Revising Geography

On this page are the links to two external websites with past papers and some revision resources. The most effective revision resources are the questions and mind-maps we have created which also on this page. They are split into the different papers and also into Level 1 and Level 2 (slightly harder questions).

Link to past papers and mark schemes-
Geography B (9–1) from 2016 | Pearson qualifications

Useful revision website (be careful they use different case studies to us, use ours)-
Edexcel B GCSE Geography Revision (physicsandmathstutor.com)

Climatic HAZARDS

Climate – Average weather over a long period of time. Usually 30 years. ie UK in Winter is usually colder + wetter.

VS

Weather – The atmospheric conditions on a given time. Includes temperature, precipitation + wind. Can be unpredictable.

Keywords (Climate Change)

High Pressure

Sinking air, no rain, DRY!

Deserts have high pressure

Low Pressure

Forms Convectional rain clouds.

Cools + Condenses

Rising Air Full of EVAPORATION water

TROPICAL RAINFORESTS experience Low Pressure

Keywords (Climate Change)

Global Atmospheric Circulation

Polar Cell, Ferrel Cell, Hadley Cell, Hadley Cell, Ferrel Cell, Polar Cell

Deserts, Tropical Rainforests, Deserts

High Pressure, Low Pressure, High Pressure

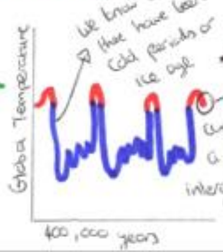
Air sinks over the desert giving hot, arid conditions

Air rises over the equator giving hot, wet conditions.

This movement of air controls the climate around the world.

Keywords (Climate Change)

Natural Climate Change



We know that there have been cold periods or ice age

We are currently in a warm interglacial

EVIDENCE

HISTORICAL EVIDENCE – Thames Frost Fair. Paintings / diaries show what the climate was like

Tree Rings – Show every year. A thick ring shows a hot + wet year. 400 years old max.

Ice Cores – Drilling deep into Antarctica. Each layer is a year. Measuring the CO_2 shows how hot that year was. Goes back 800,000+ years

FOSSILS – Show where animals + plants could survive so no ice. Up to 2,000,000 yrs old.

NATURAL CAUSES

VOLCANIC ERUPTIONS – Send ash into the atmosphere, blocking the Sun + cooling the earth. (Large Volcanoes)

SUNSPOT THEORY – Sunspots are mini areas of activity or explosions on the Sun's surface. The more there are the hotter our climate.

ASTEROID COLLISIONS – An asteroid collides with the earth. This sends a dust cloud into the atmosphere. This reflects the sun's rays back into space + cools the earth.

Tilt, Wobble or Change Orbit – All three change distance + therefore climate.

ENHANCED Greenhouse Effect

The earth always has had a layer of greenhouse gases. We need them. Traps some rays. Allow some out.

By adding greenhouse gases to the layer it has become thicker. This traps more energy + makes the earth warmer.

HUMAN CAUSES of climate change

Increase in cars + factories has led to massive amounts of CO_2 being released.

Paddy field – Farming produces large amounts of METHANE which is a greenhouse gas. Rice 'Paddy fields' + Cows are particularly bad.

Deforestation – trees break in CO_2. When they are removed it means more CO_2 stays in the atmosphere. A major CO_2 sink is lost.

Consequences of enhanced greenhouse effect.

Melting ice sheets + glaciers would lead to major sea level rise (New Sea Level / Current)

Islands like The Maldives could be submerged!

Crops could die leading to FAMINE

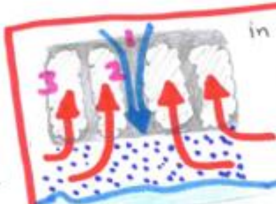
Desertification – Drought could lead to the spread of deserts

TROPICAL CYCLONES

Also known as Hurricanes + Typhoons

Oceans must be 26·5°C in order for them to form!

Formation of a Cyclone



1. The centre is called the EYE and is a hole of high pressure
2. The EYEWALL is the part with the lowest pressure, most rain, strong wind
3. The edge of the cyclone has low pressure, rain + wind.

Saffir-Simpson Scale

The scale measures wind speed. 5 is the worst with winds over 156 mph causing catastrophic damage. (1 → 5) V. deadly.

Dangers / Hazards

High Winds, Rain – Flooding, Storm Surge, Landslides

Management

Satellite monitoring of Storms

TV + Radio Warnings (Warning)

Sirens + Emergency Warnings

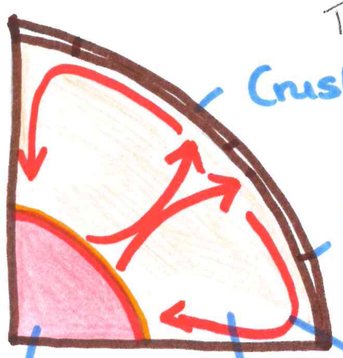
Cyclone Shelters (Concrete, Stilts)

Hurricane Sandy (2012 USA) / Cyclone Nargis (2008 Myanmar)

	Hurricane Sandy 2012 USA	Cyclone Nargis 2008 Myanmar
Preparation	• World's most advanced weather satellites	• No monitoring centre or radar system.
Warnings and Evacuation	• 4 states were evacuated with the most vulnerable moved first. • 'Hurricane Pam' was a simulated hurricane designed to test emergency services. Led to USA having largest supply of rescue helicopters in the world.	• Warnings issued but very few people had access to TV or Radio • Only defence were Mangrove forests which had been deforested. Very little protection
Impacts	• $18 billion damage in New York city alone • 72 deaths reported across the USA • Storm surges left 8·5million homes without power • 18,000 flights cancelled.	• 140,000+ Dead • 450,000+ homes destroyed by wind and flooding • 65% of rice paddies destroyed • Water contaminated for months leading to Cholera outbreaks
Responses	• Aid arrived within hours • 5 mobile petrol stations were moved into the area to help emergency services. • 61,000 National Guard Troops were mobilised to help • Within a fortnight tunnels + roads repaired.	• Military government refused access to foreign aid 7 days and aid workers for 17 days. • Myanmar has no search and rescue helicopters or teams.

Tectonic Hazards

STRUCTURE OF THE EARTH

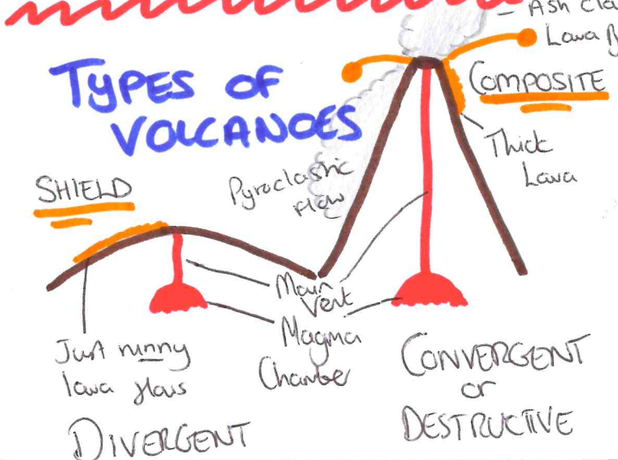


Thin outer layer
Crust (Tectonic Plates)
Plate boundary or margin where plates meet
Mantle Made of magma
Core (Inner + Outer) Hottest part of the earth

CONVECTION CURRENTS

The core (hottest part) heats the mantle. The magma rises until it hits the crust. It spreads out, cools and falls back to the core. This moves the plates

TYPES OF VOLCANOES

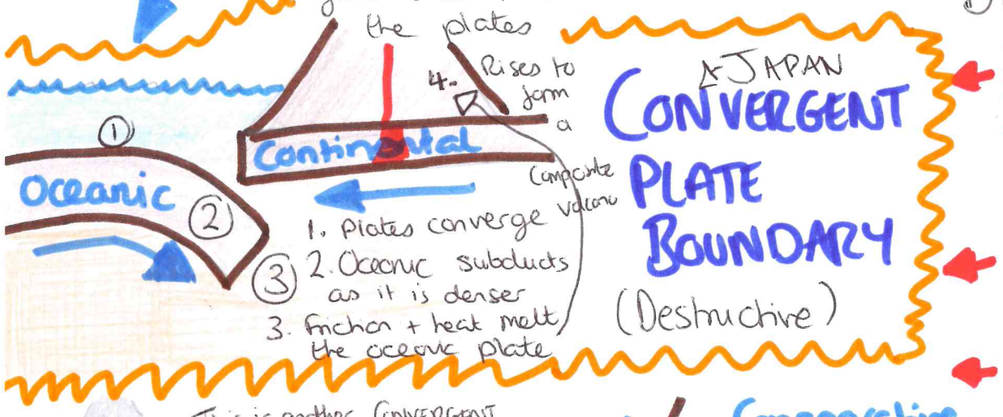


DIVERGENT

CONVERGENT or DESTRUCTIVE

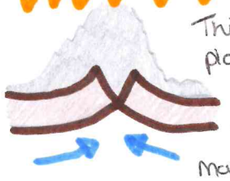
PLATE BOUNDARIES & MARGINS

JAPAN CONVERGENT PLATE BOUNDARY (Destructive)



Conservative.

Two plates slide past each other. Friction occurs which means



This is another CONVERGENT plate boundary. Two continental plates collide and make fold mountains e.g. Himalayas.

COLLISION

Nepal

DIVERGENT PLATE BOUNDARY

Plates seperate and allow magma to rise forming a shield volcano

EARTHQUAKE PREDICTION

Small earthquakes can show magma getting close to the surface

Satelite Thermal Imaging. As magma nears the surface it warms it.

Tiltmetres As magma builds up 'bulges' can appear. Tiltmetres detect these.

Gas Monitoring High levels of sulphur dioxide can show an eruption is likely.

USGS

EARTHQUAKE PREPARATION

Concrete Shelters Are built in Japan to protect from Ash + lava bombs

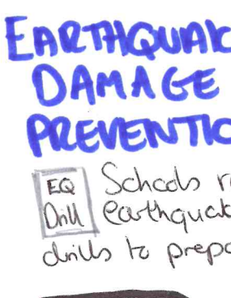
Lahar Channels Direct mud flows

Evacuation + Exclusion Zones Plans to get people away are made.

Mainly in developed countries like Japan + USA!

EARTHQUAKE DAMAGE PREVENTION

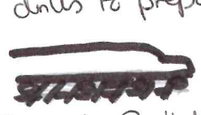
EQ Drill Schools run earthquake drills to prepare



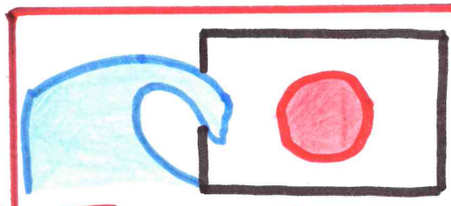
Weights in the roof move against the swaying slowing the movement down

Cross bracing strengthens the building

Rubber Shock Absorbers reduce Shaking.



Japan's Bullet Trains have emergency breaks that stop the train during an earthquake



JAPAN EARTHQUAKE + TSUNAMI 2011

Developed Country

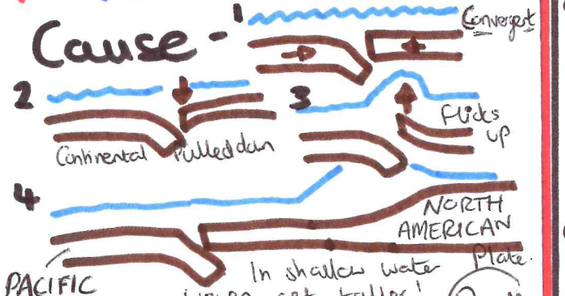
PRIMARY IMPACTS -

16,000+ dead 6,000 Serious Injured
Not a huge loss of life from the earthquake

SECONDARY IMPACTS (Tsunami)

300,000 building destroyed, 4,000 roads and 29 railways damaged.
¥181 billion in total to repair.
1 year after 300,000 living in temporary accommodation.
Fukushima Nuclear Power Plant - Meltdown occurred, radiation leaked. People 19 miles away can't drink water

Cause -



9.0 Richter Scale

Response -

One highway repaired in 3 days
Tsunami warning meant some people were able to evacuate to higher grand.
A new Tsunami wall + warning system was installed in 2015

NEPAL 2015

Developing Country

Cause -

Indian plate collided with Eurasian Plate
7.9 on Richter Scale, 140 aftershocks

Primary Impacts -

8,632 dead
20,000 Injured
50% of buildings in Kathmandu (capital) destroyed

Secondary Impacts -

$5 billion to repair
1.7 million children made homeless
7,000 schools destroyed

Response -

Couldn't afford sniffer dogs or helicopters
Tent cities still there 2 years later
Some villages no help for 3 days.

DYNAMIC DEVELOPMENT

health / education / jobs / wealth / technology

Part 1

Keywords

Developing: Poorer countries e.g. Malawi, low life expectancy, low wealth, high death rate.

↓

Emerging: In the middle but rapid growth, ↑ economy but ↑ inequality e.g. India

↓

Developed: Richer Countries e.g. USA low birth rate, low death rate low infant mortality.

Poverty: lack of wealth, food, water, homes, education, healthcare.

Development Indicators: Ways of measuring development. The more you use the more accurate your measurement.

Death Rate: deaths / year / 1,000 people ↓ is good

Birth Rate: births / year / 1,000 people ↓ is good

Infant Mortality: babies that die / 1,000 births / year

GDP: Money a country makes from exporting goods

HDI: Human development index - A composite number that includes lots of ideas.

Literacy Rate: % people (adults) who can read and write

People per Doctor: amount of people divided by the number of doctors.

Theories

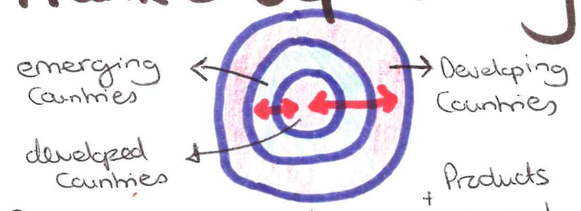
Two people's theories about how Countries develop or don't!

Rostow

DEVELOPING 1 → 2 → EMERGING 3 → 4 → 5 DEVELOPED

All countries are developing. They are all going through stages until they become developed. Improving infrastructure, mass consumption.

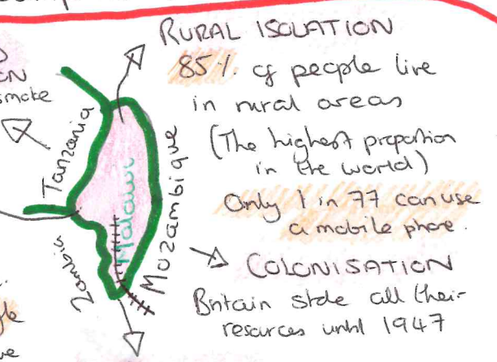
Frank's Dependency



Developed countries make resources and sell them to the other two sets of countries. They stay developed + the others stay emerging + developing.

