

# **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.
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- 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

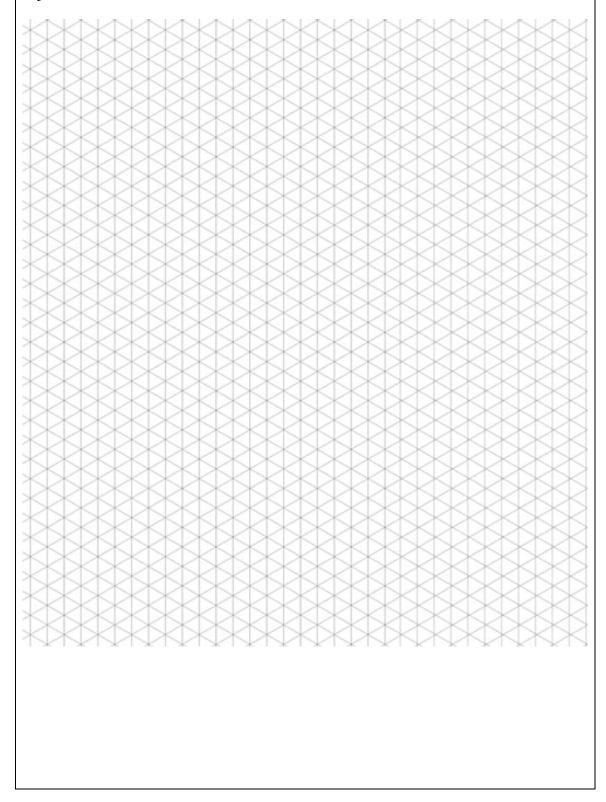
# Rationale used do decide on the type of fluid power used and where to place the piston-syringes

*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:

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**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: