

Activity Guide for Students: Stories in Rock**Directions for students:**

Paleontologists uncover fossils that can shape our understanding of the past. Some sites, including Corral Bluffs in Colorado, provide so many fossils that they tell entire stories about a particular time or place. Together, those stories offer a fuller, though often still incomplete, picture of the major changes in the history of Earth and its life. Now it is your turn to use facts to put together a story.

In your small group, you will explore another important fossil site and use what you find to piece together the story of that particular time and place. Once you have completed your research, you will plot your site on the class world map, create a poster board of your findings and present your story to the rest of the class. When you are preparing your stories, remember that a story is more than just reciting the facts. Think about where your site fits in place and time. Think about what information can be inferred from your research. Think about the story arc. Is there a setup, rising action, a climax and a resolution?

Researching your fossil site

Research information about your site to answer the following questions. Keep in mind that some answers may not be known for every site.

1. What is the fossil site your team will be researching?
2. What is the location of the site? Be sure to mark it on the classroom's world map. You will receive credit for marking this location correctly.
3. What does the area look like now? What is the area's current climate?
4. What events led to the fossilization of the organisms found at the site? Make sure to provide details that paint a picture of what happened there.
5. How does the fossil site provide a glimpse into the geological history of the site? How has the area changed over time?

6. How many fossils were found at your site? What organisms are represented? Are they all the same type, or were there many different varieties of fossils found there?

7. What time period do the fossils of the site cover?

8. How do the types and variety of fossils offer a glimpse into the history of the site at the time the fossils were formed?

9. If the climate is different currently from what it was at the time of the fossil formation, what possible reasons are there for the difference?

10. Why is the site important?

11. How might the site fit into a bigger picture? Does it reveal anything about the larger historical events on Earth?

Creating your poster board

Your poster board is a visual representation of your site's story. Include at least four images of fossils found at the site (make sure you are choosing the most important ones and that you include credits for images). Include a description of each fossil you choose, explaining what it is and why it is important to the site's story. Be sure to incorporate the answers to your research questions into the historical story your site tells.

Your group will be graded on how well your poster addresses the following questions:

- Is the location of the site expressed in words and/or maps?
- Are there at least four images of the fossils?
- Does each image have its own description?
- Does the poster explain the types of fossils found — organisms, number of fossils, variety of fossils and so on?
- Was the location of the site described as it appeared at the time the fossils were formed?
- Was the location of the site described as it appears now?
- Does the poster present a cohesive story about the site and its significance?

Preparing your presentation

Based on your research, prepare a two-minute presentation with your group that tells your site's story. This should be something that your research team can present to others. Be sure to incorporate the answers to your research questions.

Here are a few tips on creating your presentation:

- Use descriptive language.
- Keep track of the resources and references you are using so you can easily cite them at the end of your project.
- Practice telling your story as a group, making sure each group member has a defined and equal role in the presentation.

Your group will be graded on how well your presentation addresses the following questions:

- Were the number of fossils, varieties of fossils and the organisms found described?
- Was the location of the site described as it appeared at the time the fossils were formed?
- Was the location of the site described as it appears now?
- Did the group explain how researchers interpreted the findings at the site?
- Did the group express how the findings at the site confirmed, changed or led to new ideas or theories about the history of life?
- Did the group tell a story about their site (give a setup, rising action, a climax and a resolution)?
- Did each member of the team contribute to the presentation?
- Did the group complete its presentation in the time allotted?

Debrief as a class

After viewing all of the presentations, answer the following debriefing questions.

12. Which of the sites have overlapping stories — because they cover a shared time period, place or feature fossils from related organisms? Make sure to include evidence to support any claims that you make.

13. Which of the other fossil sites is most complementary to yours? Explain.

14. Describe the similarities and differences between your site and the complementary site.

15. How does the complementary site you chose add to, support or conflict with the story at your original site?

16. How do the stories from all of the individual sites combine to tell a broader story about the history of Earth and life on Earth?

17. What questions can be answered by combining data from these sites? What questions can't be answered, and what additional data is needed?