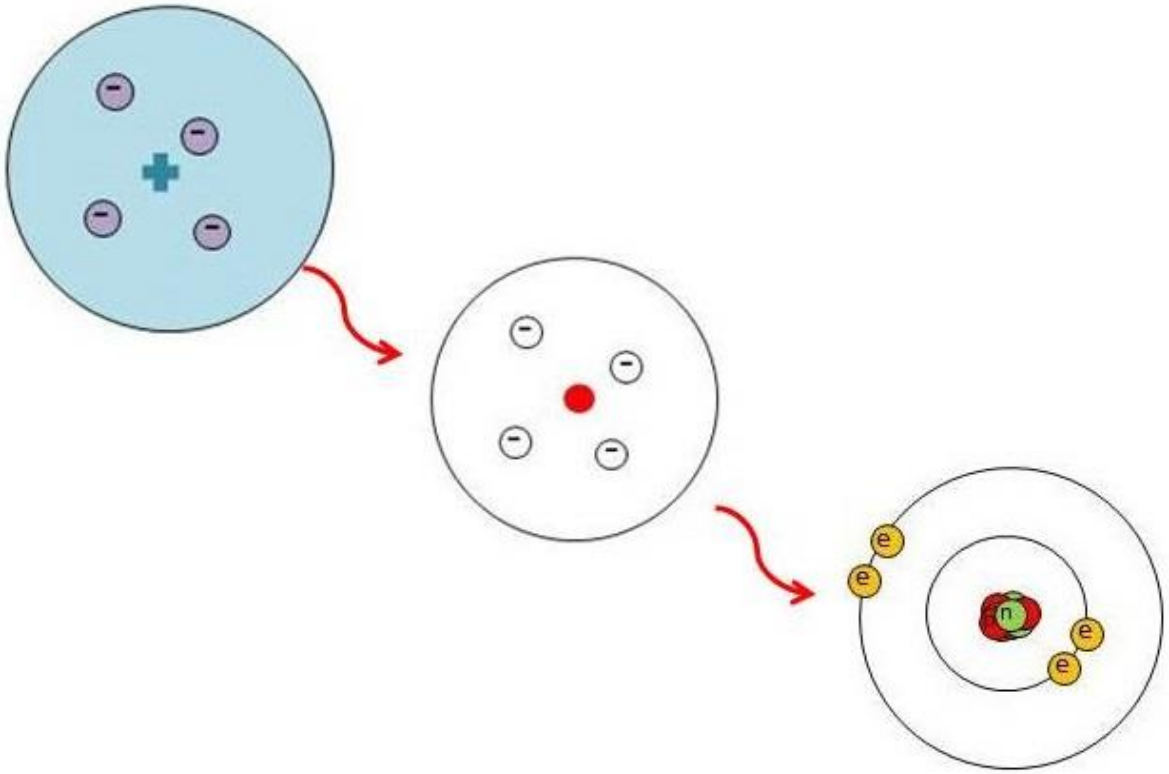
Inquiry Question
From the early Greek view of infinitely indivisible matter to electrons zooming around in shells outside of a nucleus, how did the current atomic model come to be?

Name: _____ **Date:** _____



We have come a long way in how we view matter and in our current understanding of the atom.

The atomic theory of matter is an excellent illustration of the process of science. Our understanding of the world around us is reshaped and refined with each scientific experiment. The first recorded idea of the atom comes from the ancient Greeks in the 400's B.C. Over the millennia, scientific experimentation has added to our knowledge of the atom, redefining what it is and what its structure is like.

How did we arrive at our current view of the atom?

General Instructions
The goal of this project is to learn about some of the highlights in the history of atomic theory and to gain an appreciation of how we know what we know about atoms.

Materials you'll need:

- Your course notes
- The internet for research
- Presentation software

Ideas and Hints:

- What were the stepping stones to the development of our current atomic model?
- Who were the scientists that contributed to our current understanding of the atom?

  Listed below are 14 scientists. When and where did they live? What was their contribution to atomic theory?

Democritus	James Chadwick
Antoine Lavoisier	Max Planck
John Dalton	Albert Einstein
J. J. Thomson	Niels Bohr
Ernest Rutherford	Louis De Broglie
Robert Millikan	Erwin Schrodinger
Marie Curie	Werner Heisenberg

- How well received were the various models?
- Why did the models change? Why did the theories need to be revised?
- What new information was found? What experiments were done to find it?
- Interesting facts – other accomplishments, personal information, famous historical events at the time, etc.?
- ***Research Tip:***
  Some of these scientists also did experiments that were not related to atomic theory. When you do a search you may want to include "atomic theory" or history of atomic theory to help get more focused results (example: "Niels Bohr" "atomic theory"). You can of course get good general information by searching just their names but don't forget to find out specifically about their contributions to atomic theory.

- ***Remember it is important to cite your sources, giving credit where credit is due!*** Please submit a bibliography with your project. This should be done in the proper format (see the examples shown below).

  Sample Citations (for an online source):

  PBS. (n.d.). *A Science Odyssey: You Try It: Atom Builder*. Retrieved from http://www.pbs.org/wgbh/aso/tryit/atom

  Kruglinski, S. (2009, March 17) *The Man Who Found Quarks and Made Sense of the Universe*. Retrieved from http://discovermagazine.com/2009/apr/17-man-who-found-quarks-made-sense-of-universe/

- Here are a few useful websites to help you get started:

  https://www.pbs.org/wgbh/aso/tryit/atom/
  - scroll down to the bottom for links to the different scientists

  https://www.ausetute.com.au/atomichist.html

  https://www.visionlearning.com/en/library/Chemistry/1
  - Early Ideas About Matter and the first 3 sections on Atomic Theory

Project submission:

Once you have completed your research and created your presentation, save your work to your computer and then upload it to the project submission folder at the end of the unit.