

Required Presentation Materials*

**Adapted from "Project Materials Guidelines" from the 2021 Virtual Regeneron International Science and Engineering Fair (ISEF)*

The following three (3) presentation materials are required of all Junior and Senior Level projects. More detailed guidelines about format and recommendations are provided below. All materials will be submitted to our online fair management site and will be judged asynchronously. In other words, judges assigned to your project will use the following 3 presentation materials to score your project. Judges will not meet synchronously (live) with participants for judging of regular, special, or grand prize awards.

1. **Abstract** (250 word maximum)
2. **Project Presentation** (replaces the poster used during an in-person fair)
3. **Recorded Video Presentation** (minimum 2 min, maximum 5 min)

All materials will be reviewed for a "Display and Safety Review" as they normally would be if this were an in-person fair. Display and Safety inspections will include a review of all submitted materials and enforcement of the [display guidelines](#) as published in the [International Rules and Guidelines](#). See Appendix I at the end of this document for helpful tips and common issues to avoid when preparing your Project Presentation and Recorded Video Presentation.

Detailed Instructions and Guidelines

1. Abstract

- a. Download, complete, and submit the Official Abstract form linked below to our online fair management site as PDF. You can complete all of the required information directly in this fillable PDF.
<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2021/Forms/2021-21-Categories.pdf>
- b. Your abstract can be no more than **250 words (max)**.
- c. The abstract summarizes your project and should be limited to these essential elements: (a) the research question or engineering problem, (b) procedures used, (c) data, (d) interpretation, and (e) conclusions. It may also include possible research applications.

2. Project Presentation

- a. The Project Presentation replaces the project poster used during in-person fairs.
- b. Create your Project Presentation in the software of your choice (e.g. Google Slides, Microsoft PowerPoint, etc.) and save it as a PDF. Submit a PDF of your Project Presentation to our online fair management site.
- c. Your Project Presentation must adhere to the following guidelines:
 - i. No more than 12 pages (max)
 - ii. If you are submitting a continuation project, include only information related to this year's research unless otherwise directed in the suggested template below.
 - iii. Page size no larger than 8.5"x11" or European standard A4
 - iv. Pages in Landscape
 - v. No animations, video links, or active hyperlinks
 - vi. Easy to read (e.g. light background, dark font, text easily readable when viewing entire page at once w/out zooming)
 - vii. All elements must conform to the Display and Safety rules set by ISEF <https://www.societyforscience.org/isef/international-rules/display-safety-rules/>.
- d. See the following appendices for suggested Project Presentation templates based on project type. Please note that these templates are not required, but we are providing them as a resource.
 - i. Science Projects: Appendix II
 - ii. Engineering Projects: Appendix III
 - iii. Mathematics/Computer Science Projects: Appendix IV
- e. Your Project Presentation will be used for both judging and for Display and Safety inspection. You can also use it when recording your Video Presentation as if you were standing in front of your poster for an in-person fair.

3. Recorded Video Presentation

- a. This video replaces the oral presentation explaining your project that you would give to a judge during an in-person fair.
- b. You will submit a link to your recorded video (e.g. YouTube, Zoom, Google Meet, etc.) to our online fair management system by copying the link into a document and saving it as a PDF. Please contact us if you need help creating the link, or with any other questions about this format.
- c. Your recording should be a **minimum of 2 minutes** and a **maximum of 5 minutes**. Judges will only watch the first 5 minutes of your recording.
- d. Do not demonstrate or perform your project or parts of your project. You should only verbally explain your research.

