

**Skills Worksheet****Directed Reading A****Section: Radioactivity**  
**DISCOVERING RADIOACTIVITY**

\_\_\_\_\_ 1. What happens to fluorescent minerals when light shines on them?  
a. The minerals explode.  
b. The minerals break into particles.  
c. The minerals glow.  
d. The minerals give off gases.

\_\_\_\_\_ 2. Becquerel made a hypothesis that fluorescent minerals give off  
a. minerals.  
b. X rays.  
c. uranium.  
d. particles.

\_\_\_\_\_ 3. In his experiment, Becquerel discovered that a fluorescent mineral  
made an image on a photographic plate even though there was no  
a. energy.  
b. uranium.  
c. light.  
d. X rays.

4. Becquerel concluded that the energy that made the image on the plate  
came from an element called \_\_\_\_\_.

5. Energy in the form of particles and rays emitted by the nuclei of some atoms  
is called \_\_\_\_\_.

6. Marie Curie named the process Becquerel discovered  
\_\_\_\_\_ or radioactive decay.

**KINDS OF RADIOACTIVE DECAY**

\_\_\_\_\_ 7. What does the unstable nucleus of an atom give off during radioactive  
decay?  
a. particles and energy  
b. molecules and energy  
c. particles and gases  
d. molecules and gases

**Directed Reading A *continued***

**Match the correct description with the correct term. Write the letter in the space provided.**

\_\_\_\_\_ 8. the release of an electron or a positron from the nucleus of an atom      a. gamma decay

\_\_\_\_\_ 9. the release of gamma rays from the nucleus of an atom      b. alpha decay

\_\_\_\_\_ 10. the release of a particle composed of two protons and two neutrons from the nucleus of an atom      c. beta decay

11. Particles released during alpha decay are called \_\_\_\_\_.

12. The sum of the numbers of protons and neutrons in the nucleus of an atom is called the \_\_\_\_\_.

13. Particles released during \_\_\_\_\_ are made up of two protons and two neutrons.

14. Mass number and charge are conserved in \_\_\_\_\_.

15. An electron or positron released during beta decay is called a(n) \_\_\_\_\_.

16. Explain why the mass number of a beta particle is 0.

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17. Describe what occurs when a carbon-14 nucleus undergoes beta decay.

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18. Atoms of an element that have the same number of protons as other atoms of that element, but a different number of neutrons are called \_\_\_\_\_.

19. Explain what happens during any beta decay.

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