

Name: _____

BOAT BUILDING challenge



Your mission: Build a boat that will allow your explorers to sail across the ocean without sinking.

MATERIALS

You may use any of the following materials to build your boat:

Aluminum foil, popsicle sticks, masking tape, and plastic straws.

COST

Your boat must be cost-efficient to build. You have a budget of \$850 to build your boat.

MATERIAL COST:

- Aluminum Foil = \$203 per sheet
- Popsicle Sticks = \$54 per stick
- Masking Tape = \$35 per strip
- Plastic Straws = \$128 per straw

PROCESS

- 1) Brainstorm and sketch a design
- 2) Calculate the cost of materials needed
- 3) Build your boat
- 4) Test your boat
- 5) Reflect

BRAINSTORM

1

Directions: Decide on a design plan for your boat. Sketch the design and label it below. THEN GO TO STEP 2.

CALCULATE COST

2

Directions: Write down the quantity and cost of each type of material you will be using for your boat. Use that information to find the total cost of your boat.

	Aluminum Foil	Popsicle Sticks	Masking Tape	Plastic Straws
Cost per Item				
Quantity				
Total Cost of Material				

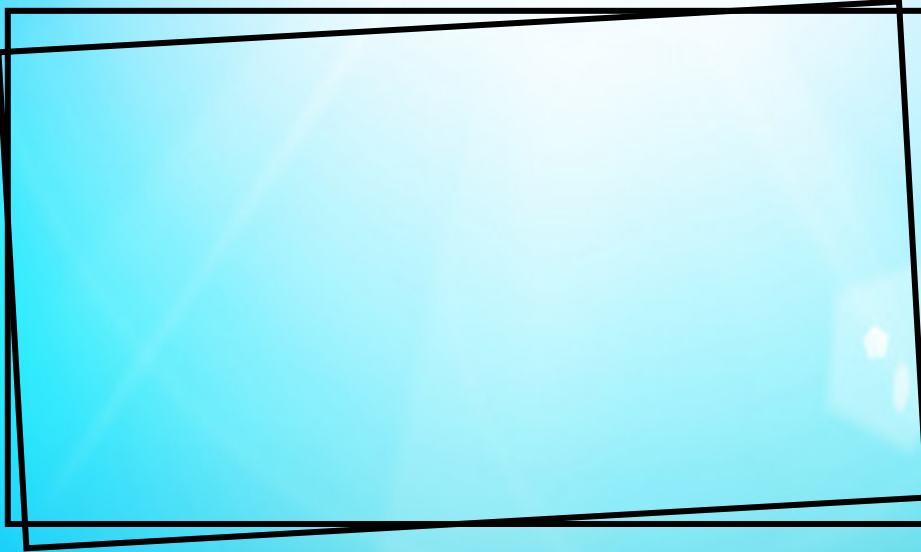
Total Cost of Boat=

Now you may purchase your materials and begin building. GO TO STEP 3.

BUILD YOUR BOAT

3

Directions: Work collaboratively to build your boat. Sketch a picture of what your boat looks like when it's finished.



Does your boat look like your original sketch?
(Circle one)

YES

NO

SLIGHTLY

GO TO STEP 4.

TEST YOUR BOAT

4

Directions: Place your boat on top of the water. Then place your three explorers in your boat.

After placing your boat in the water, record what you observe. Is the boat floating? Is any water leaking through?

GO TO STEP 5.



REFLECT

Directions: Reflect on the success of your boat.

1) Did your group successfully complete their mission?

2) Do you think your boat could withstand the weight of more explorers? How many? Why do you think that?

3) If you were to complete this task again, what would you change about your boat? Explain.
