Name_____

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.