



NSF

GAME MAKER

A stylized, colorful keyboard graphic with various keys in shades of purple, blue, and pink, positioned to the right of the 'GAME MAKER' text.

AWARDS for K-12

"Life in 2100"

Entrant Toolkit

This toolkit aims to guide you through the process of participating in the NSF Game Maker Awards for K-12

Good luck and let your creativity shine.

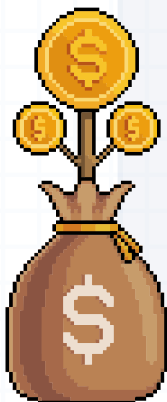


new.nsf.gov/75years/game-maker-awards



Why Should I Enter?

The NSF Game Maker Awards for K-12 is an exciting opportunity for students to highlight their creativity, technical skills, and passion for game design.



Participants will have the chance to win prizes, gain recognition, and explore the fascinating world of STEM (Science, Technology, Engineering, and Mathematics) while developing a video game.



Win up to **\$8,500** in various prize categories.



Get featured in NSF publications.



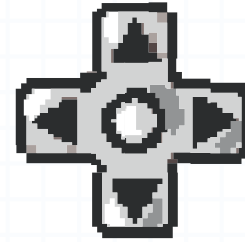
Winners will get the opportunity to connect with other young innovators and industry leaders in gaming.



Showcase your game at an in-person prize event in Washington, D.C. (tentative)



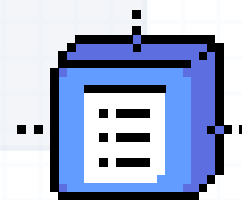
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About the Competition

The NSF Game Maker Awards commemorate the 75th anniversary of the U.S. National Science Foundation by engaging students in a video game design competition. This initiative aims to make STEM subjects exciting and accessible, encouraging students to imagine life in the year 2100 and the role of science and technology in shaping the future.



Competition Overview

Participants will create video games based on the theme “**Life in 2100**,” focusing on areas such as sustainable ecosystems, futuristic cities, medical technology, and more. The competition seeks to foster innovative thinking, creativity, and a deep understanding of STEM concepts among K-12 students.



Competition Prizes Table



Award Category	Description	Total Prize	Prize Amount Per Entry	Number of Prizes
Merit Awards (Top 20)	Honors exceptional overall quality and innovation in game development.	Up to \$50,000	\$2,500	20
Best-in-Class Awards	Acknowledges various aspects of game development.	Up to \$30,000	-	-
	- Best Educational Game	\$5,000	\$5,000	1
	- Best STEM Discovery	\$5,000	\$5,000	1
	- Best Technical Skill	\$5,000	\$5,000	1
	- Best Storytelling	\$5,000	\$5,000	1
	- Best Art and Design	\$5,000	\$5,000	1
	- Best K-6 Game Award	\$5,000	\$5,000	1
Mentor Support Award	Supports mentors, teachers, parents, or guardians who aid individuals/teams in application and game development. This award is only eligible for individuals/teams that win an award. If a mentor supports multiple winning individuals/teams, the mentor is only eligible for one Mentor Support Award.	Up to \$20,000	\$1,000	20



Entry Application Checklist



1



PICK A TEAM LEAD & REGISTER*

Scan QR code or visit
NSFgamemakerawards.skild.com

2



CREATE, DESIGN, & DEVELOP GAME

- Inspired by the theme: "Life in 2100."
- Use the game design & development resources in this toolkit.

3



PREPARE COMPETITION ENTRY

- Create a video presentation (90-99 seconds).
- Write your explanations of how you designed the game, lessons learned, and how the game connects with the theme "Life in 2100."

4



SUBMIT GAME & COMPETITION ENTRY

- Scan QR code to submit or visit NSFgamemakerawards.skild.com
Submit by 5 PM EST on Jan. 31, 2025.

*Form a team of **up to five members** and select the Team Lead. The Team Lead will be responsible for registering for the NSF Game Maker Awards and submitting the video game entry. After the Team Lead registers, they can invite everyone else on the team within the Skild platform.

Individuals can also register and will be responsible for their own entries as the Team Lead.

