



Zooplankton and Phytoplankton Activity 2

Grade Span	Middle School Physical Science
Time Span	2 class periods (one for gathering the samples and one for observations)
Standards	<p>Obtaining, Evaluating, and Communicating Information Planning and Carrying Out in Investigation Mathematics and Computational Thinking Analyzing and Interpreting Data</p> <ul style="list-style-type: none"> ● MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. ● MS-LS2-1 – Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. ● MS-LS2-2 – Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. ● MS-LS2-3 – Ecosystems: Interactions, Energy, and Dynamics. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. ● MS-LS2-4 – Ecosystems: Interactions, Energy, and Dynamics. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
Focus Question	What organisms live at the bottom of our food chain and why are they important in the world?
Overview	Students should understand that there are microscopic organisms living in water. These organisms get their energy from the sun.
Objectives	<p>Students will be able to explain what zooplankton are. Students will be able to explain what phytoplankton are. Students will be able to explain what the difference is between zooplankton and phytoplankton. Students will be able to sketch zooplankton. Students will be able to share that zooplankton and phytoplankton are at the bottom of the food chain and how important they are to humans.</p>



Materials Needed	Watch the video on phytoplankton: The Secret Life Of Plankton Five Reasons to Thank Plankton Video: https://www.youtube.com/watch?v=23mrtGCkAH8
Vocabulary	consumer, copepods, crustaceans, food chain, herbivore, invertebrate, larva, nutrients, photosynthesis, phytoplankton, plankton, producer, upwelling, zooplankton
Teacher Prep	This lesson was taken from Plankton Identification Link for making a phytoplankton net
Background	Zooplankton are the microscopic living animals in fresh and ocean waters. Phytoplankton are microscopic living plants that live in the fresh and ocean waters. They both use sunlight to survive. These organisms are at the bottom of our food chain and needed to keep nature in balance.
Procedure	<i>This lesson was taken from Plankton Identification</i> Engage: Watch the video on phytoplankton: The Secret Life Of Plankton See lesson above. Explore: See lesson above. Explanation: See lesson above. Extension: See lesson above.
Wrap-Up	Evaluate: Formative Assessment: Summative:
Citations	<i>SOURCE Adapted from Kolb, James A., Project Director. Marine Biology and Oceanography Grades 9 - 12. Marine Science Project: FOR SEA. Marine Science Center. Poulsbo, WA. 1986.</i>