Name

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## Isotope Identity Worksheet

## **Pre-Activity Questions**

- 1. Hydrogen has three naturally occurring isotopes—H-1, H-2, and H-3. Determine the number of protons and neutrons in each isotope of hydrogen.
- 2. An isotope has a mass number of 235 with 143 neutrons. Use Equation 1 and the periodic table to determine the element.
- 3. Consider the following two atoms—iron-56 and an atom with 27 protons and 29 neutrons. Are the atoms isotopes of the same element? Why or why not?

## **Post-Activity Questions**

Use the periodic table to match the isotopes in the first column with their corresponding numbers of protons and neutrons in the second column.

1. copper-65	 A. 4 p+, 6 n
2. zinc-65	 B. 22 p+, 26 n
3. beryllium-10	 C. 30 p+, 35 n
4. boron-10	 D. 21 p+, 27 n
5. scandium-48	 E. 29 p+, 36 n
6. titanium-48	 F. 5 p+, 5 n

- 7. The atomic mass of an element represents a weighted average of the mass of each isotope and its relative abundance. Neon has three naturally occuring isotopes—Ne-20, Ne-21, and Ne-22. The atomic mass of neon is 20.18. Which of the three isotopes is most abundant? Explain.
- 8. Explain why the mass number of an isotope is a whole number and the atomic mass of an element is usually a decimal number.

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