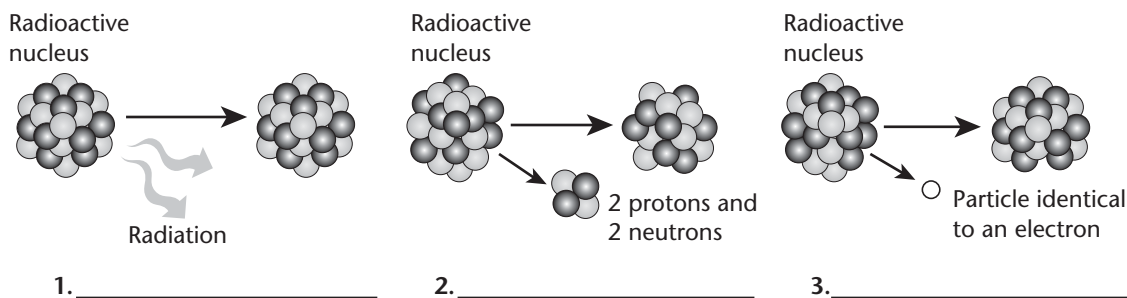


**Elements and the Periodic Table** ▪ 4.5 Review and Reinforce**Radioactive Elements****Understanding Main Ideas**

Label the following diagrams as alpha decay, beta decay, or gamma decay. Then answer the questions that follow.



4. Which diagram represents radioactive decay that leads to a decrease in atomic number? \_\_\_\_\_
5. Which diagram represents no change in atomic number?  
\_\_\_\_\_
6. Which diagram shows radioactive decay that produces the most penetrating type of radiation? \_\_\_\_\_

**Building Vocabulary**

Fill in the blank to complete each statement.

7. A(n) \_\_\_\_\_ consists of two protons and two neutrons and is positively charged.
8. \_\_\_\_\_ consists of high-energy waves and always accompanies alpha and beta decay.
9. During \_\_\_\_\_, the atomic nuclei of unstable isotopes release fast-moving particles and energy.
10. A(n) \_\_\_\_\_ can be used by doctors and by industry to diagnose problems.
11. A(n) \_\_\_\_\_ is a fast-moving electron given off by a nucleus during radioactive decay.
12. Uranium shows a property of being able to spontaneously emit radiation. This property is called \_\_\_\_\_.