WEATHER & CLIMATE

WEATHER: The hour-to-hour, day-to-day conditions of the atmosphere, eg humidity, wind speed, wind direction, temperature

CLIMATE: The average weather conditions for an area over a long period of time

CLIMATE OF THE BRITISH ISLES

NW
- Mild summers due to latitude
- Mild winters due to ocean currents
- Wet due to relief and prevailing wind

NE
- Mild summers due to latitude
- Very cold winters due to latitude
- Dry - as in rainshadow

SW
- Warm summers due to latitude
- Mild winters due to ocean currents
- Wet due to relief and prevailing wind

SE
- Warm summers due to latitude
- Cold winters as not close to Gulf Stream
- Dry - as in rainshadow

MICROCLIMATES

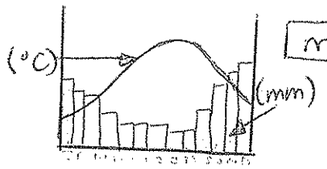
The local climate of a small area

- **WIND DIRECTION** — Northerly winds cold to UK
- **ASPECT** — Which direction is the slope facing? South facing = warmer
- **BUILDINGS** — Close to buildings = hotter
- **SURFACE COLOUR** — Dark surfaces absorb heat so are warmer

URBAN MICROCLIMATES
- 1°C warmer than rural during the day
- 4°C warmer than rural at night when buildings and tarmac release heat
- less wind than rural areas but wind tunneling
- more convectional rainfall
- less snow than rural areas

HUMID TROPICAL CLIMATES

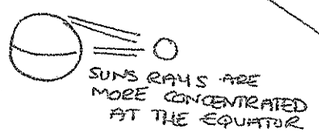
- HOT AS NEAR THE EQUATOR
- WET DUE TO CONVECTIONAL RAINFALL



