

Boat Project Packet

- **SHARE THIS DOCUMENT WITH MR. OZENI ONLY**
 - **Use a different colored font besides black or red for your work**
-

Project Objective:

1. Design a boat that will create the greatest amount of Buoyant Force?

Part 1: Pre-Building Brainstorm

Ball of Clay - Initial Research

What did you do to make the clay float?	After you made the clay float, how did you increase the buoyant force of the clay so it could hold more pennies?
---	--

Rapid Prototyping

- Design **AT LEAST** 3 different boats that you would like to build and practice test
 - Take a picture of your prototype **BEFORE** you test it.
- Test each boat prototype and list how much each boat held

Boat Prototype	Picture of Boat Prototypes	How much mass did it hold? (g)
Boat Prototype 1		
Boat Prototype 2		
Boat Prototype 3	Insert more rows if needed	

Your Final Boat Design

Materials you will Use to make your boat	For what part of the boat will you use this material?	Why did you choose this material?
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
5.	5.	5.

Drawing of your Boat: Drawing of your Boat BEFORE building

- **Using the drawing mode, draw your boat. Make sure to LABEL all the different parts of your boat**
- **You MUST complete this prior to receiving your materials**

Top View:	Side View:

Part 2: Your Boat: **Type Name of your Boat Here**

Boat Pictures:

Top View of Boat	
Side View of Boat	
Front View	
Bottom View	

Boat Performance:

Weight of Boat (N)	Mass Boat Held (g)	Buoyant Force of Boat (N)	Net Force of Boat (N Up)

Part 3: Analysis and Conclusion

Force Arrow Diagrams:

Draw Force Arrow Diagram for your boat here.

- Remember to Label your arrows properly
- Include the calculation for Net force

Conclusion:

How did your boat perform compared to the rest of the class? (Based on the Buoyant Force). Was it average, below average, or above average? Explain your reasoning with evidence (numbers).

What was the biggest strength of your boat?

What was the biggest weakness of your boat?

What item was the worst material to choose? Why?

Which item was a MUST have? Why?

Which 5 items in combination makes the most buoyant boat? Did you choose these items?

If you were able to do this project again, What could you have done differently to make your boat hold more weight? Why?

- Your explanation should use the words Weight, Volume, and Buoyant Force

Give advice to Mr. Ozeni's class for next year. What things should or shouldn't they do? Why?

Remember to delete all Teacher Instructions in red