

Photosynthesis in the Ocean

Introduction (2)

Some of the most important organisms in the ocean environments are those that you cannot see with the naked eye. If you were to put a drop of water from near the top of the ocean's surface under a microscope, you would see a remarkable number of organisms in it. Some of these organisms have the ability to use the Sun's energy to make food, through the process of photosynthesis. This extraordinary process supplies most living things in the ocean with the energy they need to live.

Work through the following questions in your groups:

1. Recall that substances required for a chemical reaction are called reactants, and the resulting chemical(s) from reactions are called products. What are substances necessary to complete photosynthesis and the products of the process?
2. Where do producers living in aquatic and marine ecosystems derive the reactants for photosynthesis?
3. Why are the end products of photosynthesis important?



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GP: Ingredients for Photosynthesis (3)

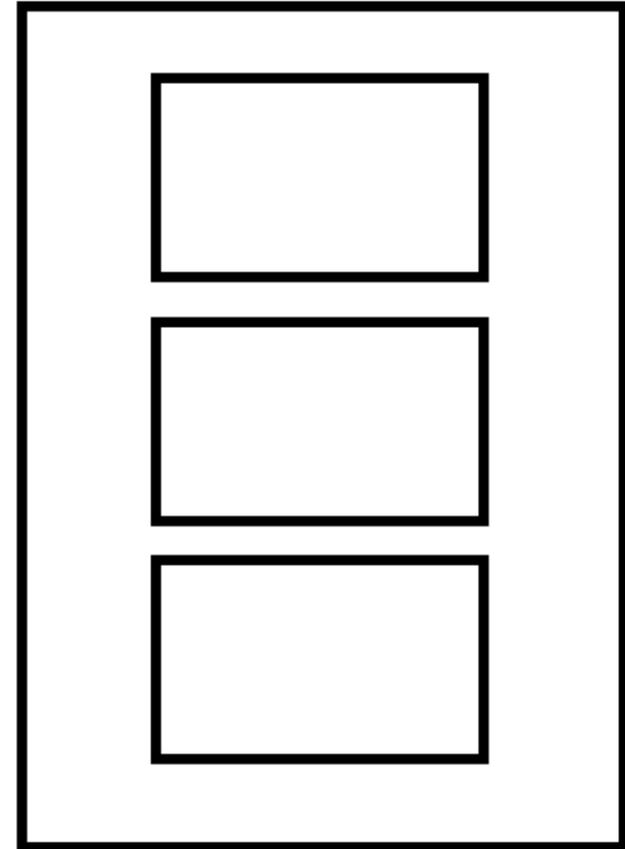
Read pages 250 – 251 of the Marine Science: The Dynamic Ocean textbook and complete the following chart:

Ingredients	Sources

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GP: The Carbon Cycle (5)

1. On a sheet of paper draw three even boxes as shown to the right. Be sure to leave enough space below and around the boxes.
2. The top box represents the sphere with the most carbon, while the bottom box represents the sphere with the least carbon.
3. Label each of the three boxes either biosphere, atmosphere or hydrosphere based on which your group believes to have the most-to-least carbon.
4. Draw arrows from one sphere to another and label the process that moves the carbon atom. Label the arrow indicating the process.
e.g. fossil fuels (biosphere) → (burning) → atmosphere



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Independent Practice (10)

Read page 254 – 257 of the Marine Science: The Dynamic Ocean textbook and answer questions 13 – 17.

