

## Y9 Changing World-

Type of occupation (jobs)	Definition	Examples of the occupation (job)
<b>Primary</b>	Extracting raw materials from land or sea	Miner, farmer, fisher
<b>Secondary</b>	Manufacturing and using the raw materials to make something	Machinist, joiner, chef
<b>Tertiary</b>	Providing a service	Teacher, doctor, police
<b>Quaternary</b>	IT, research and development	Lab technician, COVID-19 vaccine creator
Key Terms:		
<b>Development:</b>	The progress of a country in terms of economic growth, the use of technology and human welfare.	
<b>The Demographic Transition Model (DTM)</b>	The DTM is based on historical population trends of birth and death rates and changes to total population.	
<b>Natural increase</b>	When the birth rate is greater than the death rate	
<b>Population Pyramids</b>	These show the structure of a population by comparing numbers of people in different age groups and sexes.	
<b>Trans-national Corporations (TNC)</b>	A company that operates across multiple countries	

### An Example of Secondary occupation & industry: Apple

Apple employs over 300,000 people directly. Many more millions of jobs are created indirectly – there are 4.8 million in China alone. However, their wages vary significantly

Job type	Job	Country	Wage
Secondary	iPhone assembler	China	\$2.50 per hour / \$400 a month (regular factory workers earn \$0.80 in China)
Tertiary	Apple Specialist	UK	£9 (~\$15 per hour) or £19,000 a year
Quaternary	Apple Genius	UK	£40,000 per year
Quaternary	Software engineer	USA	\$308,000 per year (about £250,000)

### Example of a primary occupation & industry: Mining in Africa

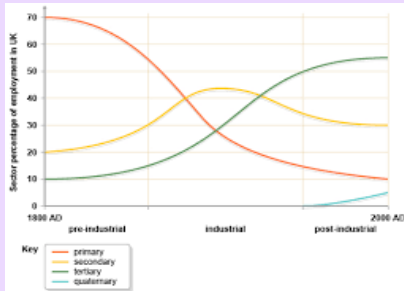
Advantages	Disadvantages
The mining industry is worth \$8.4 billion annually to Africa	Deforestation to make space for open cast mining. (19% of deforestation in Gabon is caused by mining)
Mining creates an income of \$3 billion to Botswana	This can cause endangerment & extinction of species through reducing habitat space.
Provides much needed employment for millions of Africans	Over 1 million miners survive on less than \$1 per day
There's now 4,000 miles of road in Botswana, funded in part by the profits from mining.	Poisonous chemicals such as mercury & cyanide are used and then pollute water sources
	Child labour is used as children are small enough to fit into inaccessible areas of the mine

### Child Labour:

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Children can earn money which can be put to use to help their families.</li> <li>Children feel that they can make a contribution to their family.</li> </ul>	<ul style="list-style-type: none"> <li>No education</li> <li>No protection against hazards.</li> <li>Poorly paid</li> <li>Health problems e.g. stunted growth</li> <li>Involvement in criminal gangs e.g. child prostitution.</li> </ul>

## Y9 Changing World-

### The UK's employment sectors – Changing sectors of industry



### Reasons for changing sectors of industry

Mechanisation of agriculture leads to fewer employed in the **primary** sector

Industrial revolution increases the amount of jobs in manufacturing (**secondary** sector)

Foreign industries began to grow during the 20<sup>th</sup> century and began to outcompete UK industry, resulting in a decline in **secondary** industry in the UK

As the population grew the demand for work increased in schools, hospitals and retail, leading to a rise in the **tertiary** sector

The **quaternary** sector has grown recently, as more research and development is taking place within scientific and technology industries

