Checking a Model Magnetic Mineral Sort

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

Checking a Model Magnetic Mineral Sort

Question 1

Before separating, the quartz mass is 18.0 − 12.0 = 6.0 g. After separating, it is 13.0 − 12.0 = 1.0 g.

Question 2

Choice (3)

Both tests collect 12.0 g of magnetite. The reduction from 18.0 g to 13.0 g total comes from a lower quartz mass.

Question 3

Quartz could be attached to a magnetite grain that the magnet pulls. The joined cluster moves together.

Question 4

The recovery fraction is 12.0/15.0 = 0.80. The fraction of the collected solid that is magnetite is 12.0/13.0, or about 0.92.

Question 5

Compare the recovery fraction because its denominator is the amount of magnetite initially available. The collected-solid fraction instead describes how pure the collected material is.