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Will It Sink or Float?

Introduction Lesson
Instruction time: 45 min.
Grade Level: 1st grade

Standard #3: Students will develop an understanding of their environment
Objective #2: Investigate water and interactions with water
b. compare objects that sink and float

Purpose of Unit: To allow students to develop base of understanding pertaining to water and the ideas of sinking and floating.

How to convey the importance of this topic: By using a literature connection and questioning techniques the students will obtain the basis of the unit.

Materials: "Sink or Float" by: Leslie Fox, white board, markers, paper and crayons

Terminology:

Sink
Float
Buoyancy

Background Information:

Float:

1. To remain suspended within or on the surface of a fluid without sinking.
2. To be suspended in or move through space as if supported by a liquid.

Sink

1. To descend to the bottom; submerge.
2. To fall or drop to a lower level, especially to go down slowly or in stages: *The water in the lake sank several feet during the long, dry summer.*

Prior Knowledge Assessment:

1. Introduce the unit to the students by asking them what they know about the concepts of the words sink and float.
2. Write the students answers on the white board and discuss the answers they gave.

Procedures:

3. Introduce the book "Sink or Float" by Leslie fox to the students and have them predict what they think the book will be about.
4. Read the book to the students and use questioning techniques through out the book to keep the students interested in the book, and aware of the concepts they are learning- stop frequently to make sure the class is together.
5. When finished reading the book, discuss with the class the meaning of the words sink and float as defined in the book, and if their definitions are different than the one in the book.
6. Then have the students get out crayons and paper- guide the students to folding the paper in half.
7. Have them draw pictures on one side of items in the room they think will sink, and items on the other side they think will float.
8. Have the students put their drawings in their Science Journal.
9. To bring the lesson to a close have the students share one of their items with the class and why they think it would sink or float.

Extension:

For an extension lesson have the students get online and go to: http://www.nickjr.com/kids/flash_site/common/shockwave/shock_blue_template/index.jhtml?shock_game=/kids/flash_site/gmae/blue/blue_shock_sinkfloat/blue_shock_sinkfloat.dcr and play the sink float game about sinking and floating objects.

Assessment:

- Ability to stay on task- measure by walking around and observing class during work time, and also by questions during the book.
- Sink or float drawings in lab journal

Sink or Float

Grade Level: 1st

Core Curriculum: Standard 3 Students will develop an understanding of their environment

Objective 2 Investigate water and interactions with water

Background Information:

When objects sink or float, they push water away. When water is pushed aside we call it displacement. If the amount of water pushed aside by an object weighs more than the object, the water can hold it up and it floats. If an object placed in the water pushes away an amount of water that weighs less than the object, the water cannot hold it up and it sinks.¹

It is easier to float objects in saltwater than in fresh water. Many humans can “float” in saltwater but not fresh water. The reason is that water with salt in it is more dense. Objects that cannot float in fresh water may be able to float in saltwater. Students need to know that the water in the Great Salt Lake has a salinity of about 12% containing even more salt than the ocean.

Estimated Time: 20 minutes for each center rotation

(This lesson is designed as a teacher led science center)

Objectives:

- ✓ Exploring why substances float in water.
- ✓ Students will learn that different substances sink or float depending on their density in relationship to the density of water.

Materials:

¹ 13-10 Elementary CORE Academy 2003
Academy Handbook First Grade

- Cork
- Pencil
- Twig
- Crayon
- Soap
- Plastic Spoon
- Paper Clip
- Toy car
- Key
- Sink or Float Worksheet
- 2 Plastic containers for water
- Salt

Prior Knowledge Assessment:

Lead a discussion with students on what they know about fresh and salt water, and then move into an overview of what they are going to know by the end of the lesson.

Procedures:

1. Set up two containers of water one with fresh water and one with salt water. (the salt water should contain about 15% salt)
2. Show items on the table and have the students predict on their worksheets which items will sink or float.
3. Allow students to conduct the experiment by having them place the items one by one into the water. The teacher will record on chart paper which items actually sink and float.
4. Discuss with students their findings and have them check if their predictions were right.
5. After the fresh water testing, have the students do the same experiment and predicting with the salt water.
6. Record the findings on a bid chart and student worksheet.
7. Ask the students if it is easier to float in sea water or fresh water. Salt water can make any object float easier because it is denser than fresh water, therefore it can support bigger objects.
8. When all the students have rotated through the science center lead a discussion on the experiment and provide closure to the lesson. (Discuss the idea that items not only sink and float due to weight but shape as well.)

Assessment:

Students will record their observations in their science journal. They will choose one object and describe the results. Check the journals to see whether the objects the students chose are correct as to whether they sank or floated.

Extension:

Move on to talk about other aspects of salty vs. fresh water like animal life and plant life.