CLIMATE GRAPH

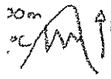
FACTORS THAT AFFECT CLIMATE

L = LATITUDE



SUNS RAYS ARE MORE CONCENTRATED AT THE EQUATOR

ALTITUDE = A



HIGHER YOU GO, COLDER IT GETS

D = DISTANCE FROM SEA
SUMMER = WARMER INLAND
WINTER = WARMER BY SEA

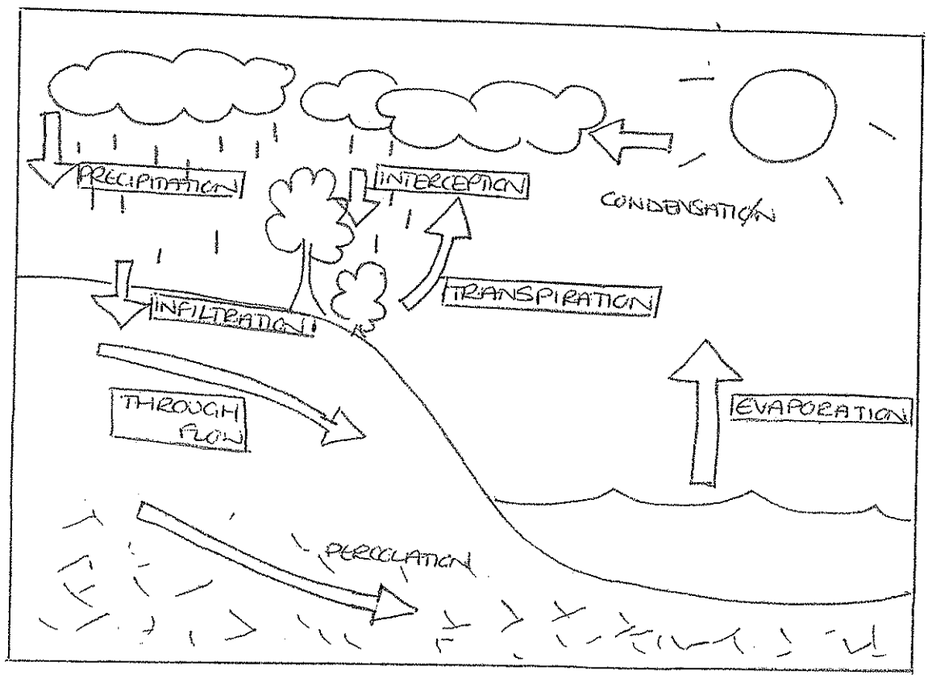
OCEAN CURRENTS = O

NORTH ATLANTIC DRIFT/ GULF STREAM KEEPS THE WEST WARM IN WINTER

P = PREVAILING WIND
NORTH WIND = COLD
PREVAILING WIND = SW
S WINDS = WARMER

WWW

WATER CYCLE



RAINFALL

RCCCP → RISES, COOLS, CONDENSES, CLOUDS FORM, PRECIPITATION

FRONTAL

AS IT RISES, IT COOLS, CONDENSES AT DEW POINT

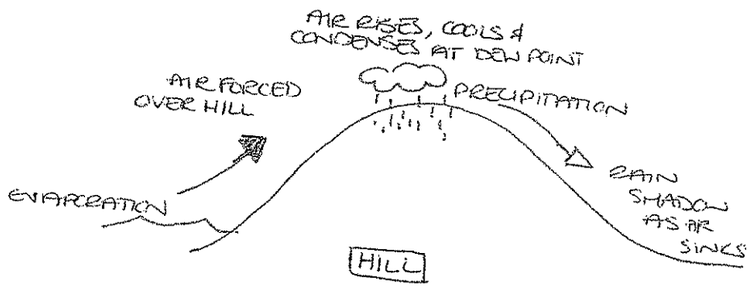
WARM AIR RISES AS HEAVIER THAN COLD AIR

FRONT

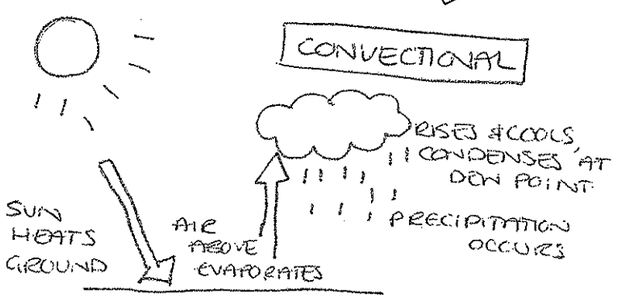
PRECIPITATION OCCURS AT THE 'FRONT'

COLD AIR

RELIEF

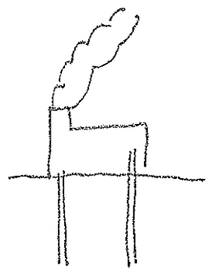


CONVECTIONAL



FACTORS DETERMINING THE SEVERITY OF DAMAGE

- Type of plate baundary
- How close it is to a settlement
- Wealth of the country (MEDC/LEDC)



GEOTHERMAL ENERGY

TOURISM

