

PHYSICS, MICROBIOLOGY AND SPACE WITH DR JAY NADEAU

TALKING POINTS

KNOWLEDGE:

1. How big is the solar system?
2. As far as we know, what are the basic requirements for life?

COMPREHENSION:

3. Why is it important to find evidence of life in extreme environments on Earth?

APPLICATION:

5. How can evidence of life in extreme environments on Earth help scientists in their quest to search for life in space?

ANALYSIS:

6. Do you think that we will ever find evidence of life in space? Can you give reasons for answering this question in the way that you did?

SYNTHESIS:

7. What do you think would happen around the world if we found evidence of life in space? How do you think it would shape our philosophical and scientific considerations for life?

EVALUATION:

8. Do you think finding evidence of life in space would be a good thing? What differences do you think there would be between finding evidence of very basic life versus finding evidence of intelligent life?

ACTIVITIES YOU CAN DO AT HOME OR IN THE CLASSROOM

- Plan a 30-minute lesson to guide your class through this research. Your lesson must include:
 - the reading/summarising of the article
 - explanation of the subject-specific terminology
 - some form of assessment to enable you to judge the class' understanding and resulting opinions of the research.
- Imagine you are on a mission to Europa in the future. Write about what you are hoping to find, how you will conduct your research, and what equipment you will take, etc. Visit NASA to find out about real-life missions and select details that could inform your response.

MORE RESOURCES

HOW BIG IS THE UNIVERSE?

Watch this video that features scientists trying to explain how big the Universe is compared to a grain of sand. It makes for fascinating viewing!

<https://www.youtube.com/watch?v=AC7yFDb1zOA>

GALILEO MISSION

NASA has a page dedicated to telling us more about the Galileo mission – the first spacecraft to orbit an outer planet: <https://tinyurl.com/ac9hma>

LIFE ON EUROPA

Here is an article discussing the microscope that could look for life on Jupiter's moon: <https://www.popsci.com/microscope-looking-for-life-on-europa/>

THE THINGS YOU CAN DO WITH A MICROSCOPE!

Head to Microscope-Microscope and you'll find a whole host of activities relating to microscopes, from preparing slides to making a microtome: <https://microscope-microscope.org/microscope-activities/>