Dear Student/Parent/Faculty Member:

Public, private, and home-based Middle School (6th - 8th Grade) and High School (9th - 12th Grade) students in the DC, Maryland, Virginia metro area are invited to participate in The Aerospace Corporation's 49th Annual Robert H. Herndon Memorial Science Competition on **Thursday, May 21, 2026**. The theme for this year's event is **Cosmic Collaboration: Working Together to Create Our Place in Space.**

An essay competition is held prior to the onsite competition, and the Middle School and High School winners are invited to attend the competition. Essays submitted must address the theme **Cosmic Collaboration: Working Together to Create Our Place in Space.** Essays are to be written individually. Winners will be selected based on originality and a demonstrated understanding of the subject matter. Essays and an abstract must be submitted by **April 30, 2026**. Essays must be original; 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.**

The experiment competition is held to evaluate projects by Middle School and High School students. Project participants for the East Coast Competition are recruited from Regional Science Fairs. Winners will be selected based on originality and a demonstrated understanding of the subject matter. Project teams may have up to 2-3 members each. Each team member **must** register individually to attend the competition. **Online registration is required for participation. Similar AI rules apply as noted above.**

Security requirements at our facility require that all attendees including students, parents and teachers, are U.S. citizens and that each adult bring photo identification. Please complete the registration forms by **April 30, 2026**. If a parent or teacher is also attending, that must be noted on the registration form. Essay entrants do not need to be US citizens, but if students' essay is selected for an award and they want to attend the onsite competition, they must be a US citizen.

The schedule for the day includes an orientation, a continental breakfast, experiment judging, Aerospace engineering talks, a luncheon, a keynote address, and the awards presentation. The event will adjourn at approximately 2 p.m. If you have any questions, please email us at herndonscienceeast@aero.org.

Sincerely,
Jennifer Oliveira & Nikisa George
Committee Chairs

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 a prize, 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 **April 30, 2026:**
    a. **Attendee Info & Media Release Form:**
        i. Complete the essay registration form providing all required information and an individual media release. Both forms are located at the fair website.
        ii. Return signed media release form via email to herndonscienceeast@aero.org.
2. Submit **FINAL** online, **original** 500-word (minimum) essay by **April 30th, 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. Include an abstract with 100 – 150 word paragraph describing the topic
    e. There is a **4-page** length limit for Middle School and **5-page** limit for High School.
        i. Title page, abstract and bibliography do not count towards length limit. Font should be at least 12-point size and single spaced.
    f. Student's name and school should only be on the title page.
    g. Essays must be submitted electronically as a Microsoft Word document file e-mail attachment to herndonscienceeast@aero.org. **PDF submissions will not be accepted**.

If you are selected for an award for your essay, you are invited to attend the onsite fair on May 21. Student must be U.S. citizen to attend onsite fair. Prizes will be distributed at the fair if the student attends or sent to the student.

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 Student Name and School
- Provide the Essay Title

Section 2: Abstract

- 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.)

	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

Experiment participants for the East Coast Competition are recruited from Regional Science Fairs. Each team member **must** register individually to attend the competition.

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.

1. Submit the following documents by **April 30, 2026**:
    a. Attendees List:
        i. Please complete the online registration form. If team experiment, each team member must register individually. Team size maximum is 3.
        ii. Abstract is part of the online registration form. See example abstract in following pages
        iii. Variations of previous HSC experiments entered within the last 3 years WILL NOT be accepted.
    b. Media Release Form:
        i. All students must provide an individual media release form. Please download the form and return via email to herndonscienceeast@aero.org
2. **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.

3. 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.

4. 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 please send an email to **herndonscienceeast@aero.org.**

We look forward to your participation and to seeing you on May 21st. If you have any questions, you may contact the committee at **herndonscienceeast@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 ____

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