MINERALS

FERTILE SOIL

WHY DO PEOPLE LIVE NEAR VOLCANOES?

SCIENTIFIC RESEARCH

PREPARING FOR A VOLCANIC ERUPTION

- Hazard maps to show safe areas
- Lava flows can be diverted by channels or explosives
- people can be evacuated
- Seismometers recording earthquakes
- Tiltmeters can record changes in volcano shape
- Satalites record changes

EFFECTS OF VOLCANIC ERUPTIONS

- LAVA FLOW
- PYROCLASTIC FLOW
- MUDFLOW (LAHAR)
- ASHFALL
- PYROCLASTIC BOMBS

TECTONICS

TECTONIC PLATES

huge slabs of rock that form the Earth's crust and float on the mantle

PLATE BOUNDARIES

RING OF FIRE

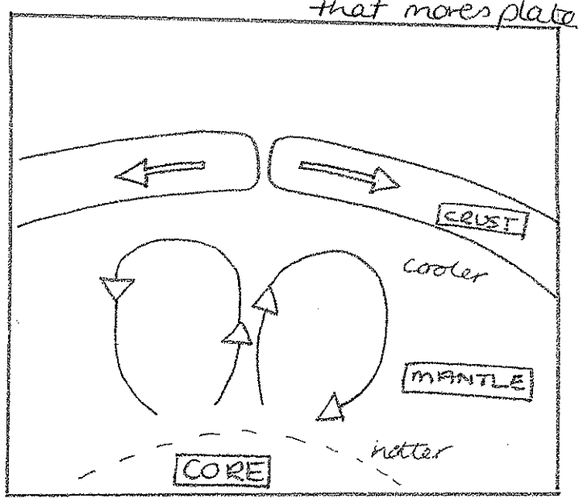
Pacific Ocean where lots of volcanoes and earthquakes are located

CONTINENTAL DRIFT

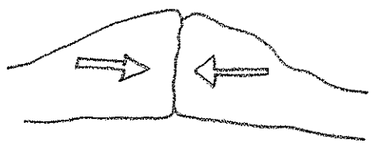
the movement of plates due to convection currents

CONVECTION CURRENTS

the movement of magma in the mantle that moves plate



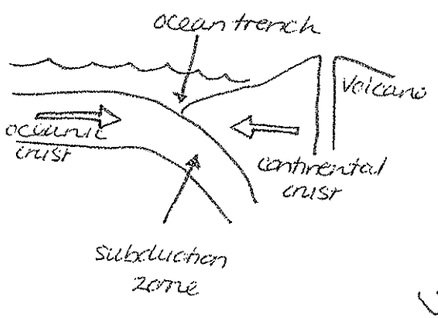
COLLISION



When two continental plates more towards each other two plates more upwards and form fold mountains.

