

6 A teacher investigates the half-life of a radioactive isotope that decays quickly.

(a) The teacher measures the background activity.

Explain how this value should be used in the investigation.

(1)

DO NOT WRITE IN THIS AREA

(b) Explain what is meant by the term **half-life**.

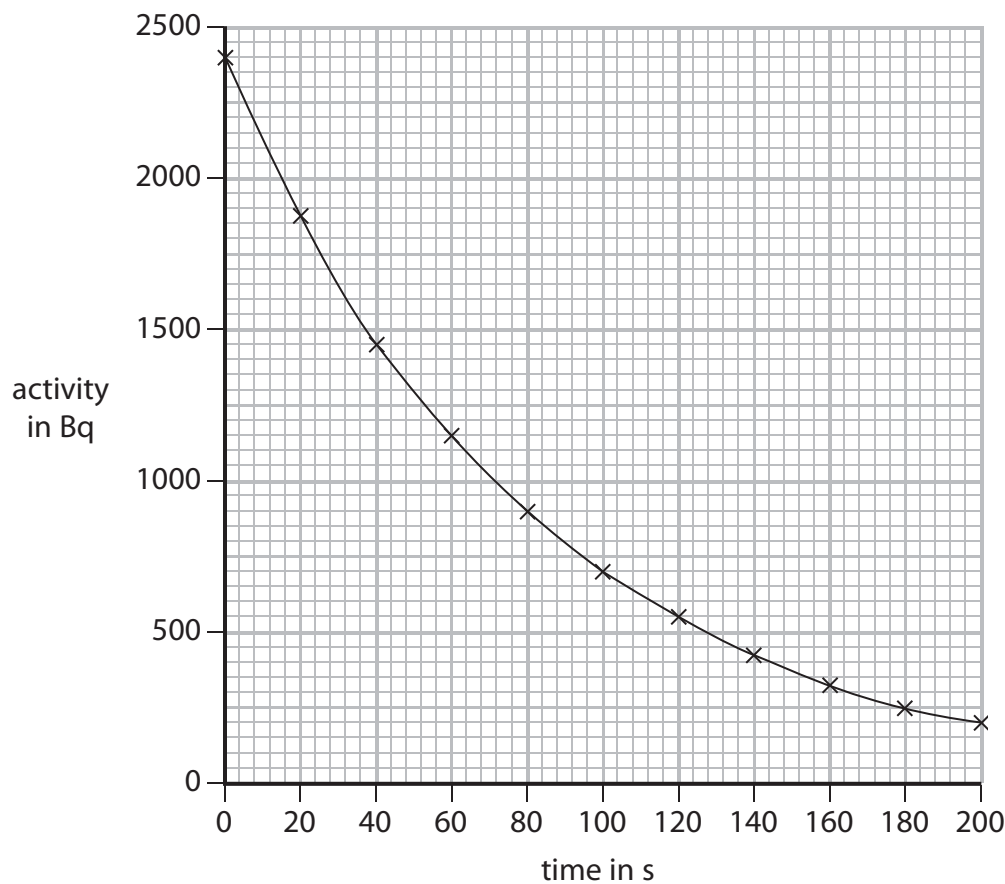
(2)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



- (c) The graph shows how the activity of a sample of the radioactive isotope changes with time.



- (i) Use the graph to find the half-life of the isotope.

(2)

half-life = s

- (ii) The teacher takes a new reading every 20 s.

Suggest why the teacher measures the activity so frequently.

(1)

(Total for Question 6 = 6 marks)

