Activity: Lucky Seven

FOR THE TEACHER

Summary
In this activity, students will use the periodic table and the clues provided to identify element names. Students will then attempt to find the element names that are hidden in the puzzle.

Grade Level
High and Middle School

Objectives
By the end of this activity, students should be able to
- Identify an element on the periodic table based on information provided about their physical properties.
- Use information about atomic structure to identify an element.
- Understand that every element has distinguishing characteristics that make it unique.
- Locate families of elements on the periodic table based on the name of the family.
- Differentiate between groups and periods on the periodic table.

Chemistry Topics
This activity supports students’ understanding of
- Periodic Table
- Elements

Time
Teacher Preparation: minimal
Lesson: 15 - 20 minutes

Materials
- Student handout
- Periodic table

Safety
- No specific safety precautions need to be observed for this activity.

Teacher Notes
- This activity was designed to be a short problem-solving activity to help student familiarize themselves with the names and properties of select elements on the periodic table.
- It could be used during or at the end of a unit studying the periodic table or atomic structure.
- Note that all element names are seven letters in length.
- An answer key document has been provided for teacher reference.
FOR THE STUDENT
Lesson
Lucky Seven

Directions
First, use the periodic table and the clues provided below to determine the seven element names that are hidden in the puzzle below. Then try to find the letters of each of the element names in the puzzle. The names are organized in circles, with one letter from the name placed in the center of the circle and the rest of the letters surrounding it.

Note: The letters may not be organized in the order that they appear in the name! An example for Lithium is shown below for reference:

Clues
1. This toxic element is a metalloid found in the 4th period. ____________
2. This metal is slightly heavier than potassium, and readily gives up two electrons to form bonds with non-metals. ______________
3. This element has 92 protons and is located in the Actinide series. ______________
4. This metalloid has the same number of valence electrons as carbon, and is approximately double the mass of nitrogen. ________________
5. This transition metal is commonly known as Quicksilver, and is the only metal that exists as a liquid at standard temperature and pressure. ________________
6. This noble gas is heavier than 35 other elements on the periodic table. ____________
7. This very reactive halogen is more than double the mass of the halogen that is located in the period before it. ________________