

Inquiry Lab B

40 minutes

Correlate Rocks Using Index Fossils

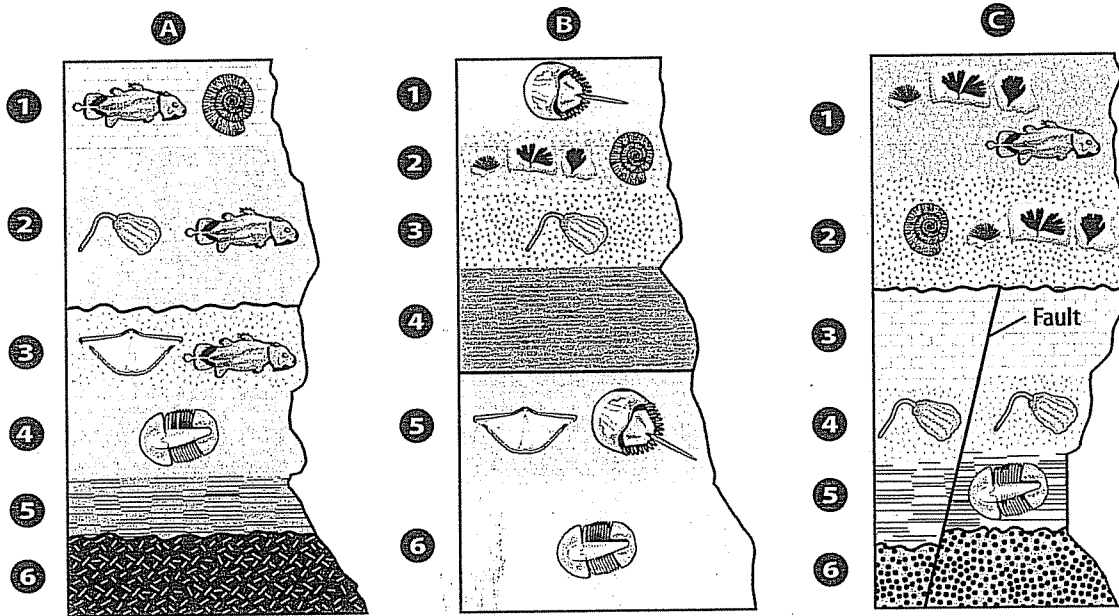
Imagine you are a geologist and you have been asked to correlate the rock columns below in order to determine the relative ages of the layers. Recall that geologists can correlate rock layers in different ways. In this lab, use index fossils to correlate and date the layers.

Question

How can index fossils be used to determine the relative ages of Earth's rocks?

Procedure

- Carefully examine the three rock columns on this page. Each rock layer can be identified with a letter and a number. For example, the second layer down in column A is layer A-2.



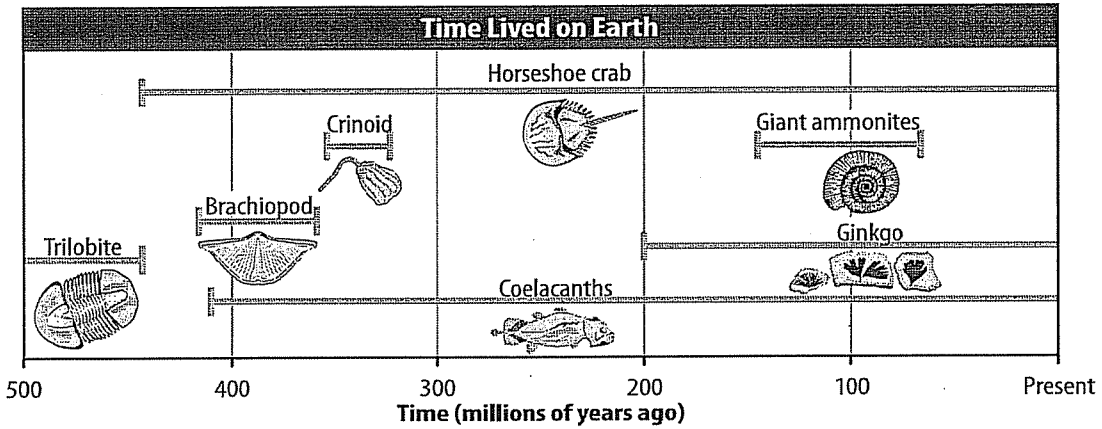
- Correlate the layers using only the fossils—not the types of rock. Before you begin, look at the fossil key on the next page. It shows the time intervals during which each organism or group of organisms lived on Earth. Refer to the key as you correlate.

Lab Tips

You might want to copy the rock layers in your Science Journal and correlate them by drawing lines connecting the layers.

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Lab B continued



Analyze and Conclude

3. Differentiate Which fossils in the key appear to be index fossils? Explain your choices.

4. Match Correlate layer A-2 to one layer in each of the other two columns. Approximately how old are these layers? How do you know?

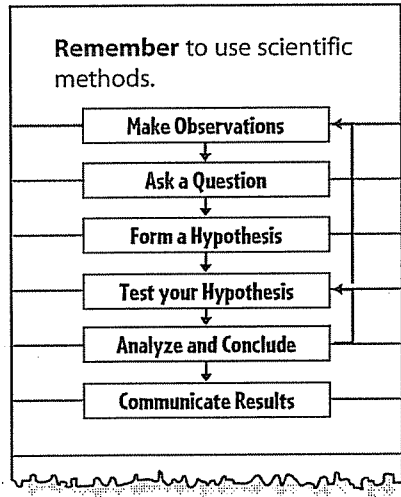
5. Infer What is the approximate age of layer B-4? *Hint: It lies between two index fossils.*

6. Infer How old is the fault in column C?

Lab B continued

7. Compare and Contrast How does correlating rocks using fossils differ from correlating rocks using types of rock?

8. The Big Idea How can fossils be used to determine the relative ages of rocks?



Communicate Your Results

Choose a partner. One of you is a reporter and one is a geologist. Conduct an interview about what kinds of fossils are best used to date rocks.

Inquiry Extension

Choose one of the three rock formations you correlated. Based on your results, provide a range of dates for each of the layers within it.

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