



IDAHO EXHIBITION OF IDEAS TEAM GUIDE 2025





OVERVIEW

Idaho Exhibition of Ideas (IDX) is a multi-week, team-based digital design and fabrication competition where students learn and practice design, iteration, and rapid prototyping skills with 3D printing technology. Student teams brainstorm, develop, and prototype an idea for a solution that responds to a challenge theme and incorporates 3D design/printing in some way. Each team works with an educator coach, who guides the team through the design process and assists with documentation. IDX culminates in a regional Student Showcase, where teams will present their solution to a panel of judges and compete for prizes.

The **Challenge Theme for the Spring 2025 Student Showcase is Agricultural Science**. You can find more information about this theme, as well as suggested topic areas and resources, in the “2025 Theme Information” section at the end of this document.

Team Eligibility:

- Each team should consist of 4-6 youth in grades 5-10.
- Submissions for the 2025 Showcase will be judged in two divisions: Junior (Grades 5-6) and Senior (Grades 7-10). Mixed-grade teams are welcome; however, division will be determined based on the grade level of the oldest student on the team.
- Each team should have at least 1 adult lead coach and/or assistant coach responsible for guiding the team, assisting with documentation and submission, and coordinating travel to the Showcase.
- Coaches that have previously completed an Idaho FabSLAM or IDX 3D Printing/Digital Fabrication for Educators iSTEM training between 2016-2024 will be considered a fully trained lead coach.
- Updated: Each full-trained lead coach may collaborate with up to 5 assistant coaches within their same school/organization. Assistant coaches do not need to have completed the required iSTEM or FabSLAM training previously. The lead coach will work to guide and support the assistant coaches and their teams during the preparation period.
 - Virtual webinar training sessions will be available for all assistant and lead coaches in Fall 2024.
- Teams must have access to a 3D printer and associated software in order to complete their Showcase entry.



STUDENT SHOWCASE

Locations, Dates, and Times

Four regional showcases will be held at the following dates/locations. Showcases will begin with team set-up between 9:30am and 10:30am and conclude between 3:00pm and 4:00pm on the same day. *Exact schedules are subject to change and will be provided to registered teams closer to the event.*

Registration will open in November 2024. Teams must register and attend the Regional Showcase in the location closest to the sponsoring school/organization. Travel reimbursements may be available to teams traveling over 50-miles to a showcase location.

North Idaho Student Showcase:

Location: *Twin Lakes Elementary, Rathdrum*

Date: *March 7, 2025*

Southwest Idaho Student Showcase:

Location: *Boise State University, Boise*

Date: *March 1, 2025*

***NEW* South Central Idaho Student Showcase:**

Location: *College of Southern Idaho, Twin Falls*

Date: *TBA*

East Idaho Student Showcase:

Location: *Pocatello*

Date: *TBA*

Stay Informed: *Click here to register for the IDX Newsletter or create your account on our Community Platform at community.idahostem.org.*



Showcase Student Requirements

Teams are required to submit an **original or innovative idea** that responds to the Challenge Theme.

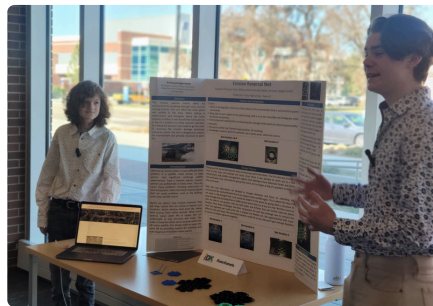
Team entries should include the following:

1. Solution Prototype:

- a. A physical representation of the solution idea created primarily by 3D printing.
- b. Prototypes should be thoughtfully designed and respond to the theme in a meaningful way.
- c. Teams are highly encouraged to bring and display previous prototypes and iterations, including failed prints, that help tell the story of the team's process.

2. Digital Documentation:

- a. A 5-12 page slide deck detailing the team's process and what they have learned. [A template is provided](#) with minimum requirements, although the structure and design of the slide deck is up to the team.
- b. Slide deck should include both visual (photo/video) and written content by the students.
 - i. Slide 1: Project/Design Name and Team Name
 - ii. Slide 2: Team member names and Coach(es) name(s)
 - iii. Slide 3-12: Define the problem researched, explain the team's process and lessons learned, and review the proposed solution and prototype designed.
- c. Teams will be asked to provide the FINAL slide deck as a PDF to the EcosySTEM one week prior to the Showcase.



