



Virtual Exhibit Guidelines

All exhibitors must BOTH upload a virtual exhibit to their registration form AND bring a physical exhibit to the GSEF event.

The 2022 GSEF will take place in-person at The Classic Center in downtown Athens. All exhibitors are required to bring a **physical exhibit** display (a tri-fold board or flat board with stand) to the GSEF event for presentation during interviews. Exhibitors are *also* required to **upload a digital copy of their exhibit (called the “virtual exhibit”)** when [registering for GSEF](#).

Virtual exhibits must adhere to all requirements (below) and be submitted with the GSEF project registration form no later than **five (5) days following the Regional Fair.**

The virtual exhibit must match the physical exhibit that the exhibitor will display at the GSEF event (see Requirements below). The purpose of the virtual exhibit is to allow judges to review projects after the interview without needing to return to the project booth, minimizing traffic in the Exhibit Hall. The virtual exhibit may also be used for a virtual project showcase.

VIRTUAL EXHIBIT REVISIONS: Students may continue to work on exhibits in the weeks following the Regional Fair. If changes to the exhibit are made following submission of the GSEF registration form, exhibitors may **resubmit** their virtual exhibit using a special revisions-only form **one time** prior to Monday, March 21. Multiple resubmissions will not be accepted. A link to the revision submission form will be included in the registration confirmation email.

Requirements and Guidelines for Virtual Exhibits

1. All virtual exhibits must adhere to the GSEF Display & Safety Regulations (see page 8).
2. The **content** (i.e., information) in the virtual exhibit should be identical to the content on the physical exhibit that will be displayed at GSEF. This includes headings, text, charts, graphs, figures, photos, and order of elements.
3. The **formatting** and **aesthetics** of the virtual exhibit should match the physical exhibit as closely as possible. Any differences in formatting or aesthetics should serve to facilitate, rather than hinder, viewing the exhibit in the different modalities.
4. Virtual exhibits should contain **only and all** of the materials on the physical exhibit board. Any additional items that may be at the project booth, such as a lab notebook, research paper, and research forms, should **NOT** be included in the virtual exhibit file.
5. Virtual exhibits must be converted to PDF prior to submission using Adobe Acrobat or a [free online conversion tool](#).
6. The virtual exhibit must **NOT** include any **animations, videos, demonstrations, or active hyperlinks**.
7. Dark text on a light background is recommended to support readability.
8. All virtual exhibits should adhere to one of two formats: **Multi-Page Presentation (Option 1)** or **Display Board (Option 2)**. Each format has additional guidelines, detailed below. Minor deviations from the formats are acceptable as long the content of the virtual exhibit matches (**and does not contain more information than**) the physical exhibit.

Format Option 1: MULTI-PAGE PRESENTATION



This format is preferred and most closely aligns with requirements for the 2022 Regeneron ISEF.

The Multi-Page Presentation separates the sections of the physical exhibit into individual pages (max 12) that can be easily read on a computer or electronic device with little or no zooming. Each page corresponds to a section of the physical exhibit, and sections are in the same order.

GUIDELINES (in addition to 1-8 above):

- a. The Multi-Page Presentation must be a **single PDF document** limited to **no more than 12 pages**.
- b. The page size should be set to American standard **11" x 8½"** and in **Landscape** (horizontal) **orientation**.
- c. Page titles should all be the same size and larger than headings within each page, and headings should be larger than body text.
- d. All text must be **easily readable*** when viewing a page in full on a standard laptop/computer screen at 66.6% zoom. It is recommended that body text font size is *at minimum* 16 pt, and 20 pt font or larger is preferred. *Exception:* A smaller font size, down to 10 pt, may be used for figure captions or credits.

Format Option 2: DISPLAY BOARD

The virtual Display Board is an electronic duplicate of the tri-fold or flat board exhibit and can be created in PowerPoint or similar software. It is identical in layout to the physical exhibit but is **NOT** a photograph of the physical exhibit. The reader views the contents on an electronic device by zooming in on individual sections.

