

Water Rocket

Name

Team #

Rev 2/23/15 Evaluation: Included; Below, Meets, Exceeds/Best Practices)

<p><b>Introduction</b> 5</p> <ul style="list-style-type: none"> <li>Problem Statement/Redefinition</li> <li>Concept Map (technical and project)</li> <li>Design Brief</li> <li><b>Summary</b> of final design and performance</li> <li>Specifications/Constraints</li> </ul>		
<p><b>Scientific and Engineering Background:</b> Theory and Principles 20</p> <ul style="list-style-type: none"> <li>Description of forces</li> <li>Application of Newton's Laws to flight</li> <li>Effect of Forces on flight and design</li> <li><b>Principles of NASA Simulator</b></li> <li>Strengths and Weaknesses of simulator</li> <li>Description of physical changes during flight</li> </ul> <p>This background should include the full scope of your research. if researched to a deeper level than required, the work should be shown</p>		
<p><b>Simulations/Analysis</b> 25</p> <ul style="list-style-type: none"> <li><b>Clear Statement of Strategy for initial round</b></li> <li>Conclusions from individual round (include spreadsheet and narrative)</li> <li>Final Round: Combine best individual simulations for starting points</li> <li>Final Round Simulations (include narrative, spreadsheet, and conclusions)</li> <li>Clear statement of Final design for comparison to constructed model</li> <li><b>Analysis of Data (include graphs)</b></li> <li>Narrative of data analysis and conclusions (Clear)</li> </ul>		
<p><b>Rocket Construction</b> 15</p> <ul style="list-style-type: none"> <li>Equipment Dimensioned diagram, neatly drawn and labeled</li> <li><b>Comparison with Simulator design</b></li> <li>Basis for compromises in construction</li> <li>Photographs</li> <li>Narrative of special techniques for construction</li> <li>Determination of Cg, Cp, Stability</li> <li>Attention to Detail</li> <li>Safety considerations</li> <li>Analysis of Strengths/weaknesses</li> </ul>		
<p><b>Testing/Analysis</b> 20</p> <ul style="list-style-type: none"> <li>Procedure</li> <li>Results</li> <li><b>Comparison with Simulator (Table)</b></li> <li>Analysis of performance differences</li> <li>Other Factors</li> <li>Explicitly observed results with theory (Make the analysis complete)</li> </ul>		
<p><b>Resources</b> 5</p> <ul style="list-style-type: none"> <li>Research For each source, list specifically the information was obtained</li> <li>No formal formatting required</li> <li>People CSpecific contributions of others</li> </ul>		
<p><b>Report Quality</b> 10</p> <ul style="list-style-type: none"> <li>Easy to follow what was done</li> <li>Logically presented/well organized</li> <li>Discussion specific, complete and focused</li> <li>Consistent Units</li> <li>Quantitative where possible</li> </ul>		
<p><b>Self Evaluation</b> 5</p> <ul style="list-style-type: none"> <li>Your opinion of the design</li> <li>Details of why the project succeeded/failed</li> <li>Changes made to improve group dynamics</li> <li>Self-evaluation: Discussion of how the device could be improved</li> </ul>		

(Weights are approximate)