All team members under the age of 18 will be required to submit a Parental/Guardian Consent Form when submitting the entry.



Competition Registration Form



When you register for the NSF Game Maker Awards competition you will need to provide the following information:

Field	Description
Your Team's name	The official name of the team entering the competition.
Your Team Lead's first name	Only the Team Lead needs to register their team. The Team Lead can invite other team members to join the team via the Skild platform.
Your Team Lead's first initial of last name	The first initial of the last name of the Team Lead
Your Team Lead's age	The age of the Team Lead.
Your contact email (if you are under 13 years of age, parents/guardians must submit their email and register on your behalf)	Email address for official communications and will be used for login.
Create your password	Create a secure password.
Confirm your password	Enter the same password.
Your student group category (elementary, middle or high school)	Your team's student group category will be determined by the age of the oldest team member.
Your zip code	Specify the zip code where you live.
How did you hear about the competition?	<ul style="list-style-type: none"> • Social media (Facebook, X, Instagram, etc.) • Email newsletter • Friend or family referral • School or club • Online search • Event or workshop • News article or blog post • Others
Agree to competition terms	Check the box to confirm agreement to the competition rules and Skild's privacy policy.



Game Eligibility

To officially enter the prize competition, Individuals and/or Team Leads must submit the following items via the competition website by **5 p.m. EST on Jan. 31, 2025**.



If you submit the optional game demo, the digital game must be playable on a web browser and accessible via a URL.



If you submit a game in Minecraft or Roblox, you will not be able to submit a playable demo, so ensure that you upload a comprehensive video presentation (in MP4 format).



Digital games must be created using a free or open platform like Scratch, Unity, Construct, RPG Maker, etc.



Games and character designs should be inspired by the challenge theme "Life in 2100."



All entries must be original work.



Entries must be appropriate for all ages. Entries must not include human-on-human or human-on-animal violence; offensive, discriminatory, and/or hateful content; overtly political content; or sexual themes. Games that include any of these elements will be disqualified.



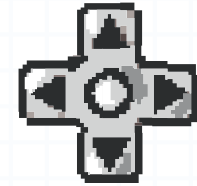
Competition Entry Form



Follow these entry guidelines to develop and submit your video game.

Entry Component	Description	Format/ Requirements	Required
Video game name and logo or image	The name of your video game. A visual logo or image that represents your game	<ul style="list-style-type: none"> - Format: text-field, JPG or PNG - A credit for your logo or image. A credit is the name of the creator of the logo or image. 	✓
Video demo presentation	A concise video that highlights the game and overall game play experience, and explains the STEM concepts and/or intended educational impact.	<ul style="list-style-type: none"> - Video duration: 90-99 seconds - Format: MP4, AVI, or MOV 	✓
Playable game demo If you are submitting the optional game demo, the digital game must be playable on a web browser and accessible via a URL.	A functional demo of the game that judges and reviewers can play to evaluate its effectiveness and engagement level.	<ul style="list-style-type: none"> - Compatible with standard PC configurations - File type: executable or web-based platform 	Optional
Storyboards and sketches	Submit storyboards and sketches as image files. These visual aids should depict the game's concept, design process, and key elements.	<ul style="list-style-type: none"> - File type: JPG, PDF, PNG 	Optional
Written explanation of the game	A written explanation of the game's design, NSF focus areas the game incorporates, and the vision behind the game.	<ul style="list-style-type: none"> - Length: 500-1000 words 	✓
Written explanation on lessons learned	A written explanation that explains lessons learned while developing the game and why you chose to develop the game.	<ul style="list-style-type: none"> - Length: 500-1000 words 	✓
Which Student Category are you?	K-6 or 7-12?		✓
Upload parental/guardian permission form Required for those under the age of 18	A document with parental/guardian permission language and a completed signature section.	<ul style="list-style-type: none"> - PDF template 	✓
Mentor support write-up	If applicable, describe your mentor and their name. Explain how the mentor supported you in developing and submitting the game/competition entry.	<ul style="list-style-type: none"> - Length: 500-1000 words 	Optional

Additional Guidelines for Each Component



Video presentation:

- Should include a walkthrough of the game, highlighting key features and STEM content.
- Visuals should be clear and relevant to the content discussed.