3. Presentation:

- a. A presentation of 5-7 minutes introducing the team’s idea and describing the design process.
- b. Include information about the solution, how the team arrived at the idea, challenges encountered, changes made, roles of individual team members, and how the team might reiterate the design in the future.
- c. A slideshow is NOT required during the presentation; however, teams may choose to use the one created for their documentation, or a new one.
- d. The presentation will be followed up by a 3-minute Q&A with the judges. Students should be prepared to answer judge questions independently, without assistance from the Coach.

4. Visual Materials:

- a. Each team will be allotted a (6-8ft.) table to display the prototype, previous iterations and any accompanying visual materials.
- b. Team presentations will take place at team tables inside the presentation room.
- c. No specific visual materials are required however teams will receive a “Display” score based on how they use the space to explain their idea and process.

A full scoring rubric can be [accessed at this link](#).





At the Showcase: What to Expect

- Each Showcase will be approximately five hours in length, though times may vary depending on the number of teams attending or location of showcase.
- Teams will be allotted one hour at the beginning of the Showcase to set up and practice their presentations.
- A catered lunch will be available for students and coaches following set-up. If any student/coach has special dietary restrictions or food allergies, they should plan to bring a boxed lunch.
- Judges will travel from table to table for team presentations. Only presenting teams will be allowed in the presentation room. A judging line-up will be provided so that teams know when they will be visited by the judges.
- Judges will spend 10 minutes with each team: up to 7 minutes for the presentation and an additional 3 minutes for Q&A.
- To expedite the judging process, team slide decks will be reviewed by judges prior to the start of the Showcase. Teams will be asked to submit their final slide deck as a PDF one week prior to the scheduled Showcase date.
- While the judges deliberate, student tables will be open to family members/members of the public. Students are also encouraged to visit the displays of other teams. All participating students will be asked to vote on a “Student’s Choice” award for their favorite entry. The Student’s Choice Award will be given out alongside other prizes at the end of the Showcase. Students are not allowed to vote for their own project.
- A special tour or industry demonstration will be available for students during this period too, depending on the showcase's location.
- The Showcase will conclude with a brief Awards Ceremony, where prizes will be given to selected teams.



Awards and Prizes:

Place Awards:

- A 1st, 2nd, and 3rd place prize will be awarded per division. Places will be awarded based on the scores given by judges on the rubric.
 - 1st Place: New 3D Printer + \$250
 - 2nd Place: \$300
 - 3rd Place: \$250

Category Awards:

- Student's Choice Award will be awarded to the team that receives the most student votes across all divisions. All students participating in the competition are eligible to vote. Students are encouraged to vote for projects based on the same criteria as stated in the rubric. Students are not permitted to vote for their own team.
 - Student's Choice: \$100
- *NEW* Judge's Award may be awarded to one junior and one senior team. This award celebrates innovation, creativity, and excellence that may not fit within the parameters of traditional place award categories, but nonetheless deserves recognition.
 - Judge's Award: \$100



TEAM ROLES AND RESPONSIBILITIES

Students

Students are the “makers” and bear most of the responsibility for developing a solution idea and completing a prototype. Student responsibilities include:

- Attending meetings/work sessions and participating by sharing ideas, giving feedback and contributing talents to get the work done.
- Using 3D design software to design and model the agreed-upon solution.
- Using 3D printing software (with Coach or Mentor supervision/assistance) to complete prints and subsequent iterations.
- Working to reach milestones and complete the project on time.
- Documenting the team’s process on a slide deck, including:
 - Developing an idea and prototype from start to finish.
 - Important discoveries and decisions along the way.
 - Challenges encountered and how the team responded/iterated.
- Being able to explain the project idea and the design process, including:
 - The role of each individual team member in developing the final prototype.
 - The reasoning behind different design decisions.
 - The overall value of the solution idea.
- Answering judge questions.
- Creating the presentation and display materials for the Showcase.





Coaches

Each team has an educator who supports the team and acts as the point of contact with the Idaho STEM Ecosystem (EcosySTEM). The Coach's responsibilities include:

- Registering the team with EcosySTEM.
- Arranging travel to the Showcase (EcosySTEM may provide travel reimbursements for qualifying schools/organizations).
- Ensuring that any school-required permission slips or forms, including photo releases are completed by youth and their parents/guardians.
- Coordinating with youth/parents as needed to set up meetings and work sessions for them to complete the project.
- Introducing youth to 3D design software and printing technology and assisting with technical troubleshooting.
- Guiding youth through problem-solving/design thinking process. Coaches should not be heavily involved in the ideation, creation, and prototyping stage, but instead act as a guide allowing students to lead the process.
 - Provide a scaffolding/process for students to identify a problem, brainstorm a solution and develop a prototype.
 - Ask questions about design ideas and prototypes.
 - Prompt them to think about factors/users/circumstances they may not have considered.
- Submitting team documentation slide deck final PDF and any information requested by EcosySTEM.

