



SINK OR FLOAT

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Lesson Summary for Grade 2

In this lesson, students explore floating and sinking and make predictions about whether certain objects are likely to sink or float. Cross-curricular links are provided for language arts, art, and social studies.

Science Activity: Sink or Float

Students determine whether objects sink or float on water, make predictions, and record observations.

Source: “Sink or Float” unpublished handout from Teaching Science with TOYS course.

Key Science Topics:

- floating and sinking
- relative density

Key Process Skills:

- measuring
- classifying
- predicting

Ohio Science Education Standards:

Scientific Inquiry:

- Make multiple observations of events and explorations using the five senses.
- Investigate and discuss measurement using standard and non-standard units.
- Make simple graphs of observations with the aid of various technologies and read objects.
- Test ideas using physical materials and models.
- Solve problems and resolve issues using varied strategies, including observing, questioning, manipulating objects, discussing, and others.

Scientific Knowledge:

- Explore similarities and differences observed in a wide diversity of objects and organisms.
- Explore the use of various scales as they are applied to making observations.

Conditions for Learning Science:

- Take time to reflect on observed events.
- Develop and conduct investigations collaboratively and critique the results.
- Participate in discussions with peers.

Mason City Schools 2nd Grade Science Objective:

- Explore floating and sinking, and predict which objects will float. (1A-7)

National Science Educational Standards:

A. Science as Inquiry Content Standard: Abilities Necessary to Do Scientific Inquiry:

- Students conduct a simple experiment in which they determine whether an object will sink or float and communicate their findings.

B. Physical Science Content Standard: Properties of Objects and Materials:

- An observable property of some materials is that they may sink or float.

The materials needed for this activity are: pan balance scale, gram unit cubes, collection of articles to test, recording chart for measuring and predicting, and a large see-through plastic tub of water. The students are divided into cooperative groups of four. Each group is given a collection of objects. The students measure the mass of each object using a pan balance scale and gram unit cubes. Their measurements are recorded on a group chart. Each student makes a prediction as to whether the object will sink or float and records this on the chart. The groups then test each object separately and record the results on their charts. A class discussion is held and comparisons are made of the various results from each group.

Language Arts Activity

Students read a story, locate rhyming words, and write couplets.

The students together read *Who Sank the Boat?* by Pamela Allen. While reading they locate rhyming words and discuss the events of the story. The students brainstorm and chart additional animals that could have ridden in the boat. This chart is used to create a class adaptation of the story. After the class decides which animals should be used and the order of their appearance in the new story, the students work in cooperative pairs to write rhyming couplets using one of the charted animals as their new character.

Mason City Schools 2nd Grade Language Arts Objectives:

Reading:

- Integrate the three cueing systems when reading texts.
- Predict story events before and during reading.

Writing:

- Identify relationships among and between words and use the knowledge in meaningful writing experiences.
- Demonstrate the ability to use descriptive language in writing.
- Write stories, verse, and or information pieces related to interests, themes, and events.

Art Activity

Students illustrate the couplets they wrote.

The students illustrate their couplets together using various media, such as construction paper, markers, crayons, etc. These pages can then compiled into a class big book.

Mason City Schools 2nd Grade Art Objectives:

- Illustrate using a variety of media.

Social Studies Activity

Students listen to a story and then create a timeline.

The students listen as the teacher reads aloud *The River Ran Wild*. After the students discuss the events of the story and the effects that pollution can cause on our waterways and wetlands, they map the river and environment on construction paper and show by illustrating the effects of people, pollution, and conservation on the river. The students are given sentences from the story to place on their river timeline.

Sentences from *A River Ran Wild* by Lynne Cherry:

- Native people settled along the river. The chief named the river Nash-a-way. This means "river with the pebbled bottom."
- The Indians planted corn and squash and hunted. They only killed what they needed for food and clothing.
- Traders came with treasures. The Nashua welcomed them and soon a trading post was built.
- Settlers came and cleared land by cutting down forests. They built sawmills along the river. They made dams on the river.
- The settlers built fences for their pastures. They told the Indians not to trespass. The Indians could no longer hunt or fish on the land.
- The Indians began to fight the settlers. The river still ran free. Fish and turtles still swam. Deer still came to drink from the river. Owls, raccoons, and beaver fed there.
- Factories were built along the river. Waste from the factories was dumped into the Nashua River. Soon the wildlife grew sick from this pollution.
- The waste began to clog the river. The river began to smell very bad. Soon no fish lived in the river. The birds stopped coming. The Nashua was dying.
- Oweana and Marion decided to do something. They began working to clean up the river.
- People began to help clean the river. New laws were passed to protect the rivers from the factories' waste.
- Once again, the river ran free. The animals began living in the river and the townspeople could enjoy the river again. The pebbles shone up through the clear water.

Mason City Schools 2nd Grade Social Studies Objectives:

World Interactions:

- Compare how people respond to their environment.

American Heritage:

- Explore, create and place events on a timeline.

References

Allen, P. *Who Sank the Boat?*; Sandcastle Books: New York, 1982; ISBN 0-698-20679-7.

Cole, J. *The Magic School Bus -Ups and Downs*. A Book about Sinking and Floating; Scholastic: New York, 1997; ISBN 0-590-92158-4.

Cherry, L. *The River Ran Wild*; Harcourt Brace & Company: New York, 1992; ISBN

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