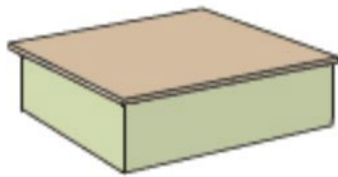


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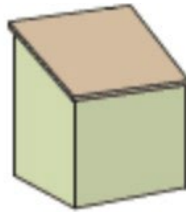
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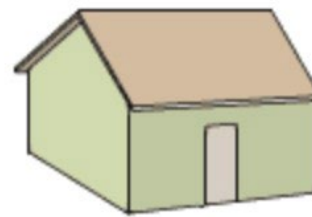
Raise the Roof! Engineering Challenge



flat



lean-to



gable

What:

- In an effort to help solve the country of Ghana's recycling challenge and better utilize resources, you are going to create a simulation of a basic housing structure in order to design and build a more sustainable and leakproof roof.
- Once the housing structure and roof are built, water will be poured on it and left for five minutes.

Rules:

- The housing structure must be a 6 in. by 6 in. box with no windows, doors, ceiling, or floors.
- The roof:
 - Must cover the entire housing structure, but not hide the housing structure.
 - Must not hold water.
 - Must not have any leaks.
 - Must be made out of resources available to the country of Ghana and recycled materials.
- The shape of the roof will determine the housing structure shape.
- The more recycled materials added, the better the grade.

Checklist:

1. Ask questions.
2. Conduct research.
3. Imagine three prototypes.
4. Choose one prototype design.
5. Build the design.
6. Test the prototype.
7. Improve the prototype.

Grading:

You will be graded on the following criteria:

- How well the water runs off the roof.
- How the resources were utilized.
- How much of the structure is made of recycled materials.
- How well the roof holds its shape after five minutes.