

Layer (1 = bottom)	Rock	Thickness (m)	Kinds of fossils	Date in years, if any
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3. Look at the fossil counts just below and just above each ash band (layers 6 and 11). Does anything happen to life at the dated layers? What does that tell you about what an ash band records?

Your argument

CLAIM

Claim: State which plan (A, B or C) divides the cliff the way scientists divide Earth's history on the geologic time scale.

EVIDENCE

Evidence: Give at least three specific pieces of evidence from the table, with layer numbers and numbers from the data (fossil counts, thicknesses, dates). Include evidence against each of the two plans you rejected.

REASONING

Reasoning: Explain the rule scientists use to place boundaries on the geologic time scale and show how your evidence fits that rule. Your reasoning must address (1) why thickness is not a measure of time in this cliff, and (2) what the dated layers are for if they are not boundaries.

4. Priya's plan has chapter boundaries without exact ages. Using the dates in the table, write the age range that each of her two boundaries must fall inside, and explain how the dated layers made that possible.

Evidence grid before writing

On scrap paper, make a grid with Plans A, B and C across the top and three rows: 'fossil changes', 'thickness versus time', and 'dated layers'. In each box write one fact from the table that supports or hurts that plan (for example, under Plan A and 'thickness versus time': '57 m took 10 million years but 53 m took 90 million years'). The plan with support in every row is your claim; the facts in the other columns are your evidence against the rejected plans.

When Plan C would be right

The museum's second exhibit is not about chapters but about *when* things happened: a sign every 10 million years. Explain why the dated layers would now be essential, how you would estimate where the 400-million-year sign goes using the two ash bands (layers 6 and 11) and the thicknesses between them, and why that estimate could be badly wrong. Then write two sentences on how the real geologic time scale uses both kinds of information: events for boundaries, dated layers for numbers.