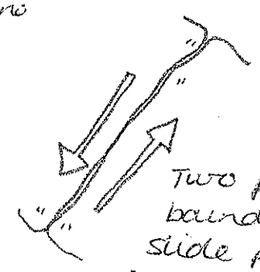
eg Himalayas

DESTRUCTIVE



The heavier oceanic plate subducts below the continental crust. The oceanic crust melts and rises up to form a volcano. Friction builds up between the plates and an earthquake occurs.

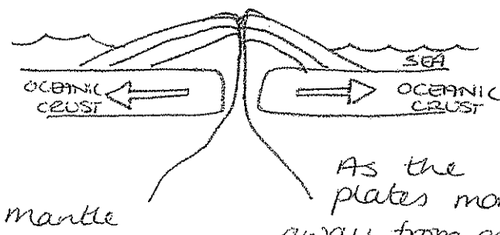
CONSERVATIVE



Two plate boundaries slide past each other. Plates lock, tension builds up and when they jolt an earthquake occurs.

eg San Andreas Fault

CONSTRUCTIVE



As the plates move away from each other magma fills the gap and a volcano is formed

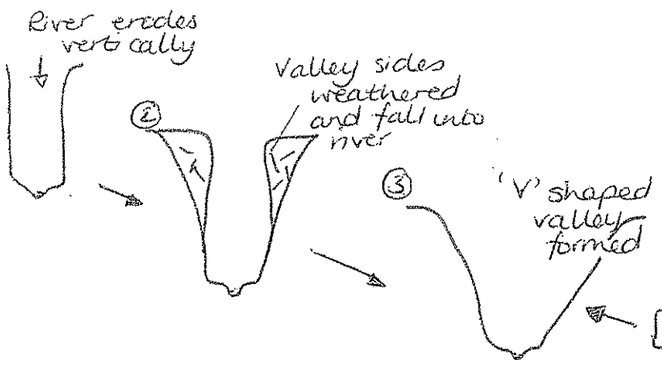
eg. Mid Atlantic Ridge

GEOMORPHOLOGY: RIVERS & COASTS

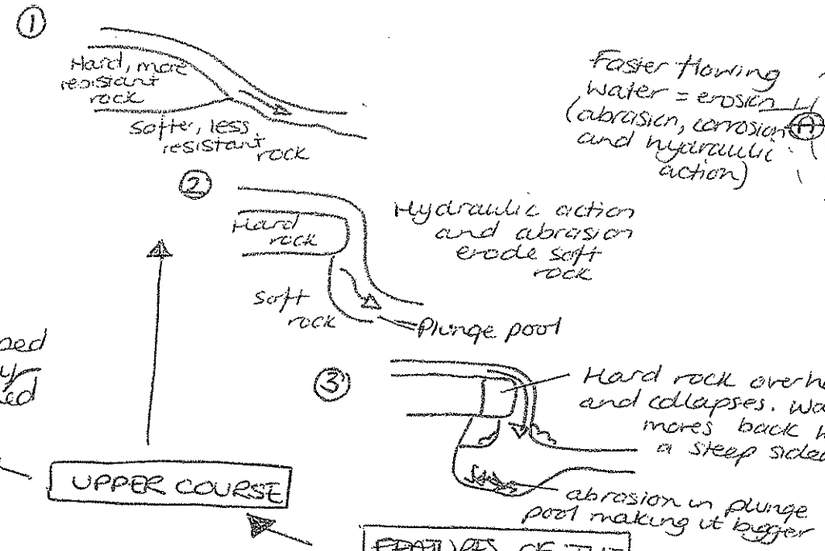
FEATURES OF THE RIVER

UPPER COURSE

V' SHAPED VALLEY

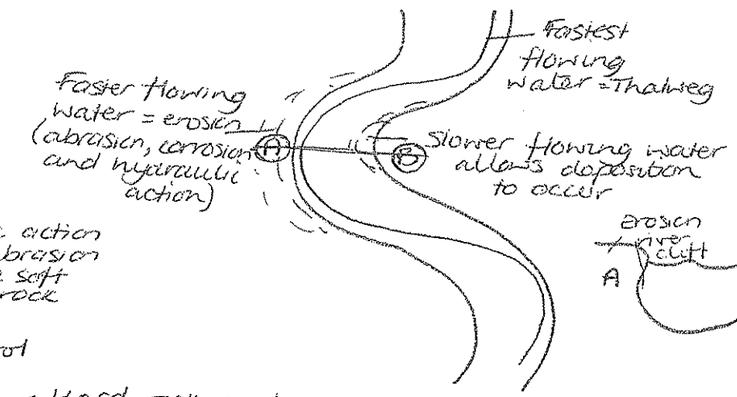


WATERFALL

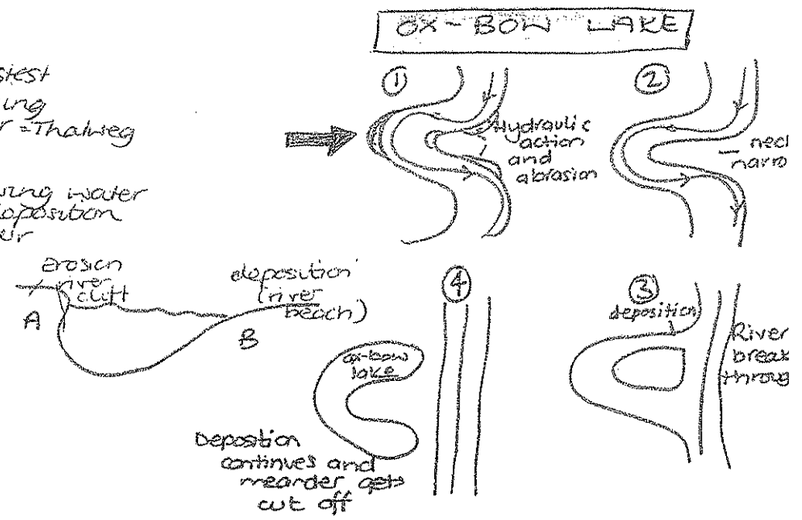


LOWER COURSE

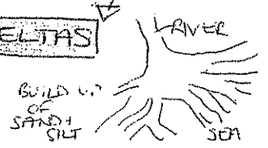
MEANDER



OX-BOW LAKE

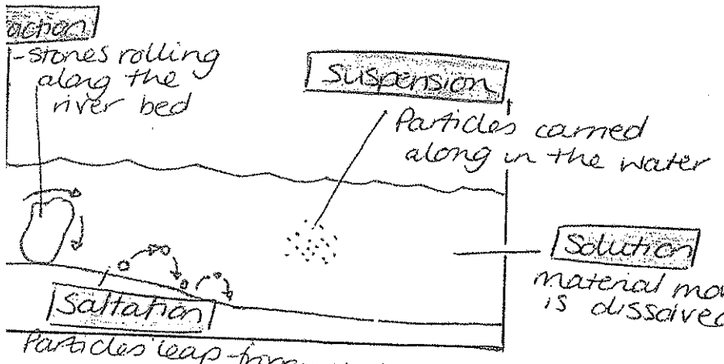


DELTAS



RIVER PROCESSES

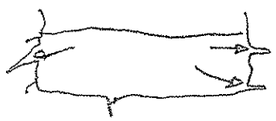
TRANSPORTATION



DEPOSITION

EROSION

HYDRAULIC ACTION

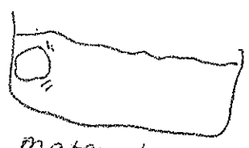


Force of water and air breaks down the bed and banks of the river

ATTRITION

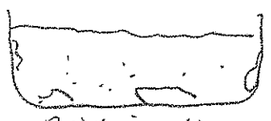
Two particles collide and knock pieces of each other off

