



The Great Sink Or Float Detective Challenge!

 Science •  30 min •  Ages 4-5 • Grade K

This lesson challenges young learners to become detectives, predicting and testing which everyday objects will float and which will sink. It encourages observation and critical thinking through hands-on water play. Together, you'll discover the surprising science behind floating objects.

Our goal is for your child to Predict whether common objects will float or sink in water., Observe and describe the behavior of objects placed in water., Begin to understand simple concepts related to buoyancy through experimentation..

What You Need

Bowl • Water • Small Toy • Pebble



Scan To Tailor

Every child learns differently, and this is just the baseline. Scan to jump into the app and easily tailor this lesson to match your child's exact learning level and see how Mai will guide this lesson.



Ready for more adventures? Explore our **Sparks Hub** in the app

Lesson Blueprint

A simple, hands-on lesson that guides your child through curiosity, exploration, and reflection.



Mai's Tips

1. **Encourage your child to use their own words to describe what they see happening:** Their unique observations are valuable!
 2. **If a child struggles to predict, ask them to compare two objects:** 'Which one feels heavier in your hand, the leaf or the pebble? Do you think heavy things float or sink?'
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Prep Before Session

1. Gather the materials and choose a safe, comfortable place for the activity.
2. Read through the lesson once so you know where the child will make predictions, test ideas, and reflect.

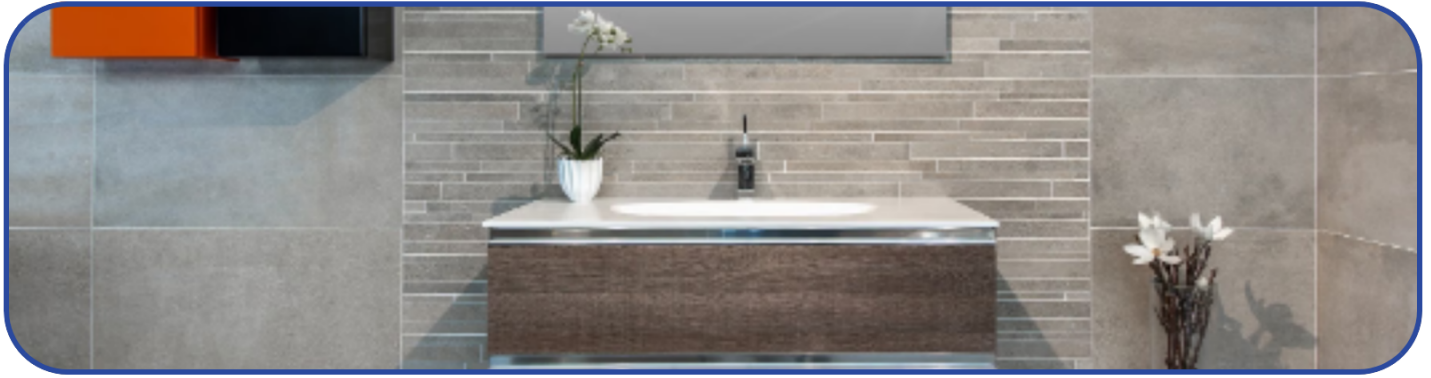


1 Introduction 5 Min

1. Introduce the exciting world of "floating" and "sinking." Floating means an object stays on top of the water, like a toy boat, while sinking means it goes down to the bottom, like a heavy stone. Some things float, and some things sink because of how they are made and how much water they push out of the way.

- "Have you ever seen a toy boat floating on water, or a stone sinking to the bottom?"
 - "What do you think 'float' means?"
 - "What do you think 'sink' means?"
 - "Why do you think some things float and others sink?"
2. Done when the child shows curiosity and grasps the basic difference between 'float' and 'sink'.

 **Done when:** Student shows curiosity and understands the basic idea of 'float' vs. 'sink'.



2 Explore & Plan 8 Min

1. Help the child gather the necessary materials: a clear bowl filled with water, and 3-4 small household objects like a plastic toy, a pebble, a leaf, a crayon, a small block of wood, a coin, or a cork. Encourage them to touch and feel each object. Before testing, ask the child to make a "prediction" – a guess about what will happen – for each object.
 - "Let's gather our detective tools: a bowl of water and some small objects."
 - "What do you think 'prediction' means? It's a guess about what will happen!"
 - "Before we put it in the water, what do you predict will happen to this [object name]?"
 - "Will it float like a duck or sink like a rock?"
2. Done when all materials are gathered and the child has made a prediction for at least two objects.

