PHYSICS IN MOTION
gpb.org/physics-motion

Unit 7A
Radioactive Decay

Note-Taking Guide and Questions to Consider

Name:

Date:

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

Objective(s):

- *Understand the role of protons, neutrons, and electrons in determining an element's identity and atomic mass.*
- *Describe the conditions under which alpha, beta, and gamma radioactive decay occur, and the changes in the atom that happen when each type of decay occurs.*
- *Determine the resulting nuclei that are formed from alpha, beta, and gamma decay of a nucleus.*

Notes:

During the video segment, use words, phrases, or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

PHYSICS IN MOTION
gpb.org/physics-motion

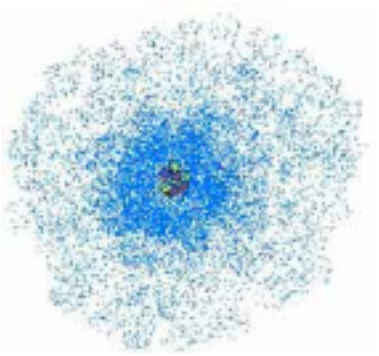
Unit 7A
Radioactive Decay
Note-Taking Guide and Questions to Consider

Name:

Date:

Answer the following.

1. **Label the diagram of the atom below. Identify the nucleus, the electron cloud, and where protons, neutrons, and electrons are located.**



2. **The _____ _____ force holds the nucleus together.**

3. **The number of _____ in the nucleus determines an atom's identity.**

4. **An object's mass number is equal to the sum of the _____ and _____ in the nucleus of the atom.**

5. **Atoms that have the same number of protons but a different numbers of neutrons are called _____.**

6. **For the symbol of Uranium-235 below, label the mass number and atomic number:**

$$\square \rightarrow {}^{235}_{92}\mathrm{U}$$
$$\square \rightarrow$$

7. **Define radioactivity in your own words:**

_____

questions continued on next page

PHYSICS IN MOTION
gpb.org/physics-motion

Unit 7A
Radioactive Decay
Note-Taking Guide and Questions to Consider

Name:

Date:

8. Complete the chart for each of the three types of radioactive decay:

Type of Decay	Particles Emitted	Change in Mass and/or Atomic Number	Charge of Emitted Particle(s)
Alpha			
Beta minus			
Beta plus			
Gamma			

9. Rank the types of radioactive decay in order from most energetic to least energetic:

_____