

Name _____

Tiny Heroes of the Sea: The Role of Phytoplankton in Marine Ecosystems and Carbon Cycling

Open-Ended Response Questions

1. Imagine you are a marine biologist conducting research on phytoplankton in a region affected by ocean acidification. Describe your study and the potential implications of your findings on the marine ecosystem and climate.
2. Consider the interdependence of marine species within a food web. Explain how a decline in phytoplankton populations could affect the entire marine ecosystem, from the smallest zooplankton to the largest predators.
3. Explore the potential consequences of a significant increase in atmospheric carbon dioxide levels on phytoplankton populations and the Earth's climate. How might this impact global carbon cycling?
4. Reflect on the importance of public awareness and conservation efforts to protect phytoplankton and their critical role in marine ecosystems and the Earth's carbon balance.

