

# AT-HOME SCIENCE LEARNING



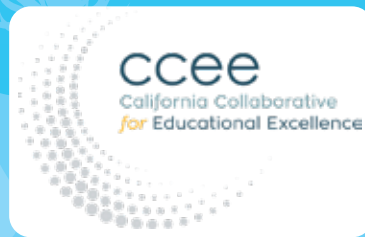
 #4

## SINK OR FLOAT



### PARENTS

*At-Home Science Learning is all about you and your children exploring science in a fun, hands-on way using simple supplies found around your home. Use the “Parent Guide” to help support your children through the activities plus see a list of required materials needed. Print out the “At-Home Science Journal” for your child to follow along with each activity. The activities are designed to take 15 – 30 minutes. Get your whole family exploring science together!*



This project is funded by the California Collaborative for Educational Excellence in collaboration with the Office of the Fresno County Superintendent of Schools.

## FOR THE PARENT:

# #4 SINK OR FLOAT

**Overview:** Making predictions about what will happen to an object if placed in water is a great way to engage children in science right in their homes. Explore why some objects sink while others float using household items. Children use this knowledge to design and create a boat that floats on water.

### Materials/Supplies:

- An electronic device connected to the internet to watch videos and play games.
- Large bowl, water, plastic cup, random small items around your home (including different fruits and vegetables), foil, pennies, marker or tape.
- Copy of the “Student Science Journal” and a pencil.
- Optional supplies: colored pencils or crayons.

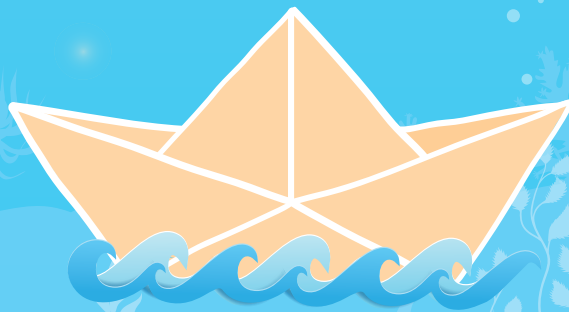
**Each of the activities is designed to take 15–30 Minutes.**

### Activity 1: Story

1. Listen to the story “Who Sank the Boat” by going to this link on your electronic device:  
[tingurl.com/boatsank](http://tingurl.com/boatsank).
2. After listening to the story, have your child go to their Science Journal – Activity 1 section and retell the story using drawings.
3. Ask your child why they think the boat was floating on top of the water at the beginning of the story and why it sank.

As your child shares, encourage them to use complete sentences and give them some ideas for starting if it helps. For example,

- a. I think the boat was floating in the beginning because...
- b. I think the boat sank because...



## Activity 2: Does it Sink or Float?

1. Help your child gather small items from around your home that your child thinks might sink or float when put in water. Make sure the items won't be ruined if put in water. Examples of items to collect: paper clip, pencil, penny, spoon, rubber band, crayon, rock, leaf, bottle cap, etc.
2. Fill a large bowl or container with water about halfway full. You could also fill your sink about half full of water. Gather a towel or paper towel to wipe up any water splashes.
3. In your child's Science Journal – Activity 2, help them draw or write the different objects they collected. Before putting the object in the water, have your child make a **PREDICTION**: Will the object sink or float? Your child will record what they think in their Science Journal.  
As your child shares, encourage them to use complete sentences and give them some ideas for starting if it helps. For example.
  - a. I predict the object will...
4. Now have your child **TEST** the object by placing it carefully on top of the water in the bowl or container and observe what happens. Your child will record the **RESULTS**: Did the object sink or float?

