AEROSPACE

January 23, 2026

Dear Student/Parent/Faculty Member:

We're excited to invite you to participate in The Aerospace Corporation's 49th Annual Robert H. Herndon Memorial Science Competition on **Thursday, May 21, 2026**. This event is an opportunity for middle school and high school students to showcase their innovative projects, explore their curiosity through writing, and engage with scientists and engineers in the aerospace industry. This year, our theme for the event is **Cosmic Collaboration: Working together to Create our Place in Space.**

The event will have competitions for both experiment projects and written essays submitted by the students, each of which will be judged by a panel of scientists and engineers. Winners will be selected based on originality and a demonstrated understanding of the subject matter. In keeping with the long-range goal of this competition, which is to increase participation in the engineering and science professions, this competition is open to students who show an interest in science or math. All entries will be evaluated by the science competition's steering committee.

If you are interested in participating, please complete the experiment and/or essay attendees' forms by **February 13th, 2026**. Project teams may have up to 5 members each. If a school chooses to submit multiple projects, only one project per school may win a prize. Essays are to be written individually and must address the theme **Cosmic Collaboration: Working together to Create our Place in Space**. Each school may submit up to 6 essays.

Some logistical notes: Security requirements at our facility require that each faculty advisor bring government-issued photo identification. Please indicate **adult** attendees who are not U.S. citizens. Non-citizens will be required to show a green card or a passport to gain access to our facilities. A teacher or other faculty member must accompany students to the event. We will arrange a certified bus to transport participating students and the faculty advisor to our campus. The schedule for the day includes an orientation, a continental breakfast, experiment judging, laboratory tours, a luncheon, a keynote address, and the awards presentation. The event will adjourn at approximately 2PM.

We look forward to your participation and can't wait to see the creative projects and essays that you will bring to the science fair!

If you have any questions, please call us at (310) 336-6763, (310) 336-4528 or email us at: herndonscience@aero.org.

Sincerely,

Oliver Ambrosia
Chairperson

Glenn Bean
Co-Chair

INSTRUCTIONS FOR ESSAY COMPETITORS

Robert H. Herndon Memorial Science Competition

The essay competition is open to middle and high school students. The Essay Evaluation Committee of the Robert H. Herndon Memorial Science Competition will judge all essays. Winning students will receive prizes, and awards will be given based on the merit of the essay submitted.

To participate in the essay competition, please complete the following steps:

Write an essay *exploring the theme* **Cosmic Collaboration: Working together to Create our Place in Space**. Topics can include any scientific discipline(s) of your choice such as biology, physics, astronomy, engineering, etc.

1. Submit the following documents by **February 13th, 2026:**
    a. **Attendee Info:**
        i. Please list participant name and Faculty/Parent contact
        ii. Please type information into online form
    b. **Essay Abstract** containing:
        i. Essay Title
        ii. 100–150 word paragraph describing the topic
        iii. Author's name
        iv. Author's grade level
    c. **Media Release Form**:
        i. All students must provide an individual media release.
        ii. Download form and return via email to herndonscience@aero.org
        iii. The media release form can be found on the Herndon Science Competition website.

2. Submit **FINAL** online, **original** 500-word (minimum) essay by **April 24th, 2026**
    a. **All essays will be checked for plagiarism prior to judging**. Essays found to be plagiarized will be disqualified and the author may not attend the competition.
    b. The use of Artificial Intelligence (AI) is limited. AI may be used as a resource (i.e., brainstorming, summarizing, or improving grammar and syntax), but must be cited and given proper acknowledgements. Essays should be a true reflection of the student's original ideas, individual understanding, and critical thinking. **The use of Generative AI is strictly forbidden.**
    c. Essays must follow the proper research-paper format, including title page and bibliography or list of references.
    d. There is a **4-page** length limit for Middle School and **5-page** limit for High School.
        i. Title page and bibliography do not count towards length limit.
        ii. Font should be at least 12-point size and single spaced.
    e. Student's name should only be on the title page.
    f. Essays must be submitted electronically as a Microsoft Word document file e-mail attachment to herndonscience@aero.org. **PDF submissions will not be accepted**.

