TOSHIBA | nsta

ExploraVision

The Toshiba/NSTA ExploraVision science challenge for K–12 students engages the next generation in real world problem solving with a strong emphasis on STEM. ExploraVision challenges students to envision and communicate new technology 10 or more years in the future through collaborative brainstorming and research of current science and technology. Beyond engaging your students in problem solving, team-based learning, critical thinking, and communication skills, ExploraVision aligns with the Next Generation Science Standards.

1-800-EXPLOR-9
exploravision@nsta.org

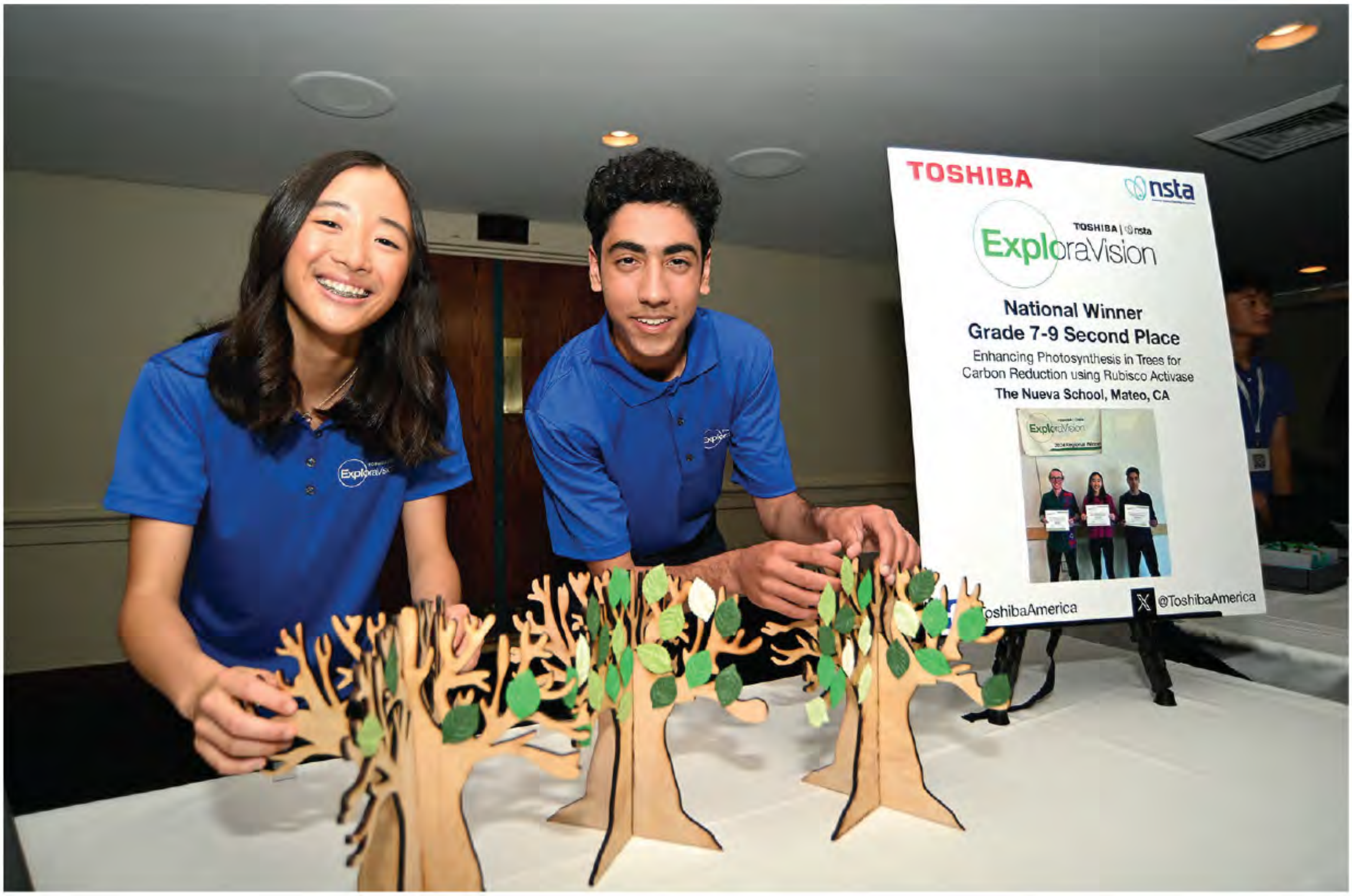
Toshiba Innovation

@ToshibaInnovate

ALL STUDENTS RECEIVE ENTRY PRIZES

Check out the special teacher prize at:
www.exploravision.org/for-teachers

Up to $240,000 (at maturity value) in savings bonds and special gifts for winning students.



