

10/4/10 Introduction to the Inflatable Structure Project

GOAL: Build a small structure out of soft plastic from a 1 m x 3 m piece of plastic.

- Use as much of the sheet of plastic as possible.
- You must use a minimum of three different shapes in your design.
- Must allow for a hole for the fan to connect to your structure. The hole is approximately 5" x 5".

STEPS (to be completed over the next several weeks):

1. Create thumbnail sketches of five of your ideas (everyone does this).
2. Create a refined drawing from one of your thumbnails. Use rulers, circle templates, etc.... This should be a very neat drawing!!!! (everyone does this)
3. Create a small paper model of one of your designs. (With a partner)
4. Create a scale layout drawing using A+CAD. (With a partner)
5. Construct and test your structure. (With a partner)

Step 1. To make Thumbnail Sketches:

- A thumbnail sketch is a very quick drawing (1-2 minutes) that has enough detail to be used as a basis for a more refined drawing later.
- Generally these are small. Use half of a sheet of 8.5"x11" paper for each thumbnail sketch.
- Create five thumbnail sketches.
- Use plain paper (it can be lined).
- Draw each very carefully. They must be neat.
- Add notes and/or diagrams as needed.
- Each sketch should use at least three different shapes.
- Each shape could be any of these: cone, pyramid, dome, sphere, rectangular prism, cylinder. An example of each of these was placed on the board.
- Mr. K did a couple of examples on the board to get idea generation going.

TODAY:

- Finish CAD4 in the lab – due by Wednesday.
- Finish thumbnails – due by Wednesday.
- When done with your thumbnails, have Mr. K or Mr. H check. If they are okay, you will start working on the Refined Drawing.