

February 25, 2023

Voles Don't Need Oxytocin to Bond

Student Discussion Worksheet

Directions: Read the *Science News* article "[Prairie voles can find partners just fine without the 'love hormone' oxytocin](#)" or another article assigned by your teacher before discussing the first set of questions with a classmate. A version of the article "Voles don't need oxytocin to bond" appears in the February 25, 2023 issue of *Science News*. Then read the *Science News Explores* article "[Explainer: How CRISPR works](#)" and answer the questions in the second section.

What you already know about CRISPR/Cas9

1. Do you know about CRISPR? What have you learned or heard about CRISPR/Cas9 and its applications?
2. The *Science News* article describes how CRISPR/Cas9 was an integral part of a recent scientific study. What were the researchers studying? What organism did the scientists modify, and what was the modification?
3. What was the outcome of the research study? Explain how using CRISPR/Cas9 technology influenced the scientific findings.

Describing the "miracle" of CRISPR

1. What does CRISPR mean? Which organism does it come from? Describe how it works in that organism.
2. What is Cas9? How does it relate to CRISPR?
3. Use the article to write your own description of how CRISPR/Cas9 technology works. Together you and your partner should write a brief summary.
4. The *Science News Explores* article refers to CRISPR as "collections of viral mug shots" that can help viruses find and destroy viruses, and Cas9 as a "multifunctional tool." Other resources have used the "find

and replace” computer function to describe CRISPR/Cas9 technology. Working with your partner, find other literary devices such as metaphors and similes that have been used when describing CRISPR/Cas9 technology.

5. What are other applications of CRISPR mentioned in the article? Can you think of a plant or animal that could be genetically modified to help solve a problem or alleviate an issue? What organism should be modified and what would the intended outcome of the genetic modification be?

6. Why do scientists consider CRISPR/Cas9 a scientific “miracle?” Discuss whether you agree with this assessment. What other questions do you have about how the technology works?

7. Is it ethical to genetically modify an organism? Discuss why or why not, while being respectful of your classmates’ opinions.



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