



The Vizzies

Visualization Challenge

The most beautiful visualizations from the worlds of science and engineering

Participants' Guide

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PRIZE INFORMATION

Vizzies Challenge winners will be awarded cash prizes. Experts' Choice prizes and Peoples' Choice prizes will be awarded as checks made out to the registered team leader/submitter and may be shared among any additional team members listed on the registration form at the team leader's direction.

Up to five Experts' Choice winners may be chosen from any category/media type and each winner will receive \$2000.

Up to three Peoples' Choice winners may be chosen and each winner will receive \$500.

ENTRY INFORMATION

Submissions will include a visual entry as well as a written description of their visualization. No scientific qualifications are required to enter the Vizzies Challenge, but there is an expectation that the entry will visually represent science, technology, engineering, and mathematics (STEM), and that the accompanying descriptions will explain and elaborate on the STEM principles of the visual representation.

Each submission will be asked to indicate which category/media type best describes their entry, and to indicate "other" if none of those below is appropriate.

All entries will be judged together regardless of "category" or media type. All entries (including video entries and interactive entries) must also include a 800 x 800 pixel thumbnail of the visualization.

Written Entry Descriptions

Written portions of an entry should be clear, concise and written in plain language. Judges will read all parts of the written entry descriptions and will judge entries on effective communication in addition to their visual merit. Please avoid including self-identifying data in the descriptions if possible.

The parts of the written entry are as follows:

Description

In this section, you should describe your entry in 500 characters or less. This description should include the scientific principles or impacts behind your entry, the subject matter of your entry, and any other pertinent information the judges may require to evaluate your entry. Please do not use jargon and make sure to spell out any acronyms.

Intended Audience

In this section, please indicate the audience for whom your entry was created in 150 characters or less (e.g., this is meant to be viewed by field experts, the general public or K-12 students, etc.).

Purpose/Intended Use of Your Entry

In this section, please indicate the use of your entry (e.g., as an aid in a classroom, as part of a museum exhibit, as part of a scientific paper, etc.) in 200 characters or less.

Suggested Caption

This is the caption that will be published alongside the winning visualizations (including Peoples' Choice). This caption should be short, concise and written in plain language that is easily understood by the general public. The necessary information should be conveyed in 500 characters or less.

Category / Media Types

When submitting your entry, you will be required to choose the media type that most accurately describes your submission. An "other" category is available if you feel your submission does not fit into any of the categories below. Regardless of media type, all submissions will be judged together. For examples of the different media types, please see previous Vizzies winners.

Photographs

Digital or film photographs including but not limited to images taken from sensors, microscopes, telescopes and similar instruments. Photographs submitted to the competition may not exceed 50 MB and should not contain text or logos.

Illustrations

Hand-designed or computer-assisted illustrations and drawings/paintings that conceptualize the unseen or recreate an object, process or phenomenon without using text. Illustrations submitted to the competition may not exceed 50 MB.

Posters & Graphics

Hand-designed or computer-assisted illustrations, drawings, infographics, data visualizations or photographs that conceptualize the unseen or recreate an object, process or phenomenon, and include text. Posters and graphics submitted to the competition may not exceed 50 MB.

Interactives

Games, web applications, interactive visualizations, 360° videos and smartphone or tablet apps that require user input are considered interactive. Entries must be self-guiding or include rules that explain the purpose, challenge or goal of the interactive. Interactives should be free of charge and compatible with Microsoft Windows or Mac OS, or, for smartphone and tablet apps, both iOS and Android platforms. Entrants must provide any needed passwords required for access. Interactives will be evaluated based on *the first five minutes of use*.

Videos

Videos constructed from photographs, illustrations, or graphics, film, or digital visualizations depicting an object, process, phenomenon or the natural world. Accepted video formats are MP4 and MOV.

*Videos will **ONLY** be evaluated based on the first five minutes of running time, regardless of the length of the entry. We recommend that if your video is longer than five minutes, a five-minute cut-down of the video with the five minutes of film that best represent your project be submitted rather than the long-form entry.*

GIFs

Soundless, looped videos constructed from photographs, illustrations, graphics, film or digital visualizations used to depict an object, process, phenomenon or the natural world. Please submit both the .gif file as well as the movie version of the file. *These loops should not be longer than 20 seconds maximum.*

Other

Please choose this option if none of the previous formats describe your entry.

ELIGIBILITY CRITERIA

- Entries must convey science, technology, engineering and/or mathematics principles.
- Entries can be produced by individuals or by teams.
- Entries are welcomed from anyone, including both amateurs and professionals (e.g., students, illustrators, scientists, engineers, research groups, institutions, the public, etc.).
- A maximum of one entry per individual or team is permitted.
- Entries can be submitted only once.
- Entries must not advertise or promote a commercial product visually or orally.
- Entries in the Interactive category must be free of charge and compatible with Microsoft Windows, iOS and/or the Android platform, and must provide any needed passwords required to access the entry.
- Entries and registrant information must be submitted in English. Videos narrated in a foreign language are acceptable if English subtitles are included.

