

Today in Chemistry History



30th August – Ernest Rutherford's birthday (1871)



Ernest Rutherford

Born

30 August 1871

Died

19 October 1937



Rutherford won a Nobel Prize in Chemistry in 1908 for his work on radioactivity. He named alpha and beta radiation and also developed the Rutherford model of the atom from his famous gold foil experiment.

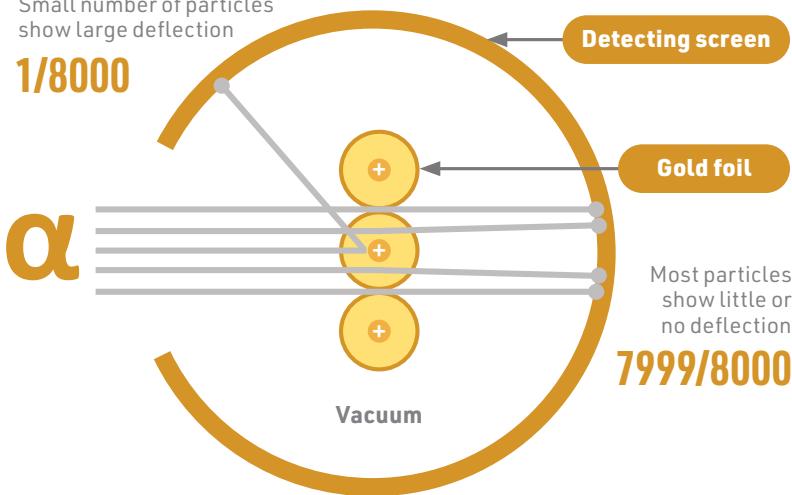
Rutherford's gold foil experiment

Hans Geiger and Ernest Marsden carried out this experiment between 1908 and 1913 under Rutherford's direction. Alpha particles were fired at thin metal foils. Most of the alpha particles passed straight through the foil, but a small number were deflected at a large angle.

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

Small number of particles show large deflection

1/8000



Most particles show little or no deflection
7999/8000

