>Counters displaying ready prepared/cooked food are used.<br>Customers queue up. Customers may impulse buy from the displays.<br>***Tray/Trolley:***<br>A meal provided in a tray or a choice of food from a trolley. Menu options are often limited and sometimes customers order in advance. Food can be prepared elsewhere, reheated or made in the premises & moved to another area. | ***Non-residential none-commercial:***<br>*Workforce catering* - canteens, dining rooms in factories, constructions sites, shops, etc,<br>*Voluntary sector/Health Worker* - senior citizen luncheon clubs, charity food vans and cafes, day-care centres.<br>*Education* - Childcare day nurseries, school holiday clubs.<br>*Public sector catering* - Schools. | ***Front of House Staff (Receptionists, Waiting staff, Valets(park car for customers), drivers, bartenders, cashier, concierge (assists guests/customers):***<br>Representing and promoting the business, working directly with customers and back of house staff, taking bookings, checking customers in/out of the building, dealing with customer questions/problems, assisting customers to their rooms, setting up meeting rooms.<br>***Back of House Staff (Stockroom Manager, Kitchen Brigade, Maintenance Team, Gardeners/Groundskeeper, Security Guards, Cleaners, Guest Room Attendants:***<br>Buying and organising supplies, storing/preparing/cooking food and drinks, Cleaning of building, physical maintenance of the building, security. | ***Licensing laws for selling alcohol:***<br>• Must have a licence to sell alcohol<br>• Alcohol can only be sold at certain times of the day<br>• Alcohol can only be sold to people who are 18 years or over<br>***Employment Laws cover:***<br>Health and safety regulation<br>Pension and National Insurance<br>Working hours/holiday entitlement<br>Gender, age, religious, disability and aracial anti-discrimination laws<br>Income Tax/insurance<br>Child care<br>Sick pay<br>Redundancy/dismissal<br>Employment contracts<br>Trade unions<br>Employment of overseas works<br>***Health and Safety Laws:***<br>Fire regulations<br>building regulations, use and storage of chemicals, tobacco and e-cigarette regulations,<br>***Food Safety Act*** - ensure food and drinks are safe to consume.<br>***Tax collection Laws*** - Income Tax and Value Added Tax (VAT) |

# Art - Year 10 - Unit 1

## Formal Elements

**Line**
A mark that connects two or more points. These can be straight, curved, short or long.

**Tone**
The lightness or darkness or something. For darker tones use a higher grade B pencil.

**Colour**
Colour is what you see when light reflects of something.

**Texture**
How something looks or feel e.g. fluffy, rough, smooth etc.
Visual Texture - implied sense of texture that the artist creates through the use of various artistic elements such as line , shading, and color.
Physical Texture - texture you can actually feel with your hand

**Pattern**
A symbol, shape or colour that repeats. Man-made patterns are designed by humans, natural patterns are formed by nature.

**Shape/Form**
Shape is 2D e.g. rectangles. Form is 3D e.g. cubes, spheres etc.

## Colour Theory

**Primary Colours**
Colours that can't be mixed/ made from other colours e.g. red, yellow and blue.

**Secondary Colours**
Colours that can be made by mixing two primary colours.
Red + Blue = Purple
Yellow + Blue = Green
Yellow + Red = Orange

**Tertiary Colours**
Colours that can be made by mixing a primary and secondary colour together e.g. Blue + Green = Turquoise.

**Complementary Colours**
Colours that are opposite each other on the colour wheel.
Blue & Orange
Red & Green
Purple & Yellow

**Analogue/ Harmonious Colours**
Colours that are next to each other on the colour wheel e.g. Red, red-orange and orange.

**Tints/ Shades**
Tint - Adding white to a colour to make it lighter.
Shades - Adding black to a colour to make it darker.

## Tips, Tools & Techniques

**Grid-Method**
A method of drawing to recreate, enlarge or reduce an image ensuring accurate proportions.

**Mono-Printing**
A form of printmaking that has lines or images that can only be made once.

**Shading Techniques**
Hatching, Cross-Hatching, Stippling and Scumbling.

**Blender Stick**
A paper stump that allows you to blend tones.

**Acrylic Paint**
A water-soluble paint which can be layered due to quicker drying time without muddying previously applied layers.

**Thumbnail Designs**
Small sketches outlining ideas in a simplistic way.

## Keywords, Concepts & Artists

**Proportion**
The size and relation of objects to one another. Using the grid-method is one way of helping you draw using accurate proportions.

**Composition**
This is where you place objects on a page. You can explore different layouts such as close up, far away, busy, quiet, off centred, clustered.

**Mixed Media**
Artwork in which more than one material has been used.

**Copy of Work**
Copying the style and technique of an artist's work to enable you to understand the process of how it has been made.

**Own Interpretation**
Developing your own work by applying artist style or technique to your own ideas.

**Refining Ideas**
Annotating and evaluating experiments and as a result making decisions to improve work.

# Drama Y10 Billy Elliot

## Billy Elliot plot

Billy Elliot is set in the county town of Durham. It follows the story of a young boy who discovers he has a love for dance, yet he faces a backlash from his family and the community he lives in.

The play is set during the 1980's Miners strike. It is a musical which makes many reference to the conservative government at the time.

The performance starts with the audience being informed that the Miners are going on strike. We then are introduced to the main character and his best friend Michael, who don't seem to understand what is happening around them.

We learn that Billy lives with his Dad, Brother and Grandma, his mam passed away a few years ago.

After arriving late to a boxing class he is forced to stay behind. A ballet class then enters the hall and he takes part. As the show goes on he stop going to boxing and continues to go to the ballet class. The dance teacher, Mrs Wilkenson, convinces Billy to Audition for the Royal Ballet school. However, is firstly denied by his family. Due to the on going circumstances with the strike.

After some time his dad goes against his community and family and supports Billy in his dream. Billy auditions and gets into the Ballet school.

The performance ends with the Miners finding out that they have lost their fight against the government and are forced back to work.

## Background of the play

Written by Lee Hall, Billy Elliot is set at a time when English communities were divided by the political landscape at the time. Lee Hall was raised in Newcastle which was an area hit hard by the mining strikes of the time.

Throughout the whole performance the theme of social class is very apparent. There are many instances of the issues faced by working class committees highlighted throughout the performance. An example of this is during the song Solidarity. We see the struggle between Miners and Police officers who are clashing on the picket line. This is combined with a ballet class, showing us the innocence of the children and Billy, while such turmoil is happening around them.

There was a large gap between working and middle class in Britain, even before the industrial decline. The Miners and the police are class stereotypes. A lot of working class people struggles finically, even if they were in work or on the dole. The Middle class were largely unaffected by the industrial decline and strikes at the time. There was also a class divide in education, whether you went to a public and private schools often decided your job in the future. We can see this when Billy goes to audition for the Ballet School.

Families were expected to have a 'nuclear' structure- a mother, a father and their children. Single-parent families like Billy's were very uncommon and he finds a mother like figure in Mrs Wilkenson.

## Key Terms

**Foreshadowing** - Warning or indication of a future event
**Pathos** - Appeal to emotion
**Multi-role**- One actor playing a two or more roles
**Motif**- A repeated idea throughout the story
**Dialogue** - Conversation between two or more characters
**Tension** - Dramatically used to build suspense
**Humour** - Language used for amusing/comic effect
**Dramatic Irony** - When the audience know something that the characters do not
**Songs** - Contain lyrics that are set to music to give audience more information
**Stage Directions** - Instructions indicating how the actor should move/speak
**Cyclical Structure** - Finishes a similar way to how the text began
**Prologue** - A separate introduction that reveals some of the plot
**Atmospheric** - A distinctive mood/feel to the scene
**Parallels** - Similarities in the text—almost a replication of events
**Tragedy** - A play dealing with tragic events and having an unhappy ending for main characters.

## Performance Style

Billy Elliot is a Musical. Meaning it regularly has songs which forward the performance. With most musicals the performance will end on a positive note dispute what has happened in the show.

Epic Theatre is another style used in this performance, it is a theatre style created by Bertolt Brecht to push a political message and highlight issues within society.

Billy Elliot is extremely political, with many references to the conservative government during the 1980's. The audience see the struggle that many people went through. There is also mention of real people, which again makes the performance Epic theatre.

Gestus and Spass is also used in this performance. This can be clearly seen in the song Expressing yourself. Billy and Michael are singing about the importance of people being able to express themselves in any way they want to which is a very serious topic. As they do massive puppets of different types of clothing are seen on stage.

A third technique we see used in Blood Brothers is Multi-Rolling. This is a technique where one actor will play more than one character or more than one actor will play the same character.

# Year 10 Photography—Unit 1 Term 2

**AO1- Assessment objective 1 – Develop ideas through investigations, demonstrating critical understanding of sources.**

**Artist Research!!**

**Evidence can include:**

Artist research, contextual research, analysis of artist artwork, thumbnail sketches showing composition.

