

# Exploring Interfaces

## Explore Environments–Space



**RESPOND** to the Europa Clipper mission which is searching for habitability, meaning the conditions that could support life. Astrobiologists study the origin of life forms, including the simplest one-celled organisms; the evolution of multicellular life; and the possibility of life on other planets. They use creative problem-solving skills to understand the conditions in which life could arise. Imagine you are an astrobiologist who studies the origin, evolution, and distribution of life in the universe.



**CREATE** a sketch that demonstrates an astrobiologist's understanding that life could emerge in the interfaces where water meets rock/land. Interface areas provide a flow of energy and nutrients that are most likely to support life—even the most basic form of microscopic, single-celled organisms such as bacteria. Draw a colorful interface scene where ocean and underwater landforms meet. Add a magnified close-up of some microorganisms that might be able to live there.



**CONNECT** your role as an astrobiologist with a list of what you hope to learn from the Europa Clipper mission. Discuss why the journey to Europa will take five and a half years. Identify some of the many benefits of space exploration.



**PRESENT** your sketches, then compare and contrast the images classmates drew. No one knows for sure what astrobiologists will find, so lean into your imagination.

**SKETCH AN INTERFACE SCENE AND A MAGNIFIED CLOSE-UP VIEW OF MICROORGANISMS THAT MIGHT LIVE THERE.**