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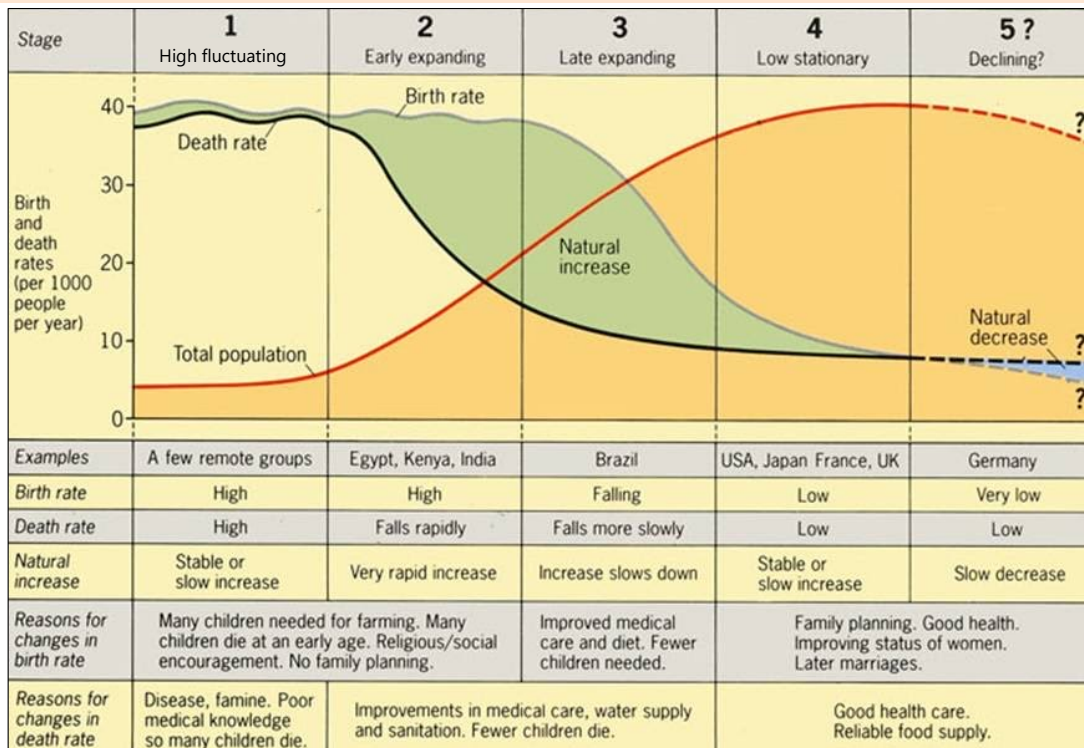
### How can we distinguish a countries level of development?

#### Development:

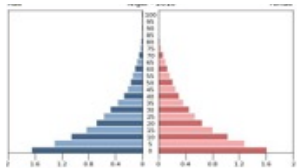
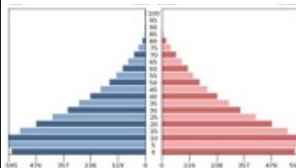
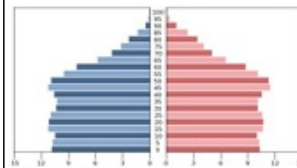
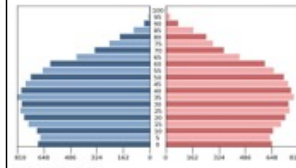
The progress of a country in terms of economic growth, the use of technology and human welfare.

<u>Development Indicators</u>	<u>Definition</u>
<b>Gross National Income (GNI) per head</b>	The total value of goods and services produced by a country, plus all money earned from and paid to other countries.  Expressed by head (per capita) of the population.
<b>Birth Rate</b>	The number of live births per thousand of population per year
<b>Death Rate</b>	The number of deaths per thousand of population per year
<b>Infant Mortality Rate</b>	The average number of deaths of children under 1 year of age per 1000 live births.