Playable game demo:

- Should be a stable release that allows users to explore the core functionalities and educational aspects without major bugs or issues.
- Must be accessible enough that reviewers can begin playing without specialized software or extensive setup.
- The explanation also needs to describe how the game's purpose and design connects with one or more of NSF's focus areas, providing examples of this alignment.



Written explanation:

- Must clearly outline the game's educational goals and how these goals are achieved through gameplay.
- Should discuss any research or insights that informed the game design.
- Needs to explicitly link the game's purpose and design to NSF's focus areas advancing science and education, providing examples of this alignment.



Game Design Prompt

NSF Themes and "Life in 2100"

Participants should develop and design games based on the core theme, "Life in 2100."

The year 2100 will mark the 150th anniversary of NSF. Just as the last 75 years were full of incredible advancements supported by NSF, so will the next 75 years be packed with world-changing innovations.

To put the year 2100 in context, here are a few big changes between 1950, when NSF was established, and now, 2024.

Technology breakthroughs



From 1950 until now, the world has been transformed by the internet, smartphones, 3D printing and more. By 2100, innovations in artificial intelligence, quantum computing, manufacturing, biotechnology, and more will reshape people's daily lives in ways that are hard to predict.

Changes in the ways people work

Since 1950, common jobs, like elevator operator, have disappeared, and new jobs, like software developer, have appeared. With advances in artificial intelligence, communications and manufacturing, the jobs of 2100 will be very different from the ones today.

Cleaner and cheaper energy



Instead of relying on oil and coal, which will eventually be used up, people are learning to use the sun, wind, and hydrogen to make electricity. These new approaches are already cleaner than oil and coal and are increasingly cheaper.

[Continue...](#)



Game Design Prompt

Continued

So what will we need to invent to support a growing population with massive shifts in what people do for a living? How will people travel in 2100? How will they communicate? Wouldn't people be more likely to create a positive future if more kids become scientists or engineers to help achieve breakthroughs in agriculture, telecommunications, using advanced materials and environmental stewardship?

Sources of inspiration and possible focus areas for "Life in 2100."

These focus areas will remain important for many years and may inspire a specific idea for ensuring that people in 2100 are happy, healthy, and safe.



[new.nsf.gov/focus-areas](https://www.nsf.gov/focus-areas)

SCAN HERE
to see the areas
of research
and innovation
supported by NSF.

- [Arctic and Antarctic](#)
- [Astronomy & Space](#)
- [Biology](#)
- [Chemistry & Materials](#)
- [Computing](#)
- [Broadening participation in STEM](#)
- [Earth & Environment](#)
- [Education & Training](#)
- [Engineering](#)
- [Facilities & Infrastructure](#)
- [Mathematics](#)
- [People & Society](#)
- [Physics](#)
- [Research Partnerships](#)
- [Technology](#)

Games should incorporate one or more of NSF's focus areas as it is an important judging criterion.



Advanced Game Design Prompt

Recommended for grades 7-12.

Make a game that addresses one or more [NSF focus areas](#) from the sources of inspiration section in the context of life in 2100.

- Imagine the world in 2100, where technology and science have evolved beyond our current understanding. In this world, you are a young innovator faced with a series of challenges that can shape the future of humanity. Your mission is to use your science, technology, engineering and mathematics knowledge to solve these challenges and improve life on Earth.
- Your game should highlight the potential of STEM in the year 2100 and could focus on one or more of the following:
 - o Creating sustainable ecosystems.
 - o Managing futuristic cities.
 - o Broadening participation in STEM.
 - o Advancing medical technology.
 - o Understanding the universe through observation.
 - o Integrating artificial intelligence into daily life.
 - o Developing new manufacturing technology.
 - o Learning via experiments.
 - o Harnessing the power of quantum computing.

These are examples of potential focus areas, but you are not limited to them. Feel free to explore other innovative STEM-related topics that align with the game design prompt.



