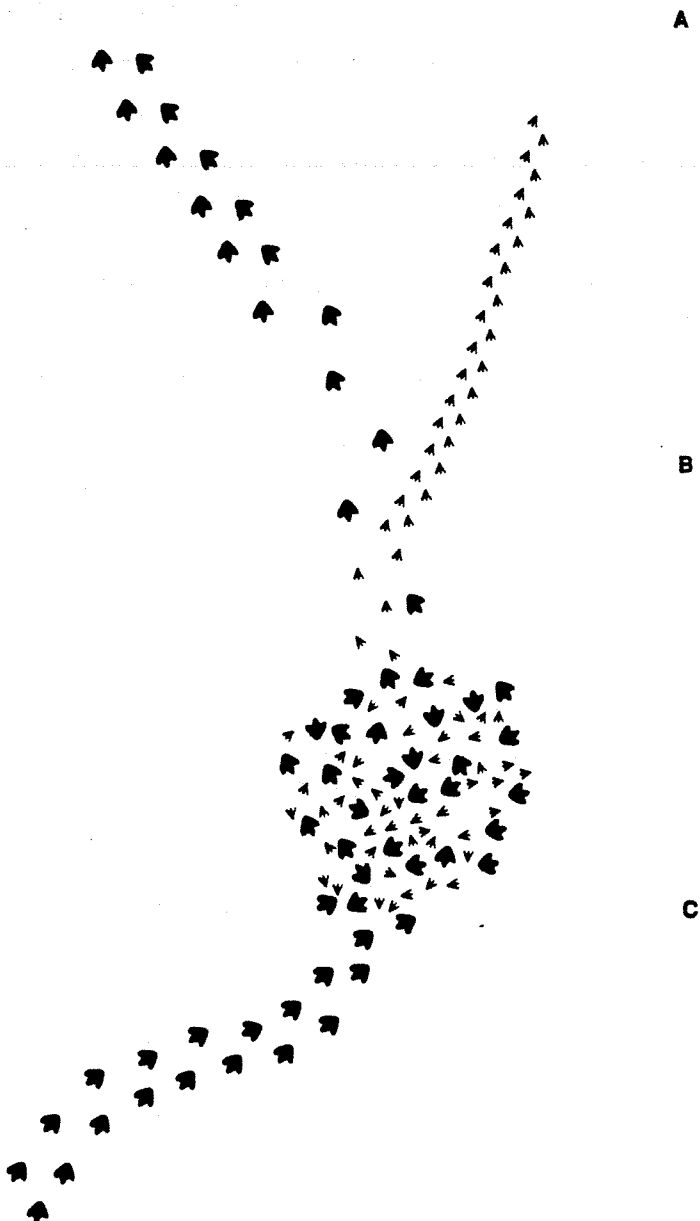


Interpreting an Ancient Puzzle

When scientists study indirect evidence, they must often make inferences, or educated guesses, about the events that produced the evidence they are studying. This is particularly true for paleontologists because they study evidence of life forms that lived millions of years ago. In this activity you will have the opportunity to share some of the same kinds of experiences that many scientists have as they attempt to understand and reconstruct the Earth's geologic past. You will be working with sketches of a set of fossil footprints made by animals more than 100 million years ago.



1. Examine the diagram. Notice that it is separated into three sections, A through C, from top to bottom. Before you go on, grasp the bottom of the page and fold it upward to letter B. Only the upper third or Section A of the footprint diagram should be visible.
2. Carefully study the portion of the figure that is exposed. In the space provided, make two observations that are valid for this part of the puzzle. Consider such factors as size, shape, orientation, and so on of each footprint as you record your observations below.

Part A Observation 1 _____

Part A Observation 2 _____

3. Now grasp the bottom of the page that you previously folded up to the letter B and move it downward to letter C. Fold the page again so that this time the upper two thirds, or Sections A and B, of the footprint diagram are visible.
4. Carefully study this new portion of the diagram and make two observations that are valid for this part of the puzzle.

Part B Observation 1 _____

Part B Observation 2 _____

5. Record one inference that describes in a meaningful way what you think might have happened to cause the footprints to show the pattern that they have in the first two sections of the puzzle.

Part B Inference _____

6. Finally, unfold the page so that you can observe the entire diagram, from top to bottom.

7. Study the remaining portion of the figure and make two observations that are valid for that section of the puzzle.

Part C Observation 1 _____

Part C Observation 2 _____

8. Now that you have made six observations and have seen the entire figure, write a conclusion to this puzzle that attempts to reconstruct events that could have caused the pattern of footprints shown in the diagram.

Part D Conclusion _____

Answer the following questions after you have written your observations and conclusions.

1. Was it easier for you to write an interpretation after observing two thirds of the diagram or the entire diagram? Explain your answer. _____

2. Is it possible that the animals who made the footprints represented in the diagram never actually met each other at the same moment in time? Explain your answer. _____

