



Participants will create and submit an original piece of writing that responds to the following contest prompt:

The 2025 EngineerGirl Writing Contest invites students to write a piece describing a common object you would make "smart". Tell us what it would do, how it would help people, and what could go wrong.

"Smart" objects are electronic devices that perform some level of computing, and they connect with other devices via the internet. These devices create all sorts of new possibilities for ways that the objects in your home can help you, but that means they also come with new risks.

Imagine an object you wish to make smart—a household appliance, a toy, a piece of furniture, or other technology. Think about the information your smart device would need to function and consider risks or problems you might encounter by making your object smart.

Make sure to follow the specific guidelines for your grade level, explained below.

WHAT DO I SUBMIT?

Elementary School (grades 3-5)

Select an item that you would like to make smart, then answer the following questions in your essay:

- What object have you chosen to make smart? Describe its purpose and how it is currently used. What would you like it to do for you?
- Smart objects sometimes use personal information about you. Often, they have access to this information through other accounts such as Amazon or Google. What information would your object need? Where would you get it?
- Are there any problems with using personal information? What issues may occur? Explain how you would address those issues.

Your submission must be no longer than 800 words.

Middle School (grades 6-8)

Select an item that you would like to make smart, then answer the following questions in your essay:

- What object have you chosen to make smart? Describe its purpose and how it is currently used. What would you like it to do for you?
- Smart objects sometimes use personal information about you. Often, they have access to this information through other accounts such as Amazon or Google. What information would your object need? Where would you get it?
- Are there any problems with using personal information? What issues may occur? Explain how you would address those issues.
- Devices that connect to the internet will likely face attacks. Attackers try to steal important information or stop things from working. What are at least two methods that designers of smart devices use to keep things secure? How would these methods be useful for your smart device?

Your submission must be no longer than 1,000 words.

You may also include a reference list of up to 5 resources, but this is not required. Each resource should be listed using the APA citation style. The reference list does not count toward your essay's word count.

High School (grades 9-12)

Select an item that you would like to make smart, then answer the following questions in your essay:

- Smart objects sometimes use artificial intelligence (AI) to enhance their functionality. Think of an object that could be useful with smart functionality and AI. Describe its purpose and how it is currently used. What would you like this object to do for you?
- Smart objects sometimes use personal information about you. Often, they have access to this information through other accounts such as Amazon or Google. What information would your object need? Where would you get it?
- Are there any problems with using personal information? What issues may occur? Explain how you would address those issues.
- Devices that connect to the internet will likely face attacks. Attackers try to steal important information or stop things from working. What are at least two methods that designers of smart devices use to keep things secure? How would these methods be useful for your smart device?

- Think about the potential risks associated with AI. Are there potential biases or other risks associated with using AI in the object you have chosen? How would you mitigate these risks and ensure that the AI in your smart object operates responsibly and ethically?

Your submission must be no longer than 1,200 words.

A reference list of up to 8 resources is also required. Each resource should be listed using the APA citation style. The reference list does not count toward your essay's word count.

More tips for writing a winning entry can be found below.

ALL STUDENTS PLEASE NOTE: *Your name, address, phone number, or any other personally identifying information should NOT appear in the text of your submission.*

You may submit one entry in one – and only one – of the competition categories.

**All submissions must be original work.
Any evidence of plagiarism will immediately disqualify an entry.**

A Submission may not contain offensive, libelous, sexually explicit, disparaging or other inappropriate content and may not defame or otherwise violate the rights, copyrights, trademarks, or rights of publicity, privacy, or reputation of any third party. A Submission may not contain any material to promote sale of a product or service.

Each entrant is solely responsible for the information, data, text, graphics, and other materials included in the Submission, whether publicly posted or privately transmitted. A Submission must be original and the entrant must (1) hold all necessary rights to all the materials and information in the Submission or (2) have permission from the holder of such rights, or (3) the materials and information in the Submission must be in the public domain. Winners will have to ensure that they have all rights necessary to permit them to transfer ownership of the essay, including transfer of any permissions and rights obtained from third parties, to the NAE.

CAN I INCLUDE IMAGES OR DIAGRAMS?

Yes. Each contestant may include one, and only one, image or PDF document file to accompany their submission. Only .jpg or .pdf formats will be accepted.

CAUTION: *Beware of using images found online. Most of these images are protected by copyright and cannot be used without permission. You should only submit images*

that you create or that you are certain you may use. If you use an image protected by a Creative Commons license, please indicate that with your submission.

While including images may improve your submission, they are not required and you should not rely on them to make your points. Judges will be scoring the text of your submission; attached material may be used to break ties.