**Grading criteria for level 9:**

Demonstrate independent critical investigation and in-depth understanding of sources to develop ideas convincingly.

**AO2- Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes.**

**Experimenting!!**

**Evidence can include:**

Photoshoots, investigating different techniques, annotating of your contact sheet, post production editing.

**Grading criteria for level 9:**

Effectively apply a wide range of creative and technical skills, experimentation and innovation to develop and refine work

**AO3-Record ideas, observations and Insights relevant to intentions as work progresses.**

**Annotations!!**

**Evidence can include:**

Photoshoot plans, thumbnail sketches, storyboards, visual analysis of photography.

**Grading criteria for level 9:**

Record and use perceptive insights and observations with well-considered influences on ideas

**Ao4-Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language.**

**Final Response!!**

**Evidence can include:**

A personal and purposeful response to an artist/ context. response should be informed by the study of artists/ techniques.

**Grading criteria for level 9:**

Demonstrate advanced use of visual language, technique, media and contexts to realise personal ideas

Photography techniques

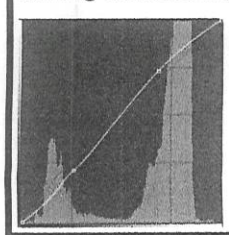
**Negative space**

Situates subjects within their surroundings in dramatic ways that tell a story using blank space and emptiness.

**Collage**

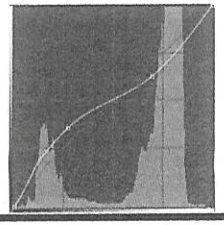
A piece of art made by sticking various different materials such as photographs and pieces of paper or fabric on to a backing. Or merging and overlapping fragments of an image together digitally.

**Editing contrast using curves in Photoshop**



Increasing contrast

Decreasing contrast



Camera settings

**A-DEP** Automatic Depth of Field

**M** Manual

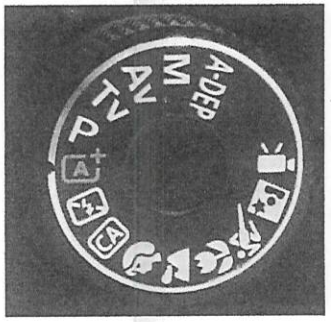
**AV** Aperture – Priority

**TV** Shutter —Priority

**P** Programmed Automatic

Scene Intelligent Auto

No Flash




Filming

Night Portrait

Sports

Macro

Landscape

Portrait

Creative Auto

# Year 10 Photography—Unit 1 Term 2

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Artist research, contextual research, analysis of artist artwork, thumbnail sketches showing composition.

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**Experimenting!!**

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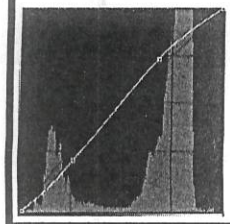
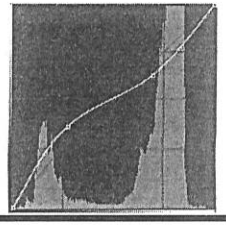


Increasing contrast

Decreasing contrast



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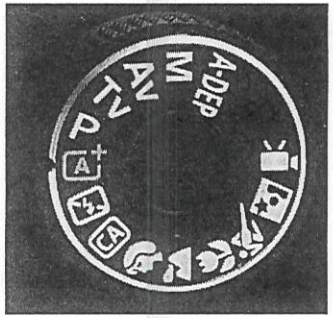



Filming

Night Portrait

Sports

Macro

Landscape

Portrait

Creative Auto

## Aperture:

- How open the lens is.
- To capture close up shots a wider lens is required.
- To capture detail in the distance a smaller lens setting is

Bigger Opening, More Light ⟷ Smaller Opening, Less Light

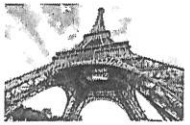
## Vantage point:

- The position from which the photograph was taken. It is the point of view of the viewer of the photograph.

**Frog eye view**—ground level

**Birds eye view**—high angle and a wide view.

**Low angle view**—looking up at object.

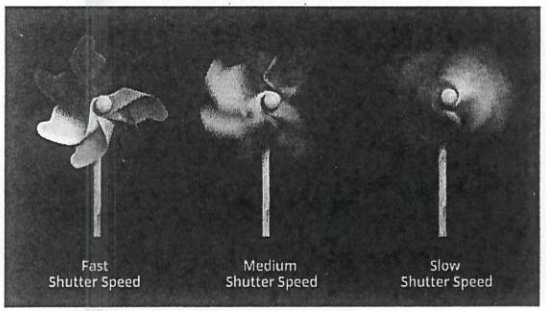


**Eye level view**—looking straight at object.

**High angle view—looking** down at object.

## Shutter Speed:

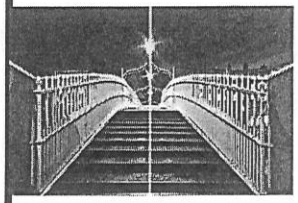
- How quickly the shutter opens and closes.
- Used for action and movement shots.
- The slower the setting the more blurred the photograph.



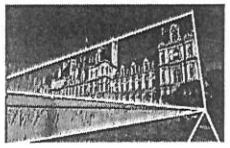

## Composition:

- How objects are arranged in the frame/ photo.

**Rule of thirds**—Using a grid to off centre the focal point.

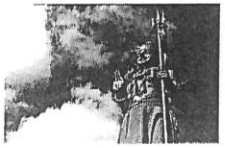


**Symmetry and Balance**—using mirroring or contrasting numerous small object against one bigger object.



**Diagonals and Triangles**—creating a sense of depth.

**Leading Lines**—to guide the viewers eye to the focal point and around the photo.



**Negative Space**—to frame the focal point.

**Minimalism**—'Less is more'. Simplistic colours and layout.

**Frame within a Frame**—creates depth and draws the eye into the photo.

# BTEC Music - Year 10

## Key Terminology

**Melody** - a sequence of single notes that is musically satisfying; a tune.
**Harmony** - the combination of simultaneously sounded musical notes to produce a pleasing effect.
**Tonality** - the character of a piece of music as determined by the key in which it is played.
**Rhythm** - a strong, regular repeated pattern of movement or sound.
**Structure** - refers to the arrangement and order of the parts or sections of the music.
**Instrumentation** - the particular instruments used in a piece of music.
**Texture** - refers to the effect of the different layers of sound in a piece of music, and the relationship between them.
**Timbre** - the character or quality of a musical sound.
**Production** - the process by which music is created, captured, manipulated, and preserved so that it can be distributed and enjoyed.

## Musical Styles - Popular

**Rock and Roll** - a type of popular dance music originating in the 1950s, characterized by a heavy beat and simple melodies. Rock and roll was usually based around a twelve-bar structure and an instrumentation of guitar, double bass, and drums.
**Heavy Metal** - a type of highly amplified harsh-sounding rock music with a strong beat, characteristically using violent or fantastic imagery.
**Punk** - a loud, fast-moving, and aggressive form of rock music, popular in the late 1970s.
**Reggae** - a style of popular music which uses syncopation (off-beat rhythms), originating in Jamaica. Reggae became widely known in the 1970s through the work of Bob Marley; its lyrics are much influenced by Rastafarian ideas.
**Britpop** - British pop music of the mid 1990s that was typically influenced by the Beatles and other British groups of the 1960s and perceived as a reaction against American grunge music.
**Grunge** - a style of rock music characterized by a raucous guitar sound and lazy vocal delivery.

# BTEC Music - Year 10

## Musical Styles - Other

**African Drumming** - Traditionally, the drum was the heartbeat, the soul of most African communities. Drums have been an intrinsic part of African life for centuries and for countless generations, an ancient instrument used to celebrate all the aspects of life.
**Theme Tunes/Jingles** - a short slogan, verse, or tune designed to be easily remembered, especially as used in advertising.
**Orchestral** - music written for an orchestra to play.
**Delta Blues** - a style of blues originating in the Mississippi Delta, typically featuring slide guitar.

## Examples of Stylistic Features

**Instrumentation**: instrumental techniques, type of ensemble, alternative instrumentation, sonic features, electronic sounds.
**Texture**: solo, duet, homophonic, polyphonic, unison.
**Timbre**: sonic features, electronic sounds, FX.
**Tonality**: major scale, minor scales, blues scale, pentatonic scale, modes, ragas, exotic scales.
**Scales and modes**: major scale, minor scales, blues scale, pentatonic scale, modes, ragas, exotic scales.
**Harmony**: major and minor triads, power chords, 7th chords, sus chords, extended chords, suspensions, inversions, chord sequences, arpeggios, broken chords.
**Rhythmic techniques**: metre, tempo/bpm, syncopation, swing, one drop/skanking, polyrhythms, hemiola, phasing.
**Structure**: verse/ chorus, 12-bar blues, through-composed, bridge, intro, outro, ABACAD.
**Melodic techniques**: conjunct, disjunct, chromatic, diatonic, phrasing, repetition, sequence, ornamentation, motifs, round/canon, riffs, hooks, head, improvisation.
**Production**: microphone use, recording styles, sampling, FX, looping, controllerism, turntablism, quantisation, sequencing, automation.