GUIDELINES (in addition to 1-8 above):

- a. The digital Display Board must be a **one (1) page PDF document**. The dimensions of the Display Board must correspond to the dimensions of your physical exhibit. If your physical display is 48" x 36" , the Display Board should be created on a [48" x 36" slide](#) (or equivalent).
- b. The Digital Board may be created in PowerPoint or similar software and must be converted to PDF.
- c. All text must be **easily readable*** when viewing the page at 50% or higher zoom on a standard laptop/computer screen. It is recommended that body text font size is *at minimum* 18 pt, and 20 pt font or larger is preferred. *Exception:* A smaller font size, down to 10 pt, may be used for figure captions or credits.

**For both physical and virtual exhibits, a font that is too small may hinder a judge's ability to read the exhibit and may impact scoring.*

SUGGESTED EXHIBIT TEMPLATES

for Virtual and Physical Exhibits



The following templates provide recommended content, organization, and order of components for exhibits, regardless of format. Graphical elements that help to explain or illustrate your work may be included. All exhibit components must fall within the overall size/page limits of the selected virtual exhibit format (*Multi-Page Presentation* or *Display Board*) and within the allowable dimensions of the physical exhibit per the GSEF Display & Safety Regulations.

Three different templates are provided to suit different types of research:

TEMPLATE I is most appropriate for **science projects**.

TEMPLATE II is most appropriate for **engineering projects**.

TEMPLATE III is most appropriate for **mathematics/computer science projects**.

For Exhibits using the *Multi-Page Presentation* format: It is recommended that each of the seven (7) sections in the template start on its own page. Sections may be titled as indicated in the template, or alternate section titles may be used. Each section may extend beyond one page, as long as the total document length does not exceed 12 pages.

Template I: SCIENCE PROJECT

TITLE PAGE - Project Title & Exhibitor Name(s)

INTRODUCTION - What is your research question?

- ▶ 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.
- ▶ What were you trying to find out? Include a description of your **purpose, research question, and/or hypothesis**.

METHODS - Explain your methodology and procedures for carrying out your project in detail.

- ▶ 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.

RESULTS - What were the result(s) of your project?

- ▶ Include tables and figures that illustrate your data.
- ▶ Include relevant statistical analysis of the data.

DISCUSSION - What is your interpretation of these results?

- ▶ What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
- ▶ 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?

CONCLUSIONS - What conclusions did you reach?

- ▶ 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?
- ▶ What application(s) do you see for your work?

REFERENCES

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

Template II: ENGINEERING PROJECT

TITLE PAGE - Project Title & Exhibitor Name(s)

INTRODUCTION - What is your engineering problem and goal?

- ▶ What problem were you trying to solve? Include a description of your engineering goal.
- ▶ 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.
- ▶ 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.

METHODS - Explain your methods and procedures for building your design

- ▶ 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.
- ▶ If you tested the prototype, what were your testing procedures? What data did you collect and how did you collect that data?

RESULTS - What were the result(s) of your project?

- ▶ How did your prototype meet your engineering goal?
- ▶ If you tested the prototype, provide a summary of testing data tables and figures that illustrate your results.
- ▶ Include relevant statistical analysis of the data.

DISCUSSION - What is your interpretation of these results?

- ▶ What do these results mean? You may compare your results with theories, published data, commonly held beliefs, and/or expected results.
- ▶ Did any questions or problems arise that you were not expecting? Were these problems caused by uncontrolled events? How did you address these?
- ▶ How is your prototype an improvement or advancement over what is currently available?

CONCLUSIONS - What conclusions did you reach?

- ▶ Did your project turn out as you expected?
- ▶ What application(s) do you see for your work?

REFERENCES

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

Template III: MATH / COMPUTER SCIENCE PROJECT

TITLE PAGE - Project Title & Exhibitor Name(s)

INTRODUCTION - What is your research question?

- ▶ Explain what is known or has already been done in your research area. Include a brief review of relevant literature.
- ▶ 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 work is appropriate here. Be sure to distinguish your previous work from this year's project.

FRAMEWORK - Notation and framework

- ▶ Introduce the concepts and notation needed to specify your research question, methods, and results precisely.
- ▶ Define relevant terms, and explain prior/background results. (Novel concepts developed as part of your project can be presented here or in Findings, as appropriate.)

