

Student Discussion Worksheet

Directions: Read the online *Science News* article "[Organic molecules in an ancient Mars meteorite formed via geology, not alien life](#)" and discuss the first set of questions as a class. Then read the online *Science News* article "[Debate over life in Mars rock rekindles](#)" and answer the second set of questions as directed by your teacher. A version of the first article, "Meteorite's organics aren't signs of life," appears in the February 12, 2022 issue of *Science News*.

Reasons for research

1. Why do you think the search for life on other planets is such a popular area of research?
2. What factors might influence the amount of research done on a specific science topic?
3. How might public interest in a research topic affect scientific progress in the related fields of research? Explain.

Comparing claims based on new evidence and reasoning

4. Read the online *Science News* article "[Debate over life in Mars rock rekindles](#)," which was published in 2001. In your own words, explain the debate described in the article. Who are the key players and what are their arguments?
5. In the online *Science News* article "[Organic molecules in an ancient Mars meteorite formed via geology, not alien life](#)," which was published in 2022, what claim do the scientists make about the origin of organics in the meteorite? Based on the claim, what side of the debate are the scientists on?
6. What evidence do the scientists use to support their claim? How does this relate to the evidence described in the 2001 *Science News* article to support the same claim?
7. How do the scientists described in the 2022 *Science News* article use the new evidence as reasoning to support their claim?

8. Does the new finding settle the debate? Why or why not? Is there more evidence that is needed?

9. What additional evidence is needed to bolster the scientists new claim?

Bonus: Chemistry corner

1. How would you define biotic and abiotic chemical reactions?

2. What abiotic chemical reactions are mentioned in the 2022 article? Why are they considered abiotic, according to your definition above?

3. Give an example of a biotic chemical reaction that you've learned about. What is a benefit of the reaction for life?

4. Organic compounds can be produced both biotically and abiotically. What defines an organic compound, and how might one organic compound be produced in both ways?

