[***Build an Atom***](http://phet.colorado.edu/en/simulation/build-an-atom) **Game ‌**

This lab uses the [***Build an Atom***](http://phet.colorado.edu/en/simulation/build-an-atom) simulation from PhET Interactive Simulations at University of Colorado Boulder, under the CC-BY 4.0 license.

https://phet.colorado.edu/sims/html/build-an-atom/latest/build-an-atom\_en.html

**Learning Goals:** Students will be able to

1. Make atom models that show stable atoms or ions.
2. Use given information about subatomic particles to

* Identify an element and its position on the periodic table
* Draw models of atoms
* Determine if the model is for a neutral atom or an ion.

1. Predict how addition or subtraction of a proton, neutron, or electron will change the element, the charge, and the mass of their atom or ion.
2. Describe all vocabulary words needed to meet the goals.
3. Use a periodic symbol to tell the number of protons, neutrons, and electrons in an atom or ion.
4. Draw the symbol for the element as you would see on the periodic table

**Test your understanding and use the rules you wrote to play a game.**

1. Play Level 1of the [Build an Atom](https://phet.colorado.edu/sims/html/build-an-atom/latest/build-an-atom_en.html) game
   1. Did you have to change your rules or do you have other ideas to make you get a better score? Include screen captures from the simulation to help explain.
   2. When you complete the level 1 game, capture the screen with your score. Paste it below like this:
2. Play Level 2 of the game
   1. Explain what makes the level more difficult or different from previous levels. Do you have new strategy ideas or rules? Include screen captures from the simulation to help explain.

* 1. When you complete the level, capture the screen with your score and paste it below:

1. Play Level 3 of the game
   1. Explain what makes the level more difficult or different from previous levels. Do you have new strategy ideas or rules? Include screen captures from the simulation to help explain.
   2. When you complete the level, capture the screen with your score and paste it below:
2. Play Level 4 of the game
   1. Explain what makes the level more difficult or different from previous levels. Do you have new strategy ideas or rules? Include screen captures from the simulation to help explain.
   2. When you complete the level, capture the screen with your score and paste it below:

**Final Score:**

After you play all levels of the game. Copy and paste your final results like this



**Extra challenge:** For an extra challenge, you can turn on the timer  and see if you can improve your skills.