2025 THEME INFORMATION

The 2025 IDX Student Showcase Challenge revolves around the theme of Agricultural Science. This theme encourages students to explore the fascinating world of agricultural science and its implications, both on a local level and in the context of broader global environmental concerns. To guide participants in their research and project development, the challenge has identified three distinct subtopic areas. However, teams also have the option to choose their own agricultural science-related topic.

The Task:

To design a solution to an issue identified within the category of agricultural science. Represent your solution with a prototype which incorporates 3D Printing.

This guide provides 4 topic areas for students to explore when selecting a problem and solution.

- Food Science, Security, and Access
- Sustainable Agricultural Practices
- Technology in Agriculture
- Custom Agricultural Science-Related Topic



TOPIC AREA #1

Food Science, Security, and Access

This subtopic examines initiatives addressing food security challenges, such as urban agriculture projects, community gardens, food distribution systems, and policies aimed at ensuring equitable access to nutritious food for all populations.

Suggested Resources:

- US Department of Agriculture AgLab: <https://aglab.ars.usda.gov/>
 - Explore the intersection of where food meets science.
- Systems Education Experience (SEE) <https://see.isbscience.org/resources/for-students/>
 - Career videos, industry tours, vocabulary, and statistics
- Food and Agriculture Organizations of the United Nations (FAO) Website: <https://www.fao.org/home/en/>
 - Multimedia library including videos, interactives, podcasts, as well as information and statistics
- University of Florida, Online Resources for Agriculture Teachers: <https://aec.ifas.ufl.edu/resources/ag-teachers/#d.en.787253>



TOPIC AREA #2

Sustainable Agricultural Practices

This subtopic explores innovative farming techniques and technologies aimed at promoting sustainability, such as vertical farming, hydroponics, permaculture, agroforestry, and precision agriculture. Students may also explore strategies to enhance crop resilience and adaptation to climate change, including the development of drought-resistant crops, heat-tolerant varieties, and bioengineered solutions for pest and disease management.

Suggested Resources:

- Agriculture in the Classroom Student Center: <https://agclassroom.org/student/>
 - Explore agriculture careers, virtual tours, and production information for all 50 states.
- American Farm Bureau Foundation for Agriculture, Sustainable Agriculture Lesson Plans: https://www.agfoundation.org/resources/sustainable-agriculture?gad_source=1&gclid=Cj0KCQjwMMayBhDuARIsAM9HM8eBNZm6x3vX5H3XTTo2UJ4DUWrRDVTTvrZT8zPg1YgJx1sCq0mNZ4DsaAiGNEALw_wcB
 - Learning Resources: <https://www.agfoundation.org/resources/search>
- Nourish the Future Curriculum Resources: <https://nourishthefuture.org/curriculum/soil-sustainability/ms>
 - Search and view vocabulary, videos, and more.



TOPIC AREA #3

Technology in Agriculture

In this subtopic, students are encouraged to explore the integration of technology in modern agricultural practices and how these technological advancements are revolutionizing farming practices, increasing efficiency, reducing resource usage, and addressing challenges such as labor shortages and environmental sustainability. This may include researching the use of drones for crop monitoring, satellite imaging for precision agriculture, and robotics for harvesting and field operations.

Suggested Resources:

- Idaho Public Television's PBS Learning Media: <https://idahoptv.pbslearningmedia.org/>
 - Search for videos, lesson plans, and resources for technology in agriculture
- Cool.org, Technology and Agriculture Lesson Plans: <https://cool.org/lessons/technology-and-agriculture>
- Massachusetts's Agriculture in the Classroom Technology Videos: <https://www.aginclassroom.org/matrix/resource/1239/>



TOPIC AREA #4

Custom Agricultural Science-Related Topics

This option allows teams to choose their own agriculture science-related topic, allowing for creativity and innovation beyond the predefined subtopics. This empowers students to explore unique ideas, novel applications of agriculture science, or address specific issues that they are passionate about within the field.

