

Name _____

The Moon's Magical Influence: How it Affects Earth's Tides

Open-Ended Response Answer Key

1. Answers may vary, but an experiment could involve studying the distribution of intertidal species at different tidal stages (low tide, high tide) and depths. Researchers could collect data on species diversity, abundance, and behavior to understand how tidal patterns influence the ecosystem.
2. Tidal energy presents challenges such as the high initial costs of infrastructure and potential environmental impacts. However, it offers benefits like a consistent and predictable energy source. Suitable regions for tidal energy projects include coastal areas with strong tidal currents, such as the Bay of Fundy in Canada.
3. Studying tides on celestial bodies like Europa can provide insights into their subsurface oceans, geology, and potential habitability. Tidal forces may generate heat within these bodies, potentially supporting liquid water and life.
4. An example of a tidal myth is the Maori legend of Rona and the Moon. In this story, Rona, a woman carrying a water gourd, offends the Moon, which pulls her into the sky. The legend explains the waxing and waning of the Moon and carries cultural significance in Maori culture.

