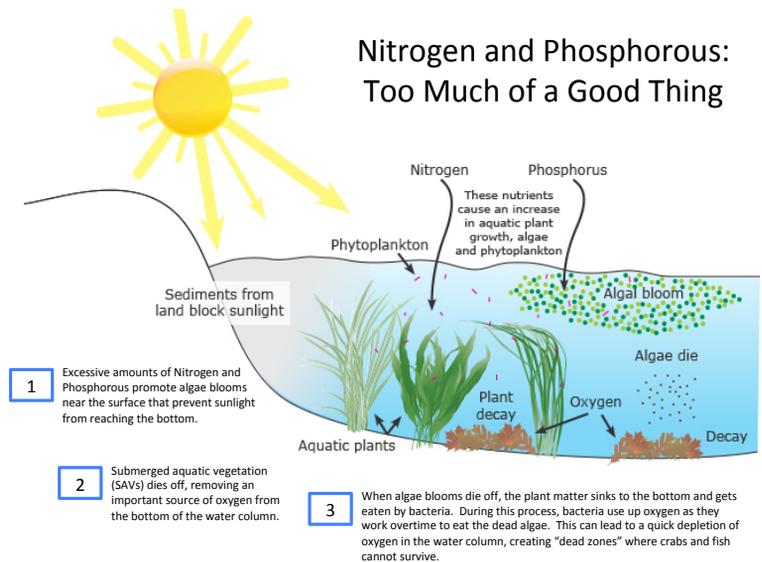




Nutrients: Too Much of a Good Thing

Imagine that your favorite food is pizza. If you sat down and ate two or three slices of pizza, you would have had a nice meal. If you ate two or three whole pizzas, you might get sick. If you ate pizza non-stop for two or three days, the overload of food in your stomach could kill you. Eating too much pizza is an example of having too much of a good thing. The Chesapeake Bay has a similar problem with the amount of nutrients in its waters. Nutrients enter the Bay naturally and help plants grow. In the right amounts, the presence of nutrients creates a healthy ecosystem by feeding the growth of small microscopic plants called phytoplankton. Phytoplankton form the base of the Chesapeake Bay's food chain. Prior to the 1600's, the Bay received just the right amount of nutrients from its watershed when soils naturally eroded from hills, fields, and shorelines.

In today's Chesapeake Bay, however, human actions on land greatly increase the amount of nutrients entering the water. Nitrogen and phosphorous, the two main nutrients found in the Bay, wash into the water from fertilized farm fields, gardens, and lawns. Chemical fertilizers from factories bond with water droplets in clouds and fall back to land with rain showers. Human sewage containing nutrients enters the Bay from sewage treatment plants.



When too many nutrients are present in the water, algae blooms form a thick green layer near the surface, preventing sunlight from reaching the bottom. Rooted underwater plants cannot survive, removing a valuable source of oxygen and habitat for animals. When the algae die, bacteria work overtime to eat the decaying plant matter, using up even more oxygen. Low oxygen levels are often fatal to fish and other marine life.

While nutrients are important for sustaining plant life at the base of the food chain, having too many nutrients creates an environment that benefits algae but is harmful to rooted bay grasses and animals which need high levels of oxygen to survive.



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NAME: _____ DATE: _____

COMPREHENSION QUESTIONS

DIRECTIONS: Read the text on the previous page, then answer the following questions in complete sentences. Write your answers on the lines provided.

1. In the right amounts, how do nutrients help the ecosystem of the Bay?

2. What are some ways that nitrogen and phosphorous get into the Bay?

3. What happens when too many nutrients are present in the water?

4. Explain how algae blooms are harmful to rooted plants living on the bottom.

5. How do algae blooms lead to low oxygen levels in the Chesapeake Bay?
