Stable Isotopes:
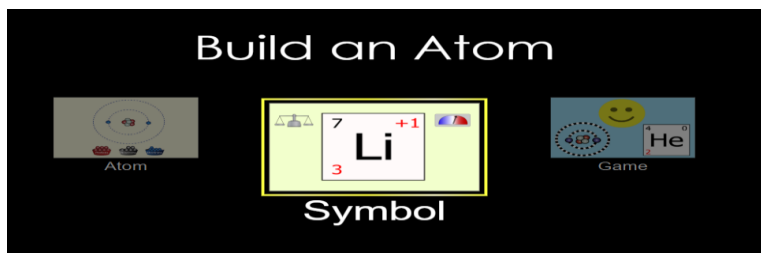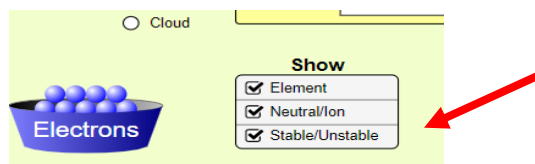
Name_____

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

You will be using the Phet simulation, "build an atom" if the canvas link does not work, use the link above. Click on the lithium box labeled SYMBOLS to begin

1. Add one **proton**.

   a. Where in the atom does it go?

   b. What is the symbol of the element?

   c. What is the mass?

   d. What is the charge?

2. Add one **neutron**.

   a. Where in the atom does it go?

   b. What is the symbol of the element?

   c. What is the mass?

   d. What is the charge?

3. Add one **electron**.

   a. Where in the atom does it go?

   b. What is the symbol of the element?

   c. What is the mass?

   d. What is the charge?

4. Click the STABLE/UNSTABLE box at the bottom. Is this isotope stable or unstable?

5. Take the number of protons divided by number of neutrons, what does it equal: p/n =

6. Add one more **neutron**.

   a. Is the atom still stable?

   b. What is the value of p/n?   p/n =

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7. Add one more **proton**.
   a. What element is formed?

   b. What is the symbol of the element?

   c. What is the mass?

   d. What is the charge?

   e. Is the atom stable?

   f. What is the value of p/n?   p/n =

8. Add one more **proton**.

   a. What element is formed?

   b. What is the symbol of the element?

   c. What is the mass?

   d. What is the charge?

   e. Is the atom stable?

   f. What is the value of p/n?   p/n =

9. Add more **electron**. Does the number of electron determine if an atom is stable?

10.   Add one more **neutron**.

   a. Is the atom stable?

   b. What is the value of p/n?   p/n =

11. Build an isotope of fluorine that **is stable**

   a. How many protons?

   b. How many neutrons?

   c. What is the value of p/n?   p/n =

12. What determines the **mass** of the isotope?

13. What determines what **element** it is?

14. What determines if an isotope is **stable**?