- e. Do not include anyone in the video other than the student participant(s) registered for the Regional Fair who conducted the research.
- f. See Appendix V for best practices when filming a presentation.
- g. Your Recorded Video Presentation will be used for both judging and for Display and Safety inspection. All elements must conform to the Display and Safety rules set by ISEF <https://www.societyforscience.org/isef/international-rules/display-safety-rules/>

(Appendices continued on the next page)

Appendix I

Display and Safety Rules/Tips for Project Presentation and Recorded Video Presentation

Tips: Remember, your role in presenting your research orally (Recorded Video Presentation) and through your Project Presentation is to: (1) describe the purpose and background for your study, (2) describe your methods, (3) display and report your results, (4) and discuss your conclusions. *Your role is NOT to demonstrate or conduct the experiment itself.*

Common Display Violations: For a complete list of prohibited items and rules for Project Presentations and Recorded Video Presentations, please review the "ISEF 2021 Display and Safety Rules" in the official ISEF rulebook:

<https://www.societyforscience.org/isef/international-rules/display-safety-rules/>

Below are common violations to avoid (even in a virtual, online presentation).

Prohibited:

- All chemicals including water (projects may not use water in any form in a demonstration)
- Soil, sand, rock, cement and/or waste samples, even if permanently encased in acrylic
- Preserved vertebrate or invertebrate animals
- Human or animal food as part of the exhibitor demonstration of the project.
- Plant materials (living, dead, or preserved) that are in their raw, unprocessed, or non-manufactured state (Exception: manufactured construction materials used in building the project or display)
- Sharp items
- Batteries with open-top cells or wet cells
- Glass or glass objects unless deemed by the Display and Safety Committee to be an integral and necessary part of the project (for example, glass that is an integral part of a commercial product such as a computer screen)
- Energized wiring, switches, and metal parts without adequate insulation and over-current safety devices (such as fuses) that is accessible to anyone other than the finalist. Exposed electrical equipment or metal that possibly may be energized must be shielded with a non-conducting material or with a grounded metal box to prevent accidental contact.
- Any apparatus with unshielded belts, pulleys, chains, or moving parts with tension or pinch points must be for display only.

Photographs and Images:

- Display of photographs of people other than the finalist must have a photo release signed by the subject, and if under 18 years of age, also by the guardian of the subject (see rulebook under the heading "Photograph/Image Display

Requirements” for sample consent statement:

<https://www.societyforscience.org/isef/international-rules/display-safety-rules/>).

- Finalists using audio-visual or multimedia presentations (for example, 35mm slides, videotapes, images, graphics, animations, etc., displayed on computer monitors; or other non-print presentation methods) must be prepared to show the entire presentation to the Display and Safety Inspectors before the project is approved.
- Images not created or taken by the participant must be accompanied by a credit line of origin (see “Photograph/Image Display Requirements” at <https://www.societyforscience.org/isef/international-rules/display-safety-rules/>). A credit line of origin (e.g. Image taken from: [insert website or reference here], or Photograph taken by [insert name here]) should be prominently displayed on your Project Presentation for each image taken from a different source.

Appendix II

Project Presentation Template: Science Project

The following guidelines are provided as a resource and are suggested, but they are not required.

Format Recommendations:

1. Do not use non-standard fonts or colors to “stand out from the crowd” or to be entertaining. It is recommended that you use a font such as Arial, Calibri, Helvetica, or Century Gothic.
2. Page titles should all be the same size. That size should be larger than headings within each page. In turn, headings should be larger than body text.
3. Avoid long expository paragraphs. State your points succinctly.
4. Use bullets to set out individual points of interest. Use numbered lists when the ordering of points of interest is important (e.g., instructions to be followed in order, or items needing a reference anchor for citation elsewhere in your Presentation).
5. All body text should adopt a common font style and size. Similarly, all heading text should adopt a common font style and size. There is no recommendation for the style and size relation between body and heading text.
6. You may include graphical elements as they would explain or illustrate your work and can be contained within the overall page limits.

Each of the seven (7) sections below should start on its own page and be in the order provided. Titles per section are provided as recommended titles, but alternate titles may be used. Each section may extend beyond one page as long as the total does not exceed 12 maximum pages.

