

### Activity 4.4 Wrap Up: Where are the electrons?

Use the Interactive Timeline at the end of 4.4 to help answer the following questions.

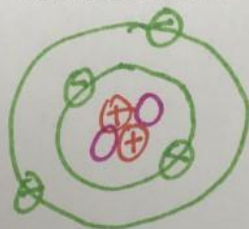
#### Niels Bohr (1913)

Bohr studied the interaction of light & matter. He found that atoms would absorb or emit light of very specific energies. This led him to believe that electrons existed at specific orbits around the nucleus.

#### Bohr Model of the Atom (1913)

In the Bohr and Rutherford models of the atom, the nucleus is the same. However, in the Bohr model, the electrons orbit at specific distances from the nucleus.

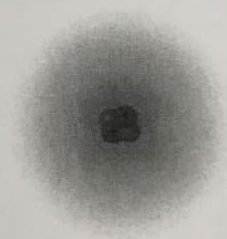
Draw the model of the atom provided at during this time:



- proton
- neutron
- electron

#### Probability Model of the Atom (1950 — 2014)

According to the probability model of the atom, electrons exist in a region of space around the nucleus of the atom. The region in which electrons are likely to be located is called an "orbitals." This figure depicts spherical orbital, but orbitals also come in other strange shapes too.



The probability model of the atomic structure is shown above. This is more useful. In the probability model, instead of having electrons in orbits, you represent the regions within an atom where electrons are most likely to be found.