## Activity 3: Grouping Objects

1. After completing the tests, have your child place the items that sank in one pile and the items that floated in another pile.
2. In their Science Journal – Activity 3 section, have your child draw or write down the objects that sank. Help your child describe these objects and determine what they have in common with one another.
3. Now have your child look at the objects that floated and draw or write these down in their science journal. Help your child to describe these objects and determine what they have in common with one another.
4. Ask your child if there are other objects they would like to test. Have them predict if the new object will sink or float based on what they've observed so far from their other objects. Then have your child test the new objects and draw or write these objects into the "sink" or "float" groups.  
As your child shares, encourage them to use complete sentences and give them some ideas for starting if it helps. For example,
  - a. I think this object will \_\_\_\_\_ because...
5. Ask your child, "Why do you think some objects float while other objects sink?"
6. Younger children will have fun playing a game with Grover to find out what items sink and what items float. Use your electronic device to go to this website: [tinyurl.com/game-grover](http://tinyurl.com/game-grover).

## Activity 4: Fruits and Vegetables

1. Does it Sink or Float? – Kitchen Edition! Take your child into the kitchen and gather different fruits and vegetables that you have in your refrigerator or pantry. You will also need a large bowl or tub filled halfway with water. You can also use your kitchen sink filled about halfway with water.
2. Ask your child to predict which fruits and vegetables will sink and which ones will float. Your child should record their predictions in their Science Journal – Activity 4 section.
3. Give your child time to test each of the fruits and vegetables and record the results.
4. Have your child count how many fruits sank and how many floated and then count how many vegetables sank and how many floated.
5. In their science journal, have your student write or draw what surprised them during this activity.
6. Optional: Place a whole orange or tangerine on the surface of the water and let go. Did it sink or float? Now peel the orange or tangerine and place the peeled part of the fruit on the surface of the water, let it go, and see what happens? What did you notice?

## Activity 5: Can You Sink the Cup?

1. Challenge: Can you sink the cup? You will need a large plastic cup and a large bowl, sink, tub, or bucket filled about halfway with water. Now gather different items to put inside the cup (rocks, cotton balls, water, etc).
2. Place the cup on top of the water and observe how it floats, like a boat. Have your child put their fingers inside the cup and push down on the bottom of the cup in the water. What do they feel?
3. Now have your child use different items you gathered to try and sink the cup! Do any materials make the cup go down in the water only part-way? What about all the way? Help your child record their observations in their Science Journal – Activity 5 section.
4. In their science journal, have your child answer the questions: How did we make a floating cup sink? How was this similar to the book “Who Sank the Boat?”

## Activity 6: Why Do Objects Sink or Float?

1. To understand why some things sink and some float, have your child watch this video on your electronic device [tinyurl.com/video-sinkfloat](https://tinyurl.com/video-sinkfloat).
2. Tell your child to look back in their Science Journal to Activity 2 and Activity 3v Did the video explain why the items you tested sank or floated?
3. Help your child answer the questions in their Science Journal – Activity 6





## Activity 7: Water Level

1. Have your child gather the items they tested in Activity 2 one more time. Fill the clear plastic cup about 2/3 with water. Help your child use a marker or piece of tape to mark where the water level currently is in the cup.
2. Have your child predict what will happen to the water when an object is placed in the cup. Now your child can place one of the objects into the cup of water and have them observe the waterline. Did it move? Your child can make a mark of where the water is now and then remove the object. Help your child test all of the different objects and record in their Science Journal – Activity 7 which objects made the water rise the least amount to the most amount.
3. What object(s) caused the water level to rise the most? Why do you think that happens?



## Activity 8: Build a Boat that Floats

1. Engineering Challenge: Build a boat that floats!  
Each family member will design and create a “boat” using a piece of foil. Test each boat in a large bowl of water, the sink, or the tub. Have your child draw their boat in their Science Journal – Activity 8 section.
2. Have a competition to see how many pennies each family member’s boat can hold. Have your child count each penny as it’s added to the boat. The boat that holds the most pennies is the winner.
3. Ask your child to redesign their boat with a new piece of foil so that it holds more pennies compared to their first boat. Tell your child to draw their boat in their science journal.