ABRASION



material rubs along the bed and banks of the river

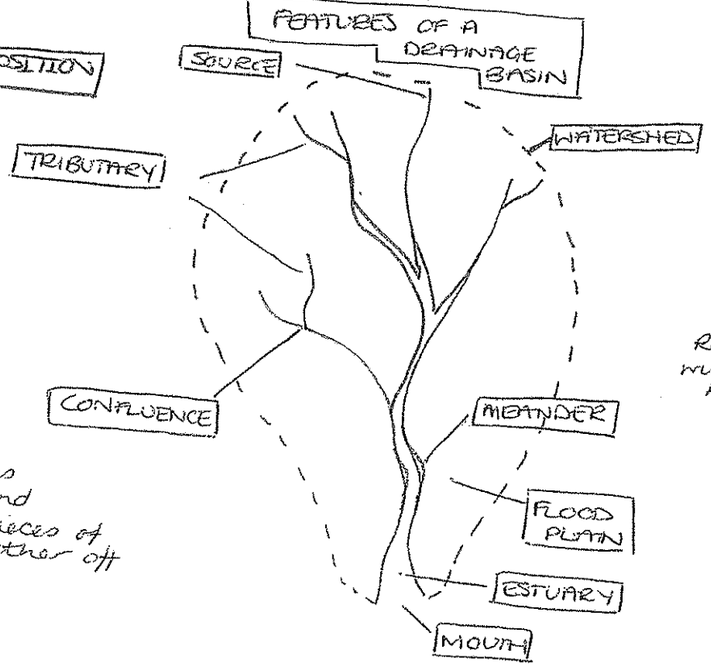
CORROSION



Acid in the water dissolves rock from bed and banks

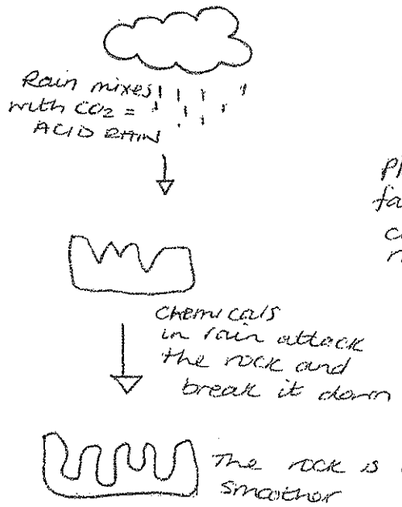
GEOMORPHOLOGY: RIVERS & COASTS

FEATURES OF A DRAINAGE BASIN



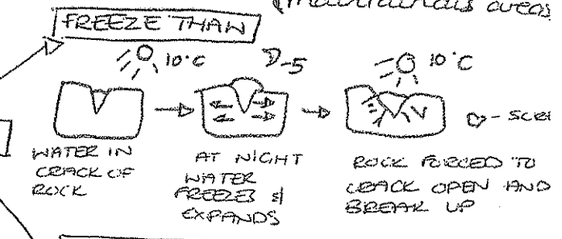
WEATHERING

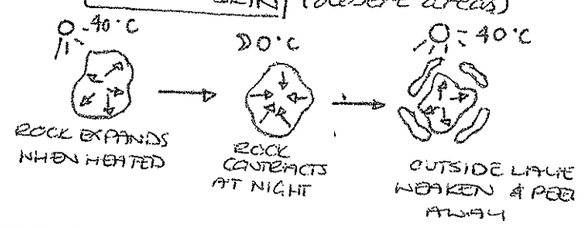
CHEMICAL



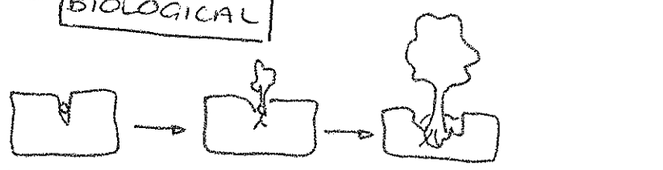
PHYSICAL

(mountainous areas)





