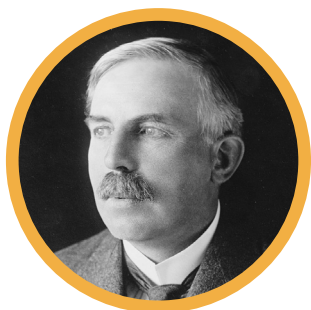


TODAY IN CHEMISTRY HISTORY

30TH AUGUST – ERNEST RUTHERFORD'S BIRTHDAY



ERNEST RUTHERFORD

BORN

30 August 1871

DIED

19 October 1937



Awarded the Nobel Prize in Chemistry for work on radioactivity, and named alpha and beta radiation. Also developed the Rutherford model of the atom from his famous gold foil experiment.

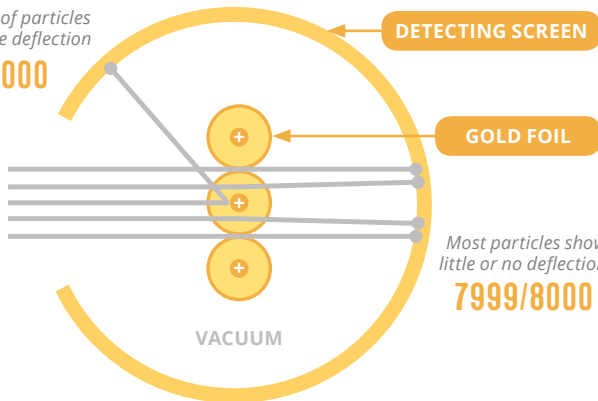
GOLD FOIL EXPERIMENT

In this famous experiment, carried out by Hans Geiger and Ernest Marsden between 1908 and 1913, alpha particles were fired at thin metal foils. Most of the alpha particles passed straight through the foil, but a small number were deflected back at a large angle.

Small no. of particles
show large deflection

1/8000

α



Most particles show
little or no deflection

7999/8000

This experiment showed that, contrary to previous models, positive charges (protons) are not spread evenly throughout the atom, but are concentrated in a small, dense centre: the nucleus. A cloud of negative charges (electrons) surround this nucleus. Alpha particles that collided with the nucleus were repelled.



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