

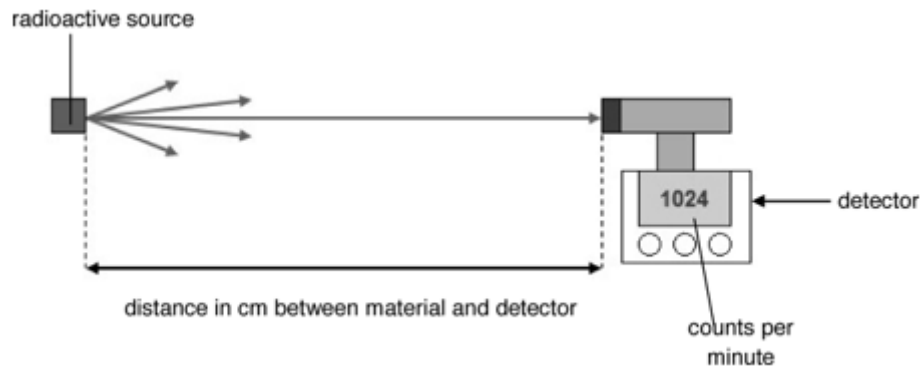
Gateway Science Physics A

J249/02 Physics A P5-P8 and P9 (Foundation Tier)

Question Set 20

A student does an experiment with radioactive materials.

- He investigates how the activity of radiation changes with distance.
- In the experiment, the radiation moves from the radioactive source to a detector.
- He measures the counts per minute at the detector.



The table shows the results.

Distance between source and detector (cm)	Count rate (counts per minute)
10	1000
20	240
40	60
80	20

- (a) The student could **not** take an accurate reading at 0 cm.

Suggest a reason why.

The count rate was too high for the detector to accurately detect.

[1]

