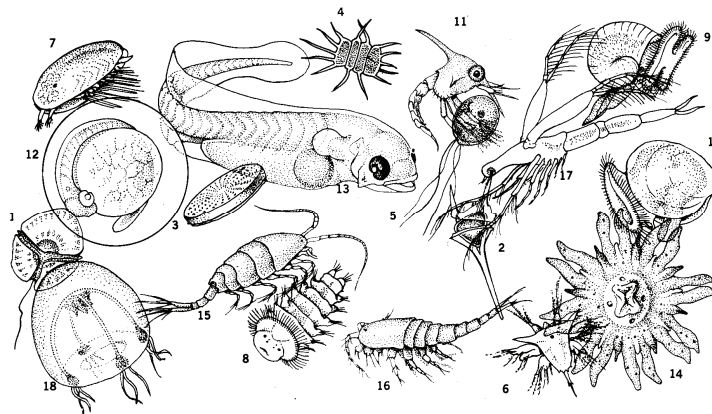




# Plankton: Base of the Food Chain

While the Chesapeake Bay is most famous for striped bass, oysters, and crabs, the most important members of its ecosystem are plant and animal plankton that are often invisible to the human eye. Although plankton often go unnoticed, they serve as the base of the Bay's food chain.

Plankton are defined as plants and animals whose movements are controlled by the current. Microscopic plants called phytoplankton are by far the most common plankton in the estuary. Thousands of these small, single celled plants can be found in a single drop of water! Zooplankton are animals whose movements are controlled by tidal currents. Many zooplankton are copepods which never grow to be bigger than the tip of a pencil, while some animals such as crabs and striped bass begin their lives as zooplankton and grow out of that phase of their lives when they become big enough to swim against the current.



**PHYTOPLANKTON**

1. Dinoflagellate
2. Dinoflagellate
3. Diatom
4. Green alga
5. Golden-brown alga

**ZOOPLANKTON**

6. Barnacle nauplius larva
7. Barnacle cypris larva
8. Polychaete worm larva
9. Snail larva
10. Oyster larva

11. Crab zoea larva
12. Herring egg
13. Striped bass larva
14. Sea nettle ephyra
15. Copepod

16. Copepod
17. Giant water flea
18. Hydromedusa

One of the reasons that the Chesapeake Bay is so productive is because of the abundance of phytoplankton found in its waters. Since the Bay is surrounded by land on three sides, nutrient rich soil is washed into rivers and streams which carry the sediments to the estuary. Phytoplankton use these nutrients, along with sunlight, water, and carbon dioxide, to grow. The microscopic plants provide a food source for zooplankton, which are eaten by small fish and filter feeders. Large fish prey on the smaller fish, then they get eaten by predators such as ospreys, bald eagles, and human beings. This system is known as the food web, of which phytoplankton and zooplankton serve as the most important links. Without plankton, larger and more well-known species of animals such as rockfish, oysters, and crabs would not exist!

*Illustration courtesy of Alice Jane Lippson, from Life in the Chesapeake Bay, Second Edition*



# Plankton: Base of the Food Chain

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. What are plankton?

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2. What are the two different types of plankton?

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3. What is one reason that the Chesapeake is such a productive body of water?

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4. In the space below, explain how phytoplankton is important to bald eagles.

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5. In the space below, explain how zooplankton is important to striped bass.

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