Intro to Salinity Activity

Grade Span	5-8th Grade
Time Span	60-minute class
Standards	Asking Questions and Defining Problems Developing and Using Models Planning and Carrying Out an Investigation Engaging in Argument from Evidence
Focus Question	What is salinity and how is it measured?
Overview	Students will look at the definition of salinity and the instruments used in determining salinity.
Objectives	Students will be able to: Define salinity Explain what a hydrometer does
Materials Needed	Per each group: • 2 inch piece of clear straw • Small amount of clay • 2 4.5mm ball bearings • Intro to Salinity Student Activity Sheet
Vocabulary	**Salinity** - the amount of salt in water **Hydrometer** - a tool used to measure the amount of salt in water **Quantitative** - data that can be measured, specific **Qualitative** - data that is observed, more general
Teacher Prep	Salinity : Possible video to show to students… uses osmosis/diffusion
Background	Acadia National Park Gulf of Maine Info Ocean Salinity Modeling Salinity and Deep Ocean Currents

Procedure

Engage: Share the *Modeling Salinity & Deep Circulation Claims Evidence Reasoning Student Sheet*. Break students up into groups of 3 or 4. Give each student the maps: Global map of average sea surface salinity and major surface ocean currents. Have students look over the maps and fill in the data sheet. Have students work and talk together about what they see, what DON'T they see. Are they making any connections? Is there a connection with water currents and salinity?

Explore:

- Now give each student group the materials to create a hygrometer and each student the Intro to Salinity Student Activity Sheet.
- Take the 2 inch piece of straw and put a small piece of clay at one end to block the hole.
- Place 2 ball bearings in the straw.
- Take 1 cup of fresh water and place your homemade hydrometer slowly into the water.
- Draw and label any observations you observe. (Student sheet found below.)
- Place your hydrometer into 1 cup of salt water.
- Draw and label any observations you observe.
- Have students discuss how to determine how to measure the data more quantitatively (students should have access to black markers and tape).
- Allow students to try their thoughts and record their findings. Make sure they are answering the questions along the way.
- Finally have students pour ½ cup of salt water and ½ cup fresh water in a glass container.
- Students should make a prediction as to what they think may happen with their hydrometer.
- Have students place their hydrometer in the ½ fresh ½ salty water and observe.
- Students should finish up by answering the questions on the activity sheet.

Explanation:

What causes currents in the ocean? Great video showing how the amount of salt in the water makes water move.

What is a current?

Ocean Currents and Climate

Extension:

Saltwater Current

Wrap-Up	**Evaluate:** **Formative Assessment:** Check students' work from the student activity sheet.
	This activity was altered from: https://files.eric.ed.gov/fulltext/ED403294.pdf