TOSHIBA | nsta

Through Toshiba's shared mission partnership with NSTA, the Toshiba/NSTA ExploraVision competition makes a vital contribution to the educational community.

OVERVIEW

ExploraVision is a science competition for K–12 students of all interest, skill, and ability levels. The competition encourages students to combine their imaginations with the tools of science to create and explore a vision of a future technology.

Students work in groups of two, three or four, and are guided by a team coach and an optional mentor. Each team selects a technology, or an aspect of a technology, which is present in the home, school, or community, or any other technology relevant to their lives. They will explore what the technology does, how it works, and how, when, and why it was invented. The students must then project into the future what that technology could be like 10 or more years in the future and determine what scientific breakthroughs need to occur to make it a reality.

TEAM ADVISORS

Teachers = Coaches:

- are a required member of each team
- must teach at a school attended by at least one of the team members
- **cannot** be a parent/guardian of a team member
- may enter an unlimited number of teams
- should guide the students but not perform work on the project

Teacher/Coaches are requested to register online at *www.exploravision.org* to receive tips for participating and optional instructions for submitting projects online.

Mentors:

- are optional
- can be an individual that represents an organization or business or be a parent/guardian of a team member
- should serve as a resource person for the team but not perform work on the project

2025 Dates

JAN 31 Project Deadline	**APRIL 7** Regional Winner Annouced
MAY 5 National Winner Annouced	**JUN 11-14** ExploraVision Awards Weekend

PROJECT SUBMISSION RULES

Entrants:

- must be full-time K–12 students
- must be currently enrolled in and attending a public, private, or home school in the United States or Canada
- must not be older than 21
- must submit only one project per year

Projects:

- must be submitted online by 11:59 pm EST, on January 31, 2025.

For the complete list of rules, please visit
www.exploravision.org

"ExploraVision endorses STEM literacy by improving skills in the areas of critical thinking, deductive and inductive reasoning, and problem solving."

Teacher, Grades 4–6

GREAT NEWS!

ExploraVision offers students the scientific and engineering learning experiences central to the *Next Generation Science Standards!*

PRIZES

For The Students

- Up to $240,000* in savings bonds: $10,000* savings bond for each first-place team member and $5,000* savings bond for each second-place team member
- An expense-paid trip to Washington, DC in June for ExploraVision Awards Weekend for each national winning student and one parent/legal guardian
- A technology/science-related gift for each regional winning student
- A certificate of participation and an entry gift for every student who submits a complete project

For Teachers/Coaches and Mentors

- An expense-paid trip to Washington, DC in June for ExploraVision Awards Weekend for the teacher/coach of each national winning team
- A one-year NSTA membership for teachers/coaches of the national winning teams
- A certificate of participation and an entry gift for each coach and mentor of every team that submits a completed project
- A technology/science-related gift for the teacher/coach and mentor of each regional winning team
- Check out ExploraVision's special teacher prize at *www.exploravision.org*

* *Savings bonds maturity value*

PROJECT CATEGORIES

Primary Level (Grades K–3)

Upper Elementary Level (Grades 4–6)

Middle School Level (Grades 7–9)

High School Level (Grades 10–12)

Each grade-level project category is judged separately, based on the abilities of students in those grades.

ONLINE PROJECT SUBMISSION

Four easy steps:

1) **Teacher/Coach Registration** *(www.exploravision.org)*
2) **Register Your Teams**
3) **Teams Complete Projects Offline**
4) **Upload and Submit Projects**

- You are required to submit your teams' project online.
- A teacher may register as many teams as he or she wishes.

"ExploraVision creates a mindset for approaching problems that focuses on what needs to be done and deeper insight into the challenges and consequences. I could see the excitement on the boys faces each week when we met to talk about their project and eagerness as they dug into each new phase."

Mentor

Grades 10-12 national winners with Bill Nye the Science Guy and Justin "Mr. Fascinate" Shaifer

JUDGING

The judging committees are made up of leading science educators and science and technology experts. Judging is divided into two phases: regional and national judging. All eligible projects will be evaluated in the regional judging phase. 24 regional winning teams will move on to national judging.

The judging criteria for assigning points are based on creativity, scientific accuracy, communication, and feasibility of the project's vision. Judges award higher scores to entries that are unique and different from those that have won previously.

"I credit ExploraVision for me choosing a health career and forever being fascinated with science."
Betsy Bush, 1993 Winner

PROJECT SUBMISSIONS

MANY CREATIVE AND EXCELLENT PROJECTS ARE DISQUALIFIED EACH YEAR DUE TO TEAMS NOT FOLLOWING THE RULES.
Please ensure that teams "check off" and adhere to each item below before submitting to help ensure a qualified project. We encourage you to ask someone who has not been involved with the project to review for compliance.

