



# Build-A-Boat



**Adults:** You are the **navigators** of today's exploration, and you will be asking questions of your student to observe, predict, and explain their thinking.

**Kids:** You will be the **investigators**. Your job is to observe, make predictions, and explain your thinking!

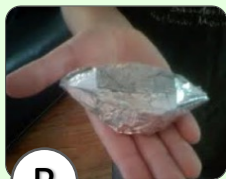
**Challenge:** Build a boat that can hold as many marbles as possible without sinking.

**Navigator (Adult)** ask your **Investigator (Kid)**:

- Which boat do you think would hold the most weight?
- Why do you think that?



A



B



C

## What's the SCIENCE?

- **Displace:** moving something from its place or position
- An object **floats** when it **weighs less** than the water it displaces and **sinks** when it **weighs more**.
- The **shape** of an object can affect the amount of water it displaces.

Now, let's **design**, **build**, and **test** your own boat. First, draw a **design** for your boat here

After your design is complete, **build** your boat. Then **test** it to find out if it floats and how many marbles it can hold. **After your first test**, you can **redesign** your boat and make another one. Try a different shape and see if it makes a difference.

## Talking Tip

Encourage your **Investigator** to explain their thinking.

After they answer, try following up with probes like...

"Why do you think that?"

- or -

"Tell me more about that."

**Navigator** ask your **Investigator**:

**Before testing...**

- How did you decide the shape of your boat?
- How many marbles do think your boat will hold?

**After testing...**

- When did your boat **float**?
- When did it **sink**? What happened that caused it to **sink**?



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