

Civil Air Patrol 2022 National AE High-Altitude Balloon Cadet Competition Final Report - Science Experiment Slide Expectations and Scoring Rubric

The goal of the scientific slide is to present the work of the cadets in the squadron in a format that can be viewed as a “stand-alone” presentation.

Squadrons should develop a science experiment slide to give an audience a complete, yet concise, picture of the entire scientific process the squadron followed in their work. Depicted on the slide should be information about the research and investigation, the results of the testing, conclusions drawn from the results, and the implications of the results of the testing.

This is the largest piece of the graded work. This is where the squadron can highlight the scientific importance of their investigation.

The template is a Google Slide (or PowerPoint), but the finished product can be printed or viewed as a LARGE (roughly 48”x36”) Poster

Squadron Charter Number and Squadron Name: _____

Go-NO-Go Science Slide

Check off each item. If any item is UNCHECKED, entry is a **NO-Go** and is allowed no further judging.

Squadron Charter Number (Region-Wing-Number) and Squadron Name is present	
Slide has all required sections: hypothesis/hypotheses, materials, testing, results, analysis of results, conclusions	

NOTE: MLA (Modern Language Association) format is used for humanities and literature works. APA (American Psychological Association) is used for technical and scientific works.

Scoring Rubric: 200 Possible points

Description	Minimal 1-6 Points	Average 7-13 Points	Exceptional 14-20 Points	Pts.
Overall Impact	Slide is basic, with little or no thought given to colors, balance, and graphics, some of which are lacking or overwhelm the slide.	Visual impact is good, slide is balanced, and graphics are effective.	Visual impact is high, slide is eye-catching, overall design is balanced, and graphics are effective and enhance report.	___
Layout/Design	Title, headings, and tables or charts may be missing or unlabeled. Information about the investigation and the results is hard to understand.	Title, headings, and tables or charts are adequate to communicate information and help the viewer understand the investigation and results.	Title, headings, and tables or charts are well designed, appropriately placed. Figures and charts are neat and well placed to draw the viewer to the flow of the investigation and results.	___
Spelling/ Grammar	Four or more errors in spelling or grammar. Needed citations are missing.	Fewer than 3 errors in spelling or grammar. Needed citations are present.	No errors in spelling or grammar. Needed citations are in correct (APA) format.	___
Hypothesis/ Hypotheses	Objectives and/or hypotheses are missing or unclear. Appropriate language for a scientific investigation is missing. Background research is missing, irrelevant, or uncited.	Objectives and hypotheses are described. A clear attempt at appropriate language for a scientific investigation is made. Background research is present, relevant, and cited.	Both the objectives and hypotheses of the mission are clearly described and stated in appropriate language for a scientific investigation. Background research is well presented, relevant, and cited.	___
Testing Method	Proposed method of testing is unrealistic or testing methods appear unrelated to the hypothesis.	Proposed method of testing is realistic, and relevant, and may show proof or disproof of the hypothesis.	Proposed method of testing the hypothesis is realistic and relevant, and clearly shows proof or disproof of the hypothesis.	___
Materials	Few, if any, materials are listed. Materials appear to be unrelated to hypothesis.	Most materials needed are listed, including but not limited to: capsules; items for both flight and control; and items needed for testing and determining proof or disproof of hypothesis, to include any specialized software used to analyze or measure change.	All materials needed are listed, including but not limited to: capsules; items for both flight and control; and items needed for testing and determining proof or disproof of hypothesis, to include any specialized software used to analyze or measure change.	___
Testing	Description of how materials are tested is incomplete or incorrect.	Description of how materials are tested is complete.	Description of how materials are tested is detailed and complete.	___

Results	Results are present, but connection to the hypothesis is tenuous.	Results are present and labeled, and show how results prove or disprove the hypothesis.	Results are clearly labeled and detailed, and clearly highlight how results prove or disprove the hypothesis.	—
Conclusion/ Discussion and/or Possible Improvements	Conclusion and discussion are deficient or missing. *Unexpected results are noted but not discussed. *Testing that does not provide a clear result is noted but not discussed.	Conclusion and discussion of the results are clear and demonstrate adequate understanding of the research, hypothesis, testing, and investigation. *Unexpected results are noted and an attempt made to explain/discuss why/how. *Testing that does not provide a clear result is noted and an attempt is made to explain how that could be avoided in the future.	Conclusion and discussion of the results are clear and demonstrate thorough understanding of the research, hypothesis, testing and all parts of the investigation. *If a <u>result is unexpected</u> , there is a comprehensive discussion of how/why the result happened, or ways that could be avoided in the future. *If the testing process <u>did not provide a clear result</u> , comprehensive discussion of how the testing or preparation of the samples could be changed to provide a clear result.	—
Implications	Mention of importance, implications, or practical applications are minimal or missing.	The importance, implications, and/or practical applications are mentioned.	Investigation has real implications that are discussed in detail.	—
Total Points: (out of a possible 200)				—