

Portfolio Notebook Template

Note: Please do not submit a filled-in version of this template to the Judges as your team's Design Portfolio. Instead use this file as a notebook and sketch pad for initial notes and drawings, some of which, e.g. sketches of design ideas, can be scanned and included in a more polished, final portfolio document.

TITLE PAGE

School:

Team Name and/or Number:

Student Names:

- 1.
- 2.
- 3.
- 4.

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Introduction: Situation & Challenge:

Describe the challenge in your own words:

Team members:

Who are the team members and what are their responsibilities in the production of the portfolio and the prototype device?

Idea 1:

Draw a sketch of your team's first design concept:

Idea 2:

Draw a sketch of your team's second design concept:

Idea 3:

Draw a sketch of your team's third design concept:

Materials used:

List, with dimensions if appropriate, the materials used to build your prototype:

Principles of Structural Strength and Stability:

Describe how your device incorporates structural principles.

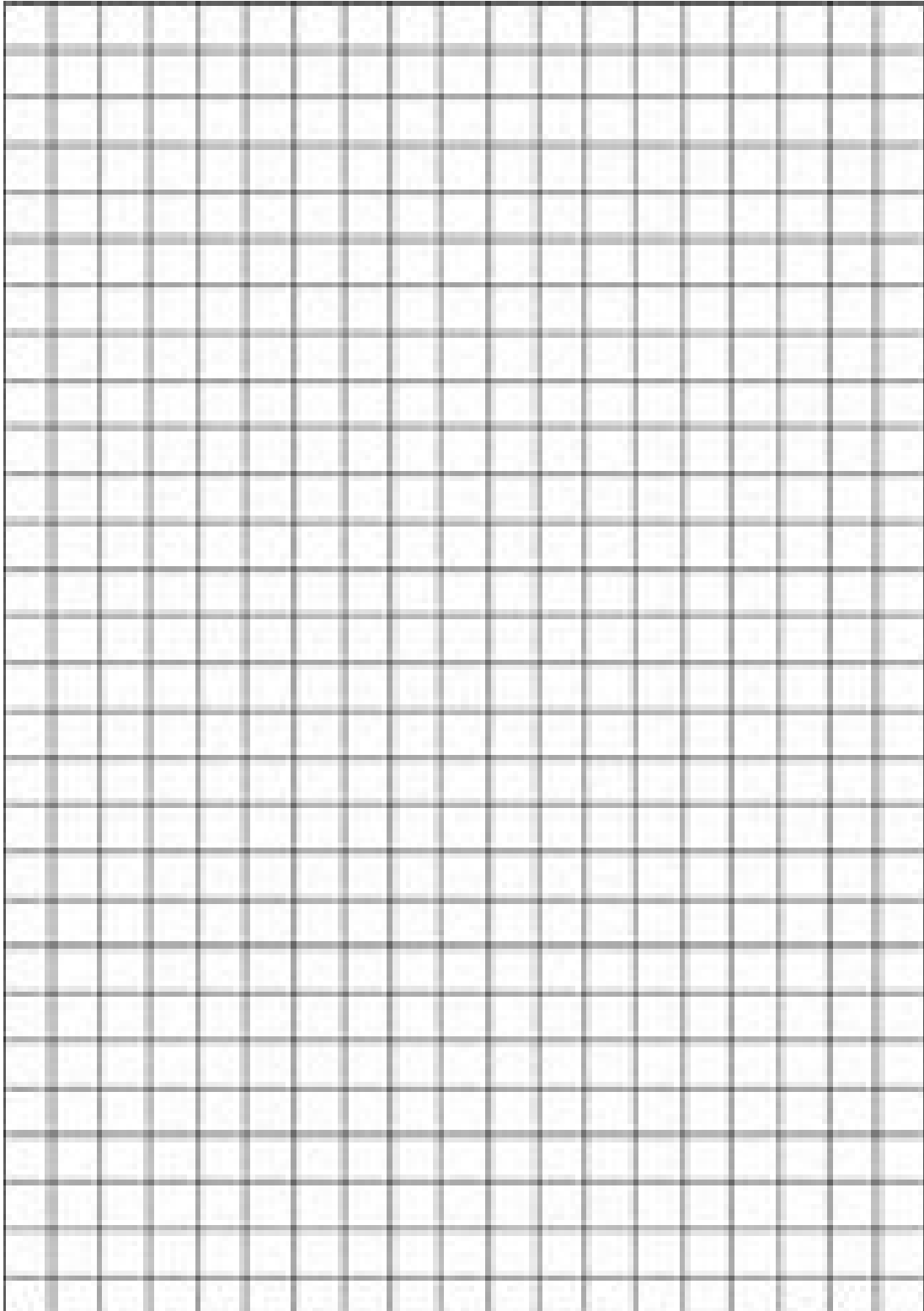
Hint: Use terms such as: force, load, compression, tension, symmetry, triangulation, center of gravity, balance, beams, struts, gussets and aesthetics

