Edexcel A GCSE Geography

The main UK rock types and distribution

- Chalk- large bands- SE England & E Anglia
- Schist- small areas-Anglesey, N Ireland, Scotland
- Slate- N Wales, SW England
- Granite- NE Scotland, SW England
- Basalt- N England, N Ireland
- Sandstone- large bands throughout NW England, Cumbria, Lancashire, Merseyside including Liverpool all the way down to Shropshire.
- Igneous rock distribution is liked to volcanic activity.
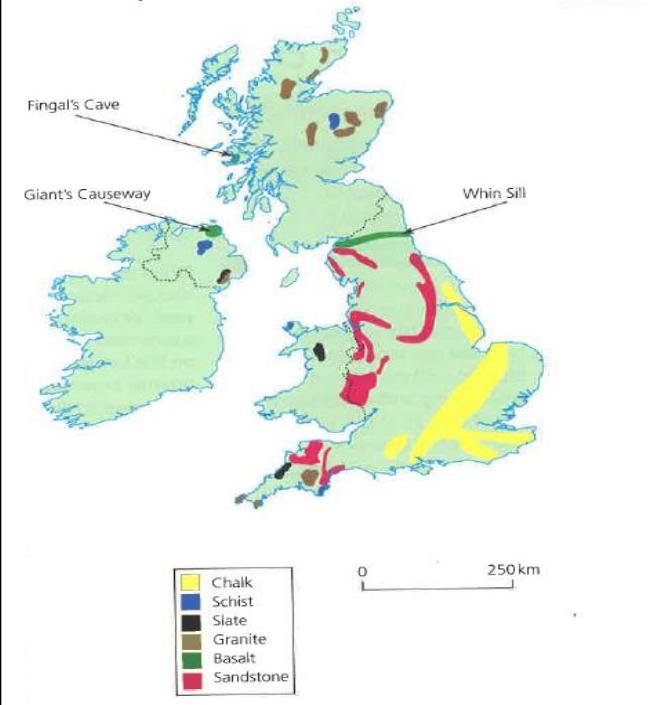
Igneous rocks:
formed when liquid rock, called magma, cools down. They are found in volcanic regions They are made up of lots of interlocking crystals. The crystals fit very tightly together making the rock very hard and impermeable. Extrusive rocks form above the ground and contain small crystals.
Intrusive igneous rocks form underground and contain large crystals because they cool slowly, allowing the crystals to get bigger over time.
Igneous rocks do not contain fossils because they would melt in the hot magma.

Examples: granite, basalt, obsidian.
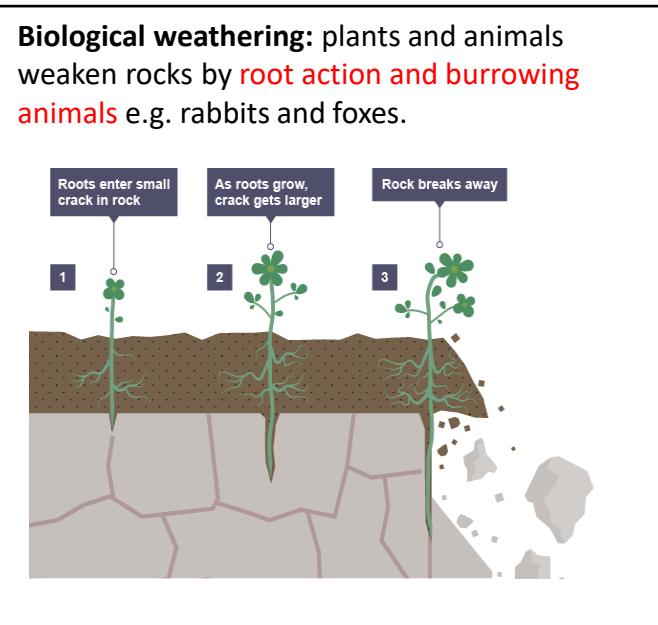
Metamorphic rocks:.
formed from other rocks that are chemically changed by pressure from surrounding rock, or by the heat of nearby magma.
They are made up of interlocking crystals. When a rock is formed under pressure, its crystals become arranged in layers. The rocks are usually quite hard but can break easily along these layers.
Metamorphic rocks sometimes contain fossils if they were formed from a sedimentary rock, but the fossils are usually squashed out of shape.

