

Periodic Table Analogy Worksheet

Observations

1. Describe the characteristics of the cards. How are they alike? How are they different?
2. What property did you use to arrange the cards in one long row?
3. Describe the two-dimensional classification of your final arrangement in the following manner. a) How are the cards arranged in each row? b) What property do the cards in a column have in common? c) What exceptions to the pattern, if any, are found in your arrangement?
4. Predict the properties (number and color) of the missing card. Give reasons for your prediction.

Post-Lab Questions and Analysis

5. What property or properties of the cards in the final arrangement show a repeating or periodic pattern?
6. Elements in each column in the periodic table are known as a *family* and rows are called *periods*. Would these names also be appropriate for your arrangement of cards? Explain.
7. Elements in the first column of the periodic table belong to the alkali metal family. Name the alkali metals and describe two chemical properties that the alkali metals share.
8. Mendeleev arranged the elements in order of increasing atomic mass. Today the elements are arranged in order of increasing atomic number (number of protons), a property not known during Mendeleev's time. Based on your results, give a possible explanation why this was a better method.