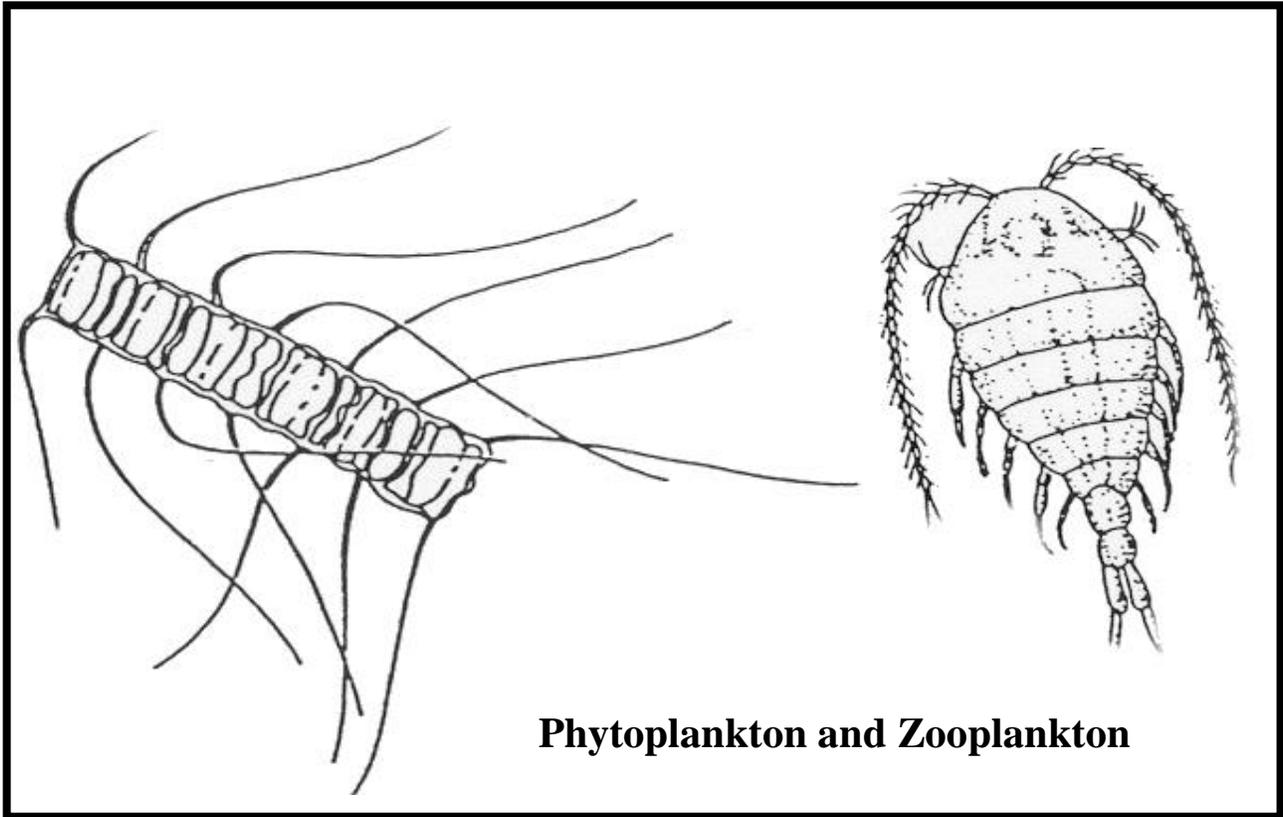


Merely Plankton

Driftwood Education Center



Phytoplankton and Zooplankton

Class Description:

Students will become part of an in depth study about both phytoplankton and zooplankton through hands on activities. Students will collect, observe, and identify living plankton in our microscope laboratory while learning the importance they play in an ocean ecosystem.

