|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Letter** | **# of Blue Balls** | **# of Black** **Balls**  | **Name of Element**  | **Atomic Symbol**  | **Atomic Mass**  | **Atomic Number**  |
| **A** |  |  |  |  |  |  |
| **B** |  |  |  |  |  |  |
| **C** |  |  |  |  |  |  |
| **D** |  |  |  |  |  |  |
| **E** |  |  |  |  |  |  |
| **F** |  |  |  |  |  |  |
| **G**  |  |  |  |  |  |  |
| **H** |  |  |  |  |  |  |
| **I** |  |  |  |  |  |  |
| **J** |  |  |  |  |  |  |
| **K** |  |  |  |  |  |  |
| **L** |  |  |  |  |  |  |
| **M** |  |  |  |  |  |  |

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Directions:**

The lettered bags represent the nucleus of an atom. Inside the nucleus are the positively charged protons and neutral neutrons. Inside the bag, the **blue balls represent the protons**. The **black balls represent the neutrons**. Fill out the chart accordingly using your periodic table.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Letter** | **# of Blue Balls** | **# of Black** **Balls**  | **Name of Element**  | **Atomic Symbol**  | **Atomic Mass**  | **Atomic Number**  |
| **N** |  |  |  |  |  |  |
| **O** |  |  |  |  |  |  |
| **P** |  |  |  |  |  |  |
| **Q** |  |  |  |  |  |  |
| **R** |  |  |  |  |  |  |

**Post Lab Questions:**

1. What does the atomic number represent? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Where are the protons located within the atom?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Where are the neutrons located within the atom?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. What does the mass number represent?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. What is the charge of a proton?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. What is the charge of a neutron?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. How do the size of a proton and neutron compare?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
8. What is an isotope?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
9. Within the “bagged” elements are any of the bags isotopes (Yes) or (No)
10. Explain how can you tell if there were any isotopes among the bagged samples?
11. Where do you find electrons within the atom?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
12. What is the charge of an electron?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.