

# Atomic Theory

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## Activity – Atomic theory timeline

You have been chosen to travel back in time in order to meet the Greek philosopher Democritus. Democritus first introduced the concept of atoms thousands of years ago. Since then, our understanding of the atom has slowly expanded up until today. It is your job to bring him up to date.

You must communicate to him how our understanding of the atom progressed through history. What were the key steps in the development of that understanding? This is what you will be investigating in this webquest.

Your task is to develop a briefing for Democritus that outlines the key scientists and experiments associated with the development of modern atomic theory. The briefing should include the names of the scientists, a description of the accomplishments, pictures of experimental equipment or atomic models, and descriptions of important scientific laws or principles developed by these scientists.

Begin your research by using your textbook and the links provided in the resource section of the webquest to complete a research data sheet for each of the following scientists, experiments, and atomic models:

### Scientists –

- Democritus
- Robert Millikan
- Neils Bohr
- J.J. Thomson
- James Chadwick
- Ernest Rutherford
- John Dalton
- Murray Gell-Mann
- Erwin Schrodinger
- Dmitri Mendeleev
- Marie Curie

### Experiments and atomic theories –

- Dalton's Atomic Theory
- Gold Foil Experiment
- Cathode Ray Tube experiment
- Oil Drop Experiment
- Plum Pudding Atomic Model
- Rutherford Model
- Bohr Planetary Model
- Quantum Mechanical Model

Prepare a chronological briefing for Democritus (assuming you can bring a PC back with you). It should include only the most important information from your research and it should be presented in chronological order. There needs to be pictures to illustrate your information. Refer to the grading rubric for a detailed outline of the requirements.

Make a timeline as part of your briefing which presents an overall view of the information.

Record all of your sources.

## Links

- [Atomic Theory Timeline Index](#)
- [Atomic History in an easy to read format](#)
- [A look at Thomson's Cathode Ray Experiments](#)
- [Atomic Theory 1: Rutherford and the Gold Foil Experiment](#)
- [Atomic Theory 2: Neils Bohr and a new atomic model](#)
- [History of the Atom](#)
- [Scientific Biography](#)
- [John Dalton's Atomic Theories](#)
- [A demonstration of the Cathode Ray Tube Experiment](#)
- [Robert Millikan's Oil Drop Experiment](#)
- [Various Atomic Models](#)
- [Atomic Theory Timeline](#)
- [Atomic Museum \(modern day research\)](#)
- [Atomic Models \(Bohr, Rutherford, Schrodinger\)](#)
- [Quantum Mechanical Model of an atom](#)
- [Erwin Schrodinger and his atomic model](#)