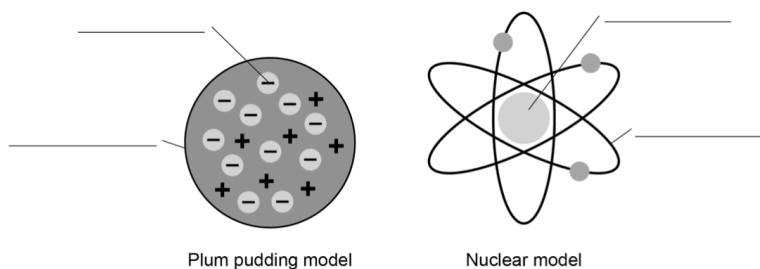


Q1. (2018)

0 1

Figure 1 shows two models of the atom.

Figure 1



0 1 . 3

The results from the alpha particle scattering experiment led to the nuclear model.

Alpha particles were fired at a thin film of gold at a speed of 7% of the speed of light.

Determine the speed of the alpha particles.

Speed of light = 300 000 000 m/s

[2 marks]

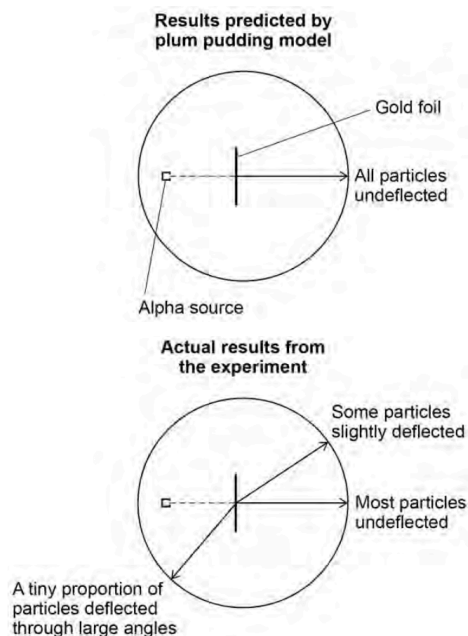
Q2. (2024)

0 2 . 3

The alpha particle scattering experiment led to the plum pudding model of the atom being replaced by the nuclear model.

Figure 2 shows the results predicted by the plum pudding model and the actual results from the alpha particle scattering experiment.

Figure 2



Describe how the actual results led to the plum pudding model of the atom being replaced by the nuclear model.

You should include details of the plum pudding model and the nuclear model of the atom.

[6 marks]

Q3. (2024)

0 2 . 4 Scientists did not know that neutrons existed when they first did alpha particle scattering experiments.

Which scientist did the experiments that provided evidence that neutrons exist?

[1 mark]

Tick (✓) **one** box.

Isaac Newton

☐

James Chadwick

☐

Niels Bohr

☐