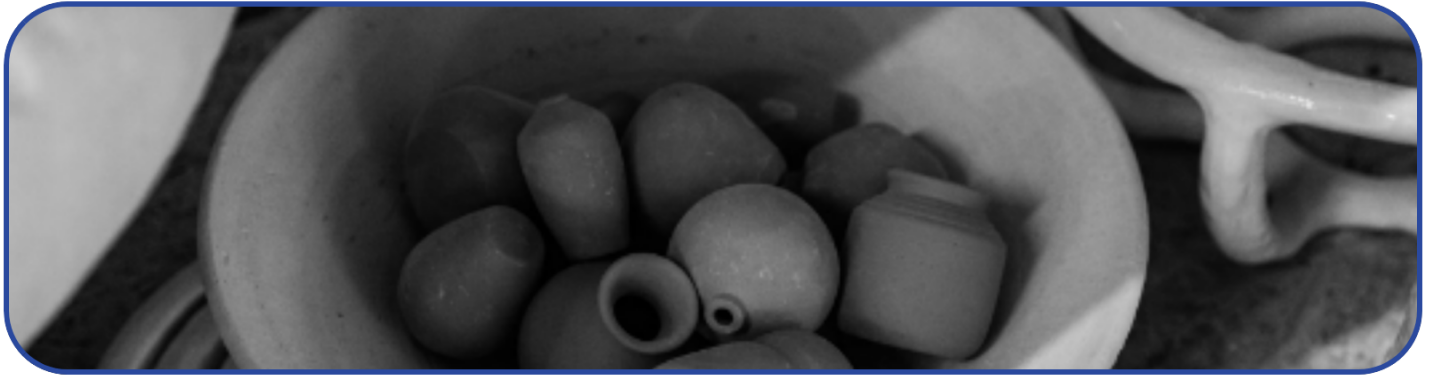
 **Done when:** Student has gathered materials and made a prediction for at least two objects.



3 Discussion 6 Min

1. Encourage the child to explain the reasoning behind their predictions. Listen gently to their thoughts without correcting them, helping them articulate their initial ideas.
 - "Why do you think the [object 1] might float/sink?"
 - "And what about the [object 2], why do you think it might float/sink?"
 - "Does one feel heavier or lighter in your hand than the other?"
2. Done when the child has offered a reason, even a simple one, for their predictions for at least two objects.

 **Done when:** Student has offered a reason (even a simple one) for their predictions for at least two objects.



4 **Activity** 9 Min

1. Supervise closely as the child carefully places each chosen object into the water, one by one. Encourage them to watch very carefully to observe its behavior. Ensure the area is safe for water play.
 - "Carefully put the [object name] into the water."
 - "Watch very, very closely! What happened?"
 - "Did it float to the top or sink to the bottom?"
 - "Was that what you thought would happen?"
2. Done when the child has tested all chosen objects and carefully observed their behavior.

 **Done when:** Student has tested all chosen objects and observed their behavior.



5 Summary 2 Min

1. Celebrate the child's efforts and the interesting discoveries made during the challenge. Ask them to reflect on their observations and gently guide them to connect their small experiment to larger real-world examples.
 - "What was the most surprising thing you saw today?"
 - "What did you learn about floating and sinking?"
 - "Can you think of something big that floats, like a giant ship?"
 - "How do you think it stays up?"
2. Done when the child shares at least one observation or learning from the activity.



Done when: Student shares one observation or learning from the activity.

Beyond The Lesson

Fuel their curiosity beyond the lesson with bonus sparks.



Table Talk

Engineers and boat builders use the science of floating to design ships that carry people and goods all over the world.



Did You Know?

Everyday objects can reveal surprising science when we slow down and observe them.



Challenge

Find some more objects in the house and predict if they'll float or sink, then test them! Can you find something that floats that you thought would sink?

Quick Recap Quiz 4 Min

Check what your young scientist remembers. Each question includes a Parent Tip to help them find the answer without giving it away.

1. What Does It Mean For Something To FLOAT?



Go to the bottom



Stay on top



Remind them of the objects that stayed on top of the water.

2. What Does It Mean For Something To SINK?

- ☐ Stay on top
- ☒ Go to the bottom

 Ask them where the pebble went when you put it in the water.

3. If A Tiny Boat Can Float, What Helps It Stay On Top?

- ☐ It is very, very heavy.
- ☒ It pushes water away to make space.

 Talk about how boats are shaped to 'hug' the water and stay up.

4. Why Do Big Ships That Carry Cars Float?

- ☐ They are made of super light invisible material.
- ☒ Their special shape and air inside helps them float.

 Remind them that even big, heavy things can float if they are shaped right and have air inside.