The 4th Little Pig

ASK:
How can we design and build a roof that is water and wind-proof that will withstand a hurricane?

IMAGINE:
Things to think about before you begin. Discuss the following with your group members:

- What materials are waterproof?
- What design would be best for our roof?
- How can we attach our roof to the base of our house?
- How can we use our budget most efficiently?

PLAN:
Materials/Cost: **Budget $150**

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Quantity</th>
<th>Formula</th>
<th>Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popsicle sticks</td>
<td>$10</td>
<td>____</td>
<td>$10 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Foil</td>
<td>$11</td>
<td>____</td>
<td>$11 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Note cards</td>
<td>$8</td>
<td>____</td>
<td>$8 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Plastic baggie</td>
<td>$12</td>
<td>____</td>
<td>$12 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Wax paper</td>
<td>$14</td>
<td>____</td>
<td>$14 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Felt</td>
<td>$10</td>
<td>____</td>
<td>$10 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Foam sheet</td>
<td>$13</td>
<td>____</td>
<td>$13 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Straws</td>
<td>$11</td>
<td>____</td>
<td>$11 x ____</td>
<td>_____</td>
</tr>
<tr>
<td>Chenille stick (pipe cleaner)</td>
<td>$14</td>
<td>____</td>
<td>$14 x ____</td>
<td>_____</td>
</tr>
</tbody>
</table>

**TOTAL SPENT: $ __________**

**Tools are to be used to create or build the structure. The may NOT be part of the structure. Tape is to be used to attach pieces together, not to wrap around things to cover them.**

Tools are:
- Scissors
- Glue
- Tape
CREATE:
*Sketch your house and roof. Label each part using the materials you chose.

EVALUATION/IMPROVE:
1. Did you build your roof within the $150 budget? _____ How much did you spend? _________
2. List the materials that you chose to build your roof? Why did you choose those materials?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
3. Did your roof survive the hurricane? Explain why your roof worked or didn’t work.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
4. If you could have chosen additional materials, what would you have chosen? Why?
   __________________________________________________________
5. Could you think of another material that might have worked well? What is it?
   __________________________________________________________