MALAWI

→ A Country Struggling to develop



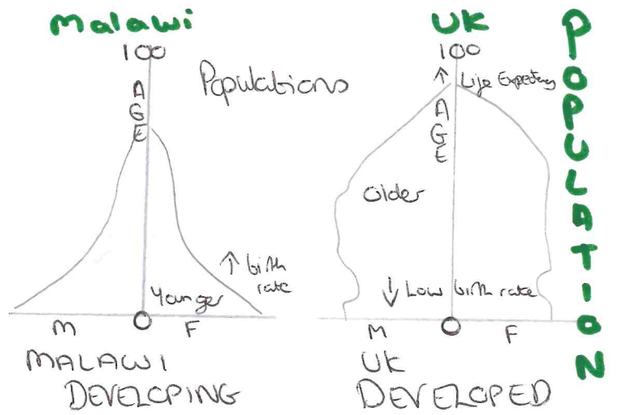
INCREASED POLLUTION noise + smoke + carbon monoxide

LANDLOCKED Surrounded by other countries with no coast. Only 1 800km single track through Mozambique to trade on.

TOPOGRAPHY the Mulanje mountains make transport difficult

RURAL ISOLATION 85% of people live in rural areas (The highest proportion in the world) Only 1 in 77 can use a mobile phone.

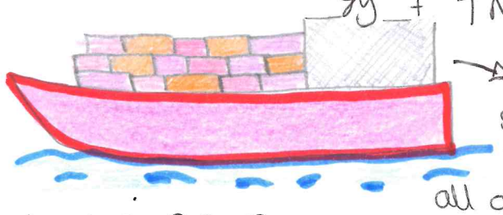
COLONISATION Britain stole all their resources until 1947



Populations

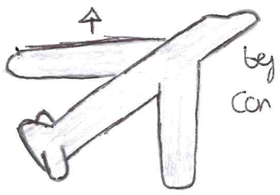
GLOBALISATION

Increased connections between countries due to trade, technology + TNCs



→ Container ships - can carry tons of products all around the world

LARGER, FASTER AIRCRAFT - can move products quickly before they can spoil



TECHNOLOGY + THE INTERNET better communication links make trade easier. Even across different continents.

TNCs

BT in Bangalore

Winners

- 20% of what BT pays in the UK
- Call centre workers paid $5,000 / year 4x average salary
- Learn English free
- Attracts more technology companies.

Losers

- Younger people leave rural areas
- Problems for agriculture as no workforce.

IMPACTS

Social

Lower birth rate as women have careers

Infant mortality falls by 50%.

Women's literacy rate still 17% lower than men's

More hospitals in rural

Sweatshops still have poor working conditions

Economic

200 million people have good salaries

80 million employed in clothing factories

People employed for over 16 hours a week

Minimum wage 87% lower than the UK

What is India like?

SOCIAL

- By 2022 it will have the world's largest population
- More than 40 million people living in slums

CULTURAL

- Birthplace of 4 world religions
  - Hinduism
  - Buddhism
  - Jainism
  - Sikhism
- World's largest film industry; Bollywood

POLITICAL

- Largest Democracy in the world — 627 million can vote
- Part of the G20 group of nations

ENVIRONMENTAL

- 6% of the world's plants and animals found in India.
- 3rd worst emmiter of greenhouse gases in the world!

India: Our EMERGING country case study.

Topics.

keywords / Ideas.

Place Specifics.

Don't forget BT in India from Part 1

UNEQUAL DEVELOPMENT IN INDIA

(Developed) Maharashtra + Mumbai

(Developing) Bihar

BIHAR

* Subsistence Agriculture
  - no more crops or extra
  - no surplus good
    - no money
      - no investment
      - More Jobs
      - more services

MAHARASHTRA

Investment in Cities → Growth industry + factories → More Workers → more services

The Multiplier Effect

CHANGES caused by GLOBALISATION → Countries becoming linked, TNCs + Trade

Social

Forced to work 100 hours a week for £35 ✗

Women's literacy rate still 17% below men's ✗

People free to marry ✓

Economic

Large TNCs employ 80 million ✓

By 2050 other countries will take these jobs ✗

Environment

Loss of biodiversity as deforestation occurs when cities grow ✗

Poorly managed garbage disposal in places like Mumbai - also Leads to ✗

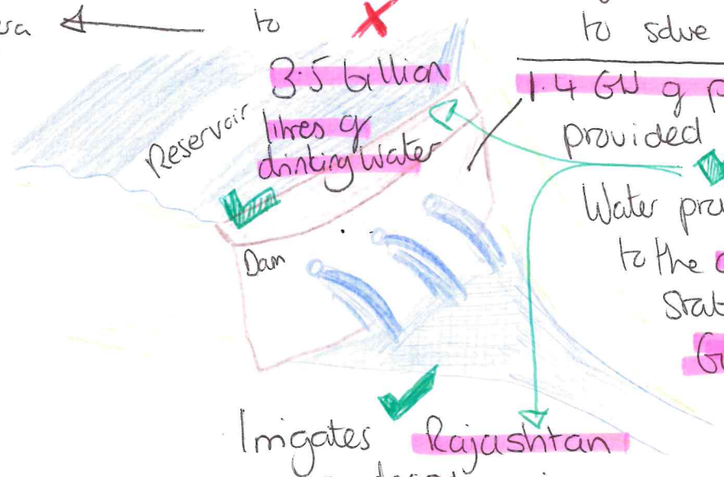
Cholera ✗

Dynamic Development Part 2

TOP DOWN

- NARMADA RIVER DAM + RESERVOIR

Large scale government project to solve one major problem.



1.4 GW of power provided ✓

Water provided to the arid States of Gujurat. ✗

Irrigates Rajasthan a desert region ✓

- 234 Villages Flooded
- Animal habitats lost
- 320,000 people had to flee
  - Religious + historic sites lost
  - Farmland lost

BOTTOM UP

- BIOGAS

A small scale charity project. Lots of these are needed to make big changes.

- ✓ Prevents Cholera
- 3 crops of vegetable a year
- Providing light at night
- Creating over 200,000 permanent jobs
- Heating instant, no wood used

- ✗ R400 a go
- Needs space not suitable in cities or Dharavi

Geography Wonderwall Place Specific Sheet – **Development** Useful Place Specific Facts

PAPER 1

DYNAMIC DEVELOPMENT

Malawi- stuck as a developing country

- Malawi isn't next to a sea or an ocean this is called being landlocked. This means it is 800km away from a port.
- The railway through Mozambique is single gauge and liable to flooding.
- 85% of people in Malawi live in rural (countryside) areas.
- There is only 1 telephone per 77 people in Malawi. This makes it almost impossible to buy and sell goods or access the internet.
- The British Empire took over Malawi until 1964 companies like PG Tips get all the money from the sale of tea, the workers make 1p per KG.

Emerging Country

India's Location and Growth

- In 2012 25% of India's exports when to the Middle East, China, Singapore and Hong Kong
- The Chinese economy a neighbouring one has doubled in size every ten years, excellent market to export to.
- India is in South East Asia where half the world's population live.
- India's economy has grown 7 times in the last 20 years
- Exports of goods increased by 20 times in 23 years.
- The economy grew nearly 7 times (measured by GDP)
- The unemployment rate dropped from 20% to 8.6%
- People living in poverty dropped from 36% to 30%
- Exports changed from tea, coffee and fish products (primary industries) to petrol, machinery, clothing and vehicles (secondary industries)
- TNCs such are Oracle (a computer technology company) and major international banks like Merrill Lynch have heavily invested in telecoms and services. The service economy has grown the most.

India and Globalisation (BT and other TNCs in India)

- BT Call Centre worker- £5000 a year good wage in India. 4 times the average salary but has to work 6 days a week
- BT pays roughly 20% of what it pays in the UK but faces high competition with 52 of the top 100 richest companies are in India
- 58% of India's GDP is driven by growth in services like IT
- A lots of the profits leave India.
- Rural areas not have a shortage of works in agriculture. 13% less.

Impacts of Globalisation on India

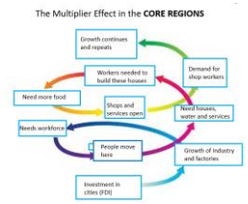
Economic

- 200 Million of the 1.2 Billion people of working age in India are on excellent salaries.
- Large TNCs now employ over 80 Million people in clothing factories.
- India's minimum wage is 87% lower than the UK, so TNCs like Gap and Zara save huge amounts on wages.
- Other developing countries are expected to take these jobs away from INDIA by 2050 as it will be cheaper to produce clothes with lower wages.

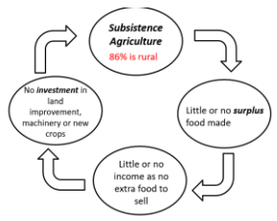
Social

- 70% of employees in clothes factories are young women because they can be paid less.
- Although there have been improvements women's literacy rates remain 17% lower than men's.
- Many sweatshops will not allow women back to work after raising children which would be illegal in the UK.
- More hospitals can now be found in rural areas increasing the number of doctors and raising the life expectancy by 9 years over just 23 years.
- Infant Mortality rates have fallen 50% since 1991 mainly due to increased safe water supplies reducing the risk of diarrhoea or cholera.

Specific Region Growth in India (Maharashtra vs Bihar)

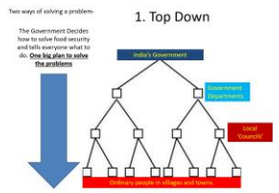


- Maharashtra has the multiplier effect caused by the 2nd biggest port in the country, textiles industry and the financial hub, 12 Universities in Mumbai, and entertainment such a Bollywood



- Bihar has the poverty cycle caused by Caste-based society where lower caste's are less literate, Only 59% have electricity, 1/3 complete primary school, and Women are poorest and have literacy rates of 33% (lowest in India)

Top Down Development- Narmada River Dam



Benefits

The dam is one of the largest in the world at 80 metres high, in the future it may be raised to 163 metres.
It provides 3.5 billion litres of drinking water to India's cities as well a hydro-electric power.
A network of canals take the wat over 1.8 million hectares of farmland across 4 states.
The plan is back by the World Bank and Japanese banks who helped fun the massive project.

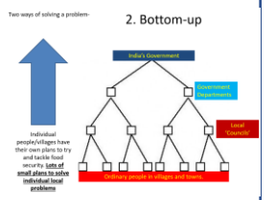
Problems

The electricity is sold at a high price meaning the rural villages can not afford it and so don't benefit.
Locals had their land flooded to create the reservoir behind the dam. 324 villages were flooded to create the dam forcing 320,000 people out of their homes.
Good quality farmland downstream is lost as the dam stops the sediment (rocks) that the river is carrying from reaching the floodplains and making them fertile.

Bottom Up Development- Biogas

Benefits

- **Intermediate technology** where low tech solutions are created using local materials and expertise to solve local problems. Cow Dung or enzymes from cow's stomachs produces a gas called **biogas**
- Families need to collect 25-30kg of fuelwood every week to cook food girls now have time to go to school.
- This has created 200,000 permanent jobs mostly in rural areas.
- The plants can be used to pump water for irrigation which means that farmers can now grow three crops a year.



Issues

- Require funding to build which is hard to get in rural areas
- Doesn't work in urban areas.
- Very small scale from a project called ASTRA

Urbanisation-

Cities growing, more + more people living in cities mainly due to Rural - Urban migration.

Rural - Low population density usually countryside.

Urban - built up areas like cities or towns

Mega-city - 10 million or more people

Primate-city - A countries dominant city with at least double the population of any other city in that country.

Migration - Movement of people.

Challenges of an Urban World

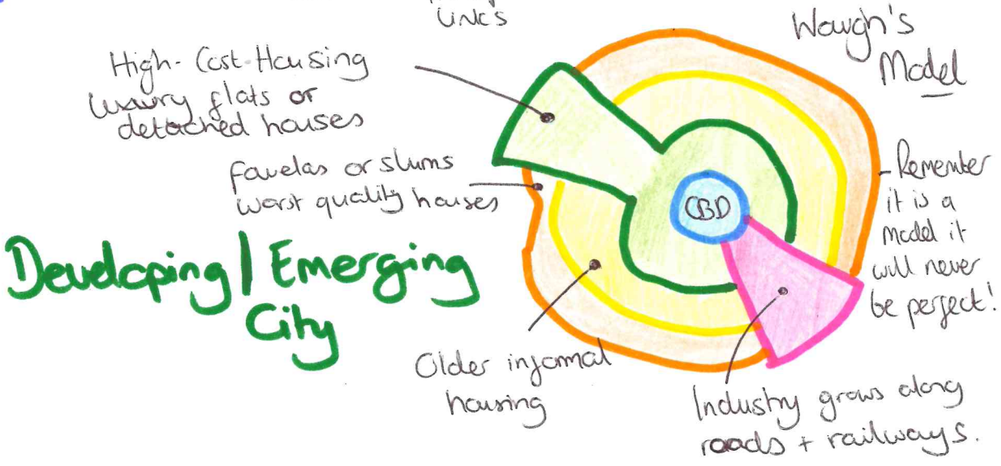
PART I

Pull
- hospitals
- JOBS!
- Schools
- transport
- entertainment
- food
- family

RURAL-URBAN MIGRATION

PUSH
- War
- Water
- Food shortage
- No jobs
- poorly paid jobs
- Poverty
- natural disasters

LAND USE



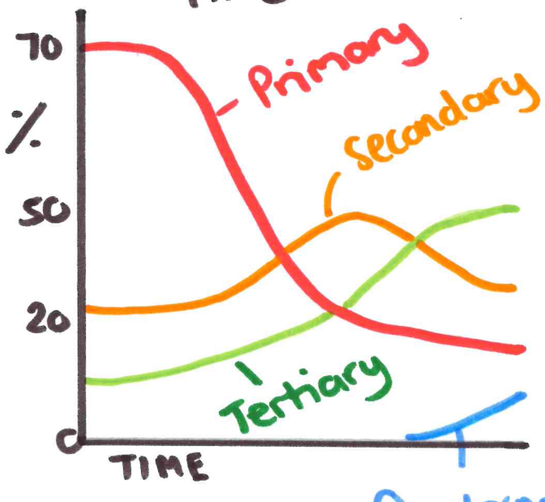
URBAN ECONOMY

JOBS, JOBS, JOBS.