FINDINGS - Present your findings and supporting arguments

- ▶ What did you discover and/or prove? Describe your result(s) in detail. If possible, provide both formal and intuitive/verbal explanations of each major finding.
- ▶ Describe your methods in general terms. Then:
 - Present rigorous proofs of the theory results – or, if the arguments are long, give sketches of the proofs that explain the main ideas.
 - 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?

CONCLUSIONS - What is your assessment of your findings?

- ▶ How do the results address your research question? And how have you advanced our understanding relative to what was already known?
- ▶ Discuss possible limitations. Did any questions or problems arise that you were not expecting? What challenges do you foresee in extending your results further?
- ▶ What application(s), if any, do you see for your work?

REFERENCES

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

DISPLAY & SAFETY REGULATIONS



for Virtual Exhibits

The following Display & Safety Regulations are specific to the virtual exhibit. **Additional regulations apply to the physical exhibit displayed at the Georgia Science & Engineering Fair.** Visit www.georgiacenter.uga.edu/gsef for full text of Display & Safety Regulations. Compliance required for all exhibitors. For situations not addressed here, the ISEF Rules for Pre-College Science Research apply: <https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/2022/Rules/Book.pdf>

Size and Format of Virtual Exhibit

See Virtual Exhibit Guidelines (pg. 1) for requirements.

Official Abstract

The Official Abstract Form is submitted separately from the virtual exhibit and is not required to be incorporated into the virtual exhibit. It is recommended that the form is **not** incorporated into the exhibit. **You may not use the title "Abstract" for any section on your exhibit unless it contains only the Official Abstract Form** (not just the abstract text). (Regulations for physical exhibits differ; see full text.)

Other Required Forms

Forms are submitted separately from the virtual exhibit and **should not** be incorporated into the virtual exhibit. (Regulations for physical exhibits differ; see full text.)

Log Book & Other Items

These items **should not** be included in the virtual exhibit. (Regulations for physical exhibits differ; see full text.)

Continuations (see [ISEF rules](#), p. 4)

A project that is a continuation of a previous year's work must be about the student's new work for this year, with minimal reference to the previous research. It is preferred for the project title or subtitle to mention which year the project is; e.g., "Year 2." Longitudinal studies may present only conclusionary data from prior years.

Human Informed Consent/Assent Forms

Completed informed consent/assent for a human participant study are **NOT** to be displayed and should **NOT** be present at the exhibit. A sample (incomplete) form may be included in the binder. (Note: This applies only to the forms signed by the research participants. Form 4 is required to be in the binder at the physical exhibit.)

Displayed Graphs, Images, & Photos

CREDITS: Every photograph, image, chart, table, graph, and figure must have a credit or citation, including those made by the exhibitor and those taken from the internet, journals, and books. The credit must state who created the graph/chart/table, who took the photograph, or where a photo or image came from. For example: "All photographs by Jon Kim," or "Image from www.wherever.com." Credit lines may be placed next to each item or elsewhere on the exhibit. If all photos/images/charts/tables/graphs/figures were created by the exhibitor or are from the same source, one clearly visible credit line for all items is sufficient.

PHOTOGRAPH RELEASE: Photos/videos of people other than the exhibitor are not allowed unless a signed photo release is available at the project (physical exhibit) or emailed to gsef@georgiacenter.uga.edu (virtual exhibit). If the person is under 18, parent or guardian signature is required. Sample text: "I consent to the use of this visual image involving my participation/my child's participation in this research." There is no specific official form for this purpose.

CONTENT: Photos or images on exhibit must not be deemed insensitive, offensive or inappropriate (e.g., no surgery, necrosis or dissection) by any member of the SRC, the Display & Safety Committee or GSEF staff. The decision made by any one of these groups is final.

All exhibitors must BOTH upload a virtual exhibit to their registration form AND bring a physical exhibit to the GSEF event.

The regulations on this page are specific to the virtual exhibit. For a full text of GSEF Display & Safety Regulations (including those for physical exhibits), visit www.georgiacenter.uga.edu/gsef.