Examples: slate (formed from shale), marble (formed from limestone).
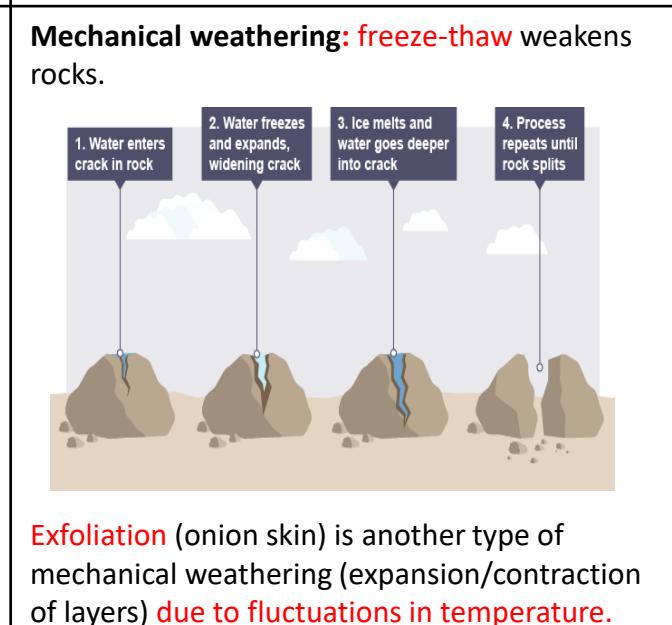
Sedimentary rocks:
are made up of sediment- tiny rock particles and bits of dead animals and plants. The rock is formed when layers of sediment deposited in lakes and seas are cemented together over millions of years.
Grains of sediment are usually rounded. This means that they do not fit together very closely, making the rock soft and crumbly and porous/permeable.
The remains of dead animals and plants can be trapped in sediment when it is deposited, forming fossils over time.

Examples: limestone, chalk, sandstone.

Biological weathering:
plants and animals weaken rocks by root action and burrowing animals e.g. rabbits and foxes.

Mechanical weathering:
freeze-thaw weakens rocks.

Exfoliation (onion skin) is another type of mechanical weathering (expansion/contraction of layers) due to fluctuations in temperature.

Chemical weathering:
acid rain weakens rocks
- Rain water and sea water can contain a weak carbonic acid.
- Limestone rock in Yorkshire can dissolve over time (limestone pavements- clints/grykes.
- Chalk cliffs on the coast also dissolve.

Upland landscape: tors on Dartmoor
- Granite outcrops in south-west England. E.g. Haytor.
- Vertical joints formed as magma cooled & contracted. Horizontal cracks formed by pressure release. Cracks made bigger by freeze thaw & chemical weathering

Human influences on upland landscapes.
- Farming: sheep due to steep slopes and poor soils. Poor soils due to moorland - impermeable rocks. Boggy.
- No arable (crop) farming.

- Forestry: lines of coniferous trees (not random). Creates jobs and tourism.

- Industry: mainly quarrying for stone.
- Military training areas.

- Settlements: mainly hamlets, villages which are isolated and in a dispersed pattern.

Lowland landscape: the South Downs
- Southern England, bordering English channel
- Folded sedimentary rocks; layers.
- Chalk; porous.
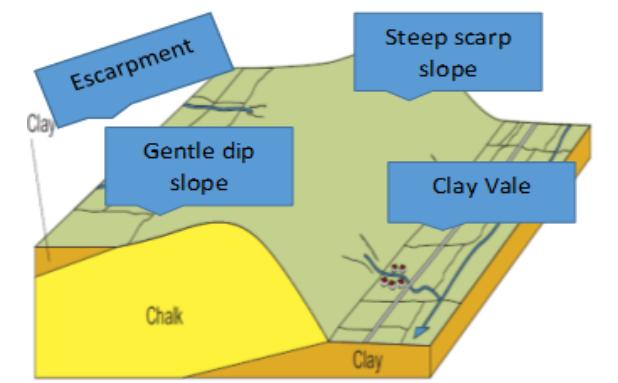
Human influences on lowland landscapes:
- Farming: arable- crops. Use of regular field shapes; clear ditches. Pastoral- cattle (cows and sheep). Mixed (arable and pastoral). Draining of some wetlands for farming. Increased pollution from pesticides & destruction of habitats.

- Forestry: lines of coniferous trees planted (not random). Income from forestry.
- Some heathland areas turned into into parks.
- Creates jobs for locals and income from tourism.

Settlements:120,000 people live in the National Park- hamlets, villages, towns, cities.