

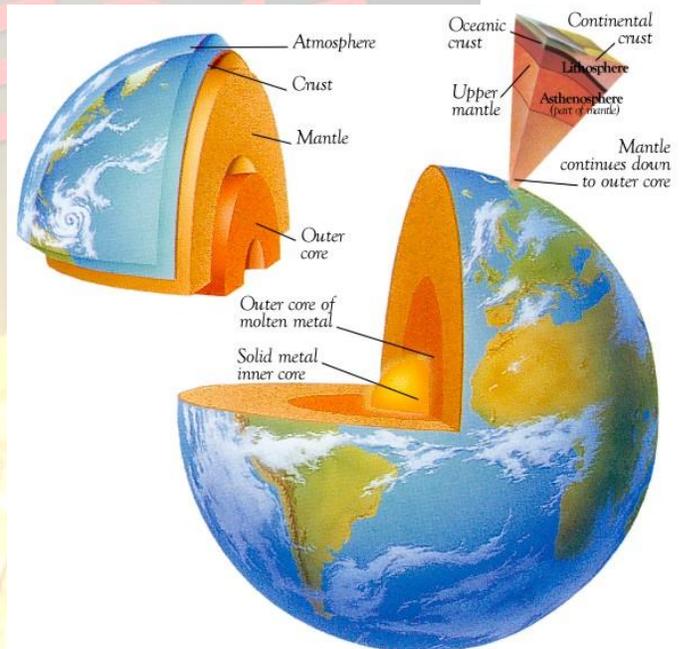
STRUCTURE OF THE EARTH

1. CORE (Barysphere)

- 3,400km thick
- Solid inner – pressure
- Liquid outer
- High density, heavy rocks – rich in iron and nickel
- Temps from 3-5000°C

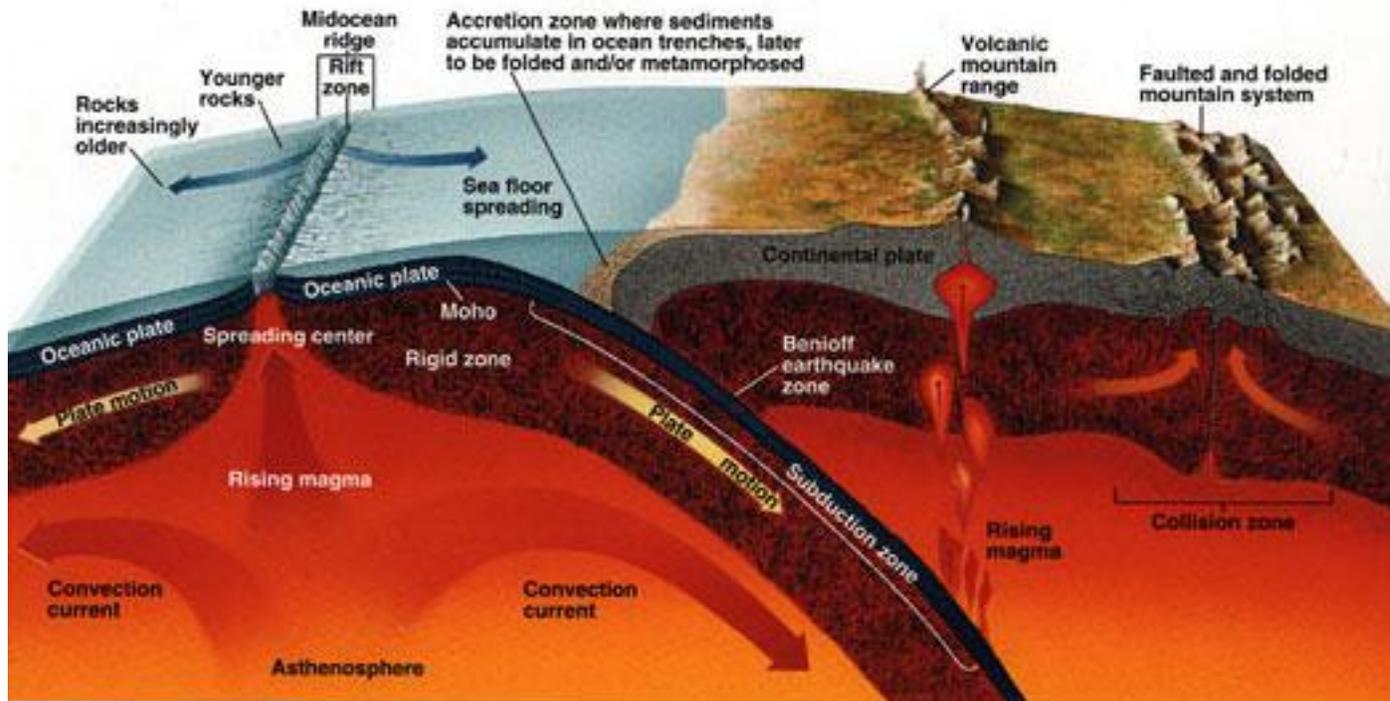
2. MANTLE

- 2800km thick
- Rocks less dense
- Solid except when subjected to great heat and pressure
- Asthenosphere – zone in upper mantle 100-700km in to earth – molten rocks – reason for crustal movement
- Mohorovicic Discontinuity (Moho) – boundary between mantle and crust