Year 10 Economics Knowledge Organiser – Term 1

### 3.1.1.1 – ECONOMIC ACTIVITY

**Economics** is the science of choice. Choices by individuals (you), businesses, societies and governments.

The **central purpose** of economic activity is the production of goods and services to satisfy needs and wants

The **economy** is the system that attempts to solve the **basic economic problem:** that there is more need than there are resources. Therefore, all these wants and demands cannot all be met.

### 3.1.1.1 – ECONOMIC ACTIVITY

**Needs** - A need is any good or service that we require or that is necessary for our survival such as food and water.

**Wants** - A want is any good or service that is desired but is not necessary. For example, we need water to survive but we don't need a particular brand of water to stay fundamentally hydrated.

**Scarce resources** – not having enough of a resource to satisfy all wants.

### 3.1.1.1 – ECONOMIC ACTIVITY

The key economic decisions are: **what to produce, how to produce, and who is to benefit** from the goods and services produced

### 3.1.1.1 – ECONOMIC ACTIVITY

**Three Economic Groups**

**Consumer** – a person or group that directly uses a good or service.

**Producer** – a person, company or country that grows, makes or provides a good or a service.

**Government** – a political authority that decides how a country is run and sets the rules for markets.

### 3.1.2.2 – ECONOMIC SECTORS

**Goods** – a tangible product i.e. a product that can be touched e.g. a chocolate bar.

**Services** – an intangible product i.e. a product that cannot be touched e.g. financial advice.

### 3.1.1.3 – MAKING CHOICES – Opportunity Cost – the loss of other alternatives when one alternative is chosen i.e. the opportunity cost of building a new school could be not spending that money to build a new hospital instead.

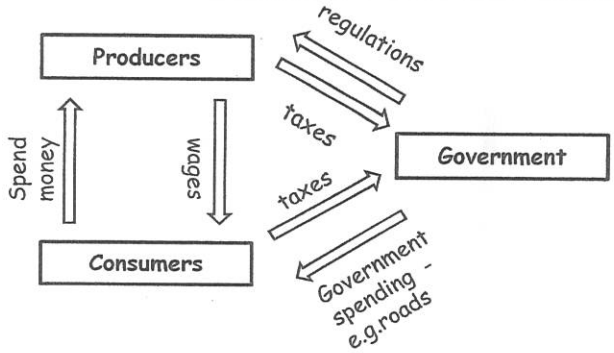
### 3.1.1.2 – FACTORS OF PRODUCTION

**Factors of Production** – resources in an economy that can be used to make goods and services.

**Capital** – human made aides to production e.g. machines and equipment. Reward to capital = **interest**.
**Enterprise** – the organisation of the other factors of production – involves risk. Reward to enterprise = **profit**.
**Land** – natural resources such as farm land, fish stocks or coal. Reward to land = **rent**.
**Labour** – the human input (mental & physical) into the production process. Reward to labour = **wages**.

### 3.1.1.2 – FACTORS OF PRODUCTION

**Renewable resources** – resources that can be replaced or replenished if not over used.
**Non-renewable resources** – resources that cannot be replaced once used i.e. finite resources.




### 3.1.2.2 – ECONOMIC SECTORS

**Primary sector** – the direct use of natural resources e.g. farming, fishing or mining.
**Secondary sector** – converting primary resources into finished goods e.g. manufacturing or construction.
**Tertiary sector** – providing services to consumers e.g. doctors, advertising companies, accountants.

### 3.1.2.1 – MARKETS & ALLOCATION

**Markets** – markets are a way for **buyers** and **sellers** to interact to **establish price**. Can be local, regional or global. Can be physical or online.
**Factor market** – a market for the factors of production e.g. the labour market.
**Product market** – a market for finished goods and services.
**Market economy** – an economy in which resources are allocated via the **market forces** of **supply** and **demand**.

### 3.1.2.2 – ECONOMIC SECTORS – Functions of price:

**Rationing** – means resources are consumed by those most willing (or able) to afford them.
**Signalling** – price giving a message to the consumer e.g. quality, scarcity.
**Incentive** – price telling consumers to consume less (i.e. taxes on soft drinks) or producers to consume more (i.e. large profits).

### 3.1.1.3 – MAKING CHOICES

**Choices** – all choices have both **costs** and **benefits**. These must be understood and weighed to make a rational choice. Choices will have economic, environment and social costs and benefits.
**Economic choice** – an option for the use of selected scarce resources.
**Economic sustainability** – the best use of resources to create growth.
**Environmental sustainability** – the best use of resources to protect the natural world and the resources within it.
**Social sustainability** – the best use of resources to improve quality of life for people.

Year 10 Economics Knowledge Organiser – Term 1

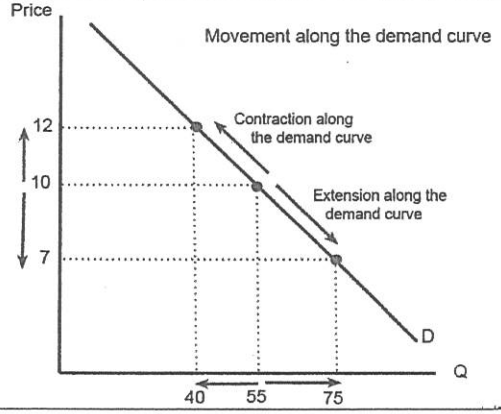
**3.1.2.3 – SPECIALISATION & TRADE** – specialisation means that countries and even individuals can **MAXIMISE** their own output by producing only what they are best at. This means they create the **MAXIMUM AMOUNT OF VALUE** possible for them. This value can be traded to obtain an amount of goods and services they would not reach without specialisation.

**3.1.2.3 – SPECIALISATION & TRADE**
**Division of labour** – dividing a complicated task up into smaller jobs in order to create efficiency, for example a F1 pit stop.
**Specialisation** – workers, firms, regions and countries concentrating on producing what they are best at/most efficient at producing.
**Exchange** – the act of swapping what we produce for what we want/need. This allows us to benefit from specialisation.
**Money** – money allows us to 'store' the value of what we produce so that we can exchange it in the future, **money** also allows us to compare the value of goods and services.

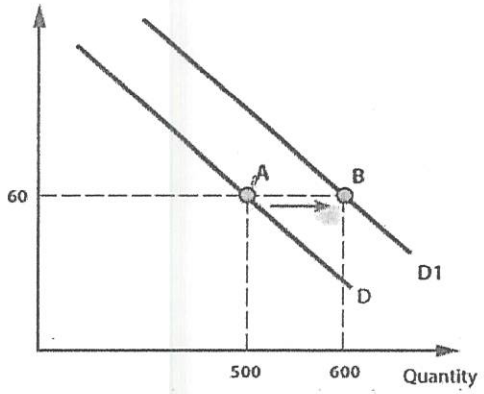
**3.1.2.3 – SPECIALISATION & TRADE**
**Benefits of specialisation –**
**More efficient use of resources** – more wants and needs met for less scare resources used
**Higher output** – increased total production
**Higher productivity** – workers become more productive a if they focus on smaller tasks
**Higher quality** – simplified processes and specialist workers means less mistakes
**Less time wasted** – less switching between tasks = less time used
**Economies of scale** – larger output leads to economies of scale (per unit cost savings because producers are bigger)
**Increased satisfaction** – workers can specialise in what they enjoy most
**Increased standard of living** – workers are more efficient so can exchange their labour (via money) for more goods and services than they otherwise would i.e. everyone earns more

**3.1.3.1 DEMAND**
**Demand** – the quantity of a good or service that consumers are willing (and able) to buy at a given price.
**Law of demand** – for most products the quantity demanded will vary inversely with price i.e. as price rises demand falls. This is why the demand curve slopes downwards.
**Individual demand** – the demand for a good/service by an individual consumer.
**Market demand** – the demand for a good/service by all consumers.

**3.1.3.1 DEMAND – Movement along the demand curve** – movements along the demand curve only happen when there is a change in price.




**3.1.2.3 – SPECIALISATION & TRADE**
**Costs of specialisation –**
**Dependency** – workers, firms, regions and countries can become dependent on producing one good or service. What happens if demand for that good/service stops?
**Failure of exchange** – we all become dependant on trade – if it stops for some reason producers lack inputs and consumers lack goods and services
**Bored workers** – simplified processes can mean bored workers
**Deskilling**– as we specialise we lose skills and abilities we otherwise would have
**Unemployment** – specialised workers are dependent on demand for their particular skill or for the good/service they produce. If demand falls we have unemployed workers who may lack the skills to work elsewhere




**3.1.3.1 DEMAND – Shifts of the demand curve** – moving the demand curve to the right or left means something aside from price has changed demand for the product shown.