JUDGING CRITERIA

Visual Impact

A successful entry provides viewers with new scientific insight, is visually striking, and conveys the artist's skill and expertise in the chosen medium (e.g., photography). It conveys the artist's mastery of the fundamentals and principles of design and is executed with factual accuracy.

Effective Communication

A successful entry communicates in a clear and understandable manner. It uses plain language, both written and spoken, in the entry itself and its accompanying text. An entry also must convey STEM principles.

Freshness and Originality

A successful entry has an individual voice, vitality and energy; creates a novel presentation or tells a compelling story; and portrays new scientific insight and methods.

JUDGING ROUNDS

Preliminary

- Qualifying entries (those that meet eligibility criteria and abide by all competition rules) are anonymously scored by a panel of judges including scientists, engineers and other professionals from NSF.

Semifinal

- Entries scored in the top half of all submitted entries (regardless of category/media type designated) in the preliminary round advance to the semifinal round.
- Entries are anonymously scored by a panel of judges including scientists, engineers and other professionals from NSF and from *Popular Science*.

Final

- The top 25 entries from the semifinal round (regardless of category/media type designation) advance to this round.
- Entries that reach the final round are also eligible to win the Peoples' Choice award via an online public vote.
- Entries are anonymously scored by a panel of distinguished judges representing a variety of fields, including scientists, engineers, film producers and graphic artists, who are chosen jointly by NSF and *Popular Science*.

- Each entry is scored by all of the final round judges and those scores are averaged to determine the Experts' Choice winner(s).
- Judges, at their discretion, may choose not to award an Experts' Choice winner(s).
- All judges' decisions are final.

Winners will be notified individually before the public announcement of the official contest results. Contest results will be publicly announced by *Popular Science* on popsci.com in September, and NSF will also publish the names and entries of the winners on its website. Additionally, contest results will be announced by a joint NSF-*Popular Science* news release.

RULES

- A contest entry constitutes an agreement to adhere to the rules and stipulations set forth by the contest sponsors.
- Submissions may be made by either individuals or teams.
 - A lead contact person must be designated for team submissions - the "Team Lead."
 - Team leads must be U.S. citizens, nationals or permanent residents. Monetary prizes will be distributed to team leads.
 - The order in which names are listed on the entry form and their spelling is how the names will appear on popsci.com and on the NSF website. No changes will be made after entry submission.
- All entrants must be at least 18 years of age.
- Any entrant or entry found to be in violation of any rule will be disqualified.
- Each entrant certifies, through submission to the contest, that the entry is his or her own original creative work and does not violate or infringe the creative work of others, as protected under copyright law.
- By entering the contest the entrant agrees to hold harmless, NSF, *Popular Science* and popsci.com for all legal and administrative claims, to include associated expenses that may arise from any claims related to his or her submission or its use.
- Entrants retain all copyright and equivalent rights but give NSF, *Popular Science* and popsci.com nonexclusive rights to use their names, likenesses, quotes and submissions for educational publicity and/or promotional purposes. This includes but is not limited to website display, social media, print materials and exhibits.
- NSF, *Popular Science* and popsci.com reserve the right to use semifinalist and finalist winners' names and entries for educational publicity and/or promotional purposes, including on websites or in exhibitions of winning entries. It is understood that entries will be shared with reporters covering these awards and for promotion of the competition itself.

- NSF, *Popular Science* and popsci.com will not be responsible for any claims or complaints from third parties should these visualizations be published or exhibited.
- Winners that are published by *Popular Science* and popsci.com will be required to sign an agreement granting nonexclusive publication and web rights.
- Winners are responsible for all taxes or other fees connected with the prize received and/or travel paid for by the sponsoring organizations.
- NSF, *Popular Science* and popsci.com will not respond to any claims or inquiries regarding contest results.
- NSF, *Popular Science* and popsci.com have the final say on any point not outlined in the entry rules.
- Information requested on the entry form will be used to determine how and if the competition is meeting its goals, purposes and audience. Submission of this information is also necessary to contact entrants.
- Employees, contractors, officers or judges of the sponsoring organizations are not eligible to enter the competition.
- Finalist judges, either individually or as part of a team, are not eligible to enter the competition.
- If an insufficient number of qualified entries are received, the sponsoring organizations reserve the right to modify or cancel the competition prior to announcing winners.
- Should NSF, PopSci or a third party decide to bring winning contestants to Washington, D.C., or to any other location for promotional and other purposes, expenses paid by NSF will be within the limits set forth in law according to federal travel regulations. The travel will be restricted to participants based in the U.S. Foreign winners will have to designate a U.S.-based representative for that purpose.
- Should NSF, PopSci or a third party decide to bring contestants to Washington, D.C., or to any other location, NSF will fund travel for only one person per group or team entry if the entry wins. This person will be the contact person listed on the entry form. If this person is not available, he or she will designate a replacement from the team. If a single person wins multiple categories, he or she must represent all of the winning entries; designees are not permitted in this instance. Only persons listed on the original entry form may have their travel funded by NSF. All other persons accompanying the winner/group representative must arrange and fund their own travel and accommodations.
- All contestants agree that they, their heirs and estates shall hold harmless the United States, the employees of the federal government, and all employees of NSF, *Popular Science* and popsci.com for any and all injuries and/or claims arising from participation in this contest, to include that which may occur while traveling to or participating in contest activities.

FREQUENTLY ASKED QUESTIONS

Q: Do I have to be a scientist, engineer or researcher to participate?

A: No. The contest is open to all. All that is required is an interest in science or engineering and that your entry be based on a STEM principle.

Q: I am a high school student. May I participate?

A: Only if you are over the age of 18 at the time the Vizzies Challenge is launched.

Q: What can I submit? What kind of things would be appropriate?

A: Please review the "Eligibility Criteria" and "Rules" pages for specific information. We encourage you to be creative and submit your entry!

Q: What exactly do you mean by "visualization"?

A: Entries should show and explain some aspect of the world that people don't typically see. This can be a unique viewpoint (e.g., extreme magnification), non-obvious relationships, "impossible" views (e.g., standing inside the sun), extra-sensory views (e.g., X-ray photographs of galaxies), etc.

Q: What characterizes a winning entry?

A: Entries are scored based on visual impact, effective communication and originality. Winning entries should also include thorough and thought provoking answers to the entry form questions. See the "Judging Criteria" page for more information.

Q: Do I have to be NSF-funded to submit an entry?

A: No. You do not have to be (or have been) NSF-funded to submit an entry.

Q: I am from a foreign country. Can I submit an entry?

A: Foreign participants must be part of a team and the team lead must be a U.S. citizen, national or permanent resident. Foreign students will not receive a monetary prize if they are part of a winning team. Monetary prizes will be distributed to team leads.

Q: May I submit custom code that I have written?

A: No. Unfortunately, we don't have the resources or manpower to compile/install custom software or the time to ramp up on running your particular simulation.

Q: I have custom code that I ported to Windows and it has a compliant Windows Install Shield, so can I submit that?

A: No. For the same reason as cited in the previous question.

Q: I have some media produced on an SGI workstation. Is that OK to submit?

A: Not if we need an SGI workstation to view it. Unless otherwise noted, we do not accept entries unless they can be reviewed in a PC environment.

Q: May I submit Photoshop or QuarkXPress files?

A: No. Please submit your images as a JPG, JPEG, GIF, BMP or PNG file.

Q: Is PowerPoint OK?

A: No. PowerPoint decreases image quality and is primarily used for presentation purposes.

Q: Can I resubmit an entry this year that didn't win last year?

A: Yes.

Q: Am I eligible to win this year if I have won in previous years?

A: If you have won within the last three years, you will not be able to win this year. However, if you won for an individual entry, you may submit a team project and if you won for a team project, you may submit an individual entry.

Q: Do works need to be submitted in English?

A: Yes. However, videos narrated in a foreign language are acceptable if English subtitles are included.

Q: What are the file size restrictions for my entry?

A: Files should not exceed 50 MB.

Q: When does the clock start for the five-minute evaluation period allowed for Video and Interactive entries?

A: The five minutes begin when actual game play or video viewing starts. Videos and Interactives will ONLY be evaluated based on the first five minutes of running time, regardless of the length of the entry. We recommend that if your video is longer than five minutes, a five-minute cut-down of the video with the five minutes of film that best represent your project be submitted rather than the long-form entry.

Q: Are multi-player game entries allowed in the Interactive category?

A: Yes, but only if single-player participation is also possible.

Q: What is meant by "Apps" in the Interactive category?

A: For the purposes of the challenge, an "app" is software that can be installed on a device operating on the Microsoft Windows, iOS or Android platforms, such as an iPad, tablet, smartphone or personal computer.

Q: Who are the Expert Judges?

A: The Expert Judges are scientists, engineers, researchers and media experts who can provide comment on both the scientific and visual merits of the submissions.

Q: Do you provide judges' feedback on entries?

A: Due to the volume of entries received, we cannot provide feedback.

Q: What if I sell copies of my visualization on my website? Can I still submit my entry?

A: Yes. You still maintain copyright over your work, but by submitting an entry you give NSF, *Popular Science* and popsci.com the right to use your name and entry for educational, promotional, social media and other uses as it is submitted. Please see contest rules for more information.