Mentor's Work / Acknowledgements

The mentor's name and institution may **NOT** appear anywhere on the exhibit but may be mentioned in the optional research paper. Very minimal reference to work done by a mentor or others may be included **only** as background to clarify what the student's own research did and did not cover and must clearly indicate that it was not part of the student's work.

Audio/Video or Multi-Media Displays

Audio and/or video displays **may not** be incorporated into the virtual exhibit. (Regulations for physical exhibits differ; see full text.)

The following are NOT ALLOWED in virtual exhibits or physical exhibits:

- Any items that are **acknowledgments, self-promotions, or external endorsements** (Mentor or research institution may be mentioned in optional research paper but **MAY NOT** be anywhere on the virtual or physical exhibit.)
- **Awards, medals, flags, logos** (including school or university logos)
- **Give-away items or handouts** such as flyers, pens, postcards, business cards, etc.
- **Postal addresses, URLs** (other than those used solely to cite the sources of photos/figures), **email addresses, social media handles, QR codes, phone/fax numbers** of any exhibitor or their school or research institution
- **Active hyperlinks.** No live links may be included in any part of the project materials. This includes internet, file, and internal document hyperlinks. **All links must be deactivated prior to submission.**
- **Active internet/email connections.**
- Reference to past work on the exhibit must be limited to summative past conclusionary data and its comparison to the current year data set. No raw data from previous years may be displayed; however, it may be included in a logbooks and/or binder if clearly labeled, e.g. "Year 1."

The GSEF review team reserves the right to redact/remove any section of a project at its discretion for concerns related to individual privacy, sensitive content, and/or Display & Safety violations. The exhibitor will be informed of any non-trivial change made to project prior to judging.

JUDGING CRITERIA



The GSEF judging process places special emphasis on the student's ability to discuss the project effectively during the interview, as well as the project's demonstration of originality, creativity, imagination, discovery, and inventiveness. The exhibit should serve two functions: 1) to present the research clearly when the student is not present, and 2) to guide the interview toward an in-depth discussion.

JUNIOR DIVISION (Grade 6-8)	Most Projects	Engineering Projects (and some math, computer science)
	I. SCIENTIFIC THOUGHT (10 pts) <ul style="list-style-type: none"> • Clear purpose • Testable using scientific methods • Variables and controls defined, appropriate, complete • Systematic data collection and analysis • Conclusions based solely and directly on the collected data • Originality and creativity in topic or approach 	I. ENGINEERING GOALS (10 pts) <ul style="list-style-type: none"> • Clear problem or need to be solved • Clear criteria for proposed solution • Identification of a solution • Development of prototype that demonstrates intended design, has been tested, demonstrates engineering skill • Originality and creativity in topic or approach
	II. PRESENTATION (5 pts) <ul style="list-style-type: none"> • Student is interested and professional • Can clearly explain the logic, purpose, procedures, and conclusions of the project 	<ul style="list-style-type: none"> • Information in exhibit is presented in an orderly manner, with clear data and results • Student has "ownership" of the topic and project

SENIOR DIVISION (Grade 9-12)	Most Projects	Engineering Projects (and some math, computer science)
	I. RESEARCH QUESTION (10 pts) <ul style="list-style-type: none"> • clear and focused purpose • identifies contribution to field of study • testable using scientific methods 	I. RESEARCH PROBLEM (10 pts) <ul style="list-style-type: none"> • description of a practical need or problem to be solved • definition of criteria for proposed solution • explanation of constraints
	II. DESIGN AND METHODOLOGY (15 pts) <ul style="list-style-type: none"> • well-designed plan and data collection methods • variables and controls defined, appropriate and complete 	II. DESIGN & METHODOLOGY (15 pts) <ul style="list-style-type: none"> • exploration of alternatives to answer need or problem • identification of a solution • development of a prototype/model
	III. EXECUTION: Data Collection, Analysis & Interpretation (20 pts) <ul style="list-style-type: none"> • systematic data collection and analysis • reproducibility of results • appropriate application of mathematical and statistical methods • sufficient data collected to support interpretation and conclusions 	III. EXECUTION: Construction & Testing (20 pts) <ul style="list-style-type: none"> • prototype demonstrates intended design • prototype has been tested in multiple conditions/trials • prototype demonstrates engineering skill and completeness
	IV. CREATIVITY (20 pts) • project demonstrates significant creativity/originality/inventiveness in one or more of the above criteria	
	V. PRESENTATION (35 pts) <u>Exhibit (10 pts):</u> <ul style="list-style-type: none"> • logical organization of material • clarity of graphics and legends • supporting documentation well selected and displayed 	<u>Interview (25 pts):</u> <ul style="list-style-type: none"> • clear, concise, thoughtful responses to questions • understanding of basic science relevant to project • understanding of interpretation and limitations of results and conclusions • degree of independence in conducting project • recognition of potential impact in science, society and/or economics • quality of ideas for further research • for team projects, contributions to and understanding of project by all members

