

# Elemental, My Dear Watson

## Enrichment Activity

**Skills:** *interpreting a table, applying concepts, identifying*

The famous detective Sherlock Holmes used many kinds of clues to solve his cases. Like any good detective, he knew the value of fingerprints because no two people have the same fingerprints. In a way, atomic numbers are similar to fingerprints, because no two elements have the same atomic number. In this activity, you will take on the role of a chemical detective who tracks down elements by deducing their atomic numbers. Use the periodic table to help you.

1. The atomic number of element X is 6 less than the atomic number of element W. Element W is one of the elements that make up water. What are elements X and W? \_\_\_\_\_  
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2. To find element Z, start at the beginning of Period 2 on the periodic table. Move to the right until you come to an element whose atomic number is 6 more than the atomic number of the first element in the period. What is element Z? \_\_\_\_\_
3. Element D loses two electrons in a chemical reaction. Now it has the same number of electrons as neon. What is element D? \_\_\_\_\_
4. If the atomic numbers of calcium and beryllium are added together, you will get the atomic number of this element. What is the element? \_\_\_\_\_
5. Element Q has an atomic number that is less than that of iron and five times that of an element in Group 13. What is element Q? What is its atomic number? \_\_\_\_\_
6. This metal element has an atomic number that some people think is unlucky. What is the element? What did you guess is its atomic number? \_\_\_\_\_
7. Add together the atomic numbers of the first three noble gases, and you will have the atomic number of this element. What is the element? \_\_\_\_\_
8. The atomic number of element J is greater than the atomic number of platinum but less than the atomic number of lead. Its atomic number is divisible by 4. What is element J? \_\_\_\_\_

Now make up a chemical detective problem of your own. See if you can outwit another chemical detective in your class.

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