*PLEASE NOTE: Your name, address, phone number, or any other personally identifying information should **NOT** appear in the attachment. If it does, the file cannot be considered as part of your submission.*

CAN I USE AI TO HELP WRITE MY ESSAY?

Participants are permitted to use AI assistants, such as ChatGPT, to help gather information for their essays. If AI is used, the participant must include that in their reference list and include the prompt given to the AI assistant in the submission form.

WHAT BELONGS IN MY REFERENCE LIST?

A reference list is a list of the resources you used for research and to prepare for writing your essay. It does not count toward your word limit.

Elementary school students do not need to submit a reference list. Middle school students may include a reference list with up to 5 resources but it is not required. They can use APA citation style or create the list by including the following information for each resource:

- **Title:** The name of the resource. A resource can be a webpage, article, person, or other reference.
- **Author:** The person who wrote or created the resource. There may be multiple authors or sometimes an author can be an organization. If you cannot find an author you may write, "No Author Available."
- **Date:** The date the resource was created. If there is no date (for example on a webpage) the citation should include the date the page was reviewed for your essay.
- **Location:** Where we can find the resource. For webpages this is the URL. For printed resources include the name of the publisher.

High school students are required to submit a reference list of up to 8 resources with their essays. Each resource should be listed using the [APA citation style](#).

The quality of the reference list submitted with an essay may be used to break ties.

HOW DO I SUBMIT MY ENTRY?

Entrants should, whenever possible, submit their work through the online form at <https://www.engineergirl.org/154451/2025-Writing-Contest-Submission-Form>.

Those with unreliable or slow internet connections may request a fill-in PDF form that can be completed offline and submitted via email. Request a form by sending an email to EngineerGirl@nae.edu with the subject line “2025 Contest form request”. There is no penalty for using the PDF form.

To be considered, submissions must include the full text of the essay and, if required, the reference list *within* the submission form (not only as an attachment). Links to material saved elsewhere (as a Google Doc, for example) will not be followed or judged.

ALL entries, regardless of how they are submitted, are presented to the judges in the same format, which excludes all personal information.

WHAT IS THE DEADLINE?

The contest will close at 11:59 PM, February 1, 2025, U.S. Eastern Standard Time. All entries, regardless of how they are submitted, must be *received* prior to this date and time in order to be considered.

WHO IS ELIGIBLE TO COMPETE?

The contest is open to individual students of all genders in the following three competition categories: Elementary School Students (grades 3-5), Middle School Students in (grades 6-8), or High School Students (grades 9-12).

The category for entry is based on US grade categories. Home schooled or international students should choose an appropriate category based on where the student would be placed if attending public school in the US.

Prior winners of the EngineerGirl writing contest who received a cash prize may not enter again in the same age group.

Employees of the National Academies of Sciences, Engineering, and Medicine and their immediate families or those living in the same household as a National Academies employee are not eligible to enter this competition.

HOW WILL THE ENTRIES BE JUDGED?

Submissions will be judged by a slate of volunteers that include professionals from various engineering fields. In addition to checking that submissions meet all of the basic rules, they will be looking for:

Presentation and Engineering (~50%)

Does the essay reflect thoughtful engineering design? Was a single, recognizable object selected? Is an understandable description of the object's purpose and proposed smart capabilities presented? Are a feasible source for data and a description of how the data would be used presented? Are the facts accurate?

Perspectives Considered (~35%)

Does the essay consider the ethics or risks of engineering decisions? Are the possible risks of using the suggested data considered, with at least one idea presented for using data safely? For middle school and high school students, does the essay communicate an understanding of the challenges of smart objects using personal information safely? For high school students, does the essay show evidence of thoughtful reflection about how to safely develop and use AI?

Quality of Writing (~15%)

Is the essay well-written, with clear organization and good grammar, spelling, and punctuation?

Extra credit may be given for outstanding originality, creative presentation, or particularly engaging examples.

Take time to review the scoring rubric, which is available online at: <https://www.engineergirl.org/154440/2025-Writing-Contest-Rubic>.

The quality of the reference list submitted with an essay may be used to break ties.

Finalists will be judged by the EngineerGirl Steering Committee. The decisions of the judges are final and incontestable.

WHEN WILL THE WINNERS BE ANNOUNCED?

Finalists will be notified in writing via email by May 1, 2025 and will be required to submit a signed copy of the EngineerGirl Use License and Release giving the NAE permission to publish the entry should it be selected as a winner.