1. TITLE SLIDE - The following should be included
 - a. Project Title
 - b. Student Name(s)
 - c. School
 - d. City, State
2. INTRODUCTION - What is your research question?
 - a. Explain what is known or has already been done in your research area. Include a brief review of relevant literature. If this is a continuation project, a brief summary of your prior research is appropriate here. Be sure to distinguish your previous work from this year’s project.
 - b. What were you trying to find out? Include a description of your purpose, your research question, and/or your hypothesis.

3. METHODS - Explain your methodology and procedures for carrying out your project in detail.
 - a. What did you do? What data did you collect and how did you collect that data? Discuss your control group and the variables you tested.
 - b. DO NOT include a list of materials.

4. RESULTS - What were the result(s) of your project?
 - a. Include tables and figures which illustrate your data.
 - b. Include relevant statistical analysis of the data.

5. DISCUSSION - What is your interpretation of these results?
 - a. What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
 - b. Discuss possible errors. Did any questions or problems arise that you were not expecting? How did the data vary between repeated observations of similar events? How were results affected by uncontrolled events?

6. CONCLUSIONS - What conclusions did you reach?
 - a. What do these results mean in the context of the literature review and other work being done in your research area? How do the results address your research question? Do your results support your hypothesis?
 - b. What application(s) do you see for your work?

7. REFERENCES
 - a. This section should not exceed one page. Limit your list to the most important references.
 - b. List the references/documentation used which were not of your own creation (i.e., books, journal articles).

Appendix III

Project Presentation Template: Engineering Project

The following guidelines are provided as a resource and are suggested, but they are not required.

Format Recommendations:

1. Do not use non-standard fonts or colors to “stand out from the crowd” or to be entertaining. It is recommended that you use a font such as Arial, Calibri, Helvetica, or Century Gothic.
2. Page titles should all be the same size. That size should be larger than headings within each page. In turn, headings should be larger than body text.
3. Avoid long expository paragraphs. State your points succinctly.
4. Use bullets to set out individual points of interest. Use numbered lists when the ordering of points of interest is important (e.g., instructions to be followed in order, or items needing a reference anchor for citation elsewhere in your Presentation).
5. All body text should adopt a common font style and size. Similarly, all heading text should adopt a common font style and size. There is no recommendation for the style and size relation between body and heading text.
6. You may include graphical elements as they would explain or illustrate your work and can be contained within the overall page limits.

Each of the seven (7) sections below should start on its own page and be in the order provided. Titles per section are provided as recommended titles, but alternate titles may be used. Each section may extend beyond one page as long as the total does not exceed 12 maximum pages.

1. TITLE SLIDE - The following should be included
 - a. Project Title
 - b. Student Name(s)
 - c. School
 - d. City, State
2. INTRODUCTION - What is your engineering problem and goal?
 - a. What problem were you trying to solve? Include a description of your engineering goal.

- b. Explain what is known or has already been done to solve this problem, including work on which you may build. You may include a brief review of relevant literature.
 - c. If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.
3. METHODS - Explain your methods and procedures for building your design.
 - a. What did you do? How did you design and produce your prototype? If there is a physical prototype, you may want to include pictures or designs of the prototype.
 - b. If you tested the prototype, what were your testing procedures? What data did you collect and how did you collect that data?
 - c. DO NOT include a separate list of materials.
4. RESULTS - What were the result(s) of your project?
 - a. How did your prototype meet your engineering goal?
 - b. If you tested the prototype, provide a summary of testing data tables and figures that illustrate your results.
 - c. Include relevant statistical analysis of the data.
5. DISCUSSION - What is your interpretation of these results?
 - a. What do these results mean? You may compare your results with theories, published data, commonly held beliefs, and/or expected results.
 - b. Did any questions or problems arise that you were not expecting? Were these problems caused by uncontrolled events? How did you address these?
 - c. How is your prototype an improvement or advancement over what is currently available?
6. CONCLUSIONS - What conclusions did you reach?
 - a. Did your project turn out as you expected?
 - b. What application(s) do you see for your work?
7. REFERENCES
 - a. This section should not exceed one page. Limit your list to the most important references.

- b. List the references/documentation used which were not of your own creation (i.e., books, journal articles).

