

Year 11 Physics - Radioactivity Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Part A: Key Concepts

1. Define radioactivity in your own words.

2. Match the types of radiation to their symbols and descriptions:

Type of Radiation	Symbol	Description
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Alpha	___	A helium nucleus
Beta	___	A high-speed electron
Gamma	___	Electromagnetic wave

3. Properties of Radiation:

Complete the table.

Radiation Type	Penetrating Power	Ionising Power	Range in Air
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Alpha (alpha)			
Beta (beta)			
Gamma (gamma)			

Part B: Half-Life Challenge

4. A radioactive source has a half-life of 6 hours.

How many hours would it take for the activity to drop to one-eighth of its original value?

Show your working.

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Part C: Practice Questions

5. Explain the difference between alpha and beta radiation.

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6. What does the term half-life mean in radioactivity?

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