Formal - qualifications, tax, police, contracts, teachers

Informal - no tax, Cash-in-hand, poorly paid, no contract

Jobs in cities over time



Primary Jobs
Getting raw materials ie fishing, mining + farming

Secondary Jobs
Manufacturing raw materials factories ie making cars

Tertiary Jobs
Services like teachers, office workers, bankers...

Quaternary Jobs
Hi-tech jobs like medical research or internet based.

Why do specific Cities grow + decline?

Changqing, China

Massive factories opening manufacturing in cars, textiles etc. Millions of people have moved from poor areas to the city.

London, UK

Massive growth in services like banking which pay better than other jobs in that country. Large numbers of migrants from abroad come looking for work.

Detroit, USA

The car industry went bust. 61% of the population left to look for work in other cities

Stages in a developed city

Urbanisation - Cities grow.
Secondary Industry grows - Gun Quarter Birmingham - Jewellery / Cars
Lots of homes built.

Suburbanisation - people move to the suburbs which start to grow.
Areas like Sutton Coldfield. Less air pollution + noise pollution

De-industrialisation - Factories start to close under competition from abroad.
HP Sauce factory + Longbridge Rover closed.

Counter-Urbanisation - The internet + better transport mean people can move into satelite towns outside the city.

Regeneration - The city tries to get people back into the CBD. Projects like the Bullring + Mailbox have done this.

URBANISATION PART 2

Mumbai

Our Megacity in an Emerging Nation.

Problems

Traffic - 1·8 million cars on the road

76% without clean water

55% on 6% of Land

4000 cases of diseases

Average wage 0·80p/day

Standpipes for 2 hours/day

800 million tonnes sewage in the River Methi

DHARAVI
- a Squatter settlement, people don't own the land and build wherever they can.

27m deep Gorai Garbage Site

River Methi

BEFORE

Dirty Water = CHOLERA

Opportunities in Mumbai

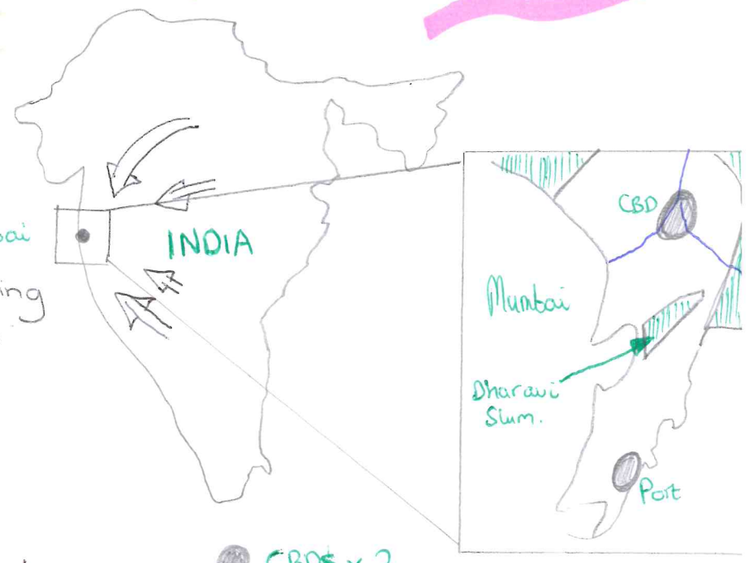
- Manufacturing jobs in textiles
- Finance + IT Jobs in the Service sector.
- Informal Economy in Dharavi — 90%
  - 15,000 single room businesses
  - £350 million a year

Why is Mumbai growing?

- Textile Industry is rapidly growing
- Services like Banking are now huge in Mumbai
- Huge numbers of people has created huge amounts of jobs in construction.

RURAL TO URBAN
- Bollywood + other entertainments attract young people
- Improved education (95% Adult Literacy compared to 87% Nationally)

NATURAL INCREASE
- 1·4% a year from couples in their 20s and 30s.



CBDs x 2

Slums

Population

12·5 Million (Rapidly Growing)

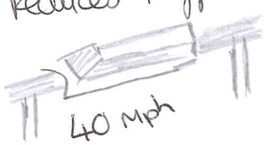
SUSTAINABLE SOLUTIONS ?

Population/Social | Environmental/Nature | Economy/Jobs

TOP DOWN

Mumbai Monorail

Reduces Traffic ✓



£310 million Cost ✗

9km ✗

15,000 use a day ✗

Mainly Tourists not Resident ✗

Doesn't go to most populated Areas ✗

1 Rupee Tickets ✗

Gorai Garbage Site Closure

27m deep + leaking 800 million tonnes into the River Methi — STOPPED

Steps releasing Methane ✓

Gas now used for power.

Took 35 years to do ✗

BOTTOM UP

SPARC - 800 x 8 toilets
COMMUNITY - Clean water
TOILETS - 25 rupees.
- electricity.

HAMARA FOUNDATION — Gives education. Stops drugs + gangs

327/200,000 Street kids helped

£300 loans — 25% Interest in weekly instalments — helps business

AGORA MICROFINANCE

What makes Mumbai Special?

- India's 2nd Biggest Port
- Home to Bollywood, the world's largest film industry
- Mumbai International Airport handles 32M.
- Every other major Indian city only 2 hours away
- Found in the most developed state Maharastra
- Dharavi is a slum home to over 1million.

Topics | Keywords/Ideas | Place Specifics

Development Keywords

What is the difference between a developing country, an emerging country and a developed country?

What are development indicators and why do we use them?
Name and explain 3 different development indicators we could use to help determine how developed a country is.
What is HDI and why is it a composite number?

Development Models

Name 2 theories of development and briefly describe why they are different.

Name a country that is prevented from developing for a variety of reasons.
Explain 4 reasons why that country is not able to develop quickly.

Globalisation Introduction

What is globalisation?

Name 3 improvements to the world's infrastructure which have lead to globalisation.

What is a TNC? Name an example

An emerging (or developing) country case study

Name our developing or emerging country.
Describe 1 feature of your country for each of the following categories; social, political, cultural and environmental.
Explain 3 ways India tries to work with other countries

Explain 2 benefits and 2 problems globalisation has caused in the country that you have studied.

Name a TNC that is now based in your country.
Explain three specific benefits that a named TNC has had on your country (be place specific).
Explain two issues that the same TNC has caused in the country that you have studied.

Within your country there has been unequal development, name two areas within your country that have different levels of development.
Explain why one area of the country that you have studied is not developing very quickly.
Explain why one area of the country that you have studied is developing very quickly.

What is the difference between top down and bottom up management in a country?

Explain 1 top-down sustainable solution to improve development in your country. Try to give three place specific facts.
Give 1 issue with the top-down solution to improve development in your country.

Explain 1 bottom up sustainable solution to improve development in your country. Try to give three place specific facts.
Give 1 issue with the bottom-up solution to improve development in your country.

Dynamic Development
Level 2

Development Keywords

What is the difference between a developing country, an emerging country and a developed country?

What are development indicators?
Name and explain 3 different development indicators we could use to help determine how developed a country is.
What is the Human Development Index?

Development Models

Name 2 theories of development.

Name a country that is prevented from developing for a variety of reasons.
Describe 3 reasons why that country is not able to develop quickly.

Globalisation Introduction

What is globalisation?

Name 3 improvements to the way the world which have lead to globalisation.

What is a Transnational Corporation?
Name an example

An emerging (or developing) country case study

Name our developing or emerging country.
Describe 1 thing about your country for each of the following categories; social, political, and environmental.
Explain 3 ways India tries to work with other countries

Describe 2 benefits and 2 problems globalisation has caused in the country that you have studied.

Name a TNC that is now based in your country.
Name 2 specific benefits that a named TNC has had on your country (be place specific).
Name 2 issues that the same TNC has caused in the country that you have studied.

Name an area of the country that you have studied which is developed and an area which is not.
Describe why one area of the country that you have studied is not developing very quickly.
Describe why one area of the country that you have studied is developing very quickly.

What is top-down management? What is bottom up management?

Give 1 top-down sustainable solution to improve development in your country. Give 3 benefits of it.
Give 1 issue with the top-down solution to improve development in your country.

Give 1 bottom up sustainable solution to improve development in your country. Give 3 benefits of it.
Give 1 issue with the bottom-up solution to improve development in your country.

Dynamic Development
Level 1

Climate and Weather Keywords

What is the difference between climate and weather? Why is it an important comparison to make?

What is high pressure? What weather is it likely to cause?
What is low pressure? What weather is it likely to cause?
What is the Hadley Cell? (Draw a diagram) How does it lead to tropical rainforests and deserts?

Climate Change

Name 4 causes of climate change and explain whether they would cause warming or cooling (or both) and why.

Describe 3 ways in which scientists know that the climate changed in the past.

Explain what the greenhouse effect is with a diagram.
Explain what the ENHANCED greenhouse effect is.

Explain 3 ways in which human activities have contributed to the enhanced greenhouse effect.

Give three possible consequences of climate change in the future.

Tropical Cyclones and Case Studies

Describe the distribution of tropical cyclones around the globe.
Give the 2 other names tropical cyclones can be given depending on the ocean they form over.

What conditions do there need to be for a tropical cyclone to form?
Describe the characteristics of a tropical cyclone (Draw a diagram)

What is used to measure tropical cyclones? How are they measured.

Describe 3 hazards that tropical cyclones can cause.
Describe 3 management techniques used to save lives before, during and after tropical cyclones.

CASE STUDIES (Do all of the following for an example in a developing **and** developed country)

Name the location of the tropical cyclone, and the date.

Explain how prepared the country was? What forecasting and warnings had been given.

Describe the level of defences in place in that country.

Explain 3 impacts on the country.

Explain 2 responses that country had to the tropical cyclone.

Climatic Hazards
Level 2

Climate and Weather Keywords

What does climate mean? What does weather mean?

Draw a diagram of high pressure? Do you get rainfall? Why/Why not?
Draw a diagram of low pressure? Do you get rainfall? Why/Why not?
What type of pressure happens over tropical rainforests? What type of pressure happens over deserts?

Climate Change

Describe 4 causes of climate change and say whether they would cause warming or cooling (or both).

Name 2 ways in which scientists know that the climate changed in the past.

Explain what the greenhouse effect is with a diagram.
How have humans made the earth warmer?

Describe 3 things humans have done to make the earth warmer.

Give three possible consequences of climate change in the future.

Tropical Cyclones and Case Studies

Where would you find tropical cyclones around the globe.
Give one other name of a tropical cyclone (think USA).

What conditions do there need to be for a tropical cyclone to form?
Draw a labelled diagram of a tropical cyclone.

What scale is used to measure tropical cyclones? How are they measured.

Describe 3 hazards that tropical cyclones can cause.
Describe 3 management techniques used to save lives before, during and after tropical cyclones.

CASE STUDIES (Do all of the following for an example in a developing **and** developed country)

Name the location of the tropical cyclone, and the date.

Explain how prepared the country was? What forecasting and warnings had been given.

Describe the level of defences in place in that country.

Name 3 impacts on the country.

Name 2 responses that country had to the tropical cyclone.

Climatic Hazards
Level 1

Structure of the earth + plate boundaries

Draw a cross sectional diagram of the structure of the earth.
Label the layers and describe their characteristics.

The outer layer is the crust. What is it split into?

Where do you find volcanoes and large earthquakes?

What makes the tectonic plates move? (Draw a diagram)

Draw and describe what happens at a convergent boundary.

Draw and describe what happens at a collision boundary.

Draw and describe what happens at a divergent boundary.

Draw and describe what happens at a conservative boundary.

Volcanoes

Draw and label the two types of volcano.

Draw and explain how a composite volcano is formed.

Describe 4 different hazards that volcanoes can create.

Name and explain 3 ways scientists can predict volcanic eruptions.

Name and explain 3 ways scientists can prepare and save lives during volcanic eruptions.

Explain why a developed country like Japan would have more success in saving lives during a volcanic eruption than a developing country.

Earthquakes and Tsunami

Describe how a tsunami is formed (Draw a diagram)

Explain 3 ways in which Japan (or another developed country) prepares for Earthquakes.

Developed Country Case Study

Name the location and magnitude of the earthquake.

Describe the cause of the earthquake and some of the background information (Think Tsunami).

Explain the PRIMARY impacts of the earthquake
Explain the SECONDARY impacts of the earthquake

Explain what responses the country had and how effective they were.

Developing Country Case Study

Name the location and magnitude of the earthquake.

Describe the cause of the earthquake and some of the background information.

Explain the PRIMARY impacts of the earthquake
Explain the SECONDARY impacts of the earthquake

Explain what responses the country had and how effective they were.

Tectonic Hazards- Level 1

Structure of the earth + plate boundaries

Draw a cross sectional diagram of the structure of the earth.
Label the layers and describe their properties.

The outer layer is the crust. What is it split into?

Where do you find volcanoes and large earthquakes?

Explain how convection currents work.

Draw and explain what happens at a convergent boundary.

Draw and explain what happens at a collision boundary.

Draw and explain what happens at a divergent boundary.

Draw and explain what happens at a conservative boundary.

Volcanoes

Draw and label the two types of volcano. Compare them.

Draw and explain how a composite volcano is formed.

Explain 4 different hazards that volcanoes can create which may take lives.

Name and explain 4 ways scientists can predict volcanic eruptions.

Name and explain 4 ways scientists can prepare and save lives during volcanic eruptions.

Explain why a developed country like Japan would have more success in saving lives during a volcanic eruption than a developing country. (Think Before, During and After the eruption)

Earthquakes and Tsunami

Explain how a tsunami is formed (Draw a diagram)

Explain 4 PLACE SPECIFIC ways in which Japan (or another developed country) prepares for Earthquakes.

Developed Country Case Study

Name the location and magnitude of the tectonic hazard.
Explain the cause of the tectonic hazard and some of the background information (Think Tsunami).

Explain the PRIMARY impacts of the tectonic hazard.
Explain the SECONDARY impacts of the tectonic hazard

Evaluate the success of the responses the country to the tectonic hazard.

Developing Country Case Study

Name the location and magnitude of the tectonic hazard.
Explain the cause of the tectonic hazard and some of the background information.

Explain the PRIMARY impacts of the tectonic hazard.
Explain the SECONDARY impacts of the tectonic hazard

Evaluate the success of the responses the country to the tectonic hazard.

Tectonic Hazards- Level 2

Urbanisation Terminology

What is a primate city?
What is a megacity?
Name six reasons for rural to urban migration
What is migration?
Explain what the process of urbanisation is.

The Urban Economy

What does the term urban economy relate to?
What is the difference between the formal and informal economy? Give examples.

What are the four sectors which jobs can be categorised by? Give an example of each.
Why has the quaternary sector only appeared at the end of the 20th century?
Why did the secondary sector rise and fall in the UK during the 20th century?

Changes to cities

Describe the structure of a developed city.
Explain why there are different land uses in the three parts of a developed city.

