**Models of Atoms and Their Structures**

**Directions:**

**Use you periodic table to complete the chart below. Remember:**

* Atomic Number = Number of Protons
* # Protons = # of Electrons
* # of Neutrons = Atomic mass - # of Protons

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element name** | **Element symbol** | **# of protons** | **# of neutrons** | **# of electrons** |
| 1. Hydrogen |  |  |  |  |
| 2. Helium |  |  |  |  |
| 3. Carbon |  |  |  |  |
| 4. Oxygen |  |  |  |  |
| 5. Nitrogen |  |  |  |  |
| 6. Sodium |  |  |  |  |
| 7. Phosphorous |  |  |  |  |
| 8. Sulfur |  |  |  |  |

**Now use the Build an Atom simulator to help model the structure of each atom.** Draw the correct number of each type of sub-atomic particle in the correct places on the diagrams below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Atom** | **Atomic Model** | **Atom** | **Atom Model** |
| 1. Hydrogen  P:  N:  E: |  | 2. Helium  P:  N:  E: |  |
| 3. Carbon  P:  N:  E: |  | 4. Oxygen  P:  N:  E: |  |
| 5. Nitrogen  P:  N:  E: |  | 6. Sodium  P:  N:  E: |  |
| 7. Phosphorous  P:  N:  E: |  | 8. Sulfur  P:  N:  E: |  |

1. What is the charge of a proton?
2. On the periodic table, where do you find the protons in an atom?
3. What is the charge of a neutron?
4. On the periodic table, how do you find the neutrons in an atom?
5. What is the charge of an electron?
6. How do you find the electrons in an atom?
7. How do the masses of the proton, neutron and electron compare to each other?