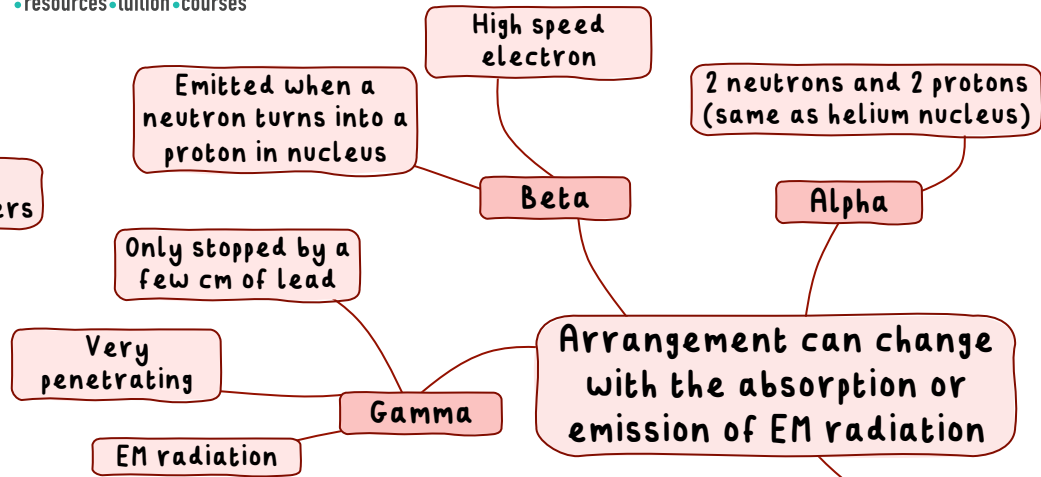
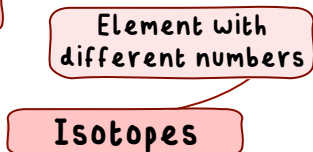
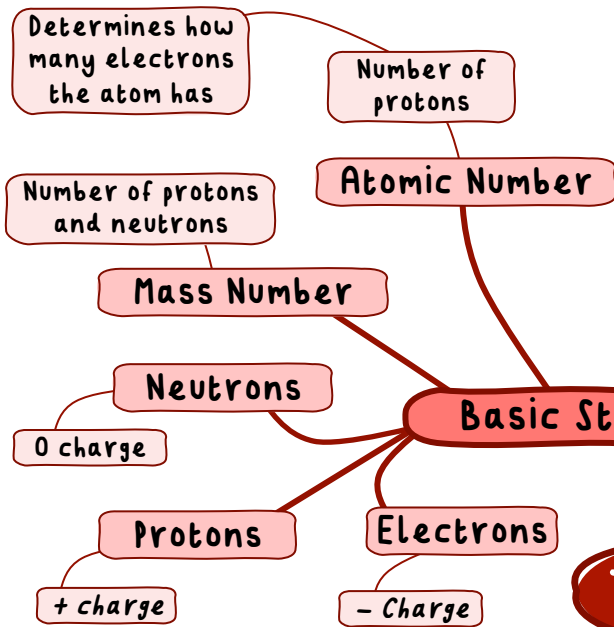
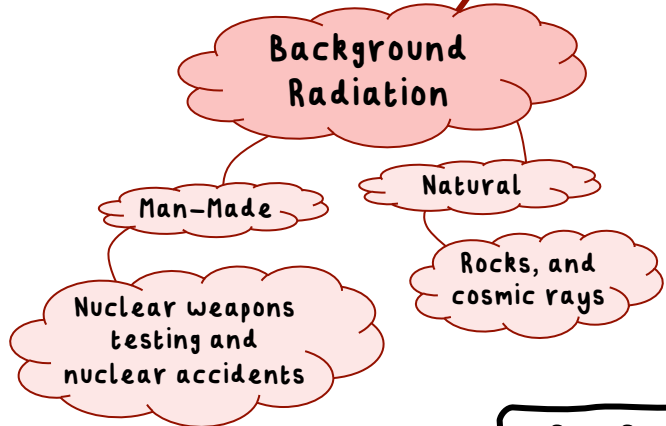


TOPIC 4: ATOMIC STRUCTURE

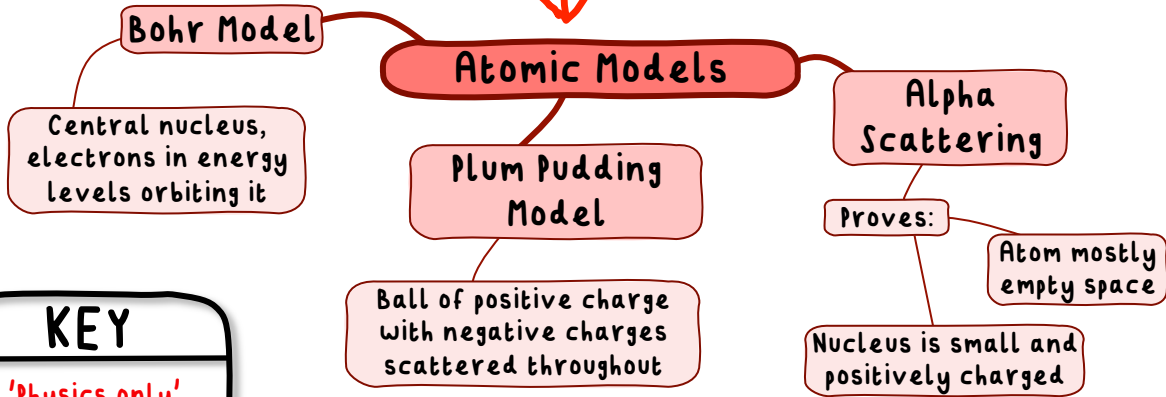
Basic Structure



Nuclear Radiation



Atomic Models



KEY
'Physics only' written in clouds.

AQA



TOPIC 4: ATOMIC STRUCTURE

Nuclear Fusion

Mass is converted into energy in the form of radiation

Joining of two light nuclei into a larger nucleus

Splitting of large and unstable nuclei

Nuclear Fission

Unstable nuclei must absorb a slow-moving neutron

Produces two smaller nuclei and releases energy

Releases two or three neutrons

Once released, induce further fission

Uses of Nuclear Radiation

Used to detect its radiation

Radioactive tracer is consumed and targets a part of the body

Have short half-lives

Destroying Unwanted Tissue

Gamma rays can be focused onto areas of the body and kill unwanted cells

Radioactive Decay

Measured in becquerels (Bq)

Rate at which a nuclei decays

Activity

Random

Which nuclei and when it will decay is unpredictable

Count-Rate

Measured using a Geiger-Muller tube

Half-Life

Time for number of unstable nuclei in a given isotope to halve

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