



Project Exploration creates transformative learning opportunities for youth underrepresented in the sciences –particularly students of color and girls – by equipping them with the skills, practices, and mindset needed for a lifelong pursuit of learning. STEM@Home makes activities around science, technology, engineering, and math accessible and fun to do at home. This STEMbook activity, resources, and more are available at www.projectexploration.org/stemathome.

In this activity, you will:

determine whether various objects sink or float in water. You will have the opportunity to experiment and explore with different types of objects, and record in some form the results of your experimentation.



Supplies Required:

- Blank sheet of paper
- 5 - 10 Assorted candies (small Hershey's, Milky Way, Twix, Starburst etc.)
- Clear plastic cup filled with 8 oz. of water
- Paper towels to absorb water when candy is removed

Video

Learn more about float or sink here: <https://tinyurl.com/wpbrznm>
Watch a float or sink demonstration here: <https://tinyurl.com/qm5fmx4>

Overview

Have you ever wondered if objects will sink or float? The density of an object is a physical property that determines whether it will float or sink in another substance. Also, an object will float if it is less dense than the liquid it is placed in. Lastly, an object will sink if it is more dense than the liquid it is placed in. Density is how many molecules are in a certain space. If an object is not very dense, there's not many molecules. If an object is dense, there are lots of molecules in the space. This activity will help you devise your own ideas about physical properties and how they can be used to describe and categorize objects. It will also provide practice categorizing a variety of objects according to observable characteristics.

During this activity you will be using the scientific method to investigate and draw conclusions. The scientific method is a way of solving problems that uses a set of steps to make sure your answer is accurate and based on evidence. These are the steps for the scientific method:

- Ask a question
- Gather information and observe (research)
- Make a hypothesis (guess the answer)
- Experiment and test your hypothesis
- Analyze your test results
- Present a conclusion

Instructions



1. Fill the cup with water.
2. On blank sheet of paper draw a table with three columns: 1. Object (Candy) / 2. Hypothesis / 3. Results. See an example of the table below (Parents may assist if necessary):

Object	Hypothesis (Sink or Float)	Results



3. Choose a piece of candy to test.
4. Write or draw the name in column 1.
5. Predict whether it will sink or float and record the prediction in column 2.
6. Place the candy in the water and observe what happens.
7. Record the results in column 3.
8. Place the candy that sank in one pile and the candy that floated in another pile.
9. Record your observations.

Additional Resources

Think About It! How many of your predictions were correct? Did your predictions get better, worse, or stay the same? Look at the pile of objects that sank. Describe them. Do they have anything in common with one another? Look at the pile of objects that floated. Describe them. Do they have anything in common with one another?

1. Learn more about the density of solids: <https://tinyurl.com/w6pqw5w>
2. Scientific Method: <https://tinyurl.com/y5b8gwhc>
3. Watch the LEGO Life Challenge about density: <https://tinyurl.com/toqqhnd>

Share It Out

Talk about it with your family and friends. How many objects were you able to test in the water?

Share on social media: record a video or take a picture of your experiment and post the results online using the hashtags:

#SinkOrFloatChallenge
#ProjectExploration
#StemAtHome

Tag a friend and challenge them to do their own Sink or Float Challenge!

Share via PE's website: Students who complete STEM@home activities and share what they learned with the PE team via our website will earn points which can be traded in for cash prizes at the Explore Store. Your project number is 406. Learn more at www.projectexploration.org/explore-store

Join PE's character contest!

Design a STEM character who will lead kids through activities and be featured on our website and in our STEMbooks. Cash prizes will be awarded to the top 3 finalists. Learn more at www.projectexploration.org/character-contest.



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