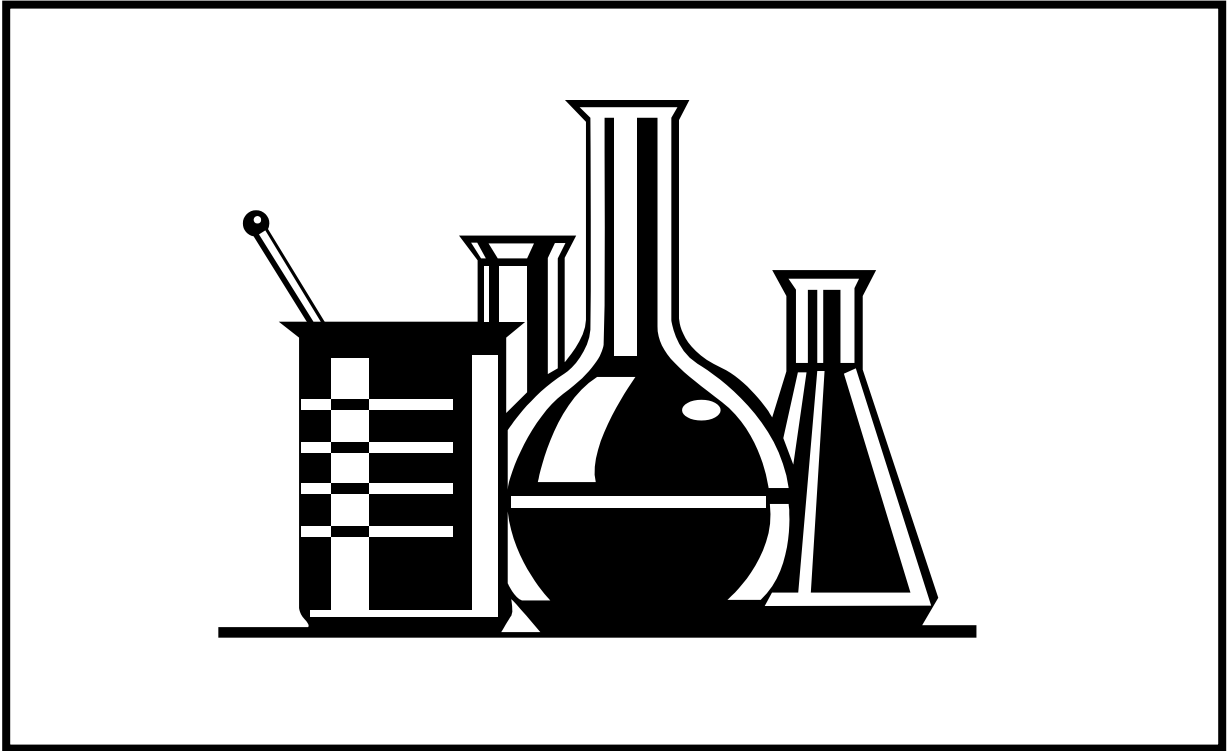


Turbid Waters!

2016 - Driftwood Education Center



Class Description:

The intertidal zone is home to many species of plants and animals. Through biological, physical, and chemical analysis, students will observe and discover how human and natural factors influence the health of the intertidal zone.

**This class is composed of analysis and discussion.
Most appropriate for grades 6th -12th**

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

Turbid Waters

Table of contents and outline:

I. Pre-class set-up (10 minutes)

1. Make sure supplies are prepared for class, chemicals, nets, and physical testing equipment.
2. Prepare paper for sum of all parts (read instructions in lesson plan).

II. Introduction, overview, and assessment (30 minutes)

1. Introduce class
2. Give an overview of what's going to happen in today's class.
3. Assess what students already know about water quality, and do *Activity 1*: sum of all parts.

III. Water Testing: down to public docks (45 minutes)

1. Physical testing: temp – turbidity – tide - salinity
2. Chemical testing – pH - D.O.
3. Biological testing – collection and identification of organisms
4. Students will record data and identify inverts on data sheet.

IV. Additional Information

V. Conclusions and Wrap-up (10-15 minutes)

1. Discussion on what students found
2. Compare data
3. Come to a solid conclusion as a group

VI. Additional Activities: at instructors discretion

1. Other helpful activities
2. Drop of water activity
3. Super Bowl Surge activity

Georgia Performance Standards met

5th Grade:

- S5CS1.c** Offer reasons for findings and consider reasons suggested by others.
S5Cs1.d Take Responsibility for understanding the importance of being safety conscious.
S5CS8.a Students will understand important features of the process of scientific inquiry.

6th Grade:

- S6CS1. a and b:** Students will explore the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

- S6CS7.b:** Recognize that there may be more than one way to interpret a given set of findings.

- S6E3.** Students will recognize the significant role of water in earth processes.

7th and 8th Grade:

- S7CS1.a:** Understand the importance of—and keep—honest, clear, and accurate records in science.

- S7CS6. c:** Organize scientific information using appropriate simple tables, charts, and graphs, and identify relationships they reveal.

- S8CS4.b:** Use appropriate tools and units for measuring objects and/or substances.

Concepts:

Focal points of this class are:

1. Human and natural factors influence the health of intertidal zones.
2. All living things are connected.
3. Diverse ecosystems yield healthy ecosystems.

Outcomes:

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

1. Think critically about recommendations to promote the health of water supplies.
2. Gain the ability to chemically and biologically test and observe the health of a water supply.

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
- Understanding 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
- Organisms and environments

NS5-8.1 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
- Diversity and adaptations of organisms

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

- 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

- Natural resources
- Environmental quality
- Natural and human-induced hazards