## The Demographic Transition Model



## Stages of the Demographical Transition Model, Population Pyramids and Characteristics

	Stage 1	Stage 2	Stage 3	Stage 4
<b>Shape of the population pyramid:</b>				
<b>LIC/NEE/HIC</b>	Few examples	Low-income countries (LIC)	Newly Emerging Economies (NEE)	High income countries (HIC)
<b>Shape</b>	Concave sides	Straight sides	Convex sides	Convex sides
<b>Birth Rate</b>	High birth rate	High birth rate	Declining birth rate	Very low birth rate
<b>Death Rate</b>	High death rate	Falling death rate	Low death rate	Low death rate
<b>Life expectancy</b>	Short	Slightly longer	Long	Longer
<b>Causes of the shape</b>	Rapid fall in each upward age group due to high death rate	Fall in death rate so more people living into middle ages	An increasing proportion of the population is in the 65+ age group	Higher dependency ratio (lots of the population in the higher age groups)
<b>Examples</b>	Amazonian Tribes	Democratic Republic of Congo	China	France

-----> Economic development increases ----->

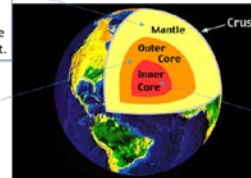
## Y9 Tectonics: Essential Knowledge Sheet

Key words / Key concepts / Processes	Definition
<b>Continental Drift</b>	The hypothesis that continents have moved in relation to each other, over geological time.
<b>Inner Core</b>	This layer is solid and is also made of iron. Temperatures within this dense core can be 5500°C.
<b>Outer Core</b>	This layer is liquid and made up largely of iron.
<b>Mantle</b>	Due to the high temperatures of this thick layer, the mantle has the consistency of treacle! Temperatures within the mantle range from 5000°C near the core to 1300°C just below the crust.
<b>Crust</b>	This is the outer layer of the Earth, made from solid rock. It is a very thin layer and ranges between a thickness of 6 and 70 km.
<b>Continental Crust</b>	This is made of lighter (less dense) rock and forms the continents.
<b>Oceanic Crust</b>	The heavier (denser) crust, under the oceans.
<b>Tectonic Plates</b>	The Earth's surface is broken into large pieces, each piece is called a tectonic plate.
<b>Convection Current</b>	A current of warmer material (magma) which rises, when heated from below.
<b>Magma</b>	Melted rock below the Earth's surface.
<b>Lava</b>	Melted rock, which breaks through the Earth's surface.

### The Structure of the Earth

**Mantle** – Due to the high temperatures of this thick layer, the mantle has the consistency of treacle! Temperatures within the mantle range from 5000°C near the core to 1300°C just below the crust.

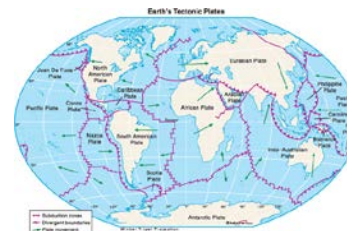
**Outer Core** – This layer is liquid and made up largely of iron.



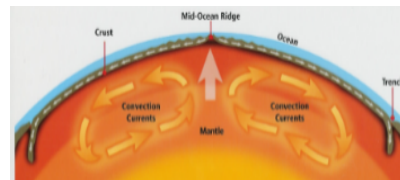
**Crust** – This is the outer layer of the Earth. It is a very thin layer (think of an apple skin on an apple) and ranges between a thickness of 6 and 70 km.

**Inner Core** - This layer is solid and is also made of iron. Temperatures within this dense core can be 5500°C.

### A Map Showing the Earth's Tectonic Plates and direction of movement



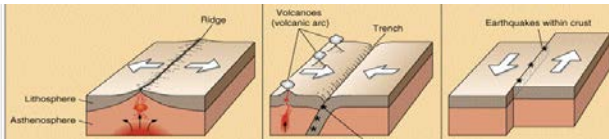
### Convection Currents



The core heats the mantle and causes the hot magma to rise towards the crust. This moves the plates of the crust either towards or apart from each other. As the magma cools it sinks back towards the core, continuing the cycle and driving the convection currents.