All projects (Junior and Senior Division) must adhere to the ISEF Rules & Guidelines (<https://www.societyforscience.org/isef/international-rules>) governing the forms and approvals required for pre-college scientific research. The following forms are required to be submitted for **ALL** projects and must be completed correctly with all required signatures and approvals:

- | | | |
|---|--|--|
| <input type="checkbox"/> OFFICIAL GSEF ABSTRACT FORM | <input type="checkbox"/> FORM 1A STUDENT CHECKLIST | <input type="checkbox"/> FORM 1B APPROVAL FORM |
| <input type="checkbox"/> FORM 1 CHECKLIST FOR ADULT SPONSOR | <input type="checkbox"/> RESEARCH PLAN/PROJECT SUMMARY | |

The following forms are also required for certain types of research. Forms must be completed correctly with all required signatures and approvals:

- | | |
|--|---|
| <input type="checkbox"/> FORM 1C REGULATED RESEARCH SETTING - for research done in hospital, university, lab, or setting other than home, school, field | <input type="checkbox"/> FORMS 5A/5B VERTEBRATE ANIMALS - for animal research done at home, school, field (5A) or regulated research institution (5B) |
| <input type="checkbox"/> FORM 2 QUALIFIED SCIENTIST - for research involving human participants, vertebrate animals, potentially hazardous biological agents, or DEA-controlled substances | <input type="checkbox"/> FORM 6A POTENTIALLY HAZARDOUS BIOLOGICAL AGENTS & 6B HUMAN/ANIMAL TISSUE - for research involving microorganisms, rDNA, tissue, blood, bodily fluid. 6B also required if research involves fresh or frozen tissue, cells, blood, bodily fluid |
| <input type="checkbox"/> FORM 3 RISK ASSESSMENT - for research involving hazardous chemicals, activities or devices, or DEA-controlled substances, some human participants projects, and some potentially hazardous biological agents | <input type="checkbox"/> FORM 7 CONTINUATION - for projects that continue or expand upon a previous year's work. Also must have previous year's abstract and Research Plan |
| <input type="checkbox"/> FORM 4 HUMAN PARTICIPANTS - for research involving human participants | |

This document is **Version 2** of the **Virtual Exhibit Guidelines** and is effective 02/14/2022. It contains the following revisions from **Version 1** (published 01/21/2022) to clarify that minor deviations from the prescribed virtual exhibit formats are acceptable as long the content of the virtual exhibit matches (and does not contain more information than) the physical exhibit.

Summary of Revisions:

1. Page: 1
Header: Requirements and Guidelines for Virtual Exhibits
List item: 8

Text changed from: *All virtual exhibits must adhere to one of two formats: Multi-Page Presentation (Option 1) or Display Board (Option 2). Each of these formats has additional requirements, detailed below*

to: *All virtual exhibits should adhere to one of two formats: Multi-Page Presentation (Option 1) or Display Board (Option 2). Each format has additional guidelines, detailed below. Minor deviations from the formats are acceptable as long the content of the virtual exhibit matches (and does not contain more information than) the physical exhibit.*

2. Page: 1
Header: Requirements and Guidelines for Virtual Exhibits
List item: 8
Subheaders: Format Option 1: MULTI-PAGE PRESENTATION *and* Format Option 2: DISPLAY BOARD

Subheader text changed from: *REQUIREMENTS (in addition to 1-8 above)*

to: *GUIDELINES (in addition to 1-8 above)*

End of revisions.