Winners will be notified in writing via email by June 1, 2025, and the winning entries will be posted on the EngineerGirl website by July 1, 2025. A list of contest winners may be obtained by submitting a request in writing to: EngineerGirl Writing Contest, National Academy of Engineering, 500 Fifth Street NW, Washington, DC 20001.

WHAT ARE THE PRIZES?

Winners in each grade category will receive the prizes listed below:

- First-place winners will be awarded \$1,000.
- Second-place entries will be awarded \$750.
- Third-place entries will be awarded \$500.

All winning entries will be published on the EngineerGirl website. Honorable Mention entries will not receive a cash award but will be published on the EngineerGirl website.

Prize funds will be distributed to an individual winner (or the winner's parent or guardian, if the winner is under 18 years old). Any federal, state, and local taxes, and all similar fees and assessments, are the sole responsibility of the prize recipient.

HOW DO I WRITE A WINNING ENTRY?

Take time to learn about engineers and engineering in general. The better you understand the engineering design process, the clearer and more persuasive you can be in your writing.

Include specific, detailed examples. This is one of the most effective ways to improve persuasive or non-fiction writing, and even fiction writing. Do plenty of research so that you can provide not only facts and numbers, but also testimonials, personal accounts, or historical comparisons.

Choose to focus on something that you care about or that you are curious about. It is easier to do research and write about something that's important to you. Your interest in the subject will also come through in your writing, making your piece more powerful.

For this contest, here are some things you may want to look up as you're thinking about your essay:

- "internet of things"
- "IoT security"
- "smart device data usage"
- "the future of smart devices"

Additional Requirements and Disclaimers

By entering this competition, each individual entrant (for individuals under 18 years old, the individual's parent or guardian) grants the NAE a worldwide nonexclusive, royalty-free, transferable license to use the essay, or any portion thereof, for NAE purposes, and grants NAE a world-wide, non-exclusive, royalty-free, transferable license to use the entrants' names, likenesses, photographs, and/or biographical information for advertising, publicity, and promotional purposes.

If selected as a winner, each individual (and for individuals under 18 years old, the individual's parent or guardian) hereby agrees to irrevocably grant and assign exclusively to the NAE all rights, including copyright interests in the essays, under all laws, treaties and conventions throughout the world, in all forms, languages and media, now or hereafter known or developed without limitation. Use, publication, or dissemination by winners of their respective essay may be permitted at the discretion of NAE, as approved in writing in advance by the NAE. Submitting an essay to this competition does not guarantee that the Submission will be displayed or used by NAE.

Use by NAE of a Submission does not necessarily reflect the views of the NAE, and in no event shall NAE assume or have any responsibility or liability for any Submission, in whole or in part, or for any claims, damages, or losses resulting from the use and/or appearance of any Submission or the contents thereof.

NAE reserves the right to refuse any Submission in its sole discretion. NAE also reserves the right at any time during the competition to remove or disqualify any Submission when it believes in its sole discretion that the entrant has: (i) infringed any third party's copyright; (ii) failed to comply with these Terms and Conditions; or (iii) failed to obtain the necessary consents as set out in these terms and conditions.

NAE shall not be liable for any claims, costs, liabilities, damages, expenses, and losses arising out of (i) NAE's use of the Submission; (ii) the entrant's participation in the competition; (iii) technical failures of any kind including but not limited to problems or delays arising from software or equipment malfunctions or computer viruses; and (iv) any events outside NAE's reasonable control.

By entering this competition, each individual entrant, (and for individuals under 18 years old, the individual's parent or guardian) represents and warrants that: (i) the entrant is the sole author, creator, and owner of the Submission; (ii) except for material used by permission, none of the intellectual property rights in the Submission, or any portion thereof, has been assigned or transferred to anyone other than the entrant; (iii) the Submission, through its creation and its submission as an entry, does not violate any applicable laws; and (iv) the Submission, through its creation and its submission as an entry, does not infringe upon or violate intellectual property rights held by any third person or party.

Any entrant who supplies false information, enters the NAE EngineerGirl Writing Contest by fraudulent means, or is otherwise determined to be in violation of the eligibility criteria or terms of EngineerGirl Writing Contest shall be ineligible for any prize and shall be required to forfeit any prize obtained based on such information or means.

By entering a Submission in the Contest, each individual entrant (and for individuals under 18 years old, the individual's parent or guardian) agrees to comply with and be bound by the official rules and decisions of NAE.

All references to NAE contained herein refer to the National Academy of Sciences on behalf of the National Academy of Engineering.

This Contest is void where prohibited. The Contest shall be governed by, construed and enforced in accordance with the laws of the District of Columbia.
