

Water: Float and Sink

Summary

Students will investigate objects that float and sink in water and describe what they discover by making representations of their findings.

Time Frame

1 class periods of 30 minutes each

Group Size

Small Groups

Materials

- tubs of water
- objects to place in water
- cards for labeling
- sorting trays
- chart paper
- various size lids
- aluminum foil
- counting bears or similar objects to place on "boats"
- *Who Sank the Boat?*
by Pamela Allen

Student Prior Knowledge

Students should know the words "float" and "sink".

Intended Learning Outcomes

- Share ideas using communication skills.
- Observe, sort, and classify objects.
- Make and interpret representations and graphs.
- Make connections from content areas to application in real life.

Instructional Procedures

1. Ask students to describe going swimming. How does the water feel? How do they feel in the water? Has anyone ever taken swimming lessons? Has anyone ever been able to float on the water? What helps you to float on the water? What things have you seen floating on water?
2. Divide students into small groups of 3 or 4. Give each group a tub of water and several objects. Invite students to discover which objects will float. As students begin to explore, watch for students who naturally begin to sort objects into two categories of things that float and things that sink. Ask the students to describe their thinking as they make two piles. Invite other groups of children to see the two piles. Ask the class what each pile might be named. Provide cards for students to write the words "float" and "sink". (Write both words on the blackboard for them to see.) Distribute trays for each category to the groups. Have the groups finish sorting their objects.
3. Ask students to discuss the attributes of objects that float and of those that sink. Make a Venn diagram of descriptive words for objects that float and objects that sink. Are there objects that can do both?
4. Invite students to return to their tubs and see if they can make something that floats sink or

something that sinks float. Distribute various lids (labeled with a letter of the alphabet) to each group and ask them to investigate making objects that sink, float on the lids. Which lids make the best boats? Distribute counting bears. Invite children to see how many bears can float on each boat. Ask students to record the results by writing the letter labeling each boat, and writing how many bears it can hold before it sinks or tips over.

5. Ask each group to share with the class the boat that holds the most, and the boat that holds the least number of counting bears. Make a Venn diagram describing attributes of boats that hold the most counting bears and those that hold the least. Encourage comments about the exploration.

6. Provide each student with a sheet of aluminum foil. Ask each child to make a boat that they think will hold the most counting bears. Show them how to mold and shape the foil. Students make boats, and return to the water tub to test their boats. Classmates in group will count together as each child places a counting bear on their boat. When the boat tips over, students place their boat on the large sheet of chart paper and record the number of bears it held. Compare the boats in each group.

7. Read the book *"Who Sank the Boat"* by Pamela Allen. Invite students to reenact the story, with each student in the group adding a plastic animal to a larger tin foil boat created by the group. Which animal will be the one to sink the boat?

Strategies for Diverse Learners

On the blackboard draw a picture of an object on the surface of water and write float. Draw an object below the surface and write sink.

Extensions

Follow a similar procedure exploring water level using the book *Mr. Archimedes Bath* by Pamela Allen Student readers about floating and sinking:

An Apple Floats by Christin Wildson, Outside the Box

Sink or Float? by Leslie Fox, Harcourt Science Instant Readers Level 1

What Floats by Rebel Williams, The Wright Group Twig Red

What Will Float? by Fred and Jeanne Biddulph, The Wright Group Sunshine Level 1

Assessment Plan

Be equipped with a clipboard to take data during the students' investigations. Watch for students who know how to classify, students who have a rich descriptive vocabulary and students who make predictions.

Ask students to bring 3 items from home that sink and 3 that float. Test their items to see if they have correctly identified floaters and sinkers.

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