**3.1.3.1 DEMAND – Changes that cause shifts of the demand curve:**
**Changes in the price of substitute goods** – some goods are very similar to others so can be consumed instead. If the price of Pepsi rises Coca-Cola becomes more desirable. Therefore demand for Coca-Cola at the current prices increases (the Demand curve shifts to the right).
**Changes in the price of complimentary goods** - some goods are usually consumed alongside other goods. If the price of printers fall ink cartridges becomes more desirable. Therefore demand for ink cartridges at the current prices increases (the Demand curve shifts to the right).
**Changes in income** – if incomes rises demand increases at any price – the demand curves shifts to the right.
**Changes in interest rates** – if interest rates decrease consumers and businesses save less and borrow more – demand increases for goods so the demand curve shifts to the right.
**Changes in tastes/preferences** – on a hot day demand for ice cream increases even though the price remains the same. If a new advert is released demand also increases at all prices. The demand curve shifts to the right.
**Population size** – if immigration or birth rates increase demand for goods/services is higher. The demand curve shifts to the right.

Year 10 Economics Knowledge Organiser - Term 2

**3.1.5.1 MARKET STRUCTURE**
**Competitive market** - Many buyers & sellers, No barriers to entry, Perfect information, Homogenous products

**3.1.5.3 - NON COMPETITIVE MARKETS - Barriers to entry**
Patents, copyright, start-up costs, economies of scale, legislation etc.

**3.1.5.3 - NON COMPETITIVE MARKETS**
**Impact of non-competitive markets -**
**Higher prices** - less incentive to reduce costs for producers
**Lower quality** - less incentive to improve quality for producers
**Less choice** - less incentive for producers to innovate
**Businesses are less efficient**
In some cases super profits provide money for innovation
**Government** may intervene to prevent uncompetitive markets

**3.1.6.2 EXTERNALITIES** - Impacts on third parties of economic activity.
**Negative externalities** - harmful effect to third party of economic activities. Examples include pollution, noise, illness from 2nd hand smoke.
**Positive externalities** - beneficial effect to third party of economic activities. Examples include less pollution if others ride bikes, less healthcare taxes if other quit smoking.

**3.1.6.1 MISALLOCATION**
**Legislation** - laws to control how people and companies behave.
**Regulations** - rules or directives to control how people and companies behave.

**3.1.6.1 MISALLOCATION - State provision** - goods and services supplied directly by the government e.g. healthcare via NHS.
**Information provision** - government provides information to people and companies to change their behaviour e.g. anti-smoking campaign.

**3.1.6.2 EXTERNALITIES**
**Production externalities** - arise from production of goods and services.
**Consumption externalities** - arise from consumption of goods and services.

**3.1.6.2 EXTERNALITIES -**
**Policies to correct for consumption externalities:**
**Indirect taxes** upon products e.g. tax on fuel, tax on cigarettes. These aim to increase costs and therefore prices to reduce consumption and pay for damage caused by consumption.
**Subsidies** for products to reduce producer costs and therefore prices. These aim to reduce costs and therefore prices to increase consumption and gain benefits for society from consumption. Example - subsidies for green power generation.
**Laws and regulations** restrict/prevent consumption to reduce negative impacts e.g. age limits for alcohol, bans on hard drugs.
**Government information campaigns** information given reduces consumption (negative externalities) or increases consumption (positive externalities). Examples - healthy eating campaigns, anti smoking campaigns.

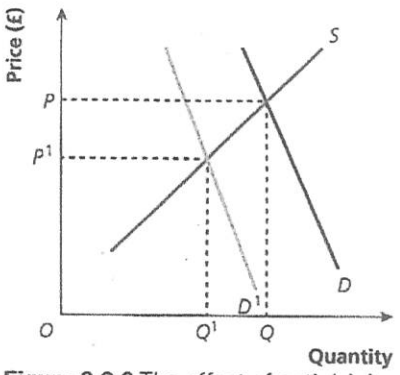



**Figure 3.8.9** The effect of anti drink-driving campaigns on alcoholic drinks sold in pubs

**Diagram** - shows information reduces demand and therefore demand curve shifts to left. Result = lower price for consumers but lower consumption.

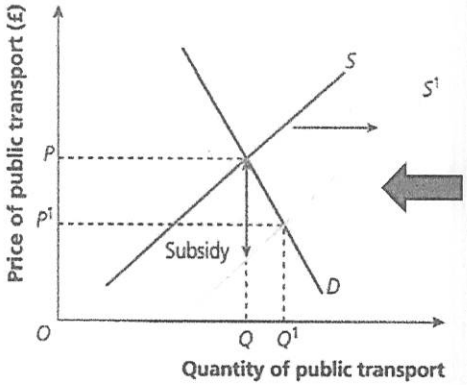



**Figure 3.8.3** The effect of a subsidy on public transport

**Diagram** - shows subsidy reduces costs and therefore supply curve shifts to right. Result = lower price for consumers and higher consumption . Tax has opposite impact.

**3.1.6.2 EXTERNALITIES** - are an example of **market failure**. This means that they are costs or benefits that are not included in the prices set by markets.

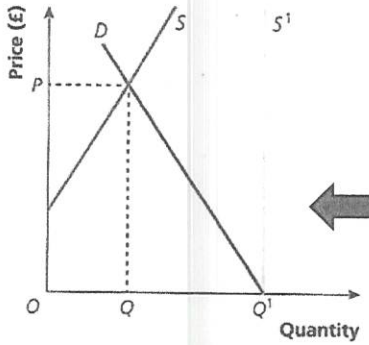



**Figure 3.8.5** The effect of state provision on education

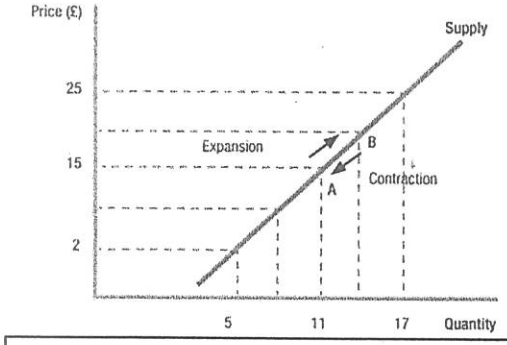
**Diagram** - example of market failure - education. Schools would not be provided to all by free market. Market supply curve S. Government provides (S1) to all at cost of 0.

**3.1.6.2 EXTERNALITIES - Policies to correct for production externalities:**
**Subsidies** for products to reduce producer costs and therefore prices. These aim to reduce costs and therefore prices to increase consumption and gain benefits for society from consumption. Example - subsidies for makers of solar panels.
**Laws and regulations** restrict/prevent production to reduce negative impacts e.g. pollution laws.

## Year 10 Economics Knowledge Organiser – Term 1

**3.1.3.2 SUPPLY - Supply** – the quantity of a good or service that producers are willing (and able) to supply at a given price.
**Law of supply** – for most products the quantity supplied will vary directly with price i.e. as price rises supply rises. This is why the supply curve slopes upwards.
**Individual supply**– the supply of a good/service by an individual producer.
**Market supply** – the supply of a good/service by all producers.

**3.1.3.2 SUPPLY - Movement along the supply curve** – movements along the supply curve only happen when there is a change in price and firms react to increase/protect profits.




**3.1.3.2 SUPPLY - Shifts of the supply curve** – moving the supply curve to the right or left means something aside from price has changed supply for the product shown.

**3.1.3.2 SUPPLY**
**Joint supply** – some goods are by-products of others, for example beef and leather. If the price of beef rises the supply of beef will rise (law of supply). This will also increase the supply of leather (supply curve shift to the right) even though the price hasn't changed.
**Competitive supply** – some goods are produced using the same factors of production, for example has to choose between planting potatoes or carrots. If the price of carrots falls more farmers will plant potatoes instead of carrots. This will shift the supply curve for potatoes to the right.

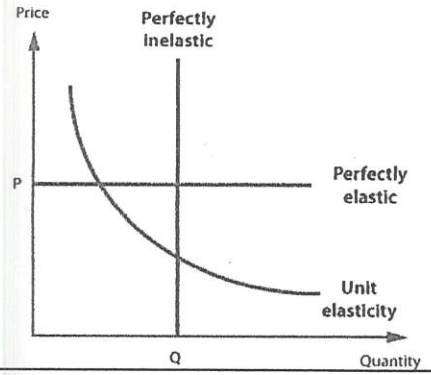
**3.1.3.2 SUPPLY - Changes that cause shifts of the supply curve: Changes in the cost of production** – if costs of inputs (raw materials/labour) decrease then firms have lower costs and will supply more at any price level. The supply curve shifts to the right.
**Changes in technology** – if new technology (new machines etc) makes costs lower then firms will supply more at any price level. The supply curve shifts to the right.
**Changes in taxes** – if taxes are lower costs are lower so firms will supply more at any price level. The supply curve shifts to the right.
**Changes in subsidies** – subsidies are payments made to firms by government to encourage production. An increase in subsidies means the supply curve shifts to the right.
**Weather** – some products will be produced in higher quantities if the weather is good. For example if the weather is good more crops will grow and the supply curve shifts to the right.
**Number of firms in an industry** – if more firms enter a market then more will be supplied at any price. The supply curve shifts to the right.
**Prices of other goods** – if the price of a product in **joint** or **competitive** supply changes this will shift the supply curve.