3. Attend the competition on **May 21, 2026**. You must be present to receive a prize.

*If you have any questions, please contact: **herndonscience@aero.org**.*

SAMPLE ESSAY FORMAT

The essay should follow the format shown below. In addition, attempt to address the questions listed within each section.

Section 1: Title Page

- Provide the Student Name and School
- Provide the Essay Title

Section 2: Abstract (see example previous page)

- Provide a clear statement of the topic being considered
- Provide a short summary of essay contents and any conclusion you have drawn

Section 3: Introduction/Background

- Describe the topic or technology
- Discuss the history and evolution of the topic/technology
- Discuss the development of alternative technologies

Section 4: Main Body (this may contain several subsections)

- Provide a detailed description of topic/technology
- Discuss key current technical directions and challenges
- Discuss applications of the technology (present and future)
- Compare with alternative technologies. Describe the relative advantages/disadvantages
- Provide an example of how/why this technology is beneficial
- Describe future directions of the technology
- Provide a discussion of the business opportunities: what are the most important enabling technologies, more cost-effective alternative enabling technologies.
- Identify the major vendors selling the technology
- Identify the major customers buying the technology
- Identify the important scientists/engineers/companies that have developed the technology
- Describe how this technology impacts society/people (both positives and negatives)

Section 5: Summary/Conclusion

- Summarize future of the topic/technology
- Include your opinion for possible new/unforeseen applications, problems, or limitations.

Section 6: Bibliography

- List all reference sources used in the essay and use in-text citations for the sources
- ***Plagiarism is Illegal*** Do not copy information directly from a source without referencing the sources appropriately using in-text citations and bibliography entries.
  - **Example In-Text Citation** (e.g., MLA Style: https://style.mla.org/in-text-citations-overview/)
    - Human beings have been described as "symbol-using animals" (Burke, 2).
      (Author's Name, Page Number)
  - **Example Bibliography Entry**
    - Burke, Kenneth. *Language as Symbolic Action: Essays on Life, Literature, and Method*. Berkeley: University of California Press, 1966.

JUDGES' WORKSHEET FOR ESSAY COMPETITION

(Note: This is just a guide. Record your final scores in the Essay scoring spreadsheet)

	Min					Max	Score
INITIAL PLANNING							
1. Did the student do adequate research on the chosen topic?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
2. Has the approach in the essay been well thought out and organized?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
3. Was the topic appropriate for the essay competition?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
LEVEL OF EFFORT, ORGANIZATION, AND INITIATIVE							
4. Has reasonable technical depth been demonstrated for the grade level?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
QUALITY OF ANALYTICAL WORK							
5. Has a reasonable hypothesis or analytical model been developed?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
6. Is there evidence of creative thinking in the development of the method used?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
7. Are the results or conclusions displayed in an easily easily understood manner?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
PRESENTATION							
8.Do the results or conclusion relate back to the hypothesis?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
9. Were the conclusions supported by the argument given?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
10. Was the report clear, easy to follow and grammatically well-written?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
11. Was the student's understanding of the work clearly evident?	**0**	**1**	**2**	**3**	**4**	**5**	**____**
						Total Score	**____**

12. Do you suspect the use of generative AI? Yes / No

INSTRUCTIONS FOR EXPERIMENT TEAMS

Robert H. Herndon Memorial Science Competition

The Aerospace selection committee reviews experiment abstracts to determine which experiments will be invited to participate in the final judging. Qualifying experiments will be accepted in the order in which they are received until the maximum number of entrants is reached. Upon an experiment's acceptance into the Competition, schools may request an Aerospace Advisor and may request a stipend (up to $150 per school) for the purchase of materials for the experiment.

Each member of the winning team will be awarded a prize. A first, second, and third place team will be selected for middle school participants and high school participants.

To participate in the experiment competition, complete the following steps:

1. The faculty advisor selects a team of up to **5** students for the experiment. Team members will be verified one week prior to the event.