For more detailed information related to grade specific project requirements, please visit *www.exploravision.org/project-format*. There are unique requirements by grade level (e.g. K–3, 4–6, 7–9, and 10–12).

REQUIRED PROJECT COMPONENTS

I. Abstract*

An abstract of **no more than** 150 words (typed, double-spaced and clearly labeled) that summarizes the proposed future technology and other relevant information must precede other project components. The abstract should be on a separate page and does not count as part of the description.

II. Description*

Each team must prepare a written description of its project that does **not exceed 11 pages** and may be a combination of text and artwork. It must include the following sections with headings clearly labeled and be in the following order:

A) Present Technology** – 10 points

Give an overview of the present form of the technology, including scientific principles involved in its functioning. Define a problem or limitation of this present technology that you will address in your ExploraVision project.

Continued

* Subject to grades categories
** Section central to the Next Generation Science Standards.

For more information, please visit *www.exploravision.org*

Join the ExploraVision community at
www.x.com/ToshibaAmerica
www.instagram.com/toshiba_stemeducation/

REQUIRED PROJECT COMPONENTS

II. Description*(*continued*)

B) History – 10 points

Research and describe the history of the technology from its inception.

C) Future Technology – 20 points

Describe the team's vision for what this technology will be like 10 or more years in the future, including scientific principles involved in developing the technology.

D) Breakthroughs** – 15 points

Research and describe breakthroughs that are necessary to make the future technology design a reality. Describe why this future technology doesn't exist today. Choose one of your required breakthroughs and describe an investigation that would have to be planned and carried out to test your ExploraVision project. If possible, include the kind of data or measurements that would be collected in the investigation.

E) Design Process** – 10 points

Describe three alternative ideas of features the team considered for their project. The ideas and features should be directly related to the project, not a list related to other projects submitted in previous years or by other participants. Describe why the team rejected each feature and idea in favor of the ones in the submitted technology. Describe how your future technology feature is better than the rejected design feature.

F) Consequences** – 10 points

Recognizing that all technologies have positive and negative consequences, describe the potential positive and negative consequences of the new technology on society.

III. Bibliography – 5 points

All sources used in researching the chosen technology should be referenced in the Bibliography. Sources must be clearly labeled and include title, author, publisher, and copyright date. Footnotes are encouraged, but are not required. The Bibliography is not counted as part of the 11-page limit for the Description.

IV. Sample Web Pages** – 20 points

Team members **must prepare five (5) sample web pages** that communicate and promote their future technology vision. Web pages may be hand-drawn or computer-generated and may include text, pictures, photographs and diagrams. They should relate to material presented in the written description and illustrate the attributes of the chosen technology. One web page should be devoted to a model or visual representation of the technology that could be used to create a prototype for display. The model should help others visualize the design and communicate design features. Include a description of limitations of the model (i.e. how is the model different from the actual ExploraVision project.)

ExploraVision Project Rating System–

100 point scale

Present Technology	10 points
History	10 points
Future Technology	20 points
Breakthroughs	15 points
Design Process	10 points
Consequences	10 points
Bibliography	5 points
Sample Web Pages	20 points

* Subject to grades categories

** Section central to the Next Generation Science Standards.

SAMPLE PROJECT DEVELOPMENT TIMELINE

How to develop your team project

		3-WEEK PROJECT	2-MONTH PROJECT	4-MONTH PROJECT
Step 1: Brainstorming	Learn about the competition's rules. Show examples of past projects and have students name existing technologies they would like to explore. Form groups and give students a deadline to choose a topic.	**Days 1–4**	**Week 1**	**Week 1**
Step 2: Getting to Know the Subject	Teach students about different research methods and about "sources" or a bibliography. Lead group discussion on interesting topics and what is already known about the technologies. Share various sources that can be used such as magazines, the Web, and books. Based on research done, each student should write a timeline and a summary of one or more topic's history. Find a mentor that fits the team and their idea.	**Days 5–10**	**Weeks 2–3**	**Weeks 2–4**
Step 3: Understanding Technological Change	Have students present their examples in front of the class. Lead a discussion about how that technology could have evolved. Working in groups, students collect ideas about how their technology could evolve 10 years in the future, analyzing the consequences of their future technology and the breakthroughs necessary to achieve it. Present those ideas to the class. For homework have students refine drafts of their teams' "Future Technology and Breakthroughs" project section.	**Days 11–14**	**Weeks 4–5**	**Weeks 5–8**
Step 4: Testing the Idea	