**3.1.3.5 PED** – how reactive quantity demanded is to changes in price. PED is shown by the slope of the demand curve.
**Elastic demand** – when the % change in quantity demanded is bigger than the % change in price i.e. the demand for the product is very sensitive to price changes.
**Inelastic demand** – when the % change in quantity demanded is smaller than the % change in price i.e. the demand for the product is not very sensitive to price changes.

$$PED = \frac{\%\Delta Q}{\%\Delta P}$$

**Remember** – in a busy nightclub you need to Q before you P.

**3.1.3.5 PED**
**PED is calculated** by dividing the % change in quantity demanded into the % change in price. **% change is calculated** by dividing the change (original amount – new amount) into the original number and multiplying by 100.




**3.1.3.5 PED - Factors impacting on PED:**
**Substitutes** – are there substitutes for the product or is it unique? Products easily substituted are price elastic.
**% of income** – is the product very cheap or very expensive? Products that are a very low % of income are less sensitive to changes in price i.e. if the price of a penny sweet changes you don't really care/notice.
**Necessity/Luxury** – if you cannot do without a product (e.g. petrol) you will not be able to demand less if the price goes up. A luxury can be cut back on so will be more price elastic.
**Addiction/habit** – addictive products (i.e. tobacco) are price inelastic.
**Time** – products are more inelastic in the short term, it takes time to change demand.

**3.1.3.5 PED - PED and revenue** – if a producer knows that their product is **price inelastic** then they can **increase price** without getting a large decrease in quantity sold. This would mean an **increase in total revenue**. If the producer knows that their product is **price elastic** they could **decrease their price** and receive a larger increase in quantity demanded. This could also mean an **increase in total revenue**.

**PED less than 1** – the product is price inelastic, the closer to zero means more inelastic.
**PED more than 1** – the product is price elastic.
**PED is 1** – the product is unitary price elastic, changes in price result in the same % change in quantity demanded.
**PED is 0** – the product is perfectly price inelastic, i.e. no price change will change demand.

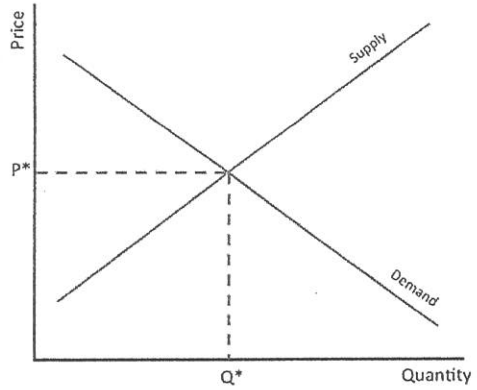
Year 10 Economics Knowledge Organiser – Term 2

**3.1.3.6 – PRICE ELASTICITY OF SUPPLY – Price Elasticity of Supply** – how reactive quantity supplied is to changes in price. PES is shown by the slope of the supply curve.
**Elastic supply** – when the % change in quantity supplied is bigger than the % change in price i.e. the supply of the product is very sensitive to price changes.
**Inelastic supply** – when the % change in quantity supplied is smaller than the % change in price i.e. the supply of the product is not very sensitive to price changes.

$$PES = \frac{\text{\% change in quantity supplied}}{\text{\% change in the price}}$$

**3.1.3.6 – PRICE ELASTICITY OF SUPPLY**
**Factors impacting on PES:**
**Availability of stock** – can more of the product be obtained by producers quickly? If the product or the raw materials needed are abundant the product will be price elastic.
**Spare production capacity** – are producing firms at full capacity? Can they increase supply without large investment in machines/people? If they can increase production quickly supply is elastic.
**Is production flexible?** – an firms up production using different techniques? Switching between labour and capital? If so, the product will be more price elastic.
**Time** – products are more inelastic in the short term, it takes time to change supply.

**3.1.3.6 – PRICE ELASTICITY OF SUPPLY**
**PES less than 1** – the product is price inelastic, the closer to zero means more inelastic.
**PES more than 1** – the product is price elastic.
**PES is 1** – the product is unitary price elastic, changes in price result in the same % change in quantity supplied.
**PES is 0** – the product is perfectly price inelastic, i.e. no price change will change supply.




**3.1.3.3 MARKET EQUILIBRIUM** – where the supply and demand curves meet is the equilibrium price and quantity in a market.

**3.1.4.1 – REVENUE & PROFIT**
**Profit** = total revenue – total costs of production.
**Productivity** – output per unit of input (usually per worker).
**Business Objectives:**
**Profit maximisation** – businesses seeking to gain as much profit as possible.
**Sales growth** – maximise number of units sold.
**Increase market share** – increase the percentage sold to by a firm of the total market that exists for good or service.
**Social enterprise** – a business that has a social objective – to do good.

**3.1.4.2 – PRODUCTIVITY – Improving productivity –**
New technology
Train workers
Improve worker morale (nicer conditions)
More effective managers

**3.1.4.1 – REVENUE & PROFIT**
**Competition –**
Businesses are motivated by profits – seek ways to lower costs and maintain/increase prices.
**How do firms compete?**
**Price** = offers, discounts.
**Non-price** = quality, advertising, loyalty rewards.

**3.1.3.3 MARKET EQUILIBRIUM**
**Total revenue on S & D diagram –**
Total Revenue = Sales Volume x Price. This can be calculated and also shown on a supply and demand curve.

**3.1.4.1 – REVENUE & PROFIT**
**Total cost** – all firm's costs added
**Total revenue** – all income of firm (sales)
**Average cost** – cost of producing a unit (TC/Q).
**Average revenue** – revenue from each unit (TR/Q).
**Fixed cost** – cost that does not change with output level e.g. rent.
**Variable cost** – cost that changes with output level e.g. cost of raw material.

**3.1.4.1 – REVENUE & PROFIT – Ethics (doing the 'right' thing)** – Businesses paying taxes, equality of pay for staff, reduction of environmental impact, no exploitation of workers.

**3.1.4.3 – ECONOMIES OF SCALE** – cost advantages a business can gain by being bigger (reduces average cost).
**Technical economies** – buying bigger, more advanced machines
**Purchasing economies** – buying materials in bulk (get discount)
**Marketing economies** – buying more effective ads (TV etc.)
**Financial economies** – getting lower % on loans/access to stock market to raise money
**Managerial economies** – employ more/better managers
**Risk bearing economies** – can increase range of products/countries sold to. Means less business risk.

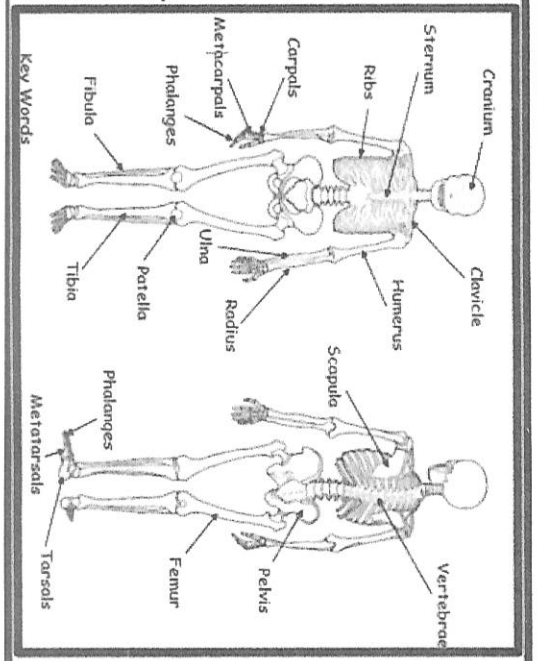
**3.1.4.3 – ECONOMIES OF SCALE**
**Diseconomies of scale** – cost disadvantages a business can bear by being bigger (increases average cost). **Types include:**
**Communication** – more people = more confusion/delay
**Co-ordination/control** – more departments/competing aims
**Morale** – workers feel less important so work less hard

**3.1.5.1 MARKET STRUCTURE – Non-competitive market** – few sellers or buyers, barriers to entry, differentiated products, super profits. **Monopoly** – a sole producer or seller of good or service. **Oligopoly** – a small number of firms control the majority of the market. **NB** – less competition = less/zero motivation to reduce costs.

# Subject: GCSE PE- 1.1.a

**The structure and function of the skeletal system.**

**know the name and location of the following bones in the human body:**




**Understand and be able to apply examples of how the skeleton provides or allows:**

- support - gives shape and support
- posture - shape and support allows for posture
- protection- protects internal organs such as heart, lungs spinal cord and brain. Cranium protects brain.
- movement- provides areas for muscle attachment
- blood cell production- produces red and white blood cells
- storage of minerals- such as phosphorus, calcium, potassium and iron etc.