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# AT-HOME SCIENCE LEARNING

## #4 SINK OR FLOAT



NAME: \_\_\_\_\_

### Activity 1:



Listen to the book "Who Sank the Boat?"

Draw



or write



what happened in the story.



First, \_\_\_\_\_

Then, \_\_\_\_\_

Finally, \_\_\_\_\_

I think the boat sank because...



## Activity 2: Does it sink or float?

Draw  or  write the objects you are going to test.

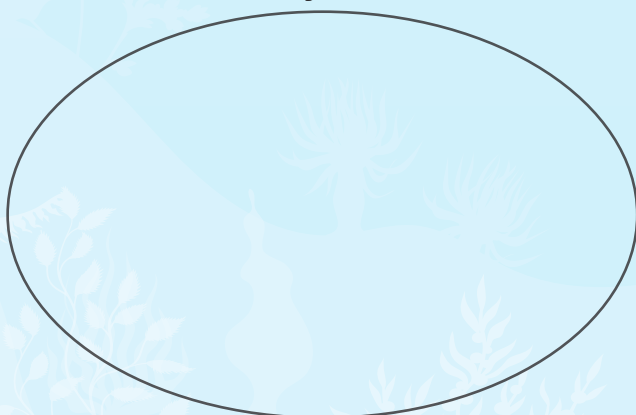
Make a prediction and then test the object. Record what happens.

OBJECT	PREDICTION: DO YOU THINK IT WILL SINK OR FLOAT?	DID IT SINK OR FLOAT?

## Activity 3: Grouping Objects

Draw  or  write the results of your experiment by grouping the objects on whether it sank or floated.

**These objects sank:**



**These objects floated:**





Why do you think some objects floated and some objects sank?



# Activity 4: Fruits and Vegetables



Draw  or  write the objects you are going to test.

Make a prediction and then test the object. Record what happens.

NAME OF FRUIT OR VEGETABLE	PREDICTION: DO YOU THINK IT WILL SINK OR FLOAT?	DID IT SINK OR FLOAT?

How many fruits floated? \_\_\_\_\_ How many sank? \_\_\_\_\_



How many vegetables floated? \_\_\_\_\_ How many sank? \_\_\_\_\_

What surprised you during this experiment?



# Activity 5: Can You Sink the Cup?



Draw  what you tested and explain  what happened.



Test another object, draw  and explain  what happened.



I made the floating cup sink by...

How was this cup experiment similar to what happened in the story “Who Sank the Boat?”



## Activity 6: Why?

Watch the video to learn more about why some objects sink and some float. Circle what happened to the two different spoons in the video.



Metal spoon: SINK or FLOAT



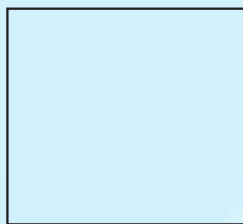
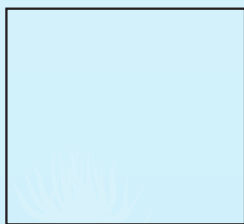
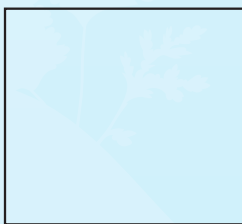
Plastic spoon: SINK or FLOAT

Why do some objects sink and others float?

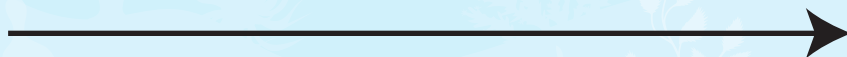


## Activity 7: Water Level

Draw or write the objects in the boxes in the order from “made the water level rise the least” to “made the water level rise the most”.



Water  
level rose  
the least



Water  
level rose  
the most

Why do you think the water level rises when you put objects in the water?

# Activity 8: Build a Boat that Floats!



Draw the foil boat you designed and created.

My boat held \_\_\_\_\_ pennies!

Redesign your boat. How many pennies did it hold this time? \_\_\_\_\_

Draw your new boat design.

