Radiation Types and Uses Worksheet

Scoring guide · one credit per question · review written work against each rubric

Radiation Types and Uses

Question 1

Choice (1)

An alpha particle contains two protons and has charge +2.

Question 2

A gamma photon carries energy and has no protons or neutrons. The nucleus retains the same numbers of both.

Question 3

Choice (2)

Alpha is a charged helium nucleus. Gamma is an uncharged photon.

Question 4

Different radiation types interact with matter differently. A barrier can strongly reduce one type while having a smaller effect on another.

Comparing Readings in a Shielding Model

Question 5

Choice (3)

R changes from 100 to 98 counts, a drop of only 2.

Question 6

100 counts − 4 counts = 96 counts.

Question 7

Choice (3)

R still gives 74 counts behind Y. P and Q give 1 and 4 counts.

Question 8

Barrier X leaves 70 counts while barrier Y leaves only 4. Y reduces the count much more under the modeled conditions.