**Know the definition of a synovial joint-** A Synovial Joint is a freely movable joint in which the bones surfaces are covered by cartilage, called **Articular Cartilage**, and connected by a **fibrous connective tissue** capsule lined with Synovial Fluid

**Know the following hinge joints:**

- knee – articulating bones – femur, tibia
- elbow – articulating bones – humerus, radius, ulna

**Articulating bones** are the bones that move within a joint.

**Hinge joints** allows movement in one plane only, just like a door hinge moves (uniaxial). An example of an activity that uses the knee joint is sprinting- example for elbow joint- bicep curl.

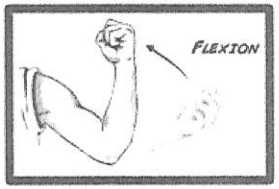
**Know the following ball and socket joints:**

- shoulder – articulating bones – humerus, scapula
- hip – articulating bones – pelvis, femur

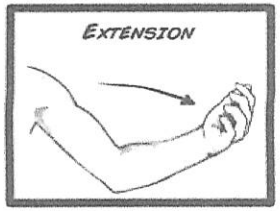
Ball and socket joints allow a wide range of movement and occurs when a round head of a bone fits into a cup shaped depression. An example of a physical activity that uses the shoulder joint- Javelin. Example for hip joint- sit-up training exercise.

**know the types of movement at hinge joints and be able to apply them to examples from physical activity/sport:**

- flexion - is a decrease in the angle around a joint. When a badminton player prepares to hit a overhead clear, the arm shows flexion at the elbow

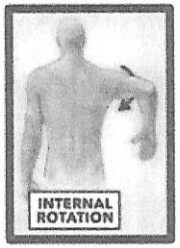



- extension- is when the angle of the bones that are moving (articulating bones) is increased. When making a basketball set shot the bent arm moves to a straight arm as you release the ball.

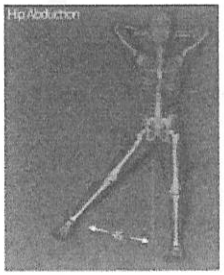



**know the types of movement at ball and socket joints and be able to apply them to examples from physical activity/sport:**

- flexion - is a decrease in the angle around a joint
- extension - is when the angle of the bones that are moving (articulating bones) is increased.
- rotation - is when the bone turns about its longitudinal axis within the joint. *Example in sport- tennis player uses external rotation at the shoulder joint during the backswing of a serve.*

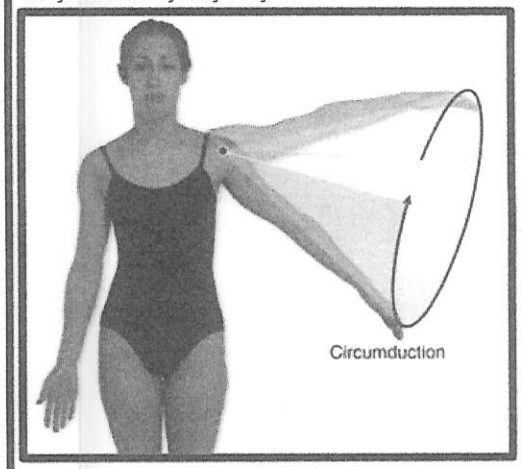


- abduction- is the movement of the body away from the middle or midline of the body. *Example in sport- gymnast with their leg lifted to the side shows abduction at the hip.*




- adduction- is the opposite of abduction and is the movement towards the midline of the body. *Example in sport- a rugby player tackling another player will hold onto the player by adducting their arms at the shoulder joint as they tackle*

- circumduction- is a combination of abduction, adduction, extension or flexion and rotation. *Example in sport- a gymnast on the beam takes her back leg back off the beam and moves it out and round to place her foot ahead of her front foot.*




**know the roles of:**

- ligament - found between bones and attach bone to bone. *Function- the role of the ligaments is to help join bones together and keep the joints stable during movement.*
- cartilage- soft connective tissue. *Function- the role of cartilage is to reduce friction and act as a shock absorber at the joint*

Basic types of cartilage

-Yellow elastic cartilage

-Hyaline or blue articular cartilage

-White fibro-cartilage.

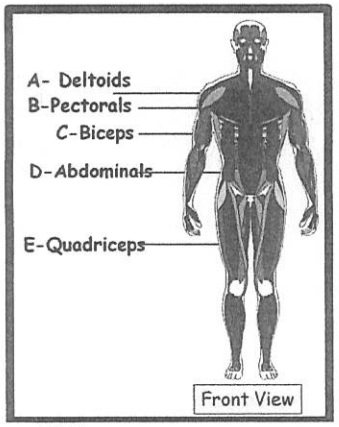
- tendons- muscles are attached to bones via tendons. These are strong and can be a little flexible. *Function- as well as their attachment role, they help to transmit the power needed to move bones. When a muscle shortens, it pulls on the tendons: this pulls on the tendons: this pulls on the bones to which the tendons are attached and causes movement.*

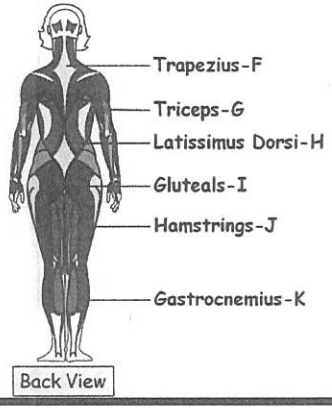
# Subject: GCSE PE- 1.1.b

## The structure and function of the muscular system

### Location of major muscle groups

**Know the name and location of the following muscle groups in the human body and be able to apply their use to examples from physical activity/sport:**




| | Function |
|---|---|
| Deltoid | Lifting the arm at the shoulder (the deltoid muscle has different parts which flex, extend and abduct the shoulder joint) |
| Trapezius | Shoulder horizontal extension (moving the arms backwards at shoulder level) |
| Pectorals | Adduction of the shoulder (moving the arm towards the body); Shoulder horizontal flexion (moving the arms forwards in front of the body) |
| Triceps | Extension of the elbow (straightening the arm) |
| Biceps | Flexion of the elbow (bending the arm) |
| Abdominals | Flexion of the spine (sitting upwards) |
| Latissimus dorsi | Adduction of the shoulder (moving the arm down towards the mid-line of the body) |
| Gluteals | Hip extension (moving the femur backwards) |
| Quadriceps | Extension of the knee (straightening the leg) |
| Hamstrings | Flexion of the knee (bending the leg) |
| Gastrocnemius | Plantar flexion of the ankle (pointing the toes downwards) |

| | Example in sport |
|---|---|
| Deltoid | Lifting the arms to block in volleyball; upward arm swing when trampolining |
| Trapezius | Preparation phase of an overarm throw or badminton smash |
| Pectorals | Upwards phase of a press up; rugby player making a tackle |
| Triceps | Shooting and chest passing in netball (execution phase) |
| Biceps | Drawing a bow in archery; 'backscratch' position during tennis serve |
| Abdominals | Performing a sit up or a forward roll |
| Latissimus dorsi | Hitting in hockey – left shoulder during preparation, right shoulder during execution and recovery |
| Gluteals | Pulling leg back at the hip before kicking a ball |
| Quadriceps | Kicking a ball (execution and recovery phase) |
| Hamstrings | Performing a hamstring curl on a weights machine; preparation phase of a rebound jump in basketball |
| Gastrocnemius | Standing on tiptoe to mark a shot in netball or pointing the toes during a gymnastic or dance move |

## The roles of muscle in movement

**know the definitions and roles of the following and be able to apply them to examples from physical activity/sport.**

- agonist- this is the working muscle that produces or controls the desired joint movement. Also known as the prime mover
- antagonist- for movement to be coordinated muscles work in pairs so that control is maintained. The movement caused by the agonist is countered by the action of the opposing muscle, called the agonist.
- fixator- this is a muscle that works with others to stabilise the origin of the prime mover e.g the trapezius contracts to stabilise the origin of the biceps.

**Pairs of muscles-**

There is a vast range of movements that can be made by the human body. To produce these movements, muscles either shorten, lengthen or remain the same length when they contract. Muscles work in pairs: as one muscle contracts, the other relaxes. Muscles that work together like this are called **antagonistic pairs**. This type of action enables the body to move with stability and control.