How have developed cities changed over time?
Explain why developed cities need to regenerate and how they have done that.

Give 2 specific examples of how specific cities have grown.

Explain why a city's population might decline.

An emerging country's megacity case study

Name a city in an emerging country you have studied
Describe 3 characteristics of your city (Ideally one social, one economic and one environmental.

Explain 2 place specific reasons why your cities population is growing rapidly.
Explain 2 reasons why the city is growing economically.

Explain 4 major problems your city faces (be place specific)

What is the difference between top down and bottom up management?

Explain 1 top-down sustainable solution to the problems in your city.

Explain 2 bottom-up sustainable solutions to the problems in your city.

Urban World Questions

Level 2

Urbanisation Terminology

What is a primate city?
What is a megacity?
Name 4 reasons for rural to urban migration
What is migration?
What does urbanisation mean?

The Urban Economy

What do the terms urban and economy mean?
What is the formal economy? Give an example
What is the informal economy? Give an example

Name the four sectors of jobs. Give an example of each.
Why have we only recently had an increase in quaternary jobs?
Why did the number of manufacturing jobs rise and fall in the UK during the 20th century?

Changes to cities

Name the three layers of a developed city.
Describe what land use you would find in each layer.

Name the 5 stages a developed city has gone through. Give an example from Birmingham in each.
What does regeneration mean?

Give 2 specific examples of how specific cities have grown.

Explain why a Detroit's population declined.

An emerging country's megacity case study

Name a city in an emerging country you have studied
Describe 3 characteristics of your city (Ideally one social, one economic and one environmental.

Describe 2 place specific reasons why your cities population is growing rapidly.
Describe 2 reasons why the city is growing economically.

Describe 4 major problems your city faces (be place specific)

What does top-down mean?
What does bottom-up mean?

Give 2 good things and 2 bad things about the Mumbai Monorail.

Give 1 good thing and 1 bad thing about the SPARC community toilets and the Hamara Education Foundation.

Urban World Questions

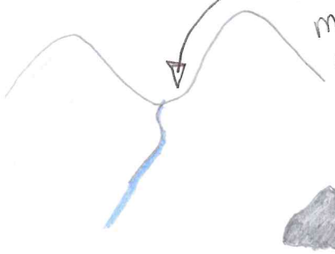
Level 1

UK'S PHYSICAL LANDSCAPES

PART I

GLACIATION

huge 'U' shaped valleys created by moving ice thousands of years ago.



GEOLOGY - Study of rocks

IGNEOUS called Lava - Granite

SEDIMENTARY layers of sediment crushed at the bottom of the sea

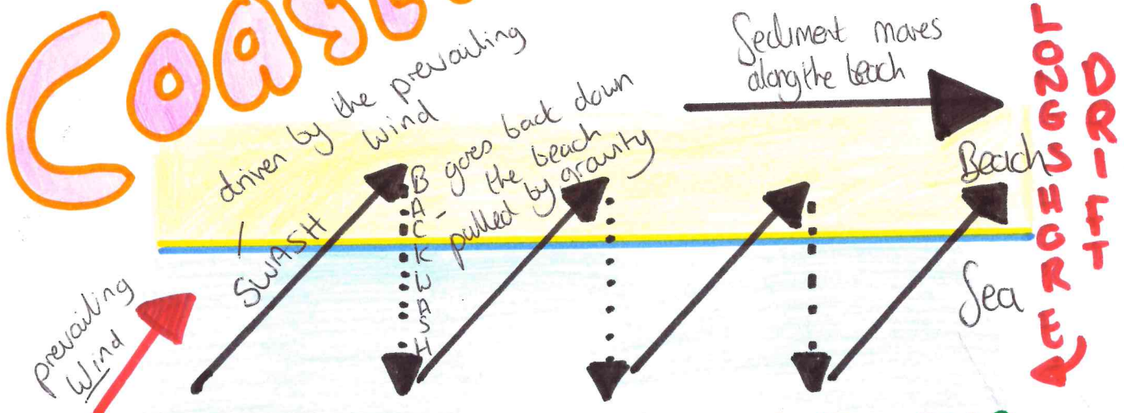
METAMORPHIC heated + compressed rocks.

TECTONIC UPLIFT

Plates collide, creating mountains and hills.

LANDSCAPES

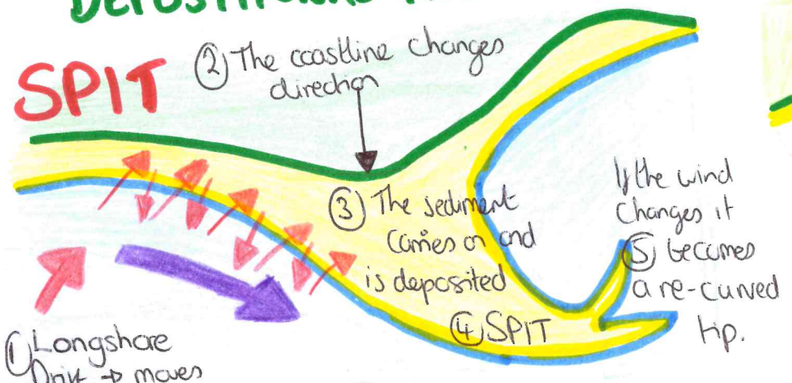
Coastal Processes

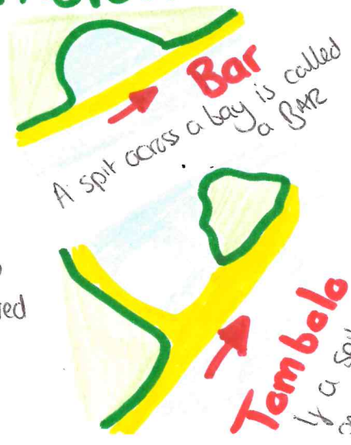


LONGSHORE DRIFT

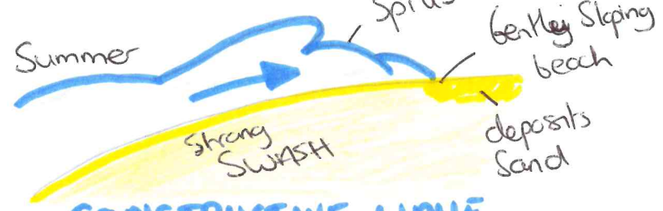
DEPOSITIONAL PROCESSES + LANDFORMS

SPIT

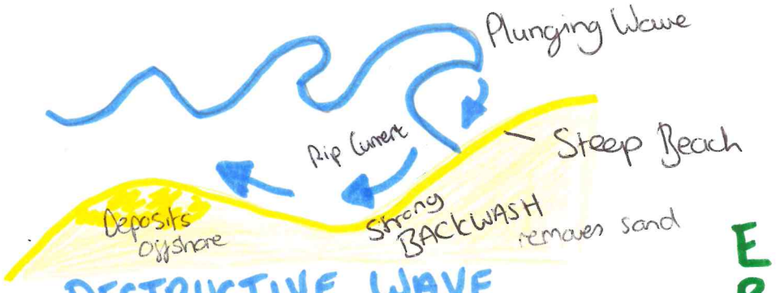




CONSTRUCTIVE WAVE

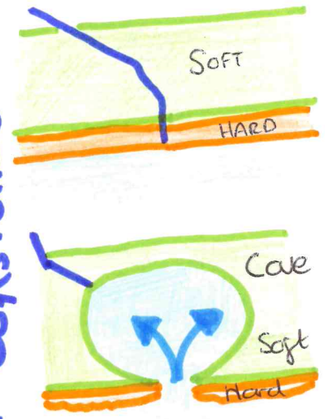


DESTRUCTIVE WAVE



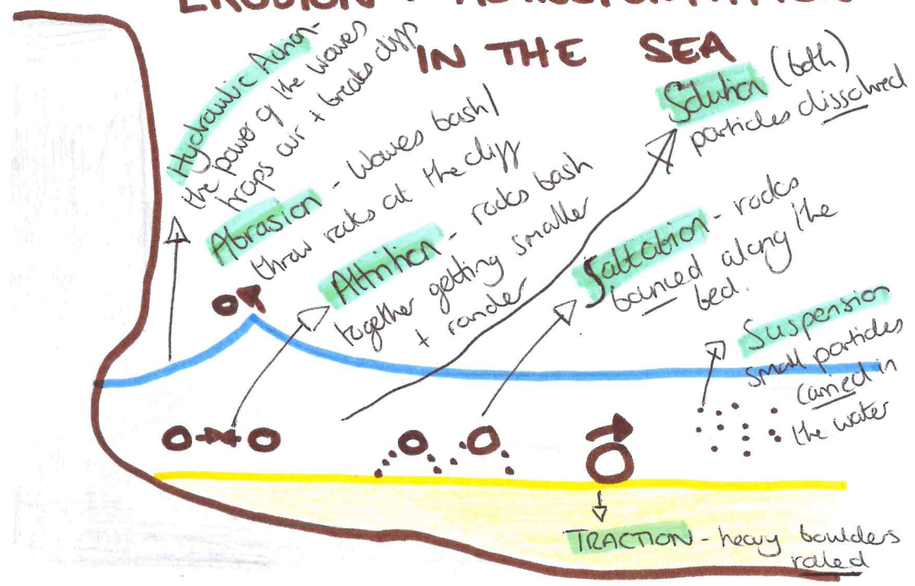
EROSIONAL LANDFORMS

CONCORDANT COASTLINE

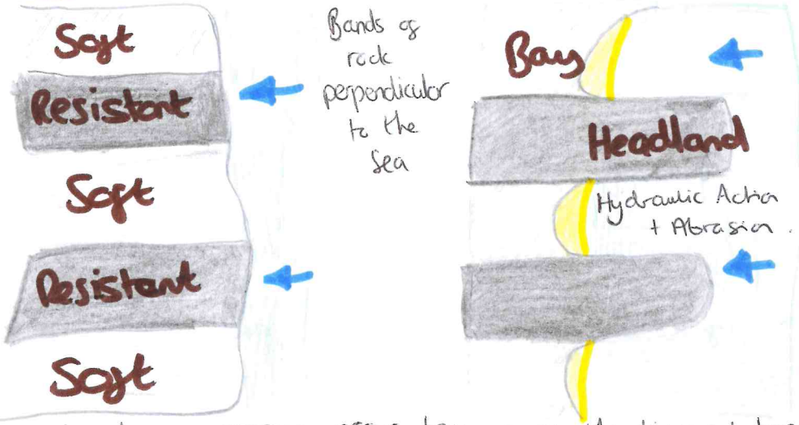


When bands of rock are parallel with the coast a cave can occur. This is where a river breaks through hard rock. The sea quickly erodes the softer rock behind. This leaves an oval shaped bay with a narrow entrance

