

Periodic Trends Worksheet #1

- Describe the contributions made by the following scientists: Mendeleev and Moseley
- Write the noble gas electron configuration for the following elements:
 - Be _____
 - Al _____
 - Mn _____
 - Y _____
 - Po _____
 - Hs _____

g. What is the relationship between the electron configuration of an element and the period in which that element appears in the periodic table?
- Write the noble gas electron configuration for the following elements:
 - Be _____
 - Mg _____
 - Ca _____
 - Sr _____
 - Ba _____
 - Ra _____
- How do the electron configurations within the same group of elements compare?
- What information is provided by the specific block location of an element?
- Which group of elements are the alkali metals? List four characteristic properties:
_____, _____, _____, _____
- Which group of elements are the alkaline earth metals? List four characteristic properties:
_____, _____, _____, _____
- What name is used to refer to the entire d-block elements?
- Which group of elements are the halogens? List three characteristic properties:
_____, _____, _____
- Which elements are the metalloids? List their characteristic properties:

- Which groups of elements are the main group elements?
- Which group of elements are the noble gases? List three characteristic properties:
_____, _____, _____
- Without looking at a periodic table, identify the period, block, and group in which the elements with the following electron configurations are located.

Period _____	Block _____	Group _____	a. $[\text{Ne}]3s^23p^4$
Period _____	Block _____	Group _____	b. $[\text{Kr}]5s^24d^{10}5p^2$
Period _____	Block _____	Group _____	c. $[\text{Xe}]6s^24f^{14}5d^{10}6p^5$
- Without looking at a periodic table, write the expected outer electron configuration for each of the following elements.
 - Group 7, Period 4
 - Group 3, Period 5
 - Group 12, Period 6
- What are valence electrons?
- Which main group elements have 1 valence electron?
- Which main group elements have 6 valence electrons?
- Write the nuclear symbol for an ion with a charge of +2, 20 protons, and 24 neutrons.
 - How many electrons are in this ion? _____
 - Is it an anion or cation?
- Write the nuclear symbol for an ion with a charge of -2, 18 electrons, and 18 neutrons.
 - How many protons are in this ion? _____
 - Is it an anion or cation?
- Write the nuclear symbol for an ion with a charge of +3, 13 protons, and 15 neutrons.
 - How many electrons are in this ion? _____
 - Is it an anion or cation?