

EARTH ATMOSPHERE

plus other gases such as carbon dioxide and water vapour

EXOSPHERE 10,000km

THERMOSPHERE 700km

MESOSPHERE 80km

STRATOSPHERE 50km

TROPOSPHERE 12km

ozone layer

1% Ar (Argon)

21% O (Oxygen)

78% N (Nitrogen)

NOT TO SCALE!

EARTH STRUCTURE

similar thickness to a postage stamp on a balloon

CRUST

ocean crust = 6 - 12km thick

continental crust = 30 - 70km thick

MANTLE

2900 km thick: the upper mantle is hard but below that, liquid magma is formed which flows in convection currents

OUTER CORE

made of liquid iron giving Earth a magnetic field

INNER CORE

spherical and made of solid iron and nickel

the hottest layer reaching temperatures of up to 5500 °C

EARTH TECTONIC PLATES

Earth's crust is made of giant plates of rock moving on viscous, very slowly flowing mantle

plate margin = where plates meet

continental plates = thick

oceanic plates = dense and thin

DIVERGENT

plates separate into a rift

SUBDUCTION

denser plate sinks below less dense plate

CONVERGENT

plates scrape against each other causing earthquakes

no volcanoes!

EARTH ROCKS

Rocks are made from minerals rearranged by melting, cooling, pressure and chemical reactions

EXTRUSIVE IGNEOUS

magma that is erupted by a volcano is called lava

lava cools quickly with small crystals

extrusive means it formed above ground

EXIT means out!

INTRUSIVE IGNEOUS

magma that cools slowly beneath the surface forms large crystals

SEDIMENTARY

sedimentation is where layers of eroded rock, dissolved minerals and dead biomass settle into layers, often under water

as sediment build up, the increased mass creates pressure which compacts sediments into layers of rock

METAMORPHIC

these rocks are formed from other rocks that have been changed by heat, pressure and chemical reactions deep underground

$A + B \rightarrow C + D$

EARTH ROCK CYCLE

weathering

eruption

lava

erosion

EXTRUSIVE IGNEOUS

erosion

INTRUSIVE IGNEOUS

cool

uplift

pressure

SEDIMENTARY

heat

METAMORPHIC

melting

magma chamber

EARTH EXTRACTING RESOURCES

Finite resources cannot be replaced once we have extracted them from the Earth

QUARRYING

devastates ecosystems as we need to dig resources out of the crust

ELECTROLYSIS

requires lots of energy which uses other resources like fossil fuels causing pollution and climate change

renewable energy sources still need "critical minerals" such as indium

recycling causes less habitat loss and uses less energy

dispose

recycle

Renewable resources can be replaced, but only if sustainable practices are employed