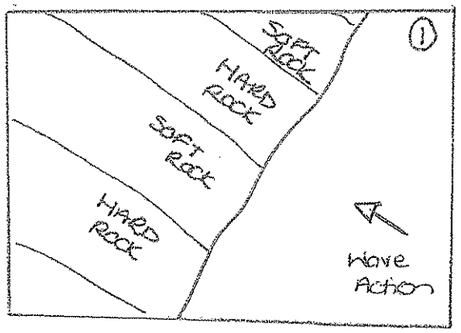
BIOLOGICAL

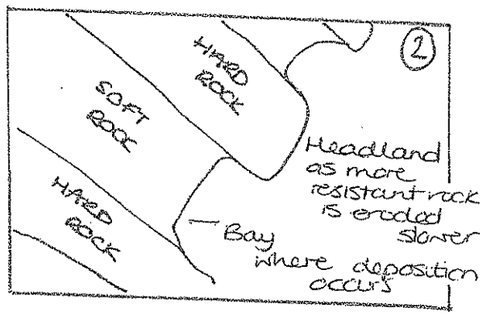


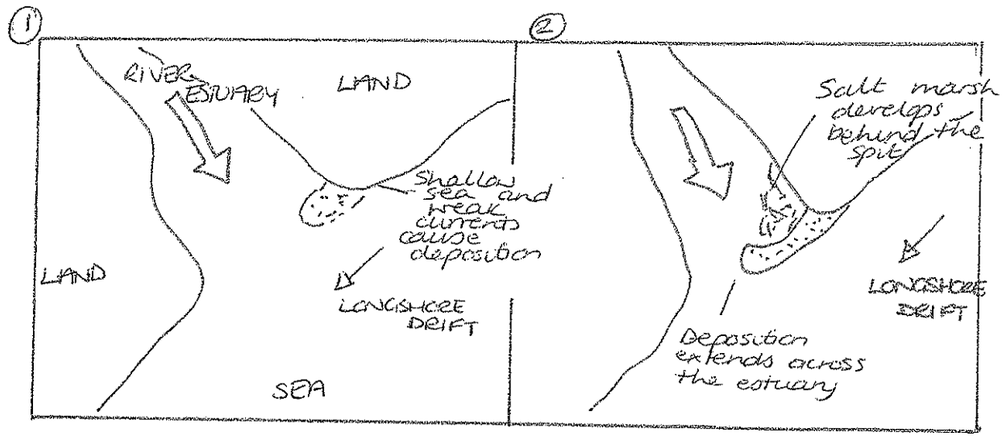
Plant seeds fall into cracks on rock

Plants grow putting pressure on rock

Cracks expand and rocks break up. (also caused by animals)







- Heavy rain
- Saturated ground
- Melting snow and glaciers
- Hurricanes causing wave/storm surges
- Very dry ground
- Impermeable rock

GEOMORPHOLOGY RIVERS & COASTS

COASTAL FEATURES

DEPOSITIONAL

HEADLANDS + BAYS

EROSIONAL

CAVES, ARCHES, STACKS + STUMPS

PROCESSES

EROSION

ABRASION

waves throw pebbles at the cliff eroding it

HYDRAULIC ACTION

waves force air and water into cracks in cliff weakens and breaks it down

CORROSION

Acid in the sea water breaks down the rocks

ATTRITION

Pebbles hitting against each other and breaking down

DEPOSITION

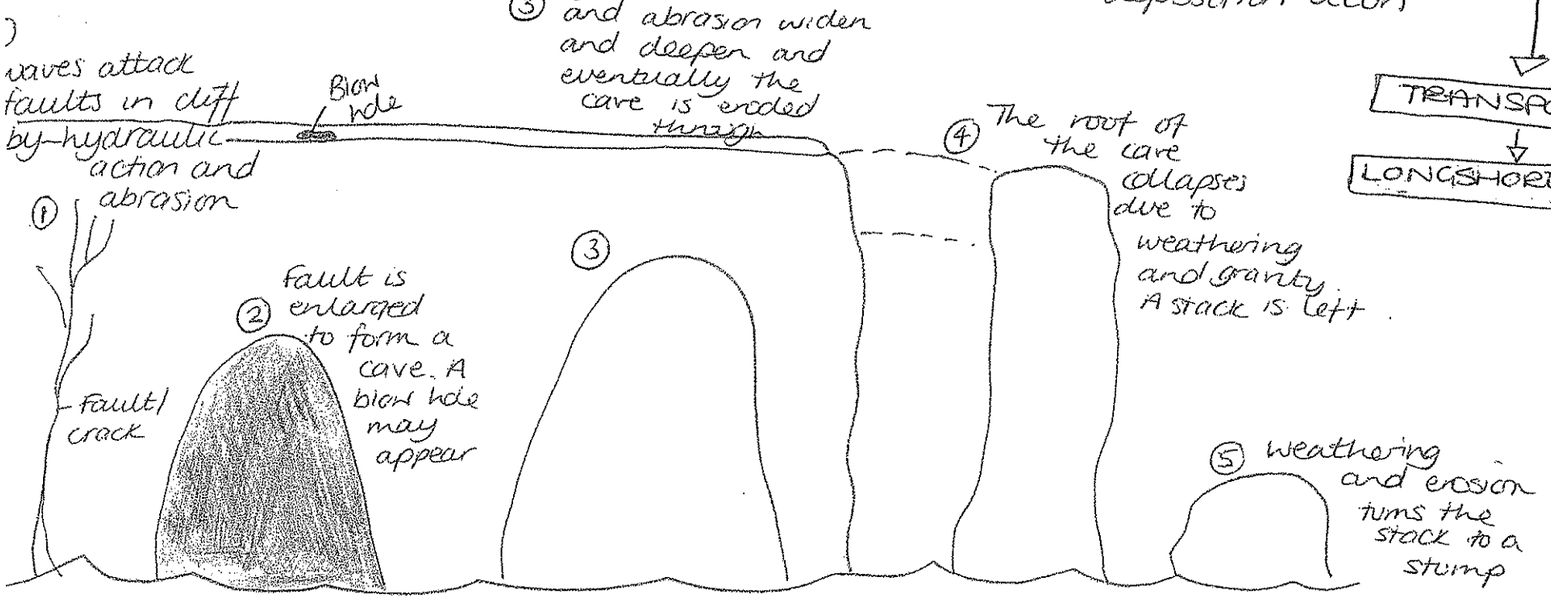
When the waves lose energy or the coast changes direction, deposition occurs

