

Atomic Structure Lab - What Have I Changed?

Overview: Today you will be adding and subtracting protons, neutrons, and electrons from an atom which will affect the characteristics of the atom. You will write what you changed for each step and fill out the chart below for each step.

Follow the following steps:

1. Put 3 protons, 4 neutrons, and 3 electrons in your bag. What is the element? _____
2. Take 2 protons, 2 neutrons and 1 electron out. What changed? _____
3. Add 1 proton and 1 neutron. What changed? _____
4. Add 4 protons and 4 electrons. What changed? _____
5. Take 2 protons, 2 neutrons and 2 electrons out. What changed? _____
6. Add 3 protons, 2 neutrons, and 4 electrons. What changed? _____
7. Add 1 proton and 2 neutrons. What changed? _____
8. Add 2 protons, 1 neutron and 1 electron. What changed? _____
9. Take 1 proton. What changed? _____
10. Take 8 protons and 9 electrons. What changed? _____

Steps	# of Protons	# of Neutrons	Mass Number	Atomic Number	# of Electrons	Ion Charge	Nuclear Symbol	Isotope Name
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

1. How can you make an atom an ion? _____
2. How can you change the identity of an element? _____
3. How do you make an isotope of an element? _____
4. How does changing the protons, neutrons, and electrons of an atom affect it's characteristics? _____

5. Why do some atoms gain electrons while others lose electrons in chemical reactions? _____

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