Build-a-Boat and Hope it Floats Remote!

Remote Modifications by Kristin Gregory

Activity courtesy of Erica Posthuma-Adams
Challenge

Build a boat capable of floating as many pennies as possible.
But, how?

- You will be provided a list of materials and their "prices".
- Build your boat to meet the time and size regulations . . .
- There are many right ways to build!
What are the rules?
The Great 2020 Build a Boat & Hope it Floats Challenge begins soon!

- You have 15 minutes for construction.
- Boats cannot be larger than 4 cm x 6 cm x 10 cm that's **centimeters**!  
  (Printable Metric Ruler)
- You must calculate the total cost of your boat.
How to win!

The winner of the Boat Float-off is the group earning the lowest score based on the following equation:

Score = \frac{\text{Total Cost}}{\# \text{ of pennies floated}}
<table>
<thead>
<tr>
<th>Material</th>
<th>Unit Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>$0.10 for each cm$^2$</td>
</tr>
<tr>
<td>Aluminum Foil</td>
<td>$0.20 for each cm$^2$</td>
</tr>
<tr>
<td>Clear Plastic</td>
<td>$0.30 for each cm$^2$</td>
</tr>
<tr>
<td>Cardboard</td>
<td>$0.50 for each cm$^2$</td>
</tr>
<tr>
<td>Paper Clips</td>
<td>$0.25 each</td>
</tr>
<tr>
<td>Rubber Bands</td>
<td>$0.50 each</td>
</tr>
<tr>
<td>Plastic Straws</td>
<td>$0.10 for each 1 cm length</td>
</tr>
<tr>
<td>Clear Tape</td>
<td>$0.15 for each 1 cm length</td>
</tr>
<tr>
<td>Duct Tape</td>
<td>$0.75 for each 1 cm length</td>
</tr>
</tbody>
</table>
### Ready? Set? Go!

<table>
<thead>
<tr>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find a partner or try building your own boat.</td>
<td>Gather your materials &amp; plan construction.</td>
<td>Set a timer for 15 minutes &amp; construct your boat.</td>
<td>Test your boat in a full sink or big bowl of water by floating the boat &amp; carefully adding pennies/coins until it sinks.</td>
<td>Record a short video of the testing process. Be sure to get a clear picture of your boat before you add pennies.</td>
</tr>
</tbody>
</table>
How to present your results

By the way, there are no wrong results to this activity!
Create a Google Slide or Doc showing:

- A link to your video
- A complete list of materials and the individual costs as well as your total cost.
- Your calculated score = \( \frac{\text{total cost}}{\# \text{ of pennies}} \)
- A list of things you discussed when designing the boat.
- A list of any obstacles that kept you from building a better boat.
- A list of your boat's best & worst features
Great work!
Credits.

Presentation Template: SlidesMania

They rock!

Erica Posthuma-Adams of AMTA - she rocks too!
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