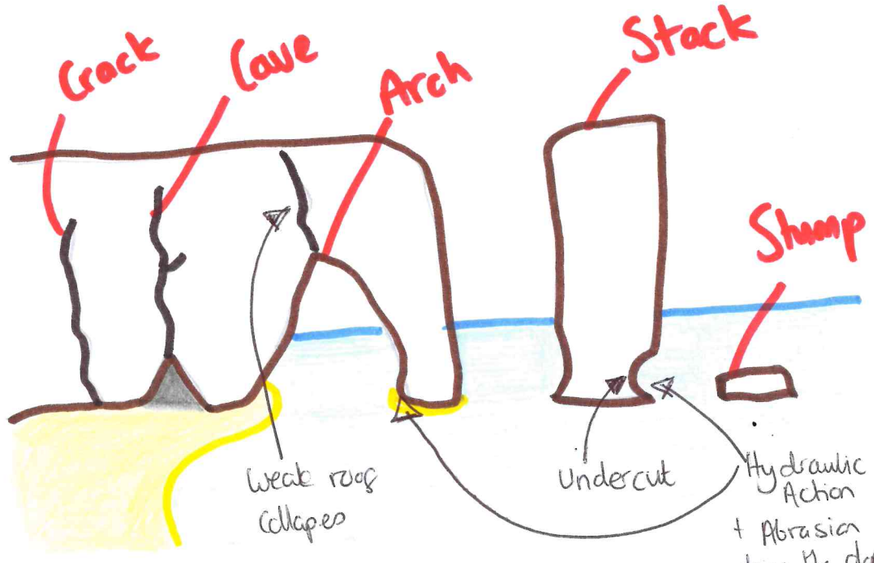
EROSION + TRANSPORTATION IN THE SEA



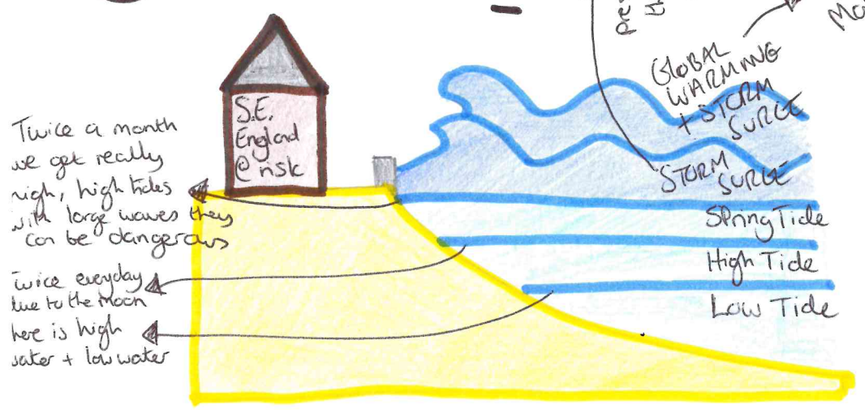
DISCORDANT COASTLINES



Different rates of erosion occur because of the different types of rock



COASTS PART 2

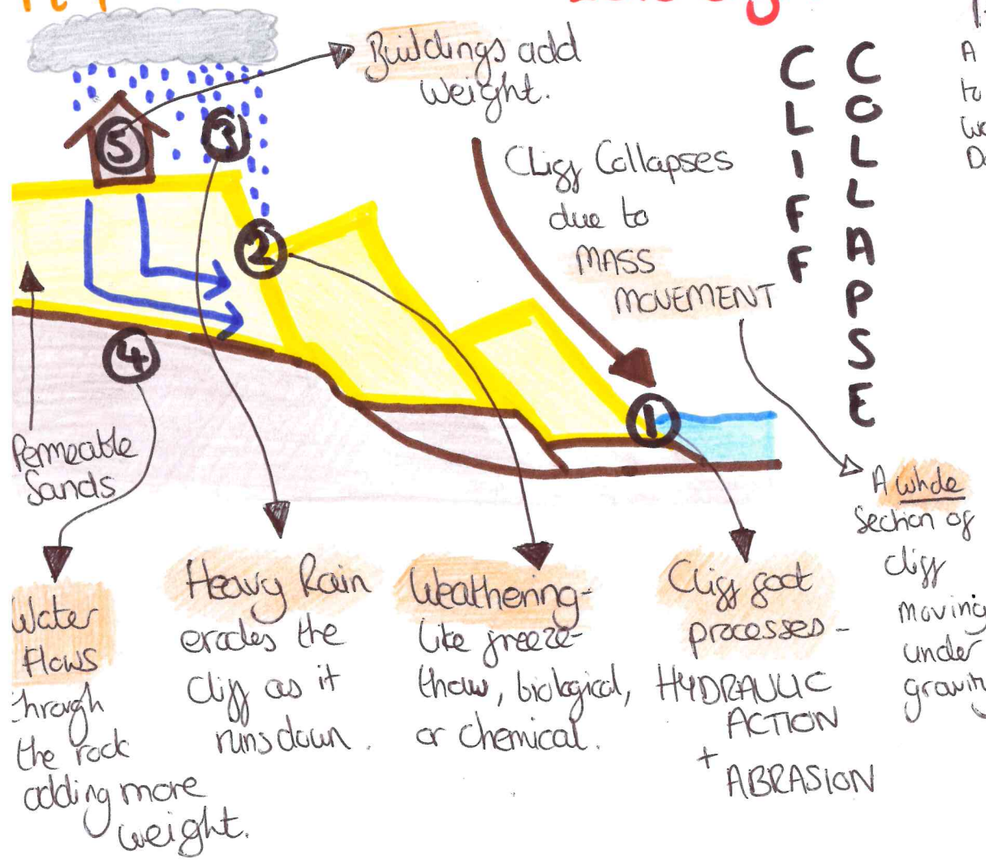


COASTAL FLOODING

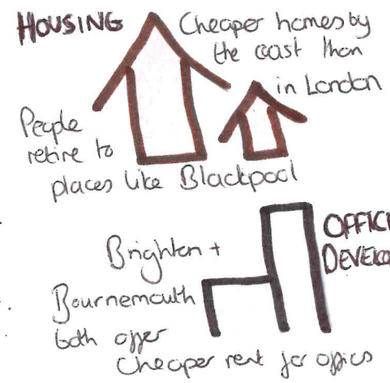
MCSTUDY INSIDE

- Two dead
- 1400 homes flooded
- Thousands Evacuated
- £100m Damage
- 7m high

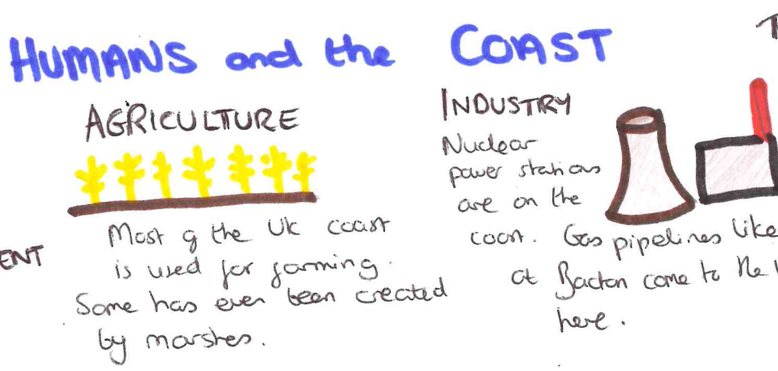
2013 SE England



CLIFF COLLAPSE



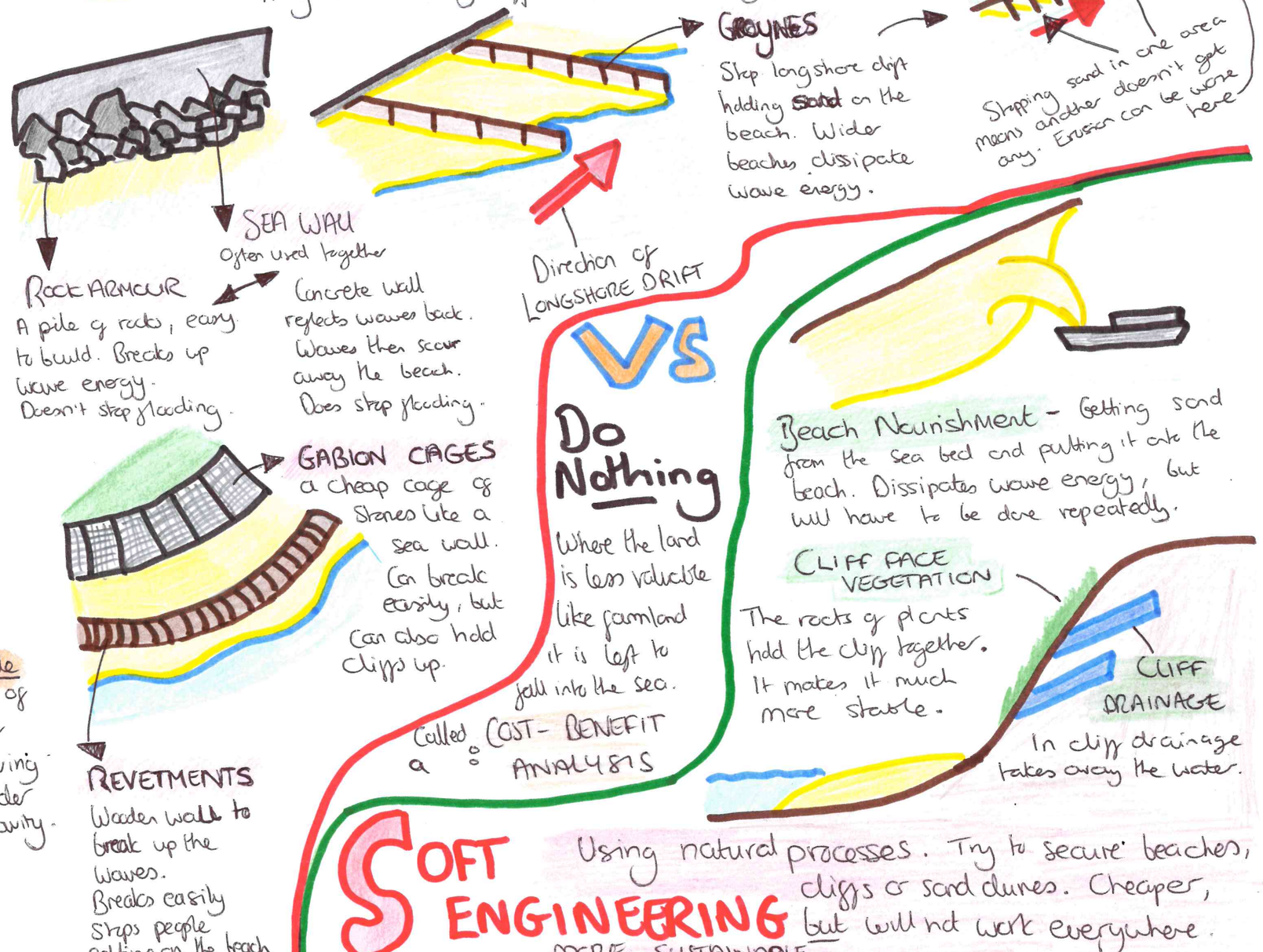
HUMANS and the COAST



HARD ENGINEERING

Using concrete, steel or wood. Often costly and ugly. Does not look natural.

They are usually effective at stopping erosion.



VS

Do Nothing

Where the land is less valuable like farmland it is left to fall into the sea.

Called a : COST - BENEFIT ANALYSIS

SOFT ENGINEERING

Using natural processes. Try to secure beaches, cliffs or sand dunes. Cheaper, but will not work everywhere.

MORE SUSTAINABLE

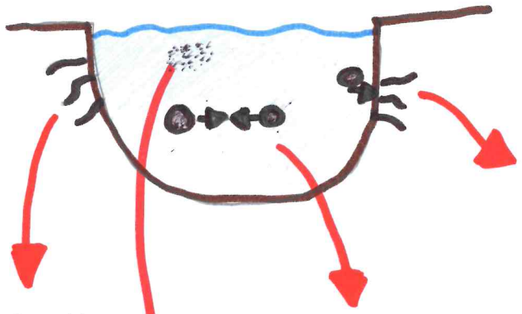
River Processes + Landforms

Things the river does.

Shapes the river has created

Like this!

Erosion Types



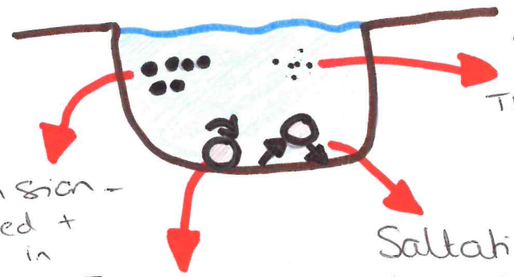
Hydraulic Action - water hits the banks trapping air in cracks, causing mini explosions

Solution - tiny particles dissolved by chemicals in the river.

Attrition - rocks bash together getting smaller and rounder.

Abrasion - rocks carried in the water bash the banks and bed causing them to erode

Transport Types



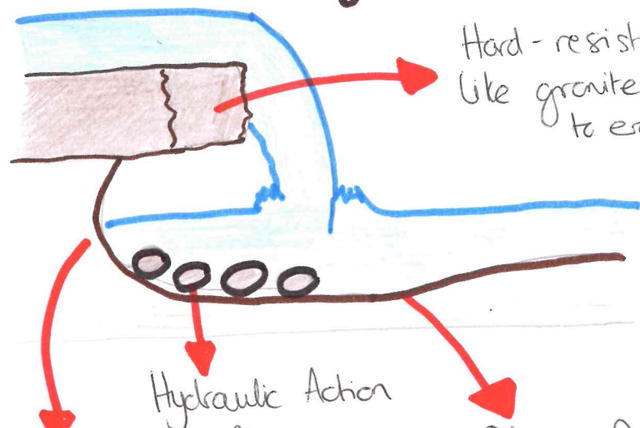
Solution - TINY particles dissolved + carried

Suspension - SMALL rocks carried + suspended in the river

Traction - LARGE rocks rolled by the river

Saltation - rocks bounced along the bed

Waterfalls (Upper Course)



Hard - resistant rock like granite, hard to erode

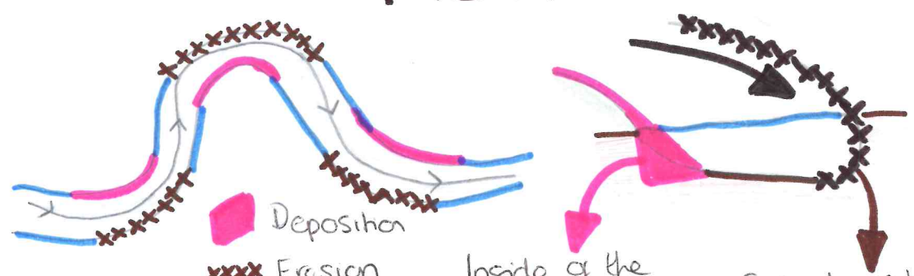
Moves backwards making a ~~gorge~~

Soft - less resistant rock being eroded

Hydraulic Action + Abrasion cause the damage

Plunge Pool

Meanders



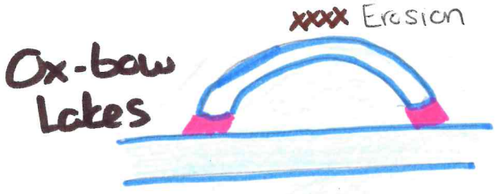
Deposition

Erosion

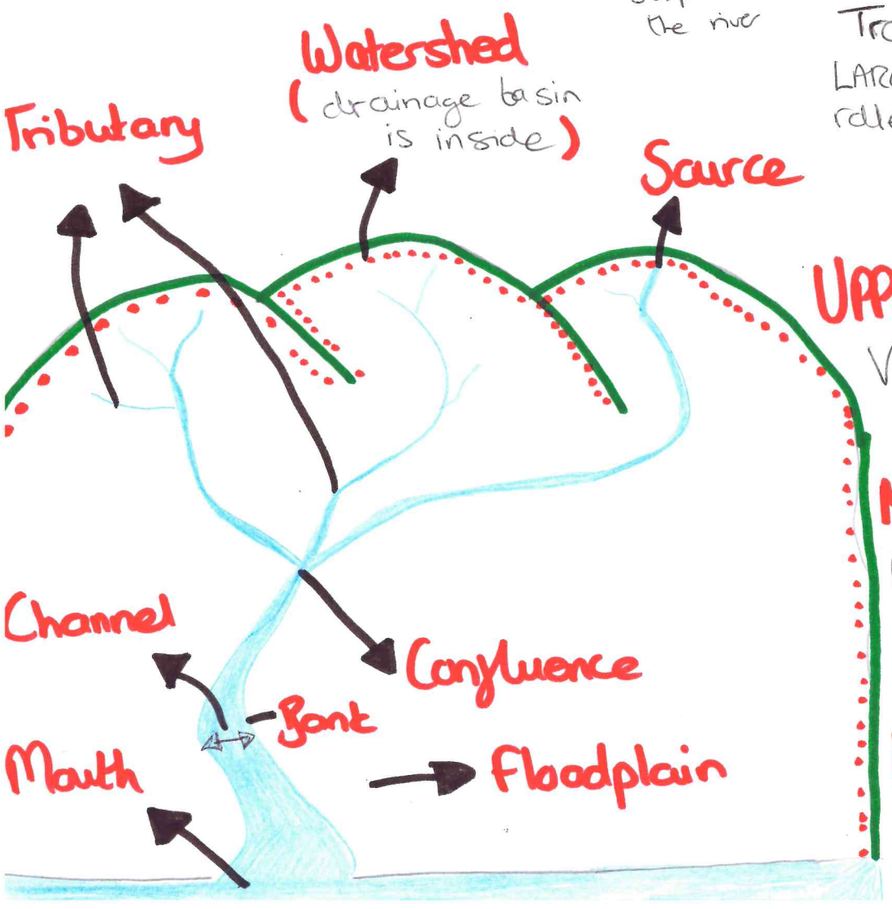
Inside of the bend is slow water so deposition occurs

Outside of the bend, fast water causing erosion.

