

# **AWE Chemistry!**

## 9th-12th Grade Program

**Description:** Students will visit a local wetland to sample current conditions. Learn the importance of variables such as salinity, pH, turbidity, and oxygen when it comes to monitoring the health of an ecosystem!

### **Objectives:**

- Be able to explain what a wetland is and why it is important to monitor.
- Know various ways that scientists study local water conditions including: temperature, salinity, pH, turbidity, oxygen, and other natural bio-indicators of health.
- Be able to explain the importance of resource management, how scientists study the health of ecosystems and monitor local conditions.

## Nature Journaling Station:

Encourage students to explore the designated area. They can work independently or in partners to find something natural and something man-made to document in their journals. You can help point out items of interest to students.

At end of time, please make sure all students have their clipboards, pencils, and journals. Check area for any misplaced supplies.

### Behavior Expectations:

- Stay within the designated area
- Take only memories – do not pick up anything – leave sticks, rocks and shells where they are
  - Watch your step – areas may be muddy
    - Be mindful of crab burrows
  - Quiet voices to not disturb wildlife

### Talking Points:

- Where on the refuge would we find crustaceans?
  - Point out where crab burrows are
- Description of daily tidal changes and how crustaceans adapt

## Plankton Lab Station:

Students will learn about view and identify plankton using a microscope.

### Directions:

Students will take a sample of the water in a pipette to look for plankton. Have students draw & describe their plankton in their nature journal and try to ID it using the plankton ID sheets.

### How to use a pipette:

Squeeze the bulb of the pipette before putting in the water sample. Keep squeezing and put the pipette into the water sample. Release the bulb to suck up the plankton and water. Move pipette tip to dish and squeeze bulb to release the plankton/water sample. Try to limit amount of water in dish.

### How to adjust microscope to focus:

Keep the red base of the microscope on the table and make sure the small, clear tube is facing the light. Slowly move gold scope up, but do not remove. Put the plankton in the dish directly over the small hole. Close one eye and put other eye close to top of scope and slowly lower scope down until plankton is focused.

### Important points to make:

What are plankton? Plankton are animals that drift and cannot swim against a current.  
How many types of plankton? 2 types - Phytoplankton that produce energy from the sun & zooplankton that consume other animals to get their energy.