Appropriate for all grade levels

This program can be tailored to High School Students

Driftwood Education Center
Po Box 20712 St. Simons Island, GA 31522
Phone: 912.638.3849 Fax: 912.634.0642
www.driftwoodee.org

Merely Plankton

Table of contents and outline:

I. Pre-class set-up: (5 minutes)

1. Make sure plankton clay is ready.
2. Prepare for any games or activities
3. Be sure plankton nets are in the proper locations and are not broken.

II. Introduction, overview, and assessment (15 min.)

1. Welcome students to plankton class. Let students know what is going to happen today.
2. Assess what students already know about plankton. Why is plankton important?
3. Introduce terms: *Phytoplankton*, *Meroplankton*, *Zooplankton*, and *Holoplankton*

Concepts 1-3, Outcomes 1-3

III. Collection and Identification of Plankton: (40 min.)

1. Take students and two plankton nets out to dock: Teach about the plankton net and allow turns to collect samples.

Concept 2

IV. Using the Microscopes

1. Take a sample that looks good back to laboratory.
2. Teach microscopes – hand out samples and ID sheets.
3. Have students write the names of plankton under categories on the dry erase board.

Concept 1 and 3 – Outcomes 1 - 2 and 3

V. Plankton Races: (15 minutes)

1. Pass out a piece of Sculpy to each student.
2. Take them out to the plankton race fountain. Bring a net with you.
3. Drop in and time each piece. Object is to drift down as slow as possible.
4. Use net to collect Sculpy. Set Sculpy out to dry.

Concept 2

VI. Conclusions and Wrap-up (15 minutes)

1. After students have finished looking at plankton, play the game *Meroplankton Game* as a finishing activity to wrap up everything they have seen.

VI. Clean Up

VIII. Additional Information and Activities

1. Additional terminology
2. Barnacle Game
3. Many books in library on plankton

Concepts:

Focal points of this class are:

1. Plankton plays a critical role in ocean ecosystems which depend on a stable food chain for species survival.
2. Plankton adaptations such as shape and size are key factors to their survival.
3. Classifying and identification is the first key to understanding.

Outcomes:

Upon completion of this class, students will be able to:

1. Identify several species of intertidal plankton and understand their role in an ecosystem
2. Develop proper skills to work a microscope.
3. Separate species of plankton into four major categories.

Georgia Performance Standards met

5th Grade:

1. **S5CS8.a:** Scientific investigations may take many different forms, including observing what things are like or what is happening somewhere, collecting specimens for analysis, and doing experiments.
2. **S5L1:** Students will classify organisms into groups and relate how they determined the groups with how and why scientists use classification.
3. **S5L2.** Students will recognize that offspring can resemble parents in inherited traits and learned behaviors.

6th Grade:

1. **S6E3.** Students will recognize the significant role of water [organisms] in earth processes.

7th and 8th grade:

1. **S7L1.** Students will investigate the diversity of living organisms and how they can be compared scientifically.
2. **S7L5.** Students will examine the evolution of living organisms through inherited characteristics that promote survival of organisms and the survival of successive generations of their offspring.
3. **S8CS9.** Students will understand the features of the process of scientific inquiry.

National Standards met

NS.K-4.1 Science as Inquiry

As a result of activities in grades K-4, all students should develop

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.K-4.3 Life Science

As a result of activities in grades K-4, all students should develop understanding of

- The characteristics of organisms
- Life cycles of organisms
- Organisms and environments

NS.5-8.1 Science As Inquiry

As a result of activities in grades 5-8, all students should develop--

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.5-8.3 Life Science

As a result of their activities in grades 5-8, all students should develop understanding

- Structure and function in living systems
- Populations and ecosystems

NS.9-12.1 Science As Inquiry

As a result of activities in grades 9-12, all students should develop

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

NS.9-12.3 Life Science

As a result of their activities in grades 9-12, all students should develop understanding of

- The cell
- Biological evolution
- Interdependence of organisms
- Matter, energy, and organization in living systems
- Behavior of organisms

NS.9-12.6 Personal and Social Perspectives

As a result of activities in grades 9-12, all students should develop understanding of

- Population growth

Florida Standards met

SC.4.L.17.2 Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.

SC.4.L.17.3 Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.

