

Name \_\_\_\_\_

## The Mystery of Marine Dead Zones

### Short Answer Key

1. Eutrophication is the process where excess nutrients, such as nitrogen and phosphorus, enter water bodies, promoting the rapid growth of algae. This leads to algal blooms, which eventually die and sink to the ocean floor, where microbial decomposition consumes oxygen, contributing to marine dead zones.
2. Microbial decomposition of dead algae in marine dead zones consumes oxygen from the water, leading to dangerously low oxygen levels that are detrimental to aquatic life.
3. Stratification in marine dead zones occurs when temperature and salinity variations create layers in the water. The upper warm layer, known as the thermocline, prevents oxygen from mixing with the deeper, colder layers, trapping the low-oxygen conditions below.
4. Fishing communities and economies are affected by the existence of marine dead zones because they experience declines in fish stocks and economic hardships due to reduced catches. Fishermen often have to travel further to find fish, increasing costs and decreasing profits.
5. Efforts to combat marine dead zones include reducing nutrient pollution through best management practices in agriculture and improved wastewater treatment. Restoration of wetlands and natural buffer zones can also help filter out excess nutrients. Continuous monitoring by scientists and researchers is essential to better understand and address dead zones.