3. CRUST (Lithosphere)

- Rigid in nature
- Oceanic Crust
 - Forms ocean floors
 - 5-10km thick
 - Dark, heavier, ancient basalt type rocks
 - Rich in silica and magnesia => *sima*
 - Continental Crust
 - 30-60km thick
 - Light, younger granite type rocks
 - Less dense => floats on oceanic crust
 - Rich in silica and alumina => *sial*

PLATES – HOW DO THEY MOVE?The Good effects

1. Mineral Deposits

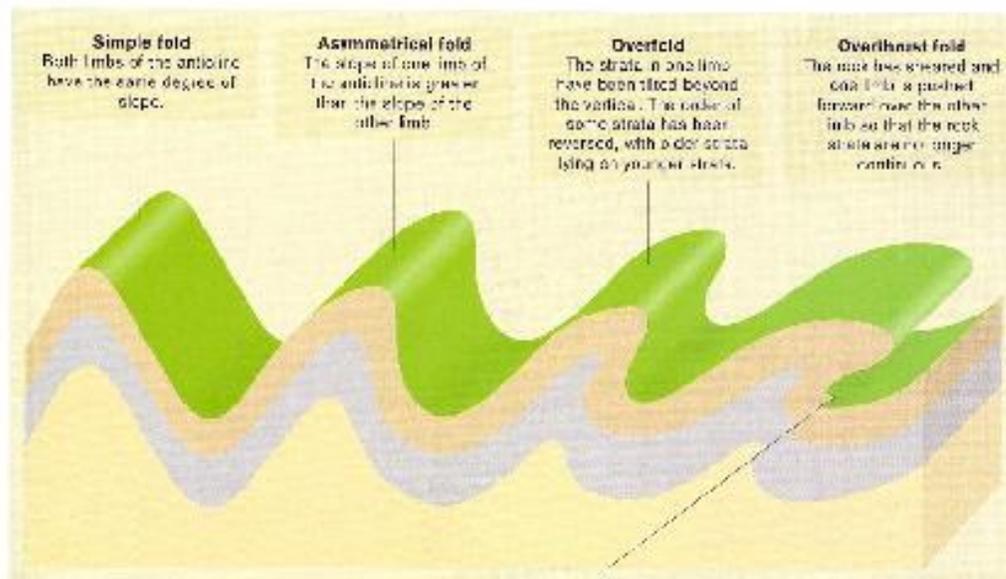
Because of the great heat and pressure associated with volcanoes, mineral deposits ranging from the copper of Chile to the gold of Colorado, USA, are common in areas that were affected by volcanic action. Gold which was formed in part due to volcanic action was also found in Ireland in Avoca Co. Wicklow. The silver deposits of the Andes of South America are another indication of the wealth that volcanoes can produce.

2. Building Materials

The granite of Leinster was widely used in buildings in Dublin, e.g. GPO, and also on the quay walls. In Peru volcanic rocks, locally known as sillers, are used extensively in building.

3. New Land

One of the most widely quoted of recent new lands being formed by volcanoes is the island of Surtsey, which appeared in 1963. Apart from this island, other land has also been formed by volcanoes in Iceland. In 1973 a new volcano Eldfield, erupted. At first it threatened to destroy the town of Vestmannaeyjar, but in the end it added 20% of new land to the island and added better protection to the mouth of the harbour as the cooled lava provided a natural breakwater.



