

- 30** The value of the $^{14}\text{C} : ^{12}\text{C}$ ratio of living material is constant whereas the value of the ratio decreases after death because the radioactive ^{14}C is not replenished. The half-life of ^{14}C is 5600 years.

From a 5.0 g sample of living wood, it was found that the ^{14}C content causes a radioactive count rate of 100 counts per minute. What is the age of a 10 g sample of ancient wood, given that the ancient wood causes a count rate of 50 counts per minute?

- A** 1400 years **B** 5600 years **C** 11200 years **D** 22400 years

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