Novice Game Design Prompt

Recommended for grades K-6

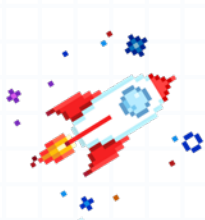
For younger kids in grades K-6, participants can focus on creating games that address futuristic scientific themes.

Make a game that addresses one of the following:

- Create a game where players use cool technology to protect Earth's ecosystems (the Ocean, the Arctic, rainforests, coral reefs, etc) in 2100.
- Create a game where players discover and learn more about the universe and the cosmos. Players might learn about the many ways people examine the universe today and could anticipate some of the things they'll learn in the next 75 years.
- Create a game that imagines the world of work in 2100. For example, how will humans and machines work together to get more done?
- Create a game about how transportation will work in 2100.
- Create a game about learning via [experiments](#). Players could select an idea to test, design an experiment, run the experiment and evaluate the results.
- Create a game that teaches players about an [NSF focus areas](#).

Game-type examples for younger kids (other nonviolent types of game are fine of course):

- Interactive story adventure: Players make choices that impact the game's outcome.
- Puzzle solver: Games that involve solving puzzles to progress the story or achieve objectives.
- Educational quiz game: Players answer questions or solve problems related to the theme to progress through levels.



Create a game about learning via experiments



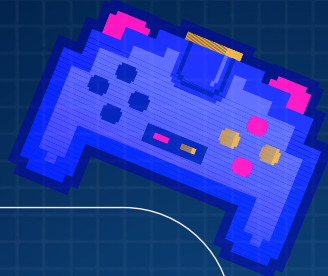
SCAN HERE to see the areas of research and innovation supported by NSF.



Timeline



Judging



1

EDUCATIONAL VALUE (25%)

How well does the game explain STEM concepts?

2

CREATIVITY AND NOVELTY (20%)

Is the game unique and original, including its storyline, characters, and gameplay mechanics?

3

IMPACT (20%)

Does the game connect to social or technological impact?

4

TECHNICAL QUALITY (20%)

How well is the game executed technically including the smoothness of its functionality, user interface design, graphics, and overall user experience?

5

ALIGNMENT WITH NSF FOCUS AREAS (15%)

How well does the game incorporate and connect the NSF's focus areas and the theme: "Life in 2100"?



Video Game Design and Development Resources

Explore tools like CodeSpark, Scratch, Unity and Unreal Engine to create your game. Use online tutorials and forums to enhance your skills and get inspired by other projects.

Game Development Platforms

CodeSpark (Top platform for elementary school)

- [Intro to Game Design in codeSpark with super teacher Kristen Brooks.](#)
- [Free access for teachers and students.](#)

Scratch (Top platform for upper elementary and middle school)

- Online platform that combines computer programming with graphic design tools to allow users to create games, animations, and other interactive programs.
- This resource guides users through the process of using Scratch to learn the basics of programming and game design.
- [Scratch game tutorials.](#)
- [Scratch Design Journal.](#)
- [Scratch Ideas & Resources.](#)
- [Starter Projects.](#)
- [Scratch YouTube Channel.](#)

Unity (Top platform for high school - 16+)

If you are new to game design then check out [Unity Essentials](#) and [Create with Code](#)

- For aspiring programmers: [Jr. Programmer Pathway](#)
- For aspiring game artists: [Creative Core!](#)
- For students under 16: Free [teacher and student accounts](#)
- For students 16+: Free [teacher](#) and [student](#) accounts

Unreal Engine

- The same powerful technology used by major studios. An end-to-end ecosystem to create, ship and operate games.
- [Learning Library.](#)

Continue...



Video Game Design and Development Resources

Continued

Snap!

- [Snap!](#) is a visual programming language for kids and adults, inspired by Scratch, but with the tools teenagers need to do serious computer science: procedures as first class data, lists as first class data, higher order functions, APL-style hyperblocks, metaprogramming, and more.

Tutorials and Guides

Kodu Game Lab

- 3D game development environment designed to teach kids basic programming principles.
- [Game design courses.](#)

Minecraft Education

- [Game design tutorials.](#)

Gamestar Mechanic

- Uses game-based quests and courses to help students learn game design and make their video games.
- [Resources for teachers.](#)
- [Resources for parents.](#)

Game Salad

- [Tutorial videos.](#)

Schell Games

- [Deck of Lenses:](#)—use this free interactive tool to review your game design ideas and make them better!

