

Lesson Plan: The Atomic Model

This lesson plan includes the objectives and prerequisites of the lesson teaching students how to describe the differences between historical models of the atom and what drove the development of one model to the next.

Objectives

Students will be able to

- describe different models of the atom in order to explain how the atomic model has changed over time,
- recall the details of Dalton's hard sphere model, J. J. Thompson's plum pudding model, Rutherford's planetary model, and Bohr's electron shell model in order to highlight pivotal changes in our understanding,
- explain the details of the gold leaf experiment, Millikan's charge experiments, and the work of James Chadwick to show how our understanding of the structure of the atom developed to include subatomic particles,
- outline key aspects of the modern quantum mechanical model of the atom to begin to appreciate our latest understanding of atomic structure.

Prerequisites

Students should already be familiar with

• the structure of the atom as, ideally, this would allow students to better appreciate the journey science has taken to reach its current understanding.