

BIOMEDICAL SCIENCES WITH DR CATHERINE BRISSETTE

TALKING POINTS

KNOWLEDGE:

1. In simple terms, what is Lyme disease? What causes someone to be infected?
2. Approximately how many people in the US are infected with Lyme disease each year? How about the rest of the world? Do some research to find some specific figures in different countries around the world.

COMPREHENSION:

3. Why is it important to understand more about the bacterium that causes the disease and why some people experience more severe symptoms than others?

APPLICATION:

5. Treatments already exist for Lyme disease, but they are more effective in some people than other people. Can you see why this bolsters the case for preventive measures? What about the development of different therapies?

ANALYSIS:

6. How do you think that Catherine's research has helped demonstrate the efficacy of mouse models? What does this example of showing the wider scientific field the benefits of specific approaches tell you about how science works?

SYNTHESIS:

7. Can you think of other scientific findings that have helped the wider field make great advances in our understanding?

EVALUATION:

8. What do think about Catherine's comments on the issues facing the next generation of scientists? Can you see how this relates to other areas of society? How might one go about addressing issues of diversity and equality? What would a positive society of the future look like?

ACTIVITIES TO DO AT HOME OR IN THE CLASSROOM

- Catherine explains how she loves solving puzzles and how her work as a biomedical scientist allows her to pursue this interest. With that in mind, design a wordsearch centred on Lyme disease and Catherine's research. Remember to hide the words by including red herrings!
- Plan a 30-minute lesson to guide your class through this research. Your lesson must include the reading of the article and some form of assessment to enable you to judge the class's understanding of the research.

CATHERINE'S CHALLENGE:

Catherine's research means she has to intently study ticks and how they infect people. Can you match her commitment and attention to detail and make an origami *Borrelia burgdorferi*?! Shinyorigami shows us how it's done:

<https://www.youtube.com/watch?v=e2Jy6XXcmh8>

MORE RESOURCES

INBRE

Catherine's department has a graduate student organisation that does community outreach events and tours of the medical school. The North Dakota IDeA Networks of Biomedical Research Excellence (INBRE) works to expand research opportunities through K-12 STEM activities, undergraduate research and professional development:

<http://ndinbre.med.und.edu/index.html>

INSTITUTE OF BIOMEDICAL SCIENCE

The Institute of Biomedical Science has created some fun activity sheets. There are resources about magnetic cereal, blood components and soap and pepper!

<https://www.ibms.org/resources/activities-for-children/>