Penny Boats!

Your Challenge: To build a boat that will hold the most pennies possible without sinking or flipping. Boat must hold the pennies for ten seconds.

Your Materials: You will get to choose 5 (and only 5) materials from the list. You may NOT use any other materials that will permanently remain part of your design (other then markers to decorate your boat if desired). Materials will not be replaced should you change your design so think before you cut!

Your Restrictions: You are building a boat, not a submarine and there are no cargo nets allowed to hold the pennies, they must go in the body of the boat. While you do not have to build a traditional design for your boat, other loopholes, or "what ifs" are not the point of this project (ie, you are not building a tower that rests on the bottom of the water source so it never sinks).

Your Tasks:

1) Sketch out the plan of your boat. Be sure to consider the size of the items you have to work with and include measurements on your sketch.

2) Hand in sketch to your teacher to receive your supplies. NOTE: incomplete or illegible sketches will need to be redone.

3) Build your boat

4) Test your boat and modify your design

5) Create a name for your craft

6) Compete in the multi-class competition. Good luck!

Materials: Remember, you may choose 5 and only 5

30 x 30 cm piece of laminated bristleboard	30 x 30 cm piece of tinfoil	1 cork
1 meter of masking tape	1 piece of scrap wood (sizes vary)	2 sheets of photocopy paper
5 straws	3 popsicle sticks	1 piece of fun foam

Hints and Tips:

- Think about what kind of design you want your boat to have, there are many different

traditional and non-traditional designs to choose from including canoes and other keel boats, barges, pontoon boats and skiffs just to name a few

- If you cut your laminated bristleboard the water can get in the edges. You need to re-seal them with scotch tape and this will not count in your five items. HOWEVER, if scotch tape is used for anything other then sealing the edges of cut bristleboard your boat will be disqualified.

- You will be the one placing the pennies on your boat so think about how and where you would like them placed.

- THINK BEFORE YOU CUT! I can't say it enough. Materials will NOT be replaced if you change your design or ruin them so think and be careful

- masking tape is not waterproof, so if you "overtest" your boat (or are fooling around with it in the water) it will not last until the competition and marking period.

My Boat

Use this page for your sketch. Be sure to include all measurements required and make sure you will have enough tape to attach your boat together if required. This page must be NEAT and ORGANIZED so you may want to do a rough copy on GOOS paper first.

Materials Required:

1) 2) 3)

4) 5)

Rubric for Penny Assignment

Name:_____
Name of Boat: _____
Number of Pennies held:_____

	Level 1	Level 2	Level 3	Level 4
Problem Solving	-is unable to select and apply a problem-solving strategy to determine a style of boat	-selects and applies a problem-solving strategy to determine a style of boat but is unable to execute it with materials available	-selects and applies a problem-solving strategy to determine a style of boat and is able to execute it with the materials available.	-selects and applies a problem-solving strategy to determine an effective style of boat and executes it to a success of holding pennies
Understanding Concepts	- does not demonstrate understanding of forces acting on surface structures, does not create a viable boat	- demonstrated some understanding of forces acting on surface structures by creating a boat that is partially viable	- demonstrated understanding of forces acting on surface structures by creating a viable boat	- demonstrated understanding of forces acting on surface structures by creating a boat that is able hold a number of pennies
Learning Skills	- exhibited poor use of class time with frequent teacher redirection required.	- exhibited adequate use of class time with some teacher redirection required.	-exhibited good use of class time with little teacher redirection required.	- exhibited exceptional use of class time with no teacher redirection required.

Self-Reflection

Name:_____
Project_____

Remember that the purpose of self reflection is to congratulate yourself for areas you were successful in, identify areas of weakness for you to focus on improving, and critique the project design. Also remember, the first step in improving yourself is being able to admit there is room for improvement!

1) What is a useful skill you learned or improved through doing this project?

_____
_____
_____
_____

2) What suggestions would you give to other students on ways to get the most out of this project?

_____
_____
_____
_____

3) What problems did you encounter in relation to time management and organization with this project and how did you solve them (if you did)?

_____
_____
_____
_____

4) How would you change this project for a future group of students?

_____
_____
_____
_____

5) If you were given the opportunity to redo this project what would you change about your final product and your process?

_____
_____
_____
_____