Ox-bow Lakes



Watershed (drainage basin is inside)



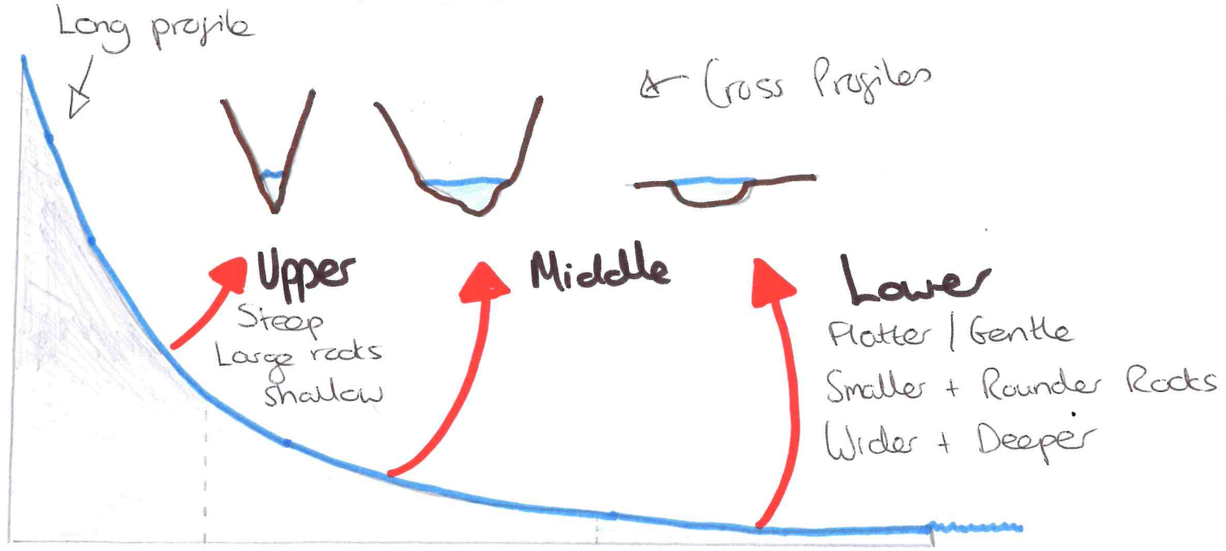
UPPER
V-Shaped Valley
Steep Gradient

MIDDLE
Meanders start to appear

LOWER
Flat land

by Mr Homer

Long profile & Cross Profiles



Flooding (Rivers Part 2)

Impermeable Surface No Infiltration

Surfaces like concrete + granite have no holes + don't allow water in

Surface Run-Off

is fast + causes flooding

Trees slow water down allowing it to infiltrate

Interception

Permeable Surface / Infiltration

Surfaces like soil have holes in and allow water in.

Throughflow

Is slow, so flooding is less likely

Other causes of flooding

Snow

Steep Slopes

Antecedent Conditions

The previous conditions. for instance if it has been raining for a long time the ground may become saturated and therefore not allow infiltration.

↓

Also the river discharge might be higher + therefore more likely to flood

HARD ENGINEERING or Do Nothing Vs SOFT ENGINEERING

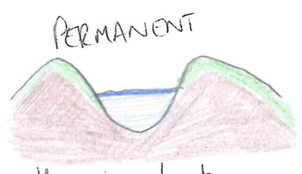
HARD – UNNATURAL – PERMANENT – EXPENSIVE – EYESORE – EFFECTIVE

SOFT – POTENTIALLY CHEAPER – NATURAL – SUSTAINABLE

Flood Walls

TEMPORARY

PERMANENT

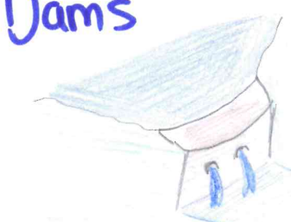


Makes the river bank higher so it can hold more water. BUT if it breaks will make flooding worse.

Flood Plain Zoning

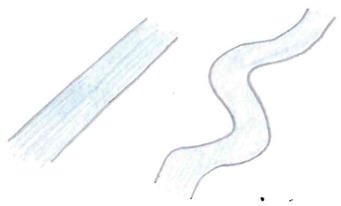
Planning of new buildings so important buildings are kept away from the river. Leaving playing fields + car parks to flood.

Dams



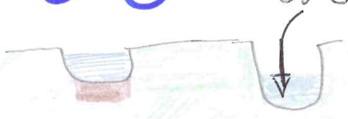
- Used to store water, especially during floods.
- Stops floods but also kills fish
- If too much water has to be drained.

Channel Restoration



Returning rivers back to their natural states. Slowing the flow of water down, potentially stopping floods downstream.

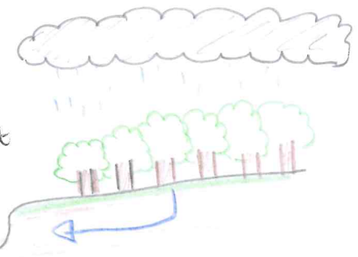
Dredging

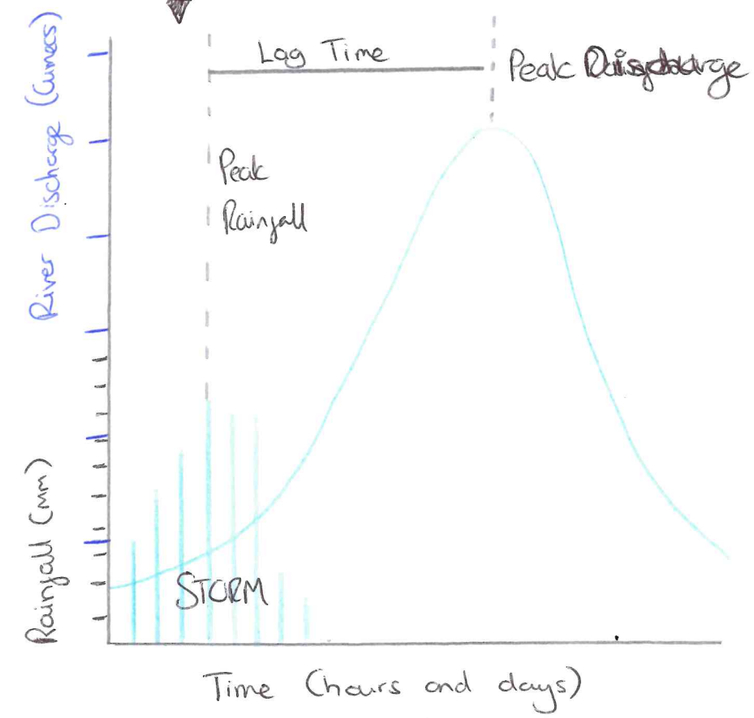


Digging silt + sediment out of the bottom of a river to make it deeper + hold more water.

Afforestation

Trees are planted in the drainage basin to intercept water. This allows it to infiltrate and reach the river slowly. Reducing floods.





Storm Hydrograph

UK's Human Landscape

Economy → Jobs, Jobs, Jobs.

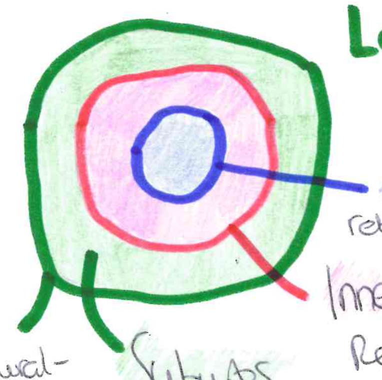
Deprivation → Unemployment
- High Crime
- Lower Life Expectancy
- More benefits
- Poorer Schools
- (+ 37 more)

Urban
High Population Density
Traffic
Better Services (Health + Education)
Tertiary, Secondary + Quaternary
Younger Population.

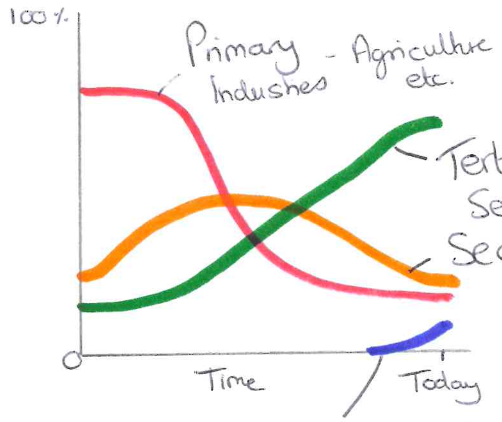
Rural
Low Population Density
Older Population
Agriculture (Primary)
No Infrastructure
Poorer services (Health etc.)

Environmental Quality - Air Quality
- Noise pollution
- Litter / Waste
- Quality of housing
- Green Space (Amount)

Land Use + Function



- CBD - commercial, retail + transport hub
- Inner City - Industrial, Residential (Low-Cost)
- Suburbs - Recreation, Residential (High-Cost), Retail Parks.
- Rural-Urban fringe.



Jobs in the city.

Infrastructure - the better this is the better the economy can grow.
Rail, Road, Broadband, Electricity, Gas + Water

Rural Diversification -
Primary Jobs → To a variety of jobs
Turning barns into accommodation
Using fields for renewable energy like wind turbines.
Farmers selling produce in farms shops

Enterprise Zones
Areas that have lost huge amounts of jobs such as South Wales + the North East are termed Enterprise Zones. Companies get tax breaks to locate here + grow the economy.

Immigration to the UK
The UK encourages immigration for economic reasons (Jobs) to boost the economy. Countries that used to be owned by Britain can get good access to Visas.

Even though we've left the EU a huge amount of people moved to UK from there with no restrictions.

Different Economies

Periphery
Areas like the NORTH EAST have experienced de-industrialisation. Coal mines shut, so steel factories shut. Less jobs destroyed the local economy.

Core
The SOUTH EAST is the economic core or hub of the UK. 4 major airports, Parliament, and Headquarters of major businesses grow the economy here.

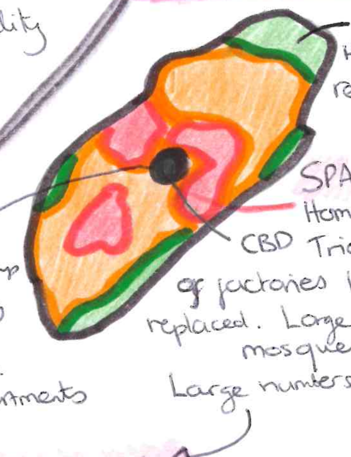
Migration
- High paying jobs
- Good entertainment e.g. Clubs
- Healthcare
- Good Transport

Pensioners + Wealthy - More land, bigger homes, recreation, working from home, cheaper

Birmingham - Our UK city.

4 major motorways, a central location and railways links all over the UK make Birmingham VERY ACCESSIBLE. A major INTERNATIONAL airport also helps.

UK + World Connections
- Edgbaston International Cricket Stadium attracting fans from India, Pakistan + Sri Lanka.
- University of Birmingham World wide reputation for medicine.
- 5 MICHELLIN Starred Restaurants - world renowned.



- SUTTON COLDFIELD - High-end housing, commuters, retail parks. Mainly white. Suburb
- SPARKBROOK - Home to the Balti
- CBD - Tall buildings, High density, Commercial, New high end flats + apartments
- CBD Triangle. Lots of factories have been replaced. Large numbers of mosques. Large numbers of migrants
- Inner City

GENTRIFICATION
After de-industrialisation many factories and inner city areas have been improved. Wealthier people have moved in. e.g. CUSTARD FACTORY

Migration + B'ham
Handsworth = Jamaican + West Indies
Sparkbrook = Indian, Pakistani + Bangladeshi
Migrants Group Together - Places of worship, Music, Language, Clothing, Food
Changes to B'ham → Age ↓ Ethnic Diversity ↑ More services needed, Deprivation ↑ Population ↑

Problems in Birmingham

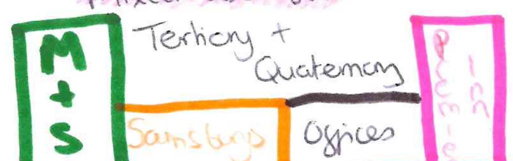
Decentralisation
Birmingham - Shops opening on the rural-urban fringe or beyond. Takes business away from CBD, so jobs are lost.
Shopping Centres like Merry Hill.

Transport
The 'Inner Ring-Road' was built around the CBD. To make it they destroyed homes + businesses that were never replaced. It made Inner City areas more deprived.

Slum Clearance
60s + 70s many terraced homes were replaced by flats. This destroyed communities + isolated elderly people with broken lifts.

Re-Branding + Re-Generation

LONGBRIDGE
Was 25,000 worker Rover factory (2005)
Now - 10,000 jobs £1 billion
15,000 Students @ Bournville College
Mixed use site
Tertiary + Quaternary

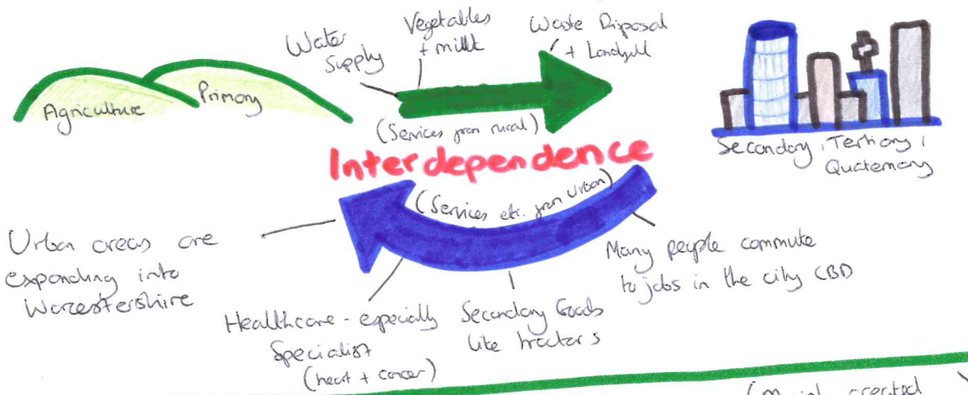


SELLY OAK
Improved + Re-built
- New QE Hospital
- New U of B Campus
- 18 Shop retail park.
- New bypass to reduce traffic

UK's Human Landscape 2

Worcestershire

A rural area interdependent with Birmingham



Problems in Worcestershire (Mainly created by Birmingham)

Transport

82% of people in Worcestershire have cars.

Bus services have been cancelled so there are not enough customers. This leaves the following groups vulnerable.
- Elderly - Jobseekers
- Young - Disabled.

As people retire they want more space and quiet. They can afford expensive rural homes.

£££↑

Birmingham CBD is only 30 minutes from Worcestershire Commuters move here and drive up house prices

Homes

Doctors

90,000 appointments lost through a lack of doctors. Junior doctors are attracted to cities and so rural areas suffer.

Infrastructure

Weak Mobile Signal + Poor quality broadband.

This means businesses struggle with unreliable connections. It will also affect education and working from home

Rural Diversification in Worcestershire

From PRIMARY JOBS (Agriculture + Mining)

Converting farms and other buildings into accommodation

(Although this only provides seasonal incomes)

Providing leisure Activities in the Lickey Hills country park to make more income

Turning fields into wind or solar farms to create renewable electricity.

