

# Assignment 1.7i: Brainstorming Sheets and Design Requirements and Constraints List

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1. Using the Brainstorming Worksheet, come up with as many ideas as you can to solve the problem your team has selected.

- Each team member lists 7 ideas in column 1 of the worksheet.
- Within your team, pass the sheet to the right, read the first column and then come up with an additional 7 ideas in column 2. These additional ideas may be new, or hitch-hiked ideas from the other columns.
- Repeat for columns 3 and 4
- As a group eliminate duplicate ideas.
- Eliminate ideas that are not legal, feasible, or would clearly violate a design constraint
- Reduce the list to 5-6 ideas that your team would like to pursue and record these in your lab notebook.

Brainstorming worksheets should be turned in during class.

Makeup: Brainstorm at least 28 ideas on a brainstorming worksheet. Get with a team member to find the 5-6 ideas that your team has selected and record them in your notebook.

2. With your Design Project Team establish Design Requirements for each of the following categories. Each member of the team should record the requirements in his/her own notebook.

- Performance: What is it supposed to do?
- Geometry: Size, weight, etc.
- Materials: How must the materials perform?
- Energy: What and how much energy used?
- Time: Time to design, develop, manufacture.
- Cost: Limits on cost for design, development, manufacture, distribution.
- Manufacture: How will it be made?
- Standards: Regulations, codes, etc.
- Safety: How to operate design safely.

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- Transport: How to move materials, parts and final product.
- Ergonomics: How to interface with humans.

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