

STEM from Home

Float or Sink

What do you love to do during summer? For many, swimming is one of the favourite activities in the summer months. While swimming, you must have seen and used inflatable floats.

Have you ever given a thought to how these floats help you in swimming?

Floating and sinking is a fun science concept. It helps us to experiment and explore how different objects float and sink when placed into water. It helps to shatter the belief among young students that heavy objects sink and light objects float.

Eureka! Eureka! Do you know who said these two words first? Would you like to read more about who said these words and why? Click the [link](#) to know more.

In this task card, you will learn to create a book using the Book Creator app, in the Bonus activity you will learn how the addition of salt affects the density of water and whether an object will float or sink in salty water. In the Challenge activity, you will design a boat using different materials easily available at home.

Main Activity: **Float or Sink**

Introduction:

In this activity, you will learn to create a book in book creator.

Click [here](#) to read the book created on his topic.

Now, It's time to explore the objects in your surroundings. Click pictures of those things which float or sink and create your own book.

What You Will Learn

- How to create your own book using Bookcreator.
- How to make the cover page, add text, background
- How to record your voice and add it to the book.
- How to publish the book which you have created.

What You Will Need

1. Computer with an internet connection
2. Access [Bookcreator](#) to create your book.

Bonus Activities

Activity 1: Salt Water Experiment

Introduction:

Have you ever tasted seawater? How does it taste like? Yes, it is salty. Can we use seawater for our consumption purposes? No. Does that mean seawater is not important? Actually, seawater is very important. It helps in controlling the weather across the continents. It is also very important for marine life.

Have you ever heard about a sea named “The [Dead Sea](#)”? You know this sea is a lake that lies between Israel and Jordan and receives water from the Jordan river. Due to the high concentration of mineral salts, nothing can survive in this lake and that is why it is called the Dead Sea. Can you imagine that when you try to swim in this lake, you will float instead of sinking?

In this activity, you will experiment to check which object will float or sink as you increase the concentration of salt in the water.

What You Will Need

Click [here](#) to conduct your experiment.

What You Will Learn

When salt is added to freshwater, it makes the water denser as dissolved salt adds to the mass of the water. The objects float better on a denser surface, so they float better in salty water than in freshwater. The more the quantity of salt in the water more the water will be denser. The denser the water is, the easier it is for objects to float.

Challenge Activity: Row, Row, Row Your Boat

During the rainy season, who doesn't like playing in the puddles by making paper boats and competing with friends on whose boat will float and whose will sink?

In this challenge activity, It's time for you to be the Master Constructor.

Imagine and design different kinds of boats using a variety of materials. You will also check how much load your boat can carry and for how long it will stay afloat.

For this activity, explore your house and collect materials like corks, empty bottles, bottle caps, Popsicle sticks, straws, aluminum foil, clay, etc.

Caution:

Since you will be testing your boat in the water, so you cannot use water-based glues or any other sticky material. Use waterproof tapes, rubber bands, metal thin wires, jute string, etc.



While building your boat keep a trough of water near you so that you can test your boat, tweak it, test it again, tweak it again, till you get the best design.

You can also check how much load your boat can take before sinking. For this, use marbles, coins, or washers.

You may involve your friends too and challenge each other to see whose boat will stay afloat for a longer time and whose boat can carry the maximum load.

Click the picture of your boat and post it on google [doc](#) or make a [presentation](#) of your experiment.