Farm shops sell local produce directly to the customer.

SUSTAINABLE? Birmingham?

Recycling = 20.1%

In Birmingham, one council has 64.8%. (342/345)

15th

Birmingham is ranked 15th on a list of LEAST car dependent cities. An extension of the Birmingham to Wolverhampton Tram will improve this.

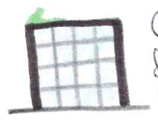
Options

More bike lanes.

More renewable energy like solar panels.

More locally grown food or allotments

Energy Efficient Homes



Greener spaces planned for Birmingham Canal. Garden rooms + excellent public transport links.

SPaG Marks

1. You've written something that makes sense
2. You've used the odd keyword + good English
3. Your English and Grammar is good and you've used keywords.
4. No spelling mistakes, packed with keywords and excellent explanations.

The "Analyse" 8 Mark Question

"Analyse the information in figure 7 which shows..."

Maps / Data / Tables / Graphs / Charts

key
Most X
Least X

1. Read the key + the title carefully

2. Look for 3 patterns H.L.P.A.

The higher areas → Can you name cities or directions?

The lower areas → Can you name regions or areas?

Patterns → Is there an overall pattern i.e North to South?

Anomalies → Is there something in a strange place?

(Be careful, this map for instance, doesn't include Scotland.)

3. Keep the structure.

Idea 1

Idea 2

Idea 3

Conclusion - In conclusion the biggest reason for the variation is ...

4. Use the language

Use the words from the question at least 4 times in your answer.

Enquiry Question (1)

What we are looking for.

How do drainage basin and river features at Carding Mill Valley influence flood risk for people in the local area?

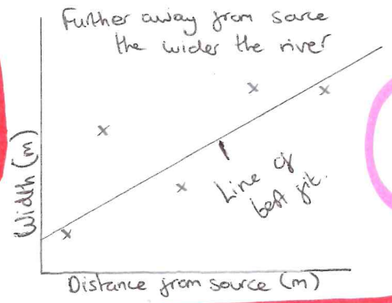
- drainage basin → area around the river
- Carding Mill Valley → Small, accessible river, safe + easy to access. Close to Blue Coat so easy to go back to.
- people → Church Stretton and their homes + businesses

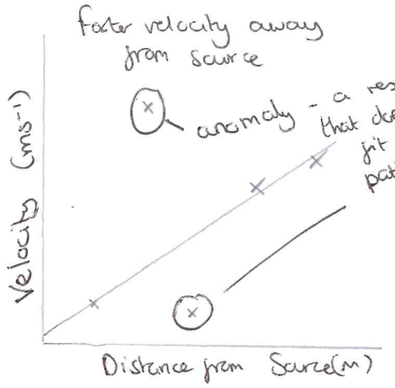
River Fieldwork

CARDING MILL VALLEY ← our river

(Remember you have your own results)

Results (3)





- Wider river, deeper
- Velocity increased
- Discharge increased

Your ANALYSIS is what these two things have told you about the enquiry question.

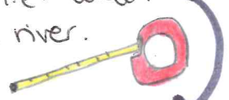
Conclusion (4)

- The "flood risk map" tells us there is a high risk of flood especially at the bottom of the valley in Church Stretton.
- Combined with OS map which tells us that there are steep sided hills with no vegetation both of which increase surface run-off. Also lots of tributaries which could lead to flooding.
- Our river is getting wider, deeper and faster which would also contribute to flooding. This is an area at high risk of flooding.

Data Collection (2)

PRIMARY

Data we have personally collected, i.e. width of the river.



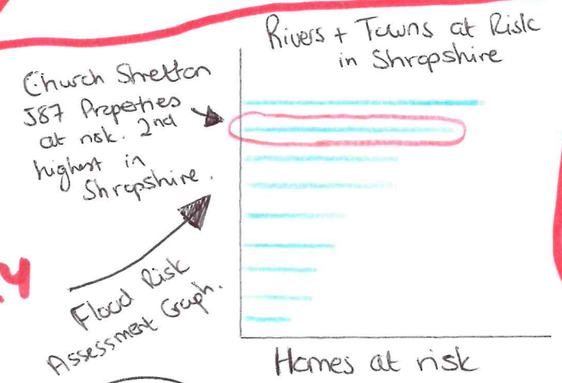
SECONDARY

Data produced by somebodyelse e.g. internet or textbook

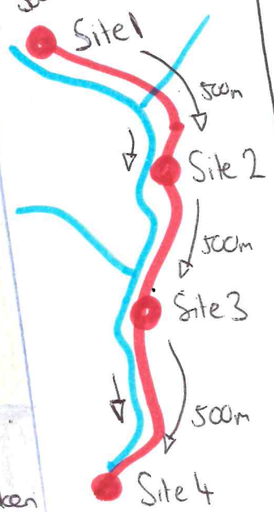
Methods

We carried out all our methods 3 times at each site Systematic Sampling

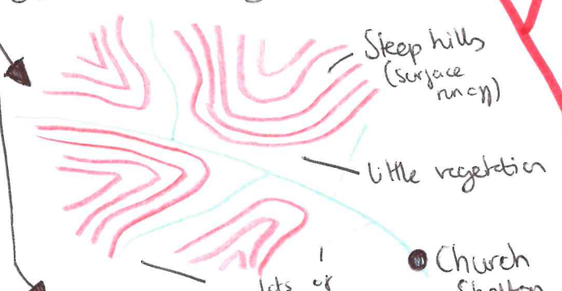
River Width + Depth	Used a tape measure for width. A ruler for depth. A chain for wetted perimeter. To help us work out the discharge.
Discharge + Velocity	Timed a cork over 2m. Divide the time by 2 = metres/second of the velocity of the river.
Sediment Size + Shape	Used power's Index of angularity. 1 Angular 5 smooth + round. Shows us whether erosion has taken place



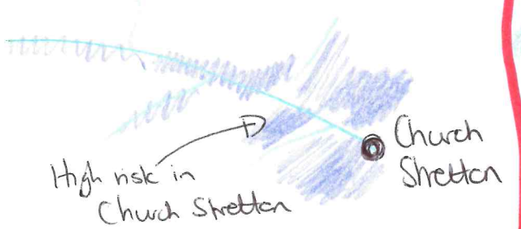
Our SAMPLING



OS MAP of Carding Mill Valley



Flood Risk Map - Gov.uk



Evaluation (5)

What did we get wrong? How could we improve?

Measuring Velocity

unreliable cork!

The cork hit rocks or didn't move continuously forward which would make our results unreliable. We could have used flow meter which would have been more accurate. It would have meant we could have taken more readings in different places.

Width + Depth Measurements

Rocks or other obstacles were getting the way or changing the depth + width.

By measuring it multiple times in different locations and getting an average we will get much more reliable results.

Antecedent Conditions

Rivers change according to the previous conditions so the weather in the days before would affect the river.

Visit on different days in different seasons and use an average.

Leicester

Hypothesis: Different areas in the urban area of LEICESTER will have varied quality of life.

keyword → DEPRIVATION

INCOME, CRIME, EMPLOYMENT, HEALTH, EDUCATION, HOUSING, ENVIRONMENT

PRIMARY — DATA — SECONDARY

PRIMARY

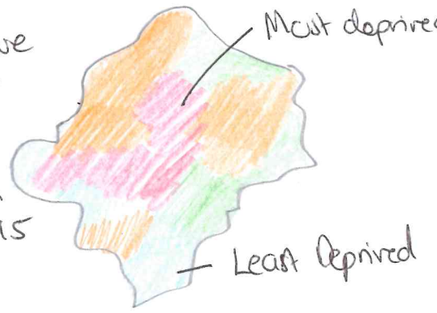
Data we have collected personally ie. Traffic Count or Environmental Quality Survey.

DATA

Data we have taken from another source.

ie. Deprivation Map 2015

SECONDARY



Our Methods

Highcross Shopping Centre / Highfields / Victoria Park — TRANSECT through Leicester

Environmental Quality Survey — We looked at the environment and scored them from 0 (lowest) to 5 (highest) The higher the score the better the environment. Categories include buildings, graffiti + greenspace

Traffic Count — we stopped + counted traffic for 2 minutes 3 times in each location. We took an average. The more traffic = the more noise + air pollution.

Crime Risk Assessment — In each area we used a crime risk assessment we scored from 0→5 This time 5 meant the highest risk of crime. The higher the risk of crime the worse the quality of life is likely to be.

SECONDARY METHODS

Google Image Search helped us find images of the 3 areas. This helped us look at the wider area.

Deprivation Map 2015

① Victoria Park was the least deprived according to the map.
② Highfields was the most
③ Highcross was in the middle.

Our Results

	EQ Score	Crime	Traffic
Victoria Park	59-71	25	51
Highfields	30-51	35	18
Highcross	29-55	10	70

Different people got different results

★Conclusions★

In this section you need to answer the question.

"Do different areas in Leicester have a different quality of life?"

You need to use our results + the secondary data as well.

Evaluation

What went wrong? How could we make it more reliable?

Examples include:

Time of day
- We only visited each area once. Lots of factors could influence differences like traffic.
- We could go at different times on different days

Subjective Opinion
- We calculated some scores using opinions. They could differ.
- Get multiple opinions and take their average.

Only 3 areas
- We only saw a small part of Leicester not the whole picture
- Visit a variety of other areas.

Geology and Landscapes

What is Geology the study of?

What are **igneous** rocks? Name an example as well.

What are **sedimentary** rocks? Name an example as well.

What are **metamorphic** rocks? Name an example as well.

How has **glaciation** changed UK landscapes?

How has **tectonic uplift** changed UK landscapes?

Distribution of physical features and their causes

What does the word **distribution** in the title of this section mean?

Name and locate 3 specific upland areas in the UK.

Name and locate 2 specific lowland areas in the UK.

Describe the **distribution** of igneous and metamorphic rocks in the UK (name at least 3 specific locations).

Describe the **distribution** of sedimentary rocks in the UK. (name at least 3 specific locations).

Draw and explain the process of **relief rainfall**.
Describe the distribution of **rainfall** across the UK.

Glacial Features and Landforms

Name and describe 4 landforms (shapes) created by glacial **erosion** in the UK.

Locate 3 areas with **erosional** glacial features in the UK.

Name and describe the sedimentary rock created by glacial **deposition**.

Locate 1 area with **depositional** glacial features in the UK.

Explain how **physical weathering** occurs.

Describe 2 other slope processes or mass movement.

Landscape Uses (Agriculture in the UK)

Describe 3 different types of **agriculture** in the UK.

Link locations and their **geology** to each of the 3 different types of **agriculture** in the UK.

Link locations and their **altitude** to each of the 3 different types of **agriculture** in the UK.

Link locations and their **rainfall** to each of the 3 different types of **agriculture** in the UK.

UK Physical- Landscapes-
Level 1

Geology and Landscapes

What is Geology the study of?

Describe the properties of and name an **igneous** rock.
Describe the properties of and name a **sedimentary** rock.
Describe the properties of and name a **metamorphic** rock.

Explain how **glaciation** has changed UK landscapes.

Explain how **tectonic uplift** has changed UK landscapes.

Distribution of physical features and their causes

What does the word **distribution** in the title of this section mean?

Name and locate 3 specific upland areas in the UK.

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Draw and explain the process of **relief rainfall**.
Explain how the distribution of **rainfall** across the UK affects the landscape.

Glacial Features and Landforms

Name and explain how 4 landforms (shapes) were created by glacial **erosion** in the UK.

Locate 3 areas with **erosional** glacial features in the UK.

Name and explain the sedimentary rock created by glacial **deposition** changes the UK landscape.

Locate 1 area with **depositional** glacial features in the UK.

Explain how **physical weathering** occurs.

Explain 2 other slope processes or mass movement.

Landscape Uses (Agriculture in the UK)

Explain how 3 different types of **agriculture** work in the UK.

Link locations and their **geology** to each of the 3 different types of **agriculture** in the UK.

Link locations and their **altitude** to each of the 3 different types of **agriculture** in the UK.

Link locations and their **rainfall** to each of the 3 different types of **agriculture** in the UK.

UK Physical- Landscapes-
Level 2

River Features

Draw a LONG PROFILE of a river (Include Upper, Middle and Lower Course). Next to each section draw a CROSS PROFILE.

Describe what happens to the following as you move downstream-
Width
Depth
Velocity
Sediment Size
Sediment Load

Name and **describe** four types of erosion which take place in rivers.

Name and **describe** four types of transportation within rivers.

What is the reason that the river will deposit its load?

River Landforms

Where would you most likely find a waterfall?

Name four keywords associated with waterfalls. Draw a labelled diagram to show what they are.

Draw a meander. Show where erosion takes place and where deposition takes place.

What is an ox-bow lake?

What is a flood plain?

What is a (natural) levee?

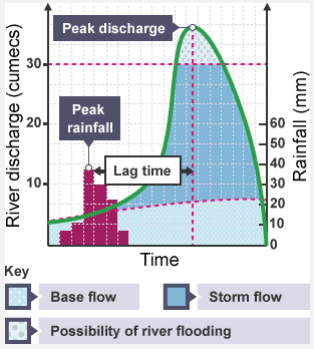
Where would you find the mouth of a river?

Flooding Causes

Name some human causes of flooding.
Name some natural causes of flooding.

What do the following words mean; impermeable, permeable, surface runoff, infiltration and interception?

What does
this storm hydrograph show?



River Management

What is the difference between hard and soft engineering?

Name and describe two examples of hard engineering

What are the advantages of hard engineering and where would it be used?

Name and describe two examples of soft engineering

What are the advantages of soft engineering and why is it more sustainable?

UK Physical- Rivers- Level 1

River Features

Draw a LONG PROFILE of a river (Include Upper, Middle and Lower Course). Next to each section draw a CROSS PROFILE. Explain what you would find at each stage of a river including Landforms.

Describe each keywords means and what happens to them as you move downstream-
Width, Depth, Velocity, Discharge, Sediment Size and Sediment Load

Name, draw and **EXPLAIN** four types of erosion which take place in rivers.

Name, draw and **EXPLAIN** four types of transportation which take place in rivers.

Where would deposition mainly take place on a river's long profile?

River Landforms

Where would you most likely find a waterfall? Explain why

Draw a labelled diagram to show how waterfalls are formed. Explain underneath which types of erosions would take place.

Draw a meander. Explain how they are formed.

What is an ox-bow lake?

How does a flood plain form?

How does a levee form?

What is a depositional landform? What is an erosional landform?