Antagonistic Muscle Pairs

The following groups of muscles are antagonistic pairs:

| Joint | Antagonistic pair | Movements produced | Sport example |
|---|---|---|---|
| Elbow | Biceps; triceps | Flexion; extension | Chest pass in netball; badminton smash |
| Knee | Hamstrings; quadriceps | Flexion; extension | Jumping to block in volleyball; tuck jump in trampolining |
| Shoulder | Latissimus dorsi; deltoid | Adduction; abduction | Golf swing; breaststroke arms |

# Subject: GCSE PE 1.1c

## Lever Systems

**Know the three classes of lever and their use in physical activity and sport:**

Bones and muscles act together to form levers. A lever is a rigid structure, a length of bone that turns about a pivot- the joint. Levers are used to make a small amount of force into a bigger force- this is gaining a **mechanical advantage.**

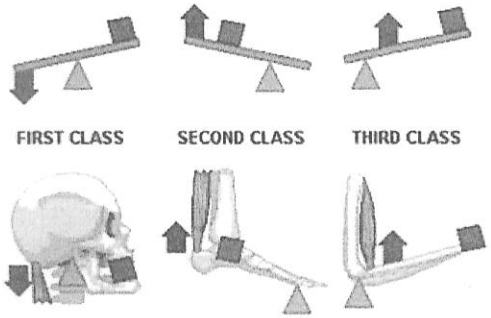
**Four parts to a lever:**

**Lever arm- bones acts as lever arms**

**Pivot- Joints act as a pivot**

**Effort- muscles provide the effort to move loads**

**Load- load forces are often the weight of the body parts that are moved or forces needed to lif, push or pull things.**




**First class lever-** the fulcrum (sometimes called pivot) is located between the effort force and the load force on the lever arm. *Example- at the neck- heading the ball.*

**Second class lever-** this is when the load or resistance is between the fulcrums and the effort. *Example- raising your toes or plantar flex at the ankle.*

**Third class lever-** this is when the effort is between the fulcrum and the load or resistance. *Example- at the knee the action of the hamstrings and the quadriceps at the knee joint causing flexion and extension, such as leaping up to catch a basketball.*

**Know the definition of mechanical advantage-** The relative efficiency of each of the lever systems is called the 'mechanical advantage'.

Some levers (first and second class) provide mechanical advantage. This means that they allow you to move a large output load with a smaller effort.

$$\text{MECHANICAL ADVANTAGE} = \frac{\text{LOAD}}{\text{EFFORT}}$$

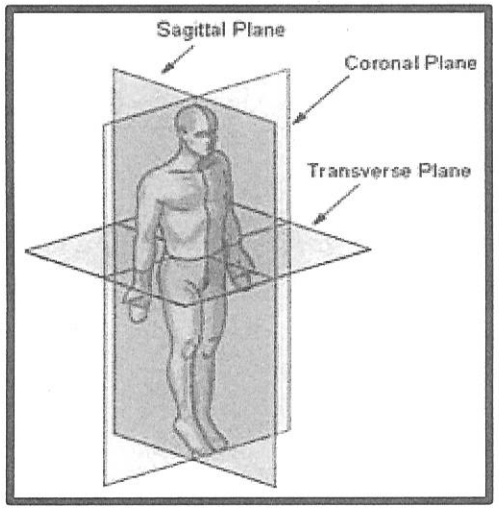
Where the load = 500N and the effort=100N

The mechanical advantage would be

500N divided by 100N = 5

## Planes of movement and axes of rotation

**Know the location of the planes of movement in the body and their application to physical activity and sport:**

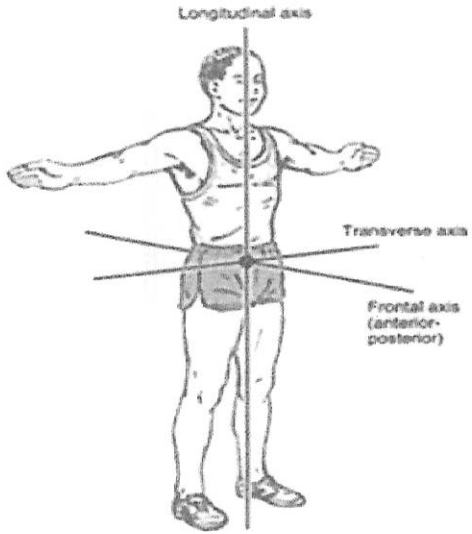



**Frontal Plane-** Runs vertically and divides the body in sections between fron (anterior) and back (posterior). Movements in this plane are sideways movements of abduction and adduction. *Example- abduction and adduction of the legs at the hip joint- jumping jack.*

**Transverse Plane-** Runs horizontally and divides the body into upper (superior) and lower (inferior) sections. Movements in this plane are rotational. *Example- arm action (circumduction) when bowling in cricket with rotation at the shoulder joint.*

**Sagittal Plane-** Splits the body vertically into left and right sides. Movements in this plane are the up and down movements of flexion and extension. *Example- leg action in running takes place in the saggital plane.*

**Know the location of the axes of rotation in the body and their application to physical activity and sport:**




**There are 3 axes of rotation:**

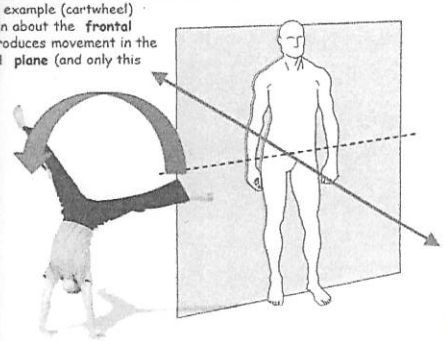
**-Frontal axis**

**-Transverse axis**

***-Longitudinal axis***

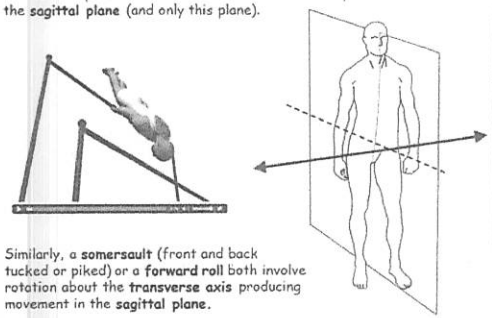
### Rotation About The Frontal Axis

In this example (cartwheel) rotation about the **frontal axis** produces movement in the **frontal plane** (and only this plane).



### Rotation About The Transverse Axis (1)

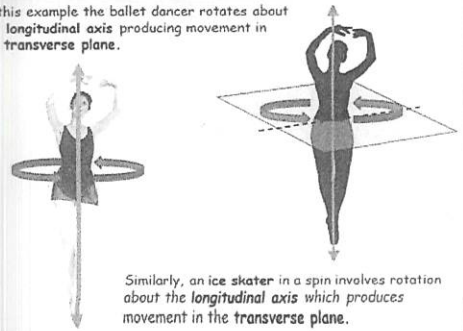
In this example rotation about the **transverse axis** produces movement in the **sagittal plane** (and only this plane).



Similarly, a **somersault** (front and back tucked or piked) or a **forward roll** both involve rotation about the **transverse axis** producing movement in the **sagittal plane.**

### Rotation About The Longitudinal Axis (1)

In this example the ballet dancer rotates about the **longitudinal axis** producing movement in the **transverse plane.**



Similarly, an **ice skater** in a spin involves rotation about the ***longitudinal axis*** which produces movement in the **transverse plane.**

# Subject: GCSE PE 1.1 d

**The cardiovascular and respiratory systems**

**The structure and function of the cardiovascular system.**

**Know the double circulatory system (systemic and pulmonary)-**

The heart operates a **double circulatory system** in which blood flows through the heart twice.
**1. Pulmonary circulation**
*i.e. blood flow between the heart and lungs.*
**2. Systemic circulation**
*i.e. movement of blood from the heart through the rest of the body (excluding the lungs), then back to the heart.*

**Know the different types of blood vessels:**

**-artery-** transport the oxygenated blood away from the left side of the heart.

**-capillaries-**are small blood vessels that carry blood to and from the body's cells

**-vein-** transport blood from all over the body back to the heart and lungs for re-oxygenation.

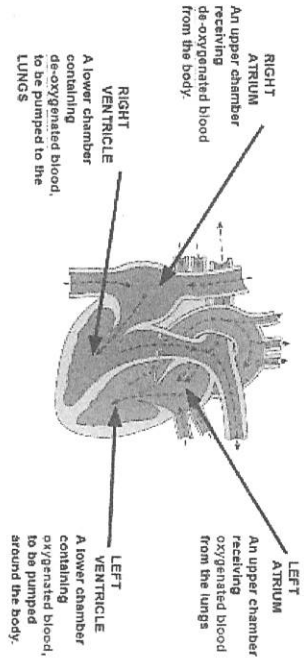
**Know the definitions of-**

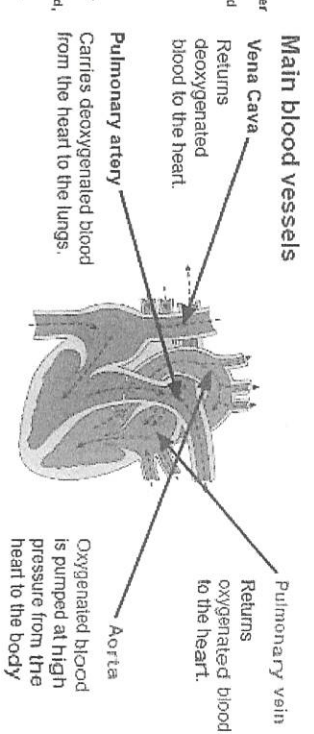
**-Heart rate-** The heart contracts and relaxes in a rhythm, which produces a heartbeat (started by an electrical impulse from the Sino-Atrial (SA) Node). Measurement of the Heart Rate = Beats per Minute (HR=Bpm). Average resting HR = 75bpm

