

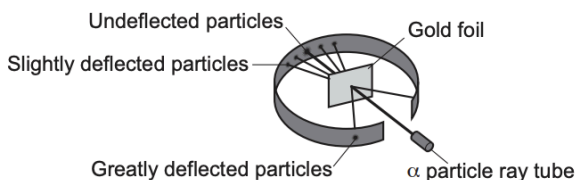
[Development of atomic model]

Q1.a(2018)

The atomic model has changed over time.

J.J.Thomson suggested the 'plum pudding' model of atoms. Rutherford, working with Geiger and Marsden, tested J.J.Thomson's 'plum pudding' model.

Look at the diagram of the experiment they did.



(a) What conclusions did Rutherford, Geiger and Marsden draw from the experiment?

Explain how their results supported their conclusions.

.....

.....

.....

.....

.....

.....

.....

..... [4]

Q1.b(2018)

Rutherford, Geiger and Marsden published their results.

Why is it important that scientists publish their results?

.....

.....

.....

..... [2]

Q1.c(2018)

What new idea did Bohr add to the model of the atom?

.....

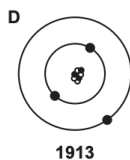
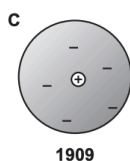
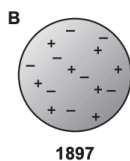
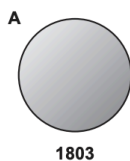
..... [1]

Q2.(2020)

The atomic model has changed over time.

Look at the diagrams.

They show four different atomic models and the years they were developed.



Which atomic model was developed by Niels Bohr?

Your answer

[1]

Q3.(2021)

J. J. Thomson proposed the 'plum-pudding' model of the atom shown in **Fig. 12.1**.

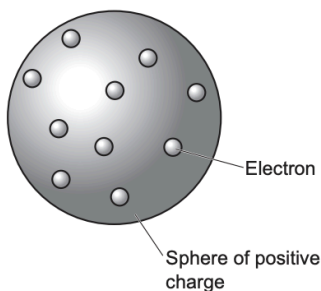


Fig. 12.1

Geiger and Marsden worked with Rutherford and tested the 'plum-pudding' model of the atom. **Fig. 12.2** shows their experiment.

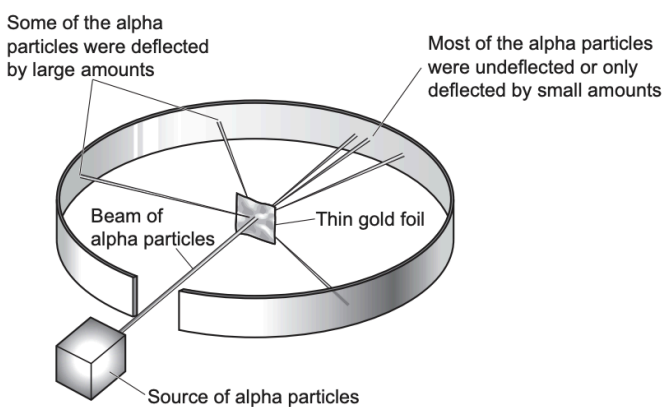


Fig. 12.2

A beam of **positively charged alpha particles** was fired at a piece of thin gold foil.

Geiger and Marsden found that:

- Most of the alpha particles passed straight through the gold foil without being deflected or were only deflected by small amounts.
- Some of the alpha particles were deflected by large amounts.

Describe **and** explain how Rutherford used the results to **further develop** the model of the atom.

.....

.....

.....

.....

.....

.....

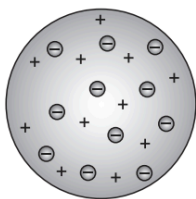
.....

.....

.....

..... **[4]**

Which scientist developed this model of the atom?



- A** Bohr
- B** Dalton
- C** Rutherford
- D** Thomson

Your answer

[1]