Rationale used to decide on the type of fluid power used and where to place the piston-syringes

Hint: Use terms such as: pneumatic, hydraulic, input, output, density, particle theory, pressure, Pascal's principle, lever, pivot, friction, work done and mechanical advantage

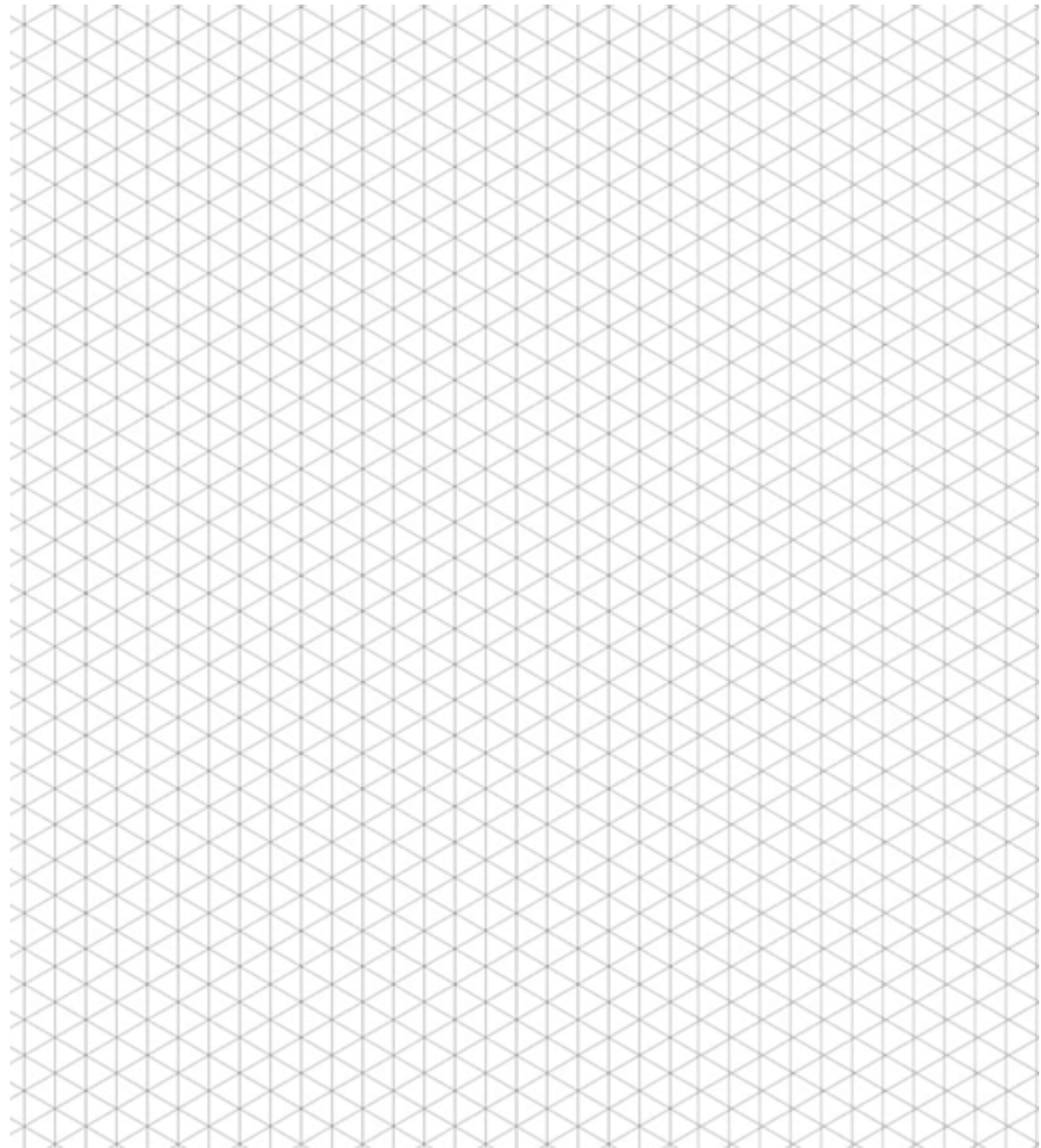
Proposed solution:

Draw an orthographic drawing of your chosen solution showing main structural components:



Proposed solution:

Draw an isometric drawing of the portion of your prototype device used to grab the object:



Alternative Materials:

Provide a list of possible alternative materials that would have been useful with reasons why they would have been so:

Evaluation of Prototype:

What worked and didn't work well and what did your team learn that will help your team produce a fully functioning device at the Challenge:

Notes: