***The World of Chemistry***

**Episode 7 - The Periodic Table**

1. What two types of properties are described in the video?
2. What are some examples of physical properties?
3. How many elements are on the modern periodic table? \_\_\_\_\_ How many of these can be found in nature? \_\_\_\_\_\_
4. Why do the symbols for some elements (such as iron) seem to have no relationship to their name?
5. What is meant by the atomic and mass number of an element?
6. Elements in the periodic table are arranged by increasing \_\_\_\_\_\_\_\_\_\_ number.
7. What is a groups of elements? a period?
8. What are the ingredients used in the making of glass? What determines the color of glass?
9. What are alkali metals? Describe their reaction with water.
10. How does the size of an atom change -
    1. as you go down a group of elements?
    2. as you go from left to right in a period of elements?
11. Who developed the periodic table?
12. What did Mendeleev do for elements that had not yet been discovered?
13. How did Glenn Seaborg change the periodic table?
14. Why are the electrons in the outer shell of an atom important?

**Answer Key**

1. What two types of properties are described in the video?

*Physical and chemical*

1. What are some examples of physical properties?

*Density, melting point, boiling point*

1. How many elements are on the modern periodic table? How many of these can be found in nature?

*Over 100; About 90*

1. Why do the symbols for some elements (such as iron) seem to have no relationship to their name?

*Their symbols are based on the Latin names for those elements.*

1. What is meant by the atomic and mass number of an element?

*A.N. = # Protons; Mass Number = Sum of protons and neutrons*

1. Elements in the periodic table are arranged by increasing *atomic* number.
2. What is a groups of elements? a period?

*Groups - Vertical column; Period - Horizontal column*

1. What are the ingredients used in the making of glass?

*Sand, soda ash, limestone*

What determines the color of glass?

*The addition of compounds containing metals*

1. What are alkali metals? Describe their reaction with water.

*They are the elements in Group I. They all react with water producing hydrogen gas. The activity increases as you go down the row.*

1. How does the size of an atom change -
   1. as you go down a group of elements?

*It increases*

* 1. as you go from left to right in a period of elements?

*It decreases*

1. Who developed the periodic table?

*Mendeleev*

1. What did Mendeleev do for elements that had not yet been discovered?

*He left spaces for them and predicted many of their properties with high accuracy.*

1. How did Glenn Seaborg change the periodic table?

*He proposed the actinide series. He was also involved in the discovery of many of the manmade elements that make up this series.*

1. Why are the electrons in the outer shell of an atom important?

*They are the electrons involved in the formation of chemical bonds*