

Building an Atom

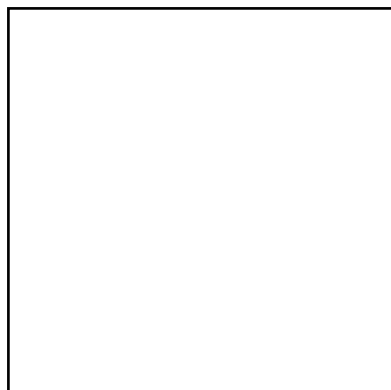
Before you go and build a model, let's take some time write down all of the things we know about atoms. In the box below, draw a model of what you think an atom looks like. Label all of the components with the names that you know. You must fill out this box before moving forward



Now that we have placed all of our thoughts onto paper, go and grab a computer. On your computer, go to bit.ly/30z58js. There you will be presented with three options: Atom, Symbol and Game. We will only be focusing on atom for now. As you play with the simulation, answer the questions below

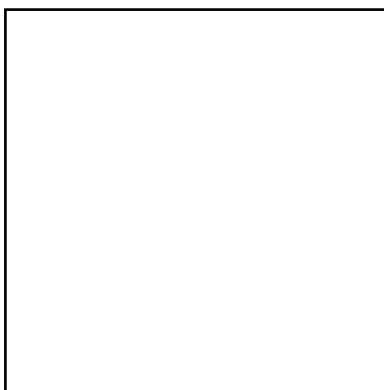
Q: What is an atom made out of?

Q: You will be creating a couple of atoms. Draw the atoms in the boxes below



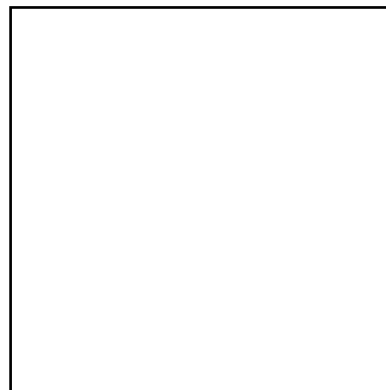
Hydrogen Atom

Protons:
Neutrons:
Electrons:



Boron Atom

Protons:
Neutrons:
Electrons:

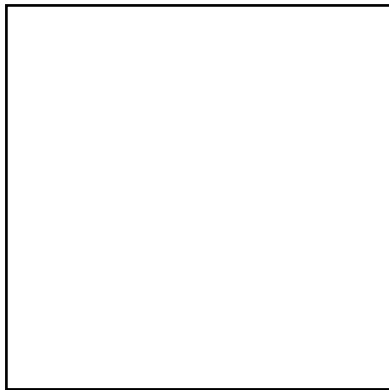


Neon Atom

Protons:
Neutrons:
Electrons:

Q: What are some similarities you see between each of the atoms you made? What are some differences? If they are all made up of the same components, why do they have different names?

Q: You will be creating a couple of atoms. Draw the atoms in the boxes below

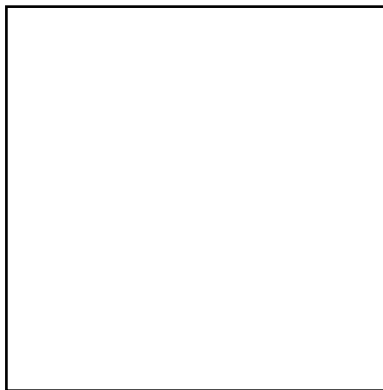


Oxygen Atom

Protons:

Neutrons:

Electrons:

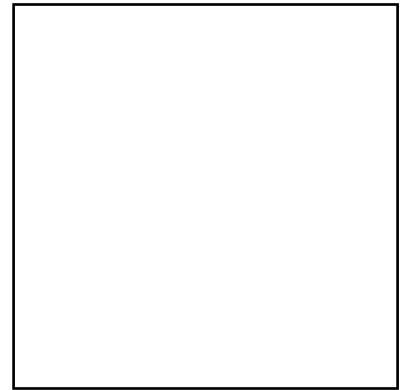


Fluorine Atom

Protons:

Neutrons:

Electrons:



Oxygen Ion

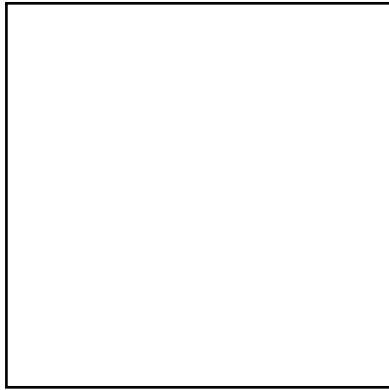
Protons:

Neutrons:

Electrons:

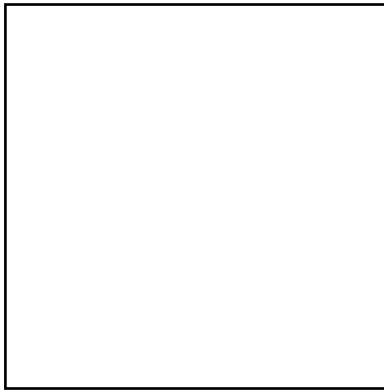
Q: What are some similarities you see between each atom? What are some differences? What do you think an ion is? Are ions the same as atoms? What do you need to add to ion to not make it an ion?