## Y9 Tectonics: Essential Knowledge Sheet

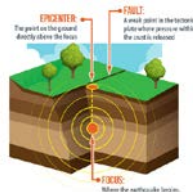
### Types of Plate Margins



Margin type	Constructive	Destructive	Conservative
<b>Movement</b>	Apart (Diverge)	Together (Converge)	Alongside each other
<b>Effect on land</b>	New land created	Land destroyed	No change
<b>Volcanoes?</b>	Yes	Yes	No
<b>Earthquakes?</b>	Yes	Yes	Yes

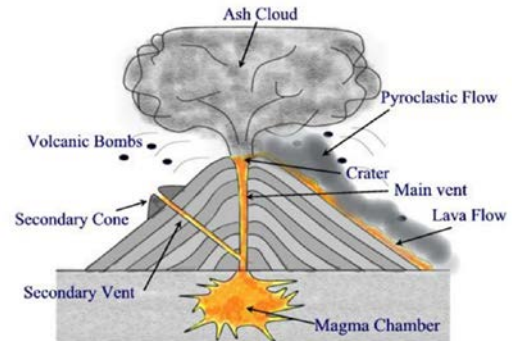
### Earthquakes

Earthquake	The sudden shaking of the Earth's surface, caused by rock movement.
Focus	The point where the energy is released in an earthquake.
Epicentre	The point on the ground directly above the focus of an earthquake.
Seismic Wave	The wave of energy given out in an earthquake, that shakes the ground.
Aftershock	A smaller earthquake following the main shock of a larger earthquake.



### Volcanoes

Volcano	A mountain or hill, typically cone shaped, that has a vent through which lava erupts from the Earth's crust.
Magma Chamber	An area beneath the Earth's surface where magma (molten rock) collects in a pool of molten rock.
Main Vent	An opening through which volcanic material is erupted.
Crater	A bowl or funnel-shaped depression that usually lies directly above the vent from which volcanic material is ejected.
Pyroclastic Flow	A flow of gas, dust, ash and other particles that rushes down the side of a volcano after an eruption.



**Main Features of a Volcano**

## Y9 Tectonics: Essential Knowledge Sheet

### Potential local, regional and global effects of a Yellowstone Supervolcano eruption

<p><b>Colour Key:</b></p> <p> -Local (within 100 miles)</p> <p> -Regional (different states and the rest of the USA)</p> <p> -Global</p>	<p><u>North West</u> USA would be totally devastated with materials erupting 80,000 feet into the atmosphere</p>	<p>Ash would be distributed globally and cause severe disruption in air traffic, which would grind to a halt.</p>
<p>The danger zone would cover a <u>100 mile</u> radius, placing the states of Wyoming, Montana and Idaho at severe risk</p>	<p>A cloud of much lighter ash, 1000 times the size of the Mt ST Helens cloud, would drift eastward with the wind. Inhaling this would cause death, attacking the bones and lungs, killing people from the inside</p>	<p>Ash particles would remain in the global atmosphere for up to 6 years, severely cooling the planet with temperatures plummeting, potentially causing crop failure and famine around the world</p>
<p>Pyroclastic flows travelling at speeds up to 100mph would completely wipe out nearby towns such as Bozeman, Montana (pop: 30,000)</p>	<p>Vast numbers of USA's livestock would die from inhaling the volcanic debris. As a <u>result</u> food prices would rise rapidly, severely affecting the US economy</p>	<p>Climate change could bring snow in June and frost in August, wiping out the potential growing seasons for 6 years, thus further reducing the world's food supply</p>
<p>Everything in the immediate area of the volcano would be wiped out or killed; millions of tonnes of molten rock would spew into the air and wave upon wave of burning debris would destroy everything in their path</p>	<p>Volcanic Ash would cover much of the mid-West <u>farm land</u> leaving the land sterile and unable to support crops. Millions of people would die of starvation as a result of the destroyed <u>farm lands</u> in the mid-West</p>	<p>Political pressures from the collapse of the world's food supply could lead to rioting especially in developing countries where it would be difficult to provide aid to those in greatest need</p>
<p>In the summer around 100,000 tourists spend the night in hotels at Yellowstone. Tourists evacuated from Yellowstone 30 minutes before eruption would not be able to escape the destruction of the pyroclastic flows</p>	<p>The weight of the heavy ash would cause the collapse of rooftops in Wyoming, Montana and Utah killing thousands of people</p>	<p>Volcanic ash and pyroclastic material would cover the area around Yellowstone to a depth of 20-30 feet</p>

