

Directions:

- Go to the following website: <<http://phet.colorado.edu/en/simulation/build-an-atom>>
- Click the green “Run Now” button below the large image to start the application.
- Play around with the simulation for a bit to become familiar with the controls and functions. You can add particles to your atom by dragging them into the atom model. The “Element”, “Mass” and “Net Charge” boxes should be expanded.
- Make sure that the simulation is set to the “orbital” model. The model shows two orbits, which we often call **energy levels**. The first energy level is the one closest to the nucleus, and the second is further away.

Learning Goals:

1. Draw models that show atomic structure.
2. Use information about the number of protons, neutrons, and electrons to identify an element, its position on the periodic table.
3. Predict how changing the number protons and electrons will change the element and its charge.

Accessing Prior Knowledge:

1. What are the three sub-atomic particles that make up an atom? List the particle *name* and its *charge*.

2. What does the term “neutral” mean?