Games for Change resources

- [Resource hub.](#)



Video Game Design and Development Resources

Continued

www.code.org (Resources for game design)

- [Elementary school kids.](#)
- [Kids ages 11 and up.](#)
- [Game Design](#) (Grade: 3+, Instructional Hours: 5, [Self-Paced PL Available](#))
- [Coding with AI](#) (Grades: 6–12, Instructional Hours: 1 Week, [Self-Paced PL Available](#))

Examples of Learning Games

- [Field Day](#) (supported and run by the University of Wisconsin)
- [Filament Games](#) is a full-service digital studio specializing in learning game development for hire basis.

Articles

- [Game design basics](#): — “How to start creating video games.”
- [Games for good](#): Learning while you play

Multimedia Resources

Free, non-copyrighted image sources

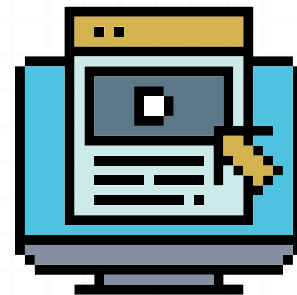
- [Freerange stock.](#)
- [MorgueFile.](#)
- [Wikimedia Commons.](#)

Free, non-copyrighted audio sources

- [Freesound.](#)
- [MusOpen.](#)

Multimedia Gallery

- [NSF - National Science Foundation.](#)



Video Game Design and Development Resources

Continued

Protecting your video game and creative work

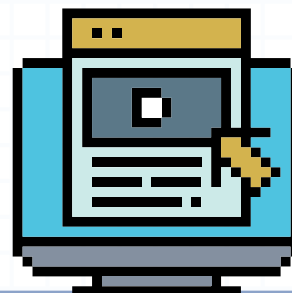
Now that you've created your video game, you might wonder: How can I protect my original creation? Below are a few simple steps and helpful resources to get you started on safeguarding your work.

1. **Write down your ideas:** Document your game's concept, characters and code. Keep notes and versions of your work to prove it's yours.
2. **Register your copyright:** In the U.S., you automatically have copyright protection once you create your game. However, to officially register it, you can go to the U.S. Copyright Office's website and submit an application. You'll need to describe your game and upload the files.
3. **Use a license:** If you want others to use or modify your game, consider adding a license (like Creative Commons). You can specify what others can and can't do with your game.
4. **Trademark:** If you have a unique name or logo for your game, you might want to consider trademarking it to protect that name or image from being used by others. Just be aware that the [costs](#) can add up quickly depending on how you file and where (state or federal level).
5. **Keep your code safe:** Use secure storage, like GitHub or another version control system, to keep track of your game's source code and any updates.

Resources

Below, we have included helpful resources available from the United States Patent and Trademark Office (USPTO):

- [Access our free services | USPTO.](#)
- [Copyright basics | USPTO.](#)
- [Kids, students, and educators | USPTO.](#)
- [Trademark Fees | USPTO.](#)



Eligibility and Legal Rules

Who can enter?

- The competition is open to both teams and individuals.
- Each team must consist of no more than five participants. In addition to the five team members, each team is allowed one mentor. The mentor does not count towards the team size limit.
- All participants must be U.S. citizens, nationals, or permanent residents.
- All entrants must be 5-18 years of age at the time of entry.
- Entrants under 13 years old are not allowed to register for this competition or provide any personal information on the registration form. Parents or guardians must register on their behalf and manage their account.
- All Team Members under 18 must upload a signed copy of the parental/guardian consent form, available on the competition website.
- Entrants are permitted to submit more than one game entry, but it is recommended to focus on a single entry.
- Employees, contractors, officers, or judges of Ensemble Government Services, the U.S. National Science Foundation, or any partner organizations and their legal dependents are not eligible to enter the competition.