**Y9 Tectonics: Essential Knowledge Sheet****Monserrat Volcanic Eruption 1995 Case Study****Primary Effects – A direct effect**

Some immediate effects of the 1995 eruption was that two thirds of the island became covered in ash making it impossible to get aid to people in need as many roads were impassable.
The ash also polluted the air increase breathing difficulties and increasing cardiovascular and respiratory illness.
50% of the population were evacuated to the north of the island into temporary shelters, these were over crowded and provided poor sanitation and food.
Forest fires were caused by the pyroclastic flows, which destroyed farmland, school, hospitals and put more people in danger.
The only airport was closed

**Secondary effect – An indirect effect or knock on effect**

The eruption destroyed the two main industries the island relied on; tourism and farming.
The ash covered fields killed crops and meant a year of failed harvest and no income for the many families who rely on it.
Tourism crashed for years with the only visitors coming from cruise ships to look at the famous volcano.
Vegetation was destroyed by acid rain which took many years to slowly decrease, This led to the pollution of lakes and rivers making animal life almost impossible.
More than half of Montserrat's population left the island making it even more difficult for the island to recover. The population decreased from 11,000 to 4,000.

**Immediate responses – Action taken within a few days and weeks to help reduce the effects**

The MVO (Montserrat volcano observatory) was set up to monitor the volcano and predict any future eruptions.
Scientists have prevented much progression in the development of the island as they believe another eruption may occur in the next century which could possibly wipe out the whole island so therefore any investment may be wasted.
A risk map was devised to show the residents where was safe on the island

**Long term responses – Actions taken months and years after to help reduce the effects**

£41 million was donated by the British government to help the nation rebuilt to island and recover the destroyed industries.
£24,000 was also given by to individual families to help them recover financially and start again.
Thousands of new homes had to be built in the north of the island for the residents remaining on the island.
Riots broke out among the remaining islanders as they believed the UK were not doing enough to help them.



## Y9 Tectonics: Essential Knowledge Sheet

Living in areas that are at risk from tectonic hazards can have both advantages and

### Advantages:

<b>Geothermal energy:</b>	Living near tectonic activity often provides access to geothermal energy, which can be harnessed for heating and electricity production.
<b>Tourism opportunities:</b>	Volcanic areas or areas with unique tectonic features can attract tourists, leading to economic benefits for the local communities through businesses such as hotels, restaurants, and guided tours.
<b>Mineral resources:</b>	Tectonic activity can create mineral-rich deposits, which can contribute to local economies through mining and extraction industries.
<b>Natural beauty:</b>	Living in tectonically active areas can offer stunning landscapes, such as mountains, volcanoes, geysers, and hot springs, providing aesthetic and recreational benefits.

### Disadvantages:

<b>Volcanic eruptions:</b>	Living near volcanoes poses the risk of eruptions, which can result in the destruction of homes, infrastructure, and loss of life. Volcanic ash, lava flows, and pyroclastic flows can have devastating impacts on communities.
<b>Earthquakes:</b>	Tectonic activity often leads to earthquakes, which can cause significant damage to buildings, infrastructure, and utilities. Strong earthquakes can result in injuries, fatalities, and the displacement of populations.
<b>Tsunamis:</b>	Some tectonic events, such as undersea earthquakes, can trigger tsunamis, posing a severe threat to coastal communities in terms of destruction and loss of life.
<b>Uncertainty and fear:</b>	The constant risk of tectonic hazards can lead to a sense of uncertainty, anxiety, and fear among residents, impacting their mental well-being and quality of life.
<b>Limited insurance options:</b>	Insurance companies may be reluctant to provide coverage in high-risk areas, making it challenging for residents to protect their properties and assets adequately.