

Using Properties to Find Patterns on the PT

Name _____

Date _____ Period _____

Problem:

Use your knowledge of the periodic table to determine the identity of each of the nine unknown elements in this activity.

- The unknown element cards are from the following groups (columns) on the periodic table. Group numbers are written in red across the top of the classroom periodic table. Each group number listed below contains **at least** one unknown card, and possibly more than 1 unknown card.

1 2 11 13 14 17 18

- Fr, Ra, At, and Rn are radioactive elements and will not be used during this activity. They will NOT be one of your unknown cards.
- You may NOT use your textbook or any other reference materials other than a periodic table. You have been provided with enough information to determine each of the unknown elements.

Procedure:

- Inspect the properties of the known elements.
- Using your periodic table, arrange the cards of the known elements in a rough representation of the periodic table.
- Once the known elements are in place, inspect the properties of the unknowns to see where their properties would best "fit" the trends of the elements of each group.
- In your data table, assign the proper element name to each of the unknowns. Record the symbol for each of the "unknowns" in your data table.

Data Table:

Unknown #	Name	Element Symbol
1		
2		
3		
4		
5		
6		
7		
8		
9		

Conclusion:

Summarize your group's reasoning for assignment of each unknown. Explain in sentences exactly how you predicted the identity of each of the unknowns.