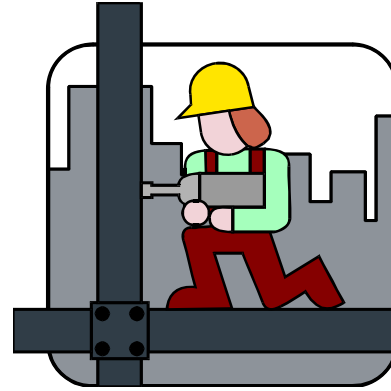


Free Standing Enclosure Design Activity

Assignment

Design, build, and present a structural device that:

- When constructed, is free-standing and encloses the largest volume possible,
- and when disassembled, fits within the smallest volume possible.



Resources

Time: as announced during our first meeting

People: no more than three per group

Money: none

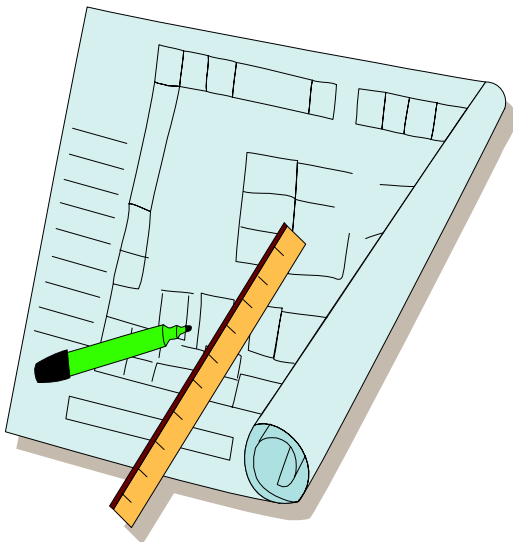
Information: use any resource in school or of your own, also from lessons TBA

Energy: human for construction of the device

Tools: any for fabrication of the device, but none for the assembly or disassembly of the device

Materials: 25 Popsicle sticks, 5 rubber bands, 5 paper clips, ½ of a garbage bag, glue, one yard of twine

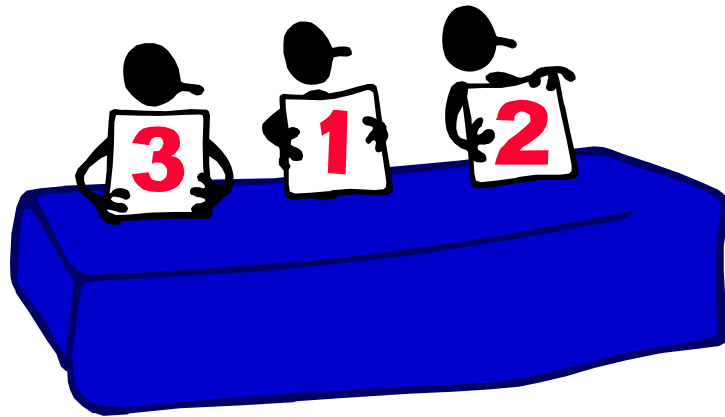
Space: largest volume possible when constructed, smallest when disassembled



Other Criteria

- The structural device must be constructed on a flat surface.
- Only space that is *entirely enclosed* on all sides when the device is assembled will be measured.
- Volumes of enclosed space and disassembled space *must be demonstrated* accurately during your presentation.
- Some documentation or sketches of ideas must accompany your presentation.
- Assembly and disassembly must *each* be done within two minutes.
- Presentation time for each group (including assembly, disassembly, and measurement of both) will be limited to *five minutes*.

Scoring



$$\text{Score} = \frac{\text{Volume of enclosed space when assembled}}{\text{Volume of extents of disassembled parts}}$$

One point will be added to your score for every five whole seconds under two minutes for *each* assembly and disassembly.

Example:

Your device enclosed 100 cubic inches when assembled and took up 5 cubic inches when disassembled. It took 1:32 to assemble and :43 to disassemble.