



February 7, 2025

Dear Student/Parent/Faculty Member:

You are invited to participate in The Aerospace Corporation's 48th Annual Robert H. Herndon Memorial Science Competition on **Thursday, May 22, 2025**. The theme for this year's event is **Realizing Our Future in Space**.

The competition is held to evaluate written essays submitted by middle school and high school students. Winners will be selected based on originality and a demonstrated understanding of the subject matter. Essays must address the theme **Realizing Our Future in Space**. Essays are to be written individually.

In keeping with the long-range goal of this competition, which is to increase participation and interest in the engineering and science professions, this competition is open to all students who show an interest in science or math. All entries will be evaluated by the science competition's steering committee. **Online registration is required for participation.**

Please complete the essay registration forms by **March 7th, 2025**. You must submit your final essay by **May 2nd, 2025**.

Winners will be notified on **May 22nd, 2025**. If you have any questions, please email us at Herndonscience@aero.org.

Sincerely,

Jay Northern
Chairperson

Ben Hayes
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 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* **Realizing Our Future 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 **March 7th, 2025**:
 - 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 **May 2nd, 2025**:
 - a. **All essays will be checked for plagiarism prior to judging**. Essays found to be plagiarized will be disqualified.
 - b. Essays must follow the proper research-paper format, including title page and bibliography or list of references.
 - c. 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.
 - d. Student's name should only be on the title page.
 - e. 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. Winners will be announced at the Herndon Science Competition that will be held on **May 22nd, 2025** in Chantilly, VA.

We look forward to your participation!

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 (good & bad)

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 the location of the source
- *****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**
 - Human beings have been described as "symbol-using animals" (Burke, 3).
(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 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	___