Entry requirements

- Each Team Lead will need to invite all team members to register. After all Team Members have registered, then all Team Members under 18 must have their parents/guardians sign the parental/guardian consent form and upload them prior to/at the time of entry.
- The age of the oldest team member will determine your team's age category.
- The order in which names are listed on the entry form and their spelling is how the names will appear on the entry platform and any associated websites/materials.
- Entries must be appropriate for all ages. Entries must not include human-on-human or human-on animal violence; offensive, discriminatory, and/or hateful content; overtly political content; or sexual themes. Games that include any of these elements will be disqualified.
- Each entrant certifies, through entry to the competition, that the entry is their original creative work and does not violate or infringe the creative work of others, as protected under U.S. copyright law, trademark or patent law. Entries must not contain any reference to or likeness of any identifiable third parties unless consent has been obtained from all such individuals.
- Entries must not use the NSF logo within the contents of their entry.
- If entries were developed with generative artificial intelligence (GAI), entries should indicate this in the entry and how the GAI technology was used.

Continue...



Eligibility and Legal Rules

Continued

Additional information

- A competition entry constitutes an agreement to adhere to the rules and stipulations set forth by the U.S. National Science Foundation.
- Prizes will be equally divided among team members and distributed to each individual team member of the team.
- Winners and their parents or guardians are responsible for all taxes or other fees connected with the prize received and/or travel paid for by the sponsoring organization.
- Should NSF decide to bring winning entrants to Washington, D.C., or any other location for promotional and other purposes, expenses paid by NSF will be within the limits outlined in law according to federal travel regulations.
- NSF will not adjudicate or be held responsible for disputes among team members.
- Any entrant or entry found violating any rule will be disqualified at the sole discretion of the competition sponsors.
- By entering the competition, the entrants agree to hold harmless NSF for all legal and administrative claims, including associated expenses that may arise from any claims related to their entry or its use.
- All judges' decisions are final and may not be appealed.
- Entrants retain all copyright and equivalent rights but grant NSF a royalty-free, worldwide, perpetual, nonexclusive license to publicly display, distribute, reproduce and create derivative works of the entries, in whole or in part, in any media now existing or later developed, for any purpose as well as nonexclusive rights to use their names, likenesses, quotes, for educational publicity and/or promotional purposes. These include, but are not limited to, website display, print materials and exhibits.
- NSF will not be responsible for any claims or complaints from third parties about ownership disputes regarding the ideas, solutions, images or video.
- All third parties must implement and maintain robust security measures to protect data from unauthorized access, use, or disclosure. The third party must adhere to government-specified data protection protocols and provide documentation verifying compliance, as needed.
- NSF reserves the right to modify or cancel the competition at any time during the duration of the competition for any reason, including but not limited to an insufficient number of qualified entries received.
- All entrants agree that they, their heirs and estates shall hold harmless the United States, the employees of the federal government, and all employees of NSF for any injuries and/or claims arising from participation in this competition, including that which may occur while traveling to or participating in competition activities.
- Competition sponsors have the sole authority to resolve any dispute or alleged ambiguity associated with the competition, including the meaning or application of these rules.



FAQ



Q: Who can enter?

A: Both individuals and teams can participate. Students aged 5-18 who are U.S. citizens, nationals, or permanent residents are eligible. Team members under the age of 13 will use their parent or guardian's email address when registering.

Q: How do I add new team members?

A: For team entries, a "Team Lead" must invite all team members to register via the Skild platform. Team members under 18 need a signed Parental/Guardian Consent Form, which must be uploaded during entry.

Q: What kind of games can we create?

A: Games should be inspired by the theme "Life in 2100," aligning with NSF focus areas.

Q: How are the winners selected?

A: Games are judged based on educational value, creativity, impact, technical quality, and alignment with NSF themes.

Q: I am a teacher planning to have multiple teams of students participate in the Game Maker Awards. How can I serve as a mentor to multiple teams?

A: Please have students register for the competition as outlined in the Entrant Toolkit. Once at least one team member has completed the registration process, they can log in and click on the application. The third question will be, "What is your Team mentor's email address?" This is where students can enter their teacher's email address. The teacher will be enrolled in the competition database and will receive important emails regarding the competition. The students will also receive those emails once their registration forms are completed. Students 12 and under will need a parent/guardian to register on their behalf.

