

GCSE Physics A (Gateway)

J249/01 Physics A P1-P4 and P9 (Foundation Tier)

Question Set 2

1 Atomic models have changed over time.

Old atomic model – Atoms are a positive mass with negative electrons fixed in it.

Current atomic model – Atoms are made from protons, neutrons and electrons.

Protons and neutrons are in a central nucleus surrounded by a cloud of electrons.

(a) (i) Write down **two** differences between these models. [2]

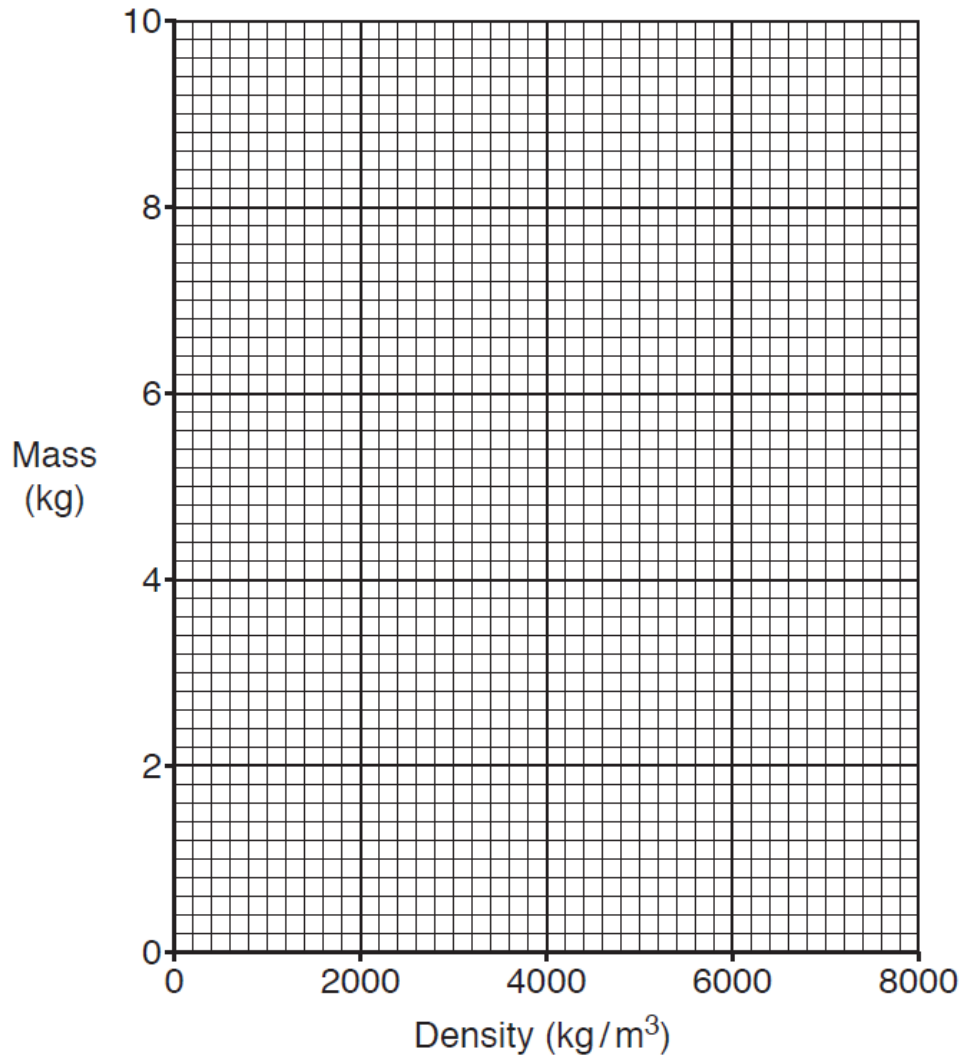
(ii) Why did the atomic model change? [2]

(b) A student has data on four blocks of different materials.

Each block has the **same** volume.

Block	Mass (kg)	Density (kg/m ³)
A	2	2000
B	4	4000
C	6	6000
D	8	8000

(i) Plot this data onto the graph and draw a line of best fit.



[2]

(ii) Describe the pattern shown on the graph.

[2]

Total Marks for Question Set 2: 8

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