**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Period\_\_\_\_\_\_\_\_**

**The Periodic Table and Atomic Structure**

**Part I**

1. Where did the word "atom" come from?
2. How did Mendeleev's decide to organize his table
3. Why is **today's periodic table** shaped the way it is?
4. What would cause the shape of the periodic table to be changed again?
5. Use the periodic table to fill in the blank squares on the following table:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Sodium** |  |  | **Manganese** |  |  |  | **Lead** |  | **Mercury** |
| **Symbol** |  |  |  |  |  | **Fe** |  |  |  |  |
| **Protons** |  |  |  |  |  |  | **29** |  |  |  |
| **Neutrons** |  | **4** |  |  |  |  |  |  |  |  |
| **Electrons** |  |  |  |  |  |  |  |  | **19** |  |
| **Atomic #** |  |  | **47** |  |  |  |  |  |  |  |
| **Mass #** |  |  |  |  | **137** |  |  |  |  |  |

**Part II**

1. What is the first nonmetal on the fourth row of the periodic table?

2. What nonmetal has the lowest atomic number?

3. Name one element that is a liquid at room temperature.

4. Determine which element in each of these pairs is the most active:

* 1. magnesium or barium
  2. chlorine or bromine
  3. manganese or iron
  4. lithium or potassium
  5. nitrogen or phosphorus

5. Is silicon a metal or nonmetal?

6. To what chemical family does iodine belong?

7. How many electron energy levels are in an atom of tin?

8. How many columns on the periodic table represent *p* sublevel electrons?

9. How many orbitals are in the *d* sublevel?

10. How many valence electrons does Oxygen have?

11. The atomic number of Tin is \_\_\_\_\_\_\_\_\_\_.

12. A sulfur atom has \_\_\_\_\_\_\_\_\_\_ protons.

13. Chlorine is in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ family of elements.

14. An aluminum atom has \_\_\_\_\_\_\_\_\_\_ protons.

15. An atom of uranium has \_\_\_\_\_\_\_\_\_\_ electrons?