

Pre-AP Chemistry
Unit #4—Atomic Theory

Atomic Theory Timeline Project

In chemistry and physics, **Atomic Theory** is a theory of the nature of matter, which states that matter is composed of discrete units called atoms, as opposed to the obsolete notion that matter could be divided into any arbitrarily small quantity. It began as a philosophical concept in ancient Greece and India and entered the scientific mainstream in the early 19th century when discoveries in the field of chemistry showed that matter did indeed behave as if it were made up of particles.

The word "atom" (from the Greek *atomos*, "indivisible") was applied to the basic particle that constituted a chemical element, because the chemists of the era believed that these were the fundamental particles of matter. However, around the turn of the 20th century, through various experiments with electromagnetism and radioactivity, physicists discovered that the so-called "indivisible atom" was actually a conglomerate of various subatomic particles (chiefly, electrons, protons and neutrons) which can exist separately from each other. In fact, in certain extreme environments such as neutron stars, extreme temperature and pressure prevents atoms from existing at all. The field of science which studies subatomic particles is particle physics, and physicists hope to discover the true fundamental nature of matter.

Several scientists worked on the Atomic Theory, and each contributed to the Atomic Theory.

For your assignment:

Design the Atomic Theory Timeline that represents discoveries for the Atomic Theory by various scientists. Please include the following information for each scientist that is listed below:

Schrodinger
Democritus
Dalton
Thomson
Millikan
Rutherford
Bohr
Heisenberg

1. What field of science was the scientist from?
2. What was the scientist's major discovery?
3. What experiment did the scientist use for the discovery?
4. What were the results from the experiment?

The Atomic Theory Timeline can be presented in any media. It must be neat, creative, and in order.