Name _____

The Sour Side of the Sea: Understanding Ocean Acidification and Its Impact on Marine Life

Short Answer Key

1. Ocean acidification occurs when carbon dioxide (CO2) from human activities, such as burning fossil fuels and deforestation, is absorbed by the ocean. This excess CO2 reacts with seawater, forming carbonic acid and lowering the ocean's pH, making it more acidic.
2. Ocean acidification affects shellfish and mollusks by making it harder for them to form and maintain their protective shells. The increased acidity hinders the availability of carbonate ions, a crucial building block for calcium carbonate shells.
3. Coral reefs are essential because they support diverse marine life, protect coastlines from erosion, and contribute to tourism and fisheries. Ocean acidification threatens coral reefs by weakening corals and making them more vulnerable to diseases and bleaching events, which can lead to the decline of entire reef ecosystems.
4. Ocean acidification can impair the sensory abilities of certain marine species, such as young clownfish, which rely on sound and smell for navigation. In more acidic waters, these species may have difficulty finding their way home, potentially resulting in reduced survival rates.
5. Global efforts to combat ocean acidification include reducing carbon emissions through cleaner energy sources, supporting sustainable fishing and aquaculture practices, protecting vulnerable marine species, and raising public awareness about the issue. These measures aim to reduce the impact of ocean acidification on marine life and ecosystems.