**-Stroke Volume-** The volume of blood pumped out of the heart by each ventricle during one contraction. Measurement of the Stroke Volume = milliliters per beat (ml per beat)

**-Cardiac output-** The amount of blood ejected from the heart (Left Ventricle) in one minute. Measurement of the Cardiac Output = litres/min

**Understand the pathway of blood through the heart-**

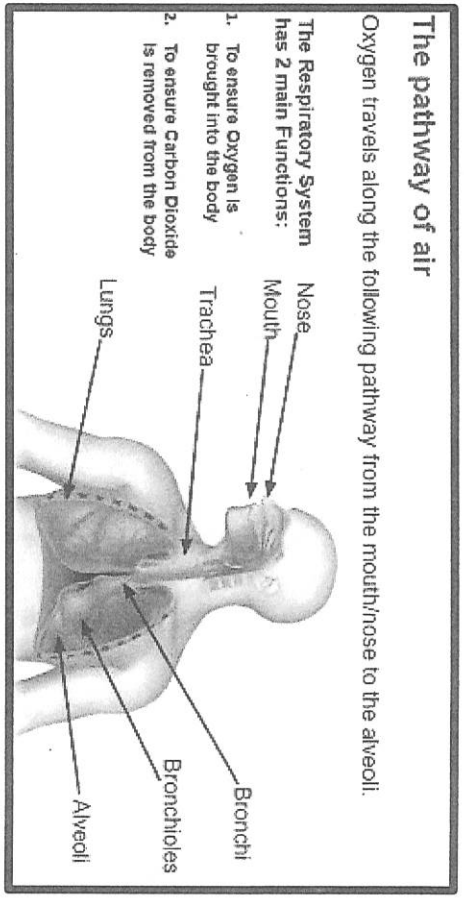



**Know the role of red blood cells-**carry oxygen from the lungs to the muscles & Removes $CO_2$ from muscles to lungs.

**The structure and function of the respiratory system.**

**Understand the pathway of air through the respiratory system-**




**Know the role of respiratory muscles in breathing-**

**-Diaphragm**

**-Intercostal muscles**

**When breathing in (inspiration):**

**The intercostal muscles contract, lifting the ribs upwards and outwards causing the chest to expand.**

**The diaphragm contracts. It pulls down and flattens out the floor of the rib cage.**

**The lungs increase in size as the chest expands.**

**The pressure inside our lungs falls as they expand. The higher pressure of air outside means air is now sucked into the lungs through the nose and mouth.**

**When breathing out (expiration):**

**The intercostal muscles relax. The ribs move downwards and inwards under their own weight. The chest gets smaller.**

**The diaphragm relaxes. It is pushed back into a domed position by the organs underneath it.**

**The lungs decrease in size as the chest gets smaller. They are squeezed by the ribs and diaphragm.**

**The pressure inside the lungs increases as they get smaller. The air pressure outside is now lower than in our lungs. Air is forced out of the lungs through the nose and mouth.**

**Know the definitions of aerobic exercise and anaerobic exercise and be able to apply practical examples in relation to intensity and duration.**

**-Aerobic Exercise Working WITH Oxygen.** When the demand for oxygen does not overwhelm the body and we are able to supply the working muscles with the oxygen needed to release the required energy for the exercise.

**-Anaerobic Exercise Working WITHOUT Oxygen. Maximal Effort:** When we work at this rate it is not possible to supply the muscles with oxygen they need *to release energy for the exercise, so we work without* oxygen **anaerobically** and repay the **OXYGEN DEBT** once the exercise is complete (Lactic Acid)

| Year 10 Integrated Media part 2 | | |
|---|---|---|
| Lesson 11 | **What is an interactive kiosk?**<br>An interactive kiosk is a computer that is freely accessible to the public.<br>**Give examples of different kiosks that have different purposes.**<br>Some shopping centres have kiosks that you can use to find your way around. Some fast food restaurants have kiosks so you can order and pay for your food.<br>**List different interactive features a kiosk may have.**<br>Buttons.<br>Scanning.<br>Scrolling.<br>Language options.<br>Dark mode.<br>Swipe. | **Keywords**<br>**Interactive**<br>The actions of a user and a two-way electronic communication system<br>**Kiosk**<br>A kiosk is an interactive terminal which provides access to information and applications<br>**Features**<br>The tools that the computer provides the user when using the kiosk.<br>**Interface**<br>A user interface, consisting of the graphical display provided by a computer to allow the user to use the computer.<br>**Interactive video**<br>Interactive video is a type of video that supports user interaction. These videos play like regular video files, but include clickable areas that perform an action when you click on them.<br>**Virtual Reality**<br>Virtual Reality is a computer-generated environment with scenes and objects that appear to be real, making the user feel they are immersed in their surroundings. |
| Lesson 12 | **What is interactive television?**<br>Interactive television allows viewers to engage with the action on their television screens rather than watching passively as viewers are traditionally used to.<br>**How does interactive television (iTV) work?**<br>Once integrated, iTV allows users to:<br>• Select programmes they would like to watch.<br>• View schedules for shows.<br>• Source advanced options such as ordering products shown in adverts.<br>• Access services such as the internet. | |
| Lesson 13 | **List the core features of an interactive television:**<br>• Interface - The interface is the design, layout, and content featured in the digital environment that the viewer interacts with.<br>• Menus and navigation - The user needs to be able to navigate their way around the interface to find things they would like to consume or be a part of. To do this, there needs to be navigation in place:<br>  ○ Main menu.<br>  ○ Anchor text.<br>  ○ Buttons.<br>• Scroll and graphical cues - Because of the amount of content now available on interactive television platforms, users are required to navigate their way through a huge range of potential viewing options via clicking and scrolling. | |

| | | |
|---|---|---|
| Lesson 14 | **What is interactive video?**<br>An interactive video gives the viewer the ability to interact with the video content itself through a variety of tools. Users can click, drag, scroll, hover, gesture and complete other digital actions to interact with the video's content, similar to the way they'd interact with web content.<br>**Why is a strong narrative plot important to the success of an interactive video?**<br>Because video content is something that people engage with regularly and is popular, it does not mean that it can be 'lazy' content. Video still needs to tell some kind of story. This means it needs to contain (no matter how loosely):<br>• A beginning.<br>• A middle.<br>• An end.<br>**Explain some of the benefits of interactive video for a business / organisation.**<br>• Interactive video brings an immersive approach to your business by directly involving employees.<br>• Immersive content has been proven to increase user engagement. | **Immersive experience**<br>An "immersive experience" pulls a person into an augmented reality, enhancing everyday life (by making it more engaging or satisfying) via technology.<br>**Augmented reality**<br>Augmented reality is an interactive experience that combines the real world and computer-generated content. |
| Lesson 15 | **List the core features of interactive video.**<br>• Data inputs.<br>• Hotspots.<br>• 360 views.<br>• Branches.<br>• Time triggers.<br>• Overlays. | |
| Lesson 16 | **Describe virtual reality**<br>Also known as 'VR', virtual reality immerses its user in a fictional, fabricated environment. This enables them to suspend belief in the real existence of this environment.<br>This is achieved primarily through the sensory manipulation of two senses: sight and sound.<br>**Describe immersive experience**<br>An immersive experience is generally achieved through head-mounted hardware: a headset.<br>A headset tracks the movements (body and head tracking) of the user to continue the illusion of reality. | |

| | | |
|---|---|---|
| Lesson 17 | **Define what augmented reality (AR) is.**<br>AR, or, augmented reality, changes how a user sees the world around them by overlaying digital elements on top of their environment.<br>**Which technologies are used to facilitate augmented reality.**<br>Modern mobile augmented-reality systems use one or more of the following motion tracking technologies: digital cameras and/or other optical sensors, accelerometers, GPS, gyroscopes, solid state compasses, radio-frequency identification (RFID). | |
| Lesson 18 | **Identify interactive media types and their features.**<br>The interactive media types are:<br>• Interactive video (or television)<br>  o Run<br>  o Move towards the light<br>  o Faint<br>• Website (landing page)<br>  Depending on their selection, the audience will be taken to a website landing page that looks like a newspaper article and that explains that aliens have attacked the planet and are looking for someone specifically.<br>• Augmented reality<br>  A blurry image was provided by the aliens, no one can quite make it out. The viewer will scan this image with their smartphone and a video will appear on their phone saying:<br>  "It is you we are looking for we demand ..." | |