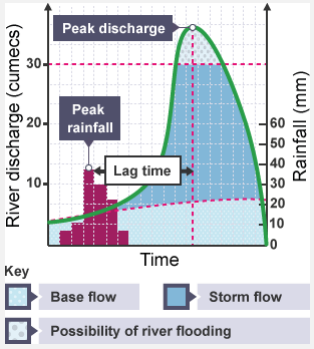
Flooding Causes

Explain three human causes of flooding.
Explain three natural causes of flooding.

What do the following words mean; impermeable, permeable, surface runoff, infiltration and interception? How do they Link together?

What does this storm hydrograph show?

What does each keyword mean?



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What are the advantages of hard engineering and where would it be used?

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What are the advantages of soft engineering and why is it more sustainable?

UK Physical- Rivers- Level 2

Weathering and erosion at the coast

What is weathering?

What is **physical (freeze thaw)** weathering and how does it break down rocks?

What is mass movement?
Name and describe an example of mass movement.

Name and describe the 4 types of erosion found at the coast.

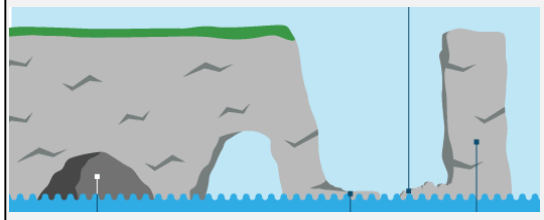
Name and describe the 2 types of wave at the coast.
What is the difference between the 2 types of waves

Coastal Erosion (and Landforms)

What is a **discordant** coastline? What erosional landform does it form?

What is a **concordant** coastline?

Look at the image below- Name the five stages of this process. Which two kinds of erosion have made this landform?



Transportation and Deposition

Name and describe four examples of transportation

Name, draw and describe the process that moves material along a beach.

Name, draw and describe a depositional landform.

Coastal Management

What is the difference between hard and soft engineering?

Name and describe two examples of hard engineering

What are the advantages of hard engineering and where would it be used?

Name and describe two examples of soft engineering

What are the advantages of soft engineering and why is it more sustainable?

UK Physical- Geology and Coastal Challenges- Level 1

Weathering and erosion at the coast

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Name and describe an example of mass movement.

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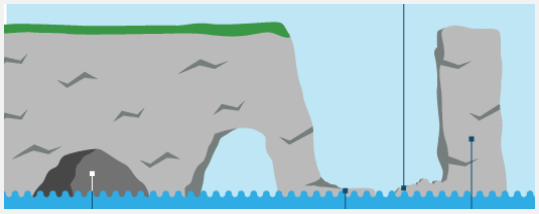
Coastal Erosion (and Landforms)

What is a **discordant** coastline? What erosional landform does it form?

What is a **concordant** coastline?

Look at the image below- Name the five stages of this process. Which two kinds of erosion have made this landform?



Transportation and Deposition

Name and describe four examples of transportation

Name, draw and describe the process that moves material along a beach.

Name, draw and describe a depositional landform.

Coastal Management

What is the difference between hard and soft engineering?

Name and describe two examples of hard engineering

What are the advantages of hard engineering and where would it be used?

Name and describe two examples of soft engineering

What are the advantages of soft engineering and why is it more sustainable?

UK Physical- Geology and Coastal Challenges- Level 2

Urban and Rural Keywords

What is the economy in a geographical sense?

Explain the differences between urban and rural areas.
Explain why population density is high in urban areas.
Name 5 characteristics of the word deprivation.
Describe 3 things you would use to measure environmental quality.
Name the 3 parts of a UK city. Describe the function of each.

Name and describe the four sectors of jobs.
Explain what immigration policy is and give two examples.

What does the term infrastructure mean? Why is it so important for the UK economy?

Explain what is meant by rural diversification.
Describe why agriculture is important to rural areas.

What is an enterprise zone? Why are they important to the economy?

The UK's Human Landscape

Describe two reasons why people migrate WITHIN the UK.

Name two regions in the UK with differing economies. Explain 2 reasons for each as to why they perform very differently

Birmingham- Our UK City.

Describe three ways in which Birmingham is well connected to the rest of the UK.
Explain two ways in which Birmingham is well-known to the rest of the world.

Name three locations in Birmingham that are different parts of the city.
Explain why each can be considered very different from each other.

Explain 3 problems Birmingham has faced over the past 3 decades.
Explain two ways in which Birmingham has tried to regenerate areas or rebrand them.

Explain **two** ways to make Birmingham more sustainable.
Explain how effective two attempts to make Birmingham sustainable have been.

Changes in a rural area- Worcestershire

Worcestershire and Birmingham are very closely linked to each other. Describe 4 changes that Worcestershire has experienced because of its close links with Birmingham.

Explain 2 major challenges that rural areas like Worcestershire face.

Explain what the term rural diversification means.

Explain 3 ways in which Worcestershire could diversify its economy.

UK Human- Urban and Rural
Level 2

Urban and Rural Keywords

What does the term economy mean?

What is an urban area?
What is a rural area?
What is population density.
What does the term deprivation mean. Name 3 things people who are deprived would experience.

Name 3 things you would use to measure environmental quality.
Name the 3 parts of a UK city. Describe the function of each (what they do).
What are primary, secondary, tertiary and quaternary jobs?
Describe what immigration policy is and give one examples.

What does the term infrastructure mean?
Explain what is meant by rural diversification.
Describe why agriculture is important to rural areas.

What is an enterprise zone?

The UK's Human Landscape

Describe two reasons why people migrate WITHIN the UK.

Name 2 reasons the North East's economy has problems.
Name 2 reasons the South East's economy is growing.

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UK Human- Urban and Rural
Level 1

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UK Human- Urban and Rural
Level 1

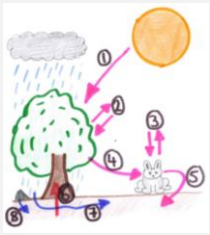
People and the Biosphere

Name and describe 3 of the **biomes** in this image.

What is a **biome**?
Describe how low pressure creates the climate in the **rainforest**?
Describe how high pressure creates the climate in the **desert**?
How does **latitude** affect climate?
How does **altitude** affect climate?

Describe 3 **local** factors that could affect plant growth. (Think about how plants grow)
Define: Biodiversity, Biotic and Abiotic

Describe three different parts of the nutrient cycle from this image.



What are provisional services?
What are supporting services?
What are regulating services?
What are cultural services?

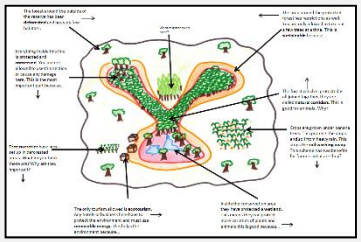
Explain what the **Boserupian theory** about resources suggests for the future. (Optimist)

Explain what the **Malthus theory** about resources suggests for the future. (Pessimist)

Forests under threat

Locate the Tropical Rainforest and describe the climate.
Describe two adaptations of organisms in the tropical rainforest.
Name the 4 layers of the rainforest.

Give 3 threats specific to the tropical rainforest.



Describe 3 ways in which rainforests can be used in a more sustainable way.

Locate the Taiga and describe the climate.
Describe two adaptations of organisms in the Taiga.
Give 3 threats specific to the Taiga.

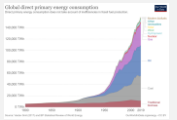
Describe 3 ways in which Taiga Forests can be used in a more sustainable way.

Energy Futures

What are non-renewable energy resources? Give an example.

What are renewable energy resource? Give an example.

What are recyclable energy resources? Give an example.



Describe the changes in global energy demand.

Explain 2 issues with extracting (getting) and using oil as a source of energy.

Define the following keywords:
Direct Carbon Footprint, Indirect Carbon Footprint, Energy Efficiency (Grants and Loans), Energy Security and Diversifying the Energy Mix.

Describe 2 ways Energy Efficiency can be improved in the home.

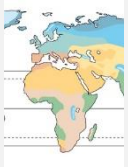
What is a stakeholder?
Name 3 stakeholders in Energy Futures.

Describe both sides of the argument between 'Business as usual' and a 'more sustainable future.'

Paper 3 Topics- Level 1

People and the Biosphere

Name and describe 3 of the **biomes** in this image.



What is a **biome**?
What kind of climate do we find in a **rainforest**? Why?
What kind of climate do we find in a **desert**? Why?
How does **latitude** affect climate?
How does **altitude** affect climate?

Describe 3 **local** factors that could affect plant growth.
Explain what **biodiversity** means.
What is the difference between abiotic and biotic? Give examples.

Describe the different parts of the nutrient cycle from this image.

Explain what the following types of services are within an ecosystem: provisional, supporting, regulating and cultural.

Explain what the **Boserupian theory** about resources suggests for the future.

Explain what the **Malthus theory** about resources suggests for the future.

Forests under threat

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Name the 4 layers of the rainforest and describe each one.

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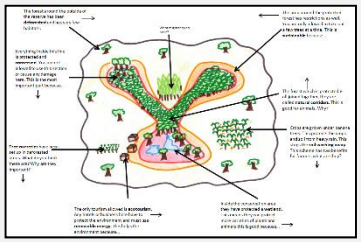

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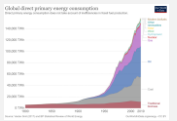
Energy Futures

Explain what non-renewable energy resources are. Give some examples.

Explain what renewable energy resources are. Give some examples.

Explain what recyclable energy resources are. Give some examples.



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Explain 3 ways Energy Efficiency can be improved.

What is a stakeholder?
Name 3 stakeholders in Energy Futures.

Explain both sides of the argument between 'Business as usual' and a 'more sustainable future.'

Paper 3 Topics- Level 2

Paper 3 Keywords

People and the biosphere

Biome
Tropical Rainforest
Desert
High Pressure
Low Pressure
Latitude
Altitude
Local Factors (Plants)
Biodiversity
Biotic
Abiotic
Nutrient Cycle
Photosynthesis
Respiration
Decomposition
Energy Flow (Food chain)
Provisional Service
Supporting Service
Regulating Service
Cultural Service
Boserup
Malthus

Forests under threat

Taiga Biome
Tropical Rainforest Biome
Emergent Layer
Canopy Layer
Under-Canopy Layer
Shrub Layer
Deforestation
HEP Dams
Fossil Fuel Extraction
Forest Fires
Conservation
Exclusion Zone
Wilderness Area
Buffer Zone
Education and Training
Sustainability

Energy Futures

Non-renewable
Fossil Fuels
Renewable
Recyclable Energy
Energy Demand
Extraction
Direct Carbon Footprint
Indirect Carbon Footprint
Carbon Neutral
Energy Efficiency
(Energy Efficiency) Loans
(Energy Efficiency) Grants
Energy Security
Diverse Energy Mix
Stakeholder
Sustainable Energy

People and the Biosphere

Biomes

Large ecosystem controlled by climate i.e.

DESERT — RAINFOREST

High Biodiversity

Lots of different species of plants and animals

Tundra, Taiga, Temperate, Alpine, Desert, Rainforest, Savanna

Latitude

How far north or south you are from the equator. Changes the climate

Equator

Altitude

The higher you get the colder it is. This changes the climate and makes it colder

Abiotic

All the non-living parts
Sun, soil + water

Biotic

Plants, animals, insects
All the living parts

Ecosystem

made up of

Services in a biome

Provisional

Things we physically get like food + timber

Resource
Something we can use.

Support

Things ecosystems do that help us. like photosynthesis to create oxygen

or

Nutrient Cycle

Plants use nutrients in the soil. Animals eat plants. Both die. They decompose + the nutrients return to the soil to be used again

Creates healthy soils

Cultural

Things we can use the biomes for like Tourism.

Climate Graphs

Measure the average rainfall and temperature in a location for each month.

Rainfall (mm) — Temperature (°C) — Months

BOSERUP — we will find a way with technology to increase the food supply

MALTHUS — too many people will mean we run out of food + have famine + war.

Food Supply — Population — Time

Under Threat → Forests

EMERGENT LAYER

CANOPY LAYER — main tree cover

Epiphyte grows on trees to be near sunlight

UNDER STOREY

FOREST FLOOR

Buttress Roots support 40-50m trees.

Drip tip leaf to get water off the leaf so it doesn't break

TROPICAL RAINFOREST

CLIMATE — HOT, WET

so

BIODIVERSITY HOTSPOT

Lots of species both plants + animals

Threats

Cattle Ranches account for 2/3 of deforestation

Logging companies often cut down 25+ trees to get to one hardwood tree.

Hydroelectric Power
In the Amazon large Chunks of forests are flooded to make HEP dams

MEANS

Being Sustainable

Tree Nurseries

Areas completely protected. No development, maintaining biodiversity

Only Ecotourism which uses huts and not permanent buildings

Areas for farming, but within the trees (Agroforestry) to keep the soil intact.

Wildlife corridors to allow animals to migrate.

Taiga Forests

Fir trees - triangular so snow falls off in the Long winter months

Cold, frozen winters

Warm Summers with some rain

CANADA, USA + RUSSIA

Needles rather than leaves. Evergreen all year round.

moose — Thick fur — layers of fat — two toed to grip in snow

Threats

Timber + Logging

Mining - water + soil pollution.

Paper - trees cut down for paper

Wildfires

Being Sustainable (In Canada)

On the edge of the Taiga people are allowed to use the land for farming + building

Around the core there are restrictions to reduce threats.

The core is left as wilderness to protect biodiversity

Consuming Energy Resources

Renewable

Wind — Solar

Sources of energy that won't run out. There can be issues with how reliable it is (Also HEP)

Non-Renewable

Burning fossil fuels releases CO_2 + they will eventually run out.

COAL

Oil

Natural Gas

Recyclable

Using waste to make gas like Biogas in India! Excellent in developing countries

IMPACTS

Deforestation

Trees cut down to make room for dams + reservoirs. Loss of BIODIVERSITY

Oil Spills

In 2010 BP's Deepwater horizon exploded. Oil leaked for 87 days 3.2 million barrels lost. Loss of marine life including dolphins + turtles.

Coal Mining + Landscape Scarring

Opencast coal mines get coal out of the ground. Large mines leak toxins into water + destroy habitats.

Black Gold (Oil)

Global demand for oil is rising. as is the price.

Fracking + Shale Gas

3000m — Shale rock

Drills dig into the earth to release water + chemicals into shale rock. This releases SHALE GAS

Coal + Gas (Fossil Fuels)

Tar Sands

A mixture of sand, clay and Bitumen. Bitumen is a sticky form of petrol. Destroys habitats.

ALTERNATIVES + REDUCING USE

- Solar Panels
- Hybrid cars + buses
- Insulation in homes
- Double glazing

BIOFUELS — growing crops to use as fuels

SUSTAINABLE v BUSINESS AS USUAL

Reducing CO_2 + Energy use + impacts on the environment

Continue as we are growing the world economy