Fold Mountains

3 major periods (orogeny)

1. Caledonian

- 400M years ago – oldest fold mountains
- General NE – SW trend
- Result of tectonic activity – pressure from SE
- Responsible for mountains of Scotland (Caledonia) and the Wicklow Mtns.
- Have been open to weathering and erosion for a long time – only a fraction of the height they once were

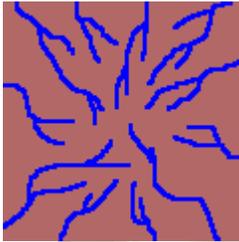
2. Armorican

- From mountains of NW France – Hercynian period
- 250-300M years ago – last major folding to affect Ireland
- Tectonic activity – pressure from south
- Land folded in an E-W direction
- Munster – 'ridge and valley' province – sandstone peaks and limestone valleys

3. Alpine

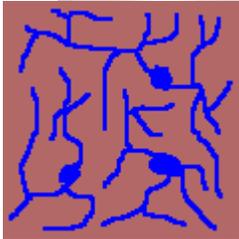
- Young fold mountains of the world
- 30-40M years ago
- Andes, Alps, Rockies, Himalaya
- Younger = less erosion time = higher mountains

Radial



A spokelike pattern of rivers. These tend to flow away from the summit of a dome or volcano in all directions.

Deranged



An irregular broken drainage system. When ice sheets melt, the drainage pattern left behind may be broken and irregular. Rivers have not had time to adapt to the underlying rock structure, and follow the irregularities of glacial deposits.

1. With the aid of a labelled diagram, examine processes that have led to the formation of any one Irish river landform. (30)

1. Waterfalls //

2. In the upper course of the river the dominant physical processes in operation are erosional and the most impressive feature is the waterfall //
3. formed when a layer of resistant rock lies across or beside a layer of soft rock. resistant layer of rock may be horizontal, vertical or it may dip upstream //
4. The soft rock on the downstream side is eroded at a faster rate (differential erosion) and a fall develops as the river bed is steepened where the two rocks meet. //
5. The underlying softer rock is worn away as the water drops onto it. Over a period of time the resistant rock is undercut, becomes unstable and collapses. //
6. The rock which collapsed to the bottom of the fall is swirled in an eddying action and carves out a deep hollow called a plunge pool. //

CORE AND PERIPHERAL REGIONS

1. Core Regions

Core regions are wealthy regions. They may occur within a country, such as Ireland, or within an economic region such as the European Union.

The Dublin region

- Dublin is Ireland's core region. It is the country's capital, its largest centre of population and services and has well-developed transport and communications systems.
- Over one-third of all full-time jobs in foreign-owned manufacturing and financial services are in Dublin.
- The city of Ireland's major port, and the location for financial commercial company headquarters.

A. The Core of the European Union

- Because the countries of western Europe are relatively small, a number of national cores and growth centres have combined to create an international core. It is called the "European Dogleg" or "Hot Banana".

ITALY

CORE REGION = NORTH ITALIAN PLAIN(NIP) AND LIGURIAN COAST

PHYSICAL CHARACTERISTICS

CLIMATE

- sub continental = extremes - cool winters(0-4), hot summers(25)
- why? Most of the plain is landlocked and surrounded by mountains(distance from the sea and barrier to trade winds)
- rainfall decreases west-750mm to east-500mm-rain shadow
- climate good for agri - high temps and good rainfall = good harvests and wide range of crops

PARIS BASIN

PRIMARY INDUSTRY

Agriculture

- Most productive and prosperous agri. Region in France-relief, soils, climate, markets
- farms=large and mechanised and progressive ('the Granary of Europe')
- geological saucers of sedimentary rocks = distinctive pays/landscapes = local specialisation
- low-lying Ile de France region - intensive wheat and sugar beet
- Beauce region - wheat, barley and sugar beet

SAMPLE ANSWERS

Examine the development of Secondary Activities in an Irish region you have studied. 30m
SAMPLE ANSWER

The region I have chosen is the Greater Dublin Area (GDA).

Dublin is an economic core region and a primate city with over 1300 individual manufacturing plants.

In the 1960's well over 50% of Irish manufacturing industry was concentrated in the Dublin region. Since then the % has declined due to government policy to disperse manufacturing industries to other urban centres and the continued rise in the service sector.

But the Dublin region still dominates the Irish manufacturing industry with 28% of the Irish manufacturing output, employing almost 100,000 people.

Traditional manufacturing industries of brewing and tobacco have declined but modern high technology industries have replaced the older industries eg electronics and healthcare.



IRELAND

THE SOUTHERN AND EASTERN REGION

Relief and Soils

- Most of the land in this region is undulating, lowland. Brown soils formed from limestone glacial drift cover much of the region, and these include some of the most fertile soils in the country.
- Some mountain chains are found in this

SOIL CHARACTERISTICS

- Organic Content
- Colour
- pH value
- Texture
- Structure
- Water Content

1. Organic Content

- Organic matter includes decaying plants and animals which bacteria and fungi breakdown
- Humus = dark brown jelly like substance formed from organic matter
- Soil organisms e.g earthworms also help
- They digest organic matter to create humus and also mix and aerate the soil