2. Submit the following documents by **February 13th, 2026:**
    a. **Attendees List:**
        i. Please complete the online registration form with all team members (5 max)
    b. **Project Abstract:**
        i. Please submit a written project abstract (see example abstract on page 6)
        ii. Variations of previous HSC experiments entered within the last **3** years **WILL NOT** be accepted.
    c. **List of Required Materials:**
        i. Please list materials required for your experiment on the form provided.
        ii. Aerospace will reimburse up to $150 for project materials. (Max one stipend per school)
    d. **Media Release Form**:
        i. All students must provide an individual media release form. Please download the form and return via email to herndonscience@aero.org

3. **DO NOT** put your school's name on *clothing*, experiment project, or any printed materials or other items that the judges will see.
    a. **DO NOT** reveal your school's name during your presentation.
    b. Each school will be assigned an ID number to maintain objectivity during judging.

4. Prepare & rehearse a presentation for live, in-person judging. Each team will present a **six-to-eight-minute** oral presentation discussing their hypothesis, assumptions, experiment setup, analysis, and conclusions. Our judges will review all projects.

5. Attend the competition on **May 21, 2026**. You must be present to receive a prize.

Please use the included Experiment Judge's Worksheet (see page# 8) as a resource to see exactly what the judges are looking for when they are evaluating your project and presentation.

CANCELATION POLICY: In case you are unable to attend the event and you have received a stipend you are obligated to return said stipend.

We look forward to your participation and to seeing you on May 21st. If you have any questions, you may contact Oliver Ambrosia at (310) 336-6763 or email at ***herndonscience@aero.org.***

SAMPLE EXPERIMENT ABSTRACT

Robert H. Herndon Memorial Science Competition

School Name: Golden State High School
Faculty Advisor: James W. Marshall
School Address: 1234 Gold Rush Way, Coloma, CA
School Phone: (000) 124-1848
Project Category: Space Environment Protection

As we prepare for future long-term space missions, it's important to know which materials best protect astronauts from space hazards. The Golden State High School Team's experiment will test various household materials to see how well they can block harmful UV light, like astronauts would encounter in space.

We used materials like aluminum foil, cotton fabric, plastic wrap, glass, window tint film, and paper. These will be tested by placing them over UV-sensitive beads that change color when exposed to UV light. Two sets of material samples will be exposed to sunlight or a UV flashlight for a set amount of time. We will measure the color change of the beads to determine which material provided the best UV protection using each light source. These findings help understand which types of materials could be used in space suits to protect astronauts from harmful UV radiation.

JUDGE'S WORKSHEET FOR 2026 HERNDON SCIENCE EXPERIMENT COMPETITION

PROJECT ID# _____

TITLE OF PROJECT: _____

	Min					Max	Score
1. ORIGINALITY ***In terms of the scientific method, is the experiment original? Did it involve new approaches to solving an old problem?***	**0**	**1**	**2**	**3**	**4**	**5**	____
2. COMPREHENSION OF THE PROBLEM ***Did the project adequately summarize the nature of the overall problem with appropriate use of scientific theory, terms, techniques, and methodologies?***	**0**	**1**	**2**	**3**	**4**	**5**	____
3. ORGANIZATION AND COMPLETENESS ***Did the project have a well defined goal(s) or objective(s)? Did the presentation exhibit thoroughness?***	**0**	**1**	**2**	**3**	**4**	**5**	____
4. APPROPRIATE SOLUTION ***Were different approaches for solving each problem or objective evaluated and was the appropriate solution selected?***	**0**	**1**	**2**	**3**	**4**	**5**	____
5. PROJECT OBJECTIVES ***Did the experiment meet the defined main objective(s) of the project?***	**0**	**1**	**2**	**3**	**4**	**5**	____
6. EFFORT AND MOTIVATION ***Was it evident that sufficient time and effort were spent in learning the required subject matter germane to the main project objective?***	**0**	**1**	**2**	**3**	**4**	**5**	____
7. DISPLAY ***Were the visual displays clearly presented? Was it easy to understand the project without any verbal explanation?***	**0**	**1**	**2**	**3**	**4**	**5**	____
8. ORAL PRESENTATION ***Did each team member's oral presentation demonstrate a thorough understanding of the project? Was the presentation completed within the allotted time?***	**0**	**1**	**2**	**3**	**4**	**5**	____
9. QUESTIONS & ANSWERS ***Did answers to questions demonstrate each team member's thorough understanding of the project?***	**0**	**1**	**2**	**3**	**4**	**5**	____

Total Score ____