Q: You will be creating a couple of atoms. Draw the atoms in the boxes below



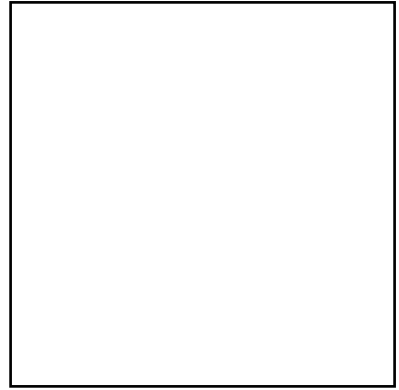
Lithium Atom (Stable)

Protons:
Neutrons:
Electrons:



Lithium Atom (Unstable)

Protons:
Neutrons:
Electrons:

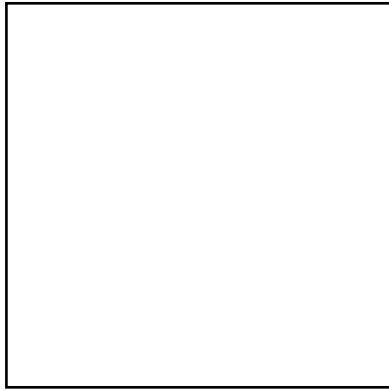


Lithium Atom (Unstable)

Protons:
Neutrons:
Electrons:

Q: What are some similarities you see between each atom? What are some differences? What do you think makes an atom unstable? How can you make an unstable atom stable?

Q: You will be creating a couple of atoms. Draw the atoms in the boxes below



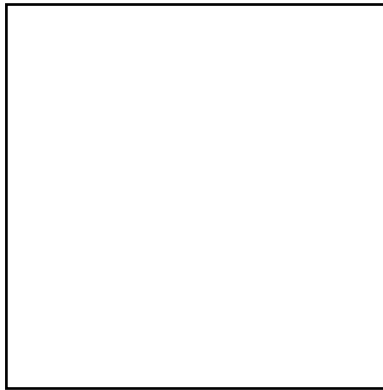
Beryllium Atom
(Stable)

Protons:

Neutrons:

Electrons:

Mass Number:



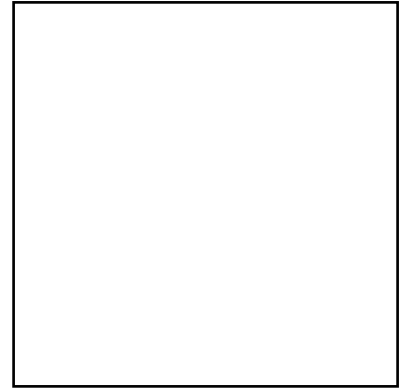
Beryllium Atom
(Unstable)

Protons:

Neutrons:

Electrons:

Mass Number:



Beryllium Atom
(Unstable)

Protons:

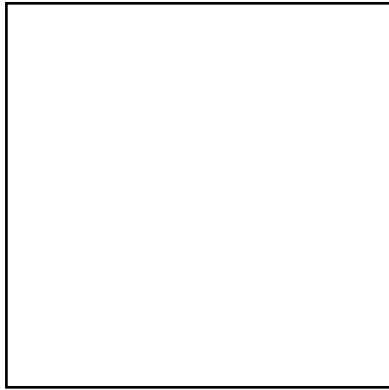
Neutrons:

Electrons:

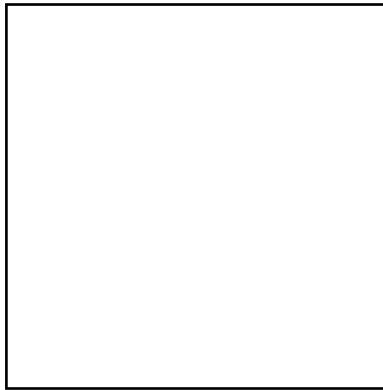
Mass Number:

Q: What are some similarities you see between each atom? What are some differences? What do you notice about the mass number? What do you think it tells us?

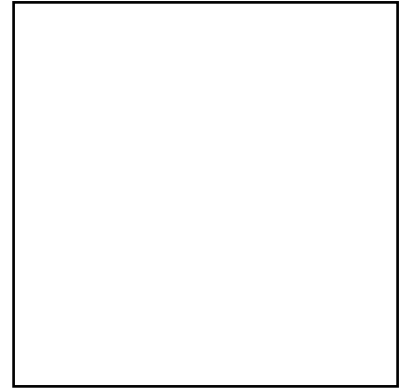
Q: You will be creating a couple of atoms. Draw the atoms in the boxes below



Carbon Atom
(Stable)
Protons:
Neutrons:
Electrons:
Mass Number:
Atomic Number



Boron Atom
(Unstable)
Protons:
Neutrons:
Electrons:
Mass Number:
Atomic Number



Nitrogen Atom
(Unstable)
Protons:
Neutrons:
Electrons:
Mass Number:
Atomic Number

Q: What are some similarities you see between each atom? What are some differences? What do you notice about the atomic number? What do you think it tells us?