Appendix IV

Project Presentation Template: Mathematics/Computer Science Project

The following guidelines are provided as a resource and are suggested, but they are not required.

Format Recommendations:

1. Do not use non-standard fonts or colors to “stand out from the crowd” or to be entertaining. It is recommended that you use a font such as Arial, Calibri, Helvetica, or Century Gothic.
2. Page titles should all be the same size. That size should be larger than headings within each page. In turn, headings should be larger than body text.
3. Avoid long expository paragraphs. State your points succinctly.
4. Use bullets to set out individual points of interest. Use numbered lists when the ordering of points of interest is important (e.g., instructions to be followed in order, or items needing a reference anchor for citation elsewhere in your Presentation).
5. All body text should adopt a common font style and size. Similarly, all heading text should adopt a common font style and size. There is no recommendation for the style and size relation between body and heading text.
6. You may include graphical elements as they would explain or illustrate your work and can be contained within the overall page limits.

Each of the six (6) sections below should start on its own page and be in the order provided. Titles per section are provided as recommended titles, but alternate titles may be used. Each section may extend beyond one page as long as the total does not exceed 12 maximum pages.

1. TITLE SLIDE - The following should be included
 - a. Project Title
 - b. Student Name(s)
 - c. School
 - d. City, State

2. INTRODUCTION - What is your research question?
 - a. Explain what is known or has already been done in your research area. Include a brief review of relevant literature.

- b. Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
 - c. If this is a continuation project, a brief summary of your prior work is appropriate here. Be sure to distinguish your previous work from this year's project.
3. FRAMEWORK - Notation and framework.
 - a. Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
 - b. Define relevant terms, and explain prior/background results. (Novel concepts developed as part of your project can be presented here or in Bullet 4, as appropriate.)
4. FINDINGS - Present your findings and supporting arguments.
 - a. What did you discover and/or support? Describe your result(s) in detail. If possible, provide both formal and intuitive/verbal explanations of each major finding.
 - b. Describe your methods in general terms. Then:
 - i. Present rigorous proofs of the theory results – or, if the arguments are long, give sketches of the proofs that explain the main ideas.
 - ii. For numerical/statistical results, include tables and figures that illustrate your data. Include relevant statistical analysis. Were any of your results statistically significant? How do you know this?
5. CONCLUSIONS - What is your assessment of your findings?
 - a. How do the results address your research question? And how have you advanced our understanding relative to what was already known?
 - b. Discuss possible limitations. Did any questions or problems arise that you were not expecting? What challenges do you foresee in extending your results further?
 - c. What application(s), if any, do you see for your work?
6. REFERENCES
 - a. This section should not exceed one page. Limit your list to the most important references.
 - b. List the references/documentation used which were not of your own creation (i.e., books, journal articles).

Appendix V

Recorded Video Presentation

The following guidelines are provided as a resource and are suggested, but they are not required.

What to include in your video:

1. INTRODUCE YOURSELF:
 - a. State your full name and your school, city, and state.
 - b. Rather than reciting your project title, consider explaining your project in a single sentence.
2. EXPLAIN YOUR PROJECT:
 - a. Summarize your research into main points as outlined in your Project Presentation.
3. DO NOT:
 - a. Demonstrate or perform your project or parts of your project. You should only verbally explain your research.
 - b. Do not include anyone in the video other than the student participant(s) registered for the Regional Fair who conducted the research.

Best Practices for Filming:

These videos will not be edited by fair personnel. To ensure your video is the best representation of your work, please keep these best practices in mind while filming:

- Please speak in English or provide English sub-titles.
- Film yourself in a well-lit and non-distracting environment so the viewer's focus stays on you and your work.
- For best results, film your video horizontally (landscape).
- Keep the camera still and in place during filming.
- Speak clearly and loudly enough that the recording is able to pick up every word you say.
- Avoid long pauses.
- Listen to your video after recording to ensure your voice is clear and audible, and that the video has not picked up too much background noise.