Periodic Table Basics

Step 1: Complete the card for each element.

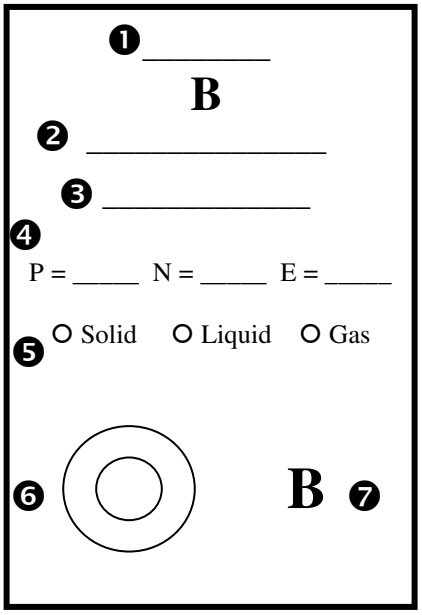
Complete the top section for each element by adding the element's ❶ atomic number, ❷ name, and ❸ atomic mass.

❹ Determine the number of protons, neutrons, and electrons in each element.

❺ Darken the correct circle to show if the element is a solid (S), liquid (L), or gas (G) at room temperature.

❻ Create a Bohr diagram for each element.

❼ Draw the Lewis Structure for each element.



Step 2: Use colored pencils to shade in the card for each element. Hydrogen is not colored!

Green = Li & Na	Pink = O & S	Blue = Be & Mg	Purple = F & Cl
Orange = B & Al	Red = C & Si	Tan = N & P (Light brown)	Yellow = He, Ne, & Ar

Step 3: Cut the cards apart and arrange according to atomic number in the pattern shown below on a large sheet of construction paper.

Periodic Table Basics

1							2
3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18

Step 4: After you have the cards arranged in the correct order, glue them to the paper. Add a title at the top of the page along with your names.

Step 5: Answer the questions on the back of this worksheet using the information on your Periodic Table. Each person in your group must complete the worksheet!

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Periodic Table Basics **/35** Name _____

6pts

1. Which elements had complete outer shells? Give the name and symbol for each.

_____ _____ _____ _____ _____ _____

What do you notice about the location of these elements?

6pts

2. Which elements had only one valence electron? Give the name and symbol for each.

_____ _____ _____ _____ _____ _____

What do you notice about location of these elements?

3. What do you notice about the number of valence electrons as you move from left to right across a row or period in the periodic table? (Na →Mg →Al →Si →P →S →Cl →Ar)

4. What do you notice about the number of energy levels or shells as you move down a group or column in the periodic table? (H → Li → Na)

8pts

5. Write the name of each family at the top of the columns on your periodic table using the following information.

Alkali Metals - 1 valence electron	Nitrogen Family - 5 valence electrons
Alkaline Earth Metals - 2 valence electrons	Oxygen Family - 6 valence electrons
Boron Family - 3 valence electrons	Halides - 7 valence electrons
Carbon Family - 4 valence electrons	Noble Gases - Complete outer shells

6. What do you notice about the valence electrons in each family?

2pts

7. In what family would you classify hydrogen? Explain your choice.

4pts

8. In what family would each of these elements be classified?

Radium - _____ Tin - _____

Iodine - _____ Cesium - _____

4pts

9. Predict the number of valence electrons for each element based on its location in the Periodic Table of Elements. You will need to use a periodic table.

Barium = _____ Lead = _____ Bismuth = _____ Potassium = _____