# A close up of a sign Description automatically generated

# Portfolio Notebook Template

# *Note: Please do not submit a filled-in version of this template to the National 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.*

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| **TITLE PAGE**  **School:**  **Team Name and/or Number:**  **Student Names:**  1.  2.  3.  4.  **Page Index:**  Content …. page number  Content ….. page number  Content …. page number |

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| **Introduction: Situation & Challenge:**  Describe the challenge in your own words: |

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

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| **Idea 1:**  Draw a sketch of your team’s first design concept: |

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| **Idea 2:**  Draw a sketch of your team’s second design concept: |

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| **Idea 3:**  Draw a sketch of your team’s third design concept: |

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

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| **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* |

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| **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* |

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| **Proposed solution:**  Draw an orthographic drawing of your chosen solution showing main structural components:  A close up of a screen  Description automatically generated |

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| **Proposed solution:**  Draw an isometric drawing of the portion of your prototype device used to grab the object: |

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

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| **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:**