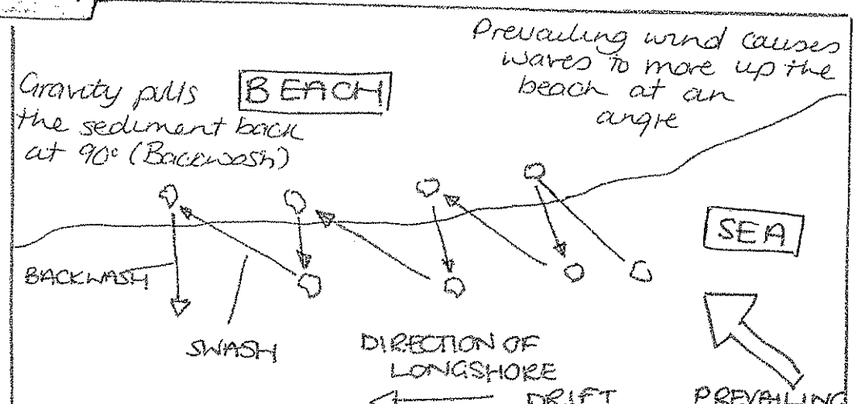
TRANSPORTATION

LONGSHORE DRIFT

FLOODING

CAUSES





ECONOMIC GEOGRAPHY

Benefits to LEDC's
- provides jobs
- attracts other factories
- improves economy
- improves roads/facilities
- may improve skills of people

Problems to LEDC's
- Environmental pollution
- Low wages and poor working conditions
- Less local industry developed
- Long working hours

Heavy industry in the UK has now mainly shifted to LEDC's eg Taiwan because of cheaper labour and larger profits for big companies (TNC's) eg Nike

Transnational corporations - companies with branches in many different countries

Helped improve transport and communications

GLOBALISATION

The process by which companies, ideas and lifestyles spread over the world.

INDUSTRY eg NIKE

INPUTS
- Cloth
- Leather
- Thread
- Zips
- Land
- Factory
- Labour
- Skills
- Capital (Money)

PROCESSES
- Cutting
- Sewing
- Gluing
- Dying
- Packing

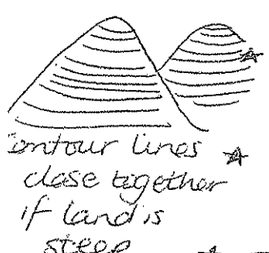
OUTPUTS
- Sports clothes/Shoes
- Profit
- Pollution
- Waste
- Off cuts

LINKAGES / FEEDBACK
- Money
- Knowledge
- Research/development

LOCATING INDUSTRY

Location of industry in the UK used to be because they were traditional heavy industries and needed to be near raw materials. Company owners still need to consider:

- ★ GOVERNMENT GRANTS (is the government offering money to locate somewhere?)
- ★ LABOUR FORCE (near settlements where workers live)
- ★ RELIEF (is the land flat or steep? Suitable for building on)
- ★ MARKET (where are the people or companies that need the goods)
- ★ TRANSPORT (how close is it to roads, airports, ports)



Contour lines close together if land is steep

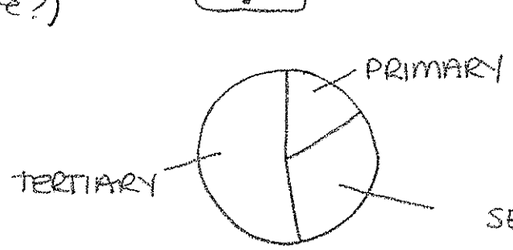
EMPLOYMENT STRUCTURE

PRIMARY
Extracting raw materials from the earth or sea
eg Farmers, miners and fishermen

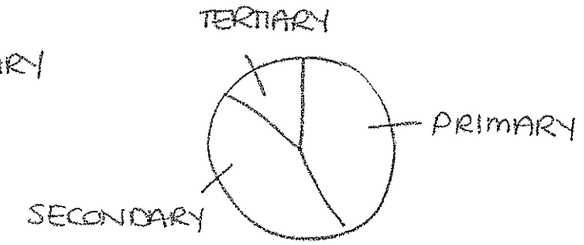
SECONDARY ACTIVITY
manufacturing industry which makes raw materials into goods
eg Bakers and Car factory worker

TERTIARY ACTIVITY
Providing a service
eg lawyers, bankers, teachers, doctors

QUATERNARY ACTIVITY
A knowledge based industry such as hi-tech research
eg Scientific research



MEDC



LEDC

Quarry owners
walkers
MOD
local Bird Watchers
cyclists
tourists
local residents
USER GROUPS
council
conservationists
School groups
Developers

There is often conflict between different user groups because they want different things

CONFLICT

For sustainability to be successful the economy, environment and people need to be considered

SUSTAINABILITY
ECONOMIC
SOCIAL
ENVIRONMENTAL

'Providing for the needs of the present without compromising the needs of the future'

SUSTAINABILITY → STEWARDSHIP — looking after resources in a sustainable way so that it exists for future generations

ENVIRONMENTAL ISSUES

NATIONAL PARKS

Established in 949 to protect beautiful areas of countryside and the cultural heritage of areas

NAMES IN THE UK (15)

- New forest
- South Downs
- Dartmoor
- Exmoor
- Pembrokeshire Coast
- Brecon Beacons
- Snowdonia
- Peak District
- Lake District
- Northumberland
- Loch Lomond
- Cairngorms
- Yorkshire Dales
- North York Moors
- Broads Authority

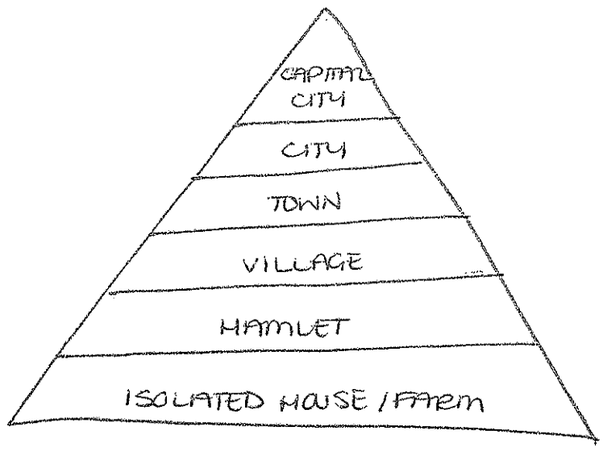
WHY DO WE NEED TO PROTECT THE ENVIRONMENT?

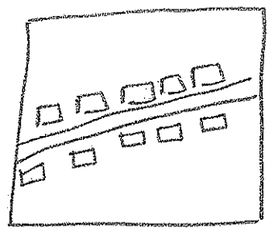
- Protect green open spaces from development and urban sprawl
- Conserve natural habitats
- Preserve endangered plant and animal species
- Provide areas for outdoor persuits
- Preserve peoples way of life

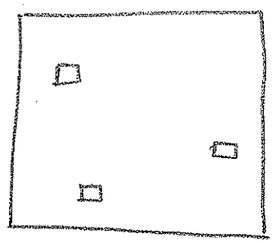
HOW CAN WE PROTECT THE ENVIRONMENT?

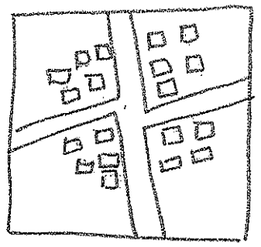
- SUSTAINABLE TOURISM
- EDUCATION
- GREENFIELD SITES (fields and green spaces)
- COUNTRY PARKS
- CONSERVATION GROUPS
- NATIONAL PARKS
- THE ENVIRONMENT AGENCY

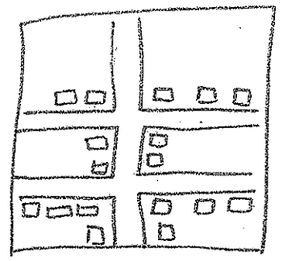
maintained by the National Parks Authority. (NPA)
The land is owned privately, by farmers, the National Trust or Ministry of Defence




LINEAR


DISPERSED


NUCLEATED


PLANNED

HIERARCHY

PATTERNS

SETTLEMENT

REASONS FOR THE SITE OR SITUATION OF A SETTLEMENT

- Relief - not too steep but sheltered
- Transport
- Soil - fertile soil for growing crops
- Water supply
- Wood - for building and fuel
- Defence - hilltops and meanders are easier to defend.

FUNCTION

- Administrative
- Residential
- Industrial
- Commercial
- Service
- Tourism

SITE - The exact physical location of a settlement

SITUATION - A settlements setting in relation to its surroundings