

Name:

Date:

Class:

Pre/Post-Quiz **Answer Key**

1. What are some common causes of algae blooms?

Water temperature, extreme weather (hurricanes, floods), low water circulation, amount of sunlight, over fertilized agricultural areas, oxygen levels in the water.

2. Do algae blooms have a negative **and/or** positive effect on their ecosystem?

They have a positive effect. They have a negative effect.

3. Do **all** algae blooms negatively affect an ecosystem? Yes No

Students' answers will vary. When the blooms become out of control (Harmful Algae Blooms HAB) it can affect the health (sicken/kill) of humans, fish, birds, marine animals. Impact industries that depend on aquatic ecosystems (e.g. tourism, restaurants, fisheries).

4. Explain ways algae can have a negative impact on their ecosystem. If they do not have a negative impact on their ecosystem leave the space below blank.

Students' answers will vary. Not all algae blooms have a negative effect on their ecosystem. Algae are part of the aquatic/marine food chain, especially phytoplankton. Algae produces oxygen through photosynthesis. "Scientists estimate that 50-80% of the oxygen production on Earth comes from the ocean. The majority of this production is from oceanic plankton drifting plants, algae, and some bacteria that can photosynthesize" (National Ocean Service).

5. Explain ways algae can have a positive impact on their ecosystem. If they do not have a positive impact on their ecosystem leave the space below blank.

No positive impacts.

6. Can scientists and engineers predict the spread of harmful algal blooms? If so, how?

Students' answers will vary. Yes, scientists and engineers can predict harmful algae blooms (HAB), using various methods. Some of these techniques are the use of satellites, buoys, sensors in the ocean, and testing the temperature and oxygen levels in water.