

A Trip Through Geologic Time ▪ Skills Lab

Finding Clues to Rock Layers

Fossil clues give geologists a good idea of what life on Earth was like millions or even billions of years ago.

Problem

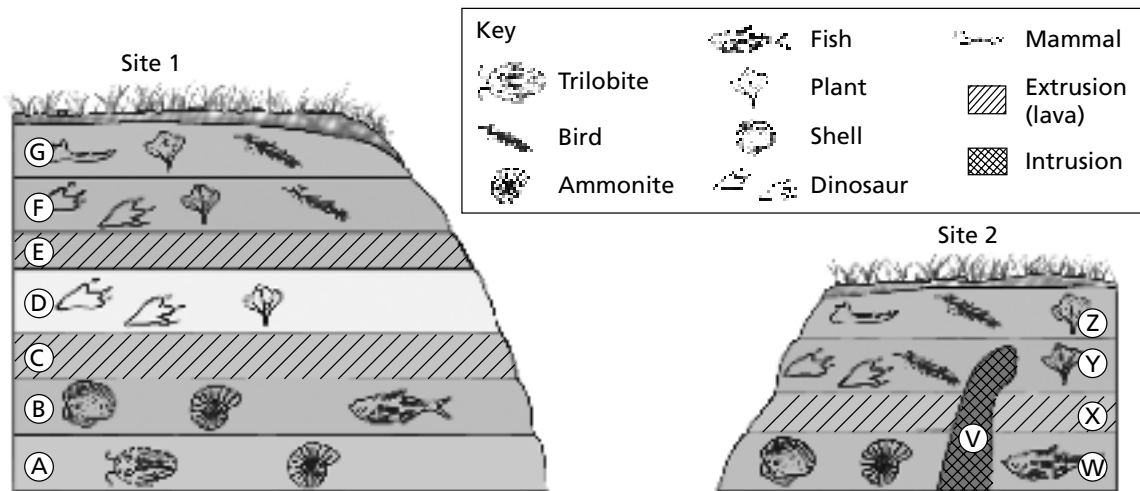
How can you use fossils and geologic features to interpret the relative ages of rock layers?

Skills Focus

interpreting data, drawing conclusions

Procedure

1. Study the rock layers at Sites 1 and 2. Write down the similarities and differences between the layers at the two sites.
2. List the kinds of fossils that are found in each rock layer of Sites 1 and 2.



Analyze and Conclude

Write your answers on the lines provided. Use a separate sheet of paper if you need more room.

Site 1

1. **Interpreting Data** What “fossils clues” in layers A and B indicate the kind of environment that existed when these rock layers were formed? How did the environment change in layer D?

2. **Drawing Conclusions** Which layer is the oldest? How do you know?

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3. **Drawing Conclusions** Which of the layers formed most recently? How do you know?

4. **Inferring** Why are there no fossils in layers C and E?

5. **Observing** What kind of fossils occurred in layer F?

Site 2

6. **Inferring** Which layer at Site 1 might have formed at the same time as layer W at Site 2?

7. **Relating Cause and Effect** What clues show an unconformity or gap in the horizontal rock layers? Which rock layers are missing? What might have happened to these rock layers?

8. **Interpreting Data** Which is older, intrusion V or layer Y? How do you know?

9. **Communicating** Write a journal entry describing how the environment at Site 2 changed over time. Starting with the earliest layer, describe the types of organisms, their environment, and how the environment changed.

More to Explore

Draw a sketch similar to Site 2, and include a fault that cuts across the intrusion. Have a partner then identify the relative ages of the fault, the intrusion, and the layers cut by the fault.