Name _____ Date _____ Class _____

CHAPTER 4 STUDY GUIDE

Section 4.4 Unstable Nuclei and Radioactive Decay

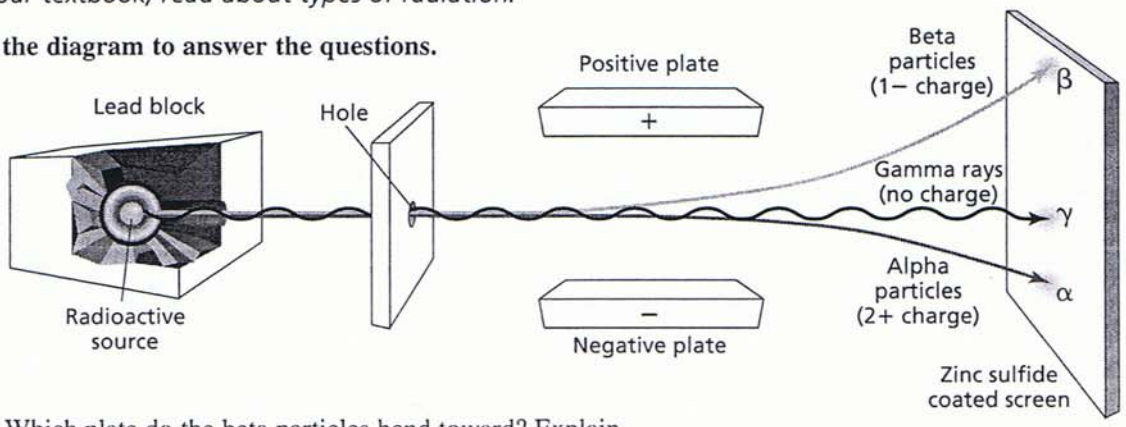
In your textbook, read about radioactivity.

For each item in Column A, write the letter of the matching item in Column B.

Column A	Column B
_____ **1.** The rays and particles that are emitted by a radioactive material	**a.** nuclear reaction
_____ **2.** A reaction that involves a change in an atom's nucleus	**b.** beta radiation
_____ **3.** The process in which an unstable nucleus loses energy spontaneously	**c.** radiation
	d. radioactive decay
_____ **4.** Fast-moving electrons	

In your textbook, read about types of radiation.

Use the diagram to answer the questions.



5. Which plate do the beta particles bend toward? Explain.

_____

6. Explain why the gamma rays do not bend.

_____

7. Explain why the path of the beta particles bends more than the path of the alpha particles.

_____

_____

Complete the following table of the characteristics of alpha, beta, and gamma radiation.

Radiation Type	Composition	Symbol	Mass (amu)	Charge
8. Alpha				
9.			1/1840	
10.	High-energy electromagnetic radiation			