

Atomic models

Teacher information

This resource is intended to be used in conjunction with the DVD, “Rutherford: The Life and Work of Ernest Rutherford”, supplied to New Zealand schools by the College of Science at the University of Canterbury. The aim of the material is to support teaching of the Year 12 Physics curriculum, and in particular the history of the development of the nuclear model of the atom.

Students should watch at least these sections of the DVD before attempting the activity:

Part 2, Chapter 5, *Age of the Earth*, from time code 31:40 to 32:00

Part 2, Chapter 8, *Alphas and Women*, from time code 43:10 to 44:18

The student sheets show eight sets of experimental observations, ranging from those of John Dalton to those performed by Ernest Rutherford, Hans Geiger and Ernest Marsden. The first column gives the date of the observations and the last column the conclusions which were later drawn. **The order of these has already been randomly mixed to assist you** (if preparation time is short you may prefer to ask the students to cut up the sheets).

The sheets should be cut into individual rectangles and given to groups of students who should match the observation with each conclusion. If possible, the dates should also be matched with the observations.

The correct solution is available on the Outreach website.

Outreach gratefully acknowledges the support provided by Dr John Campbell in the production of this resource. Dr Campbell is the author of www.rutherford.org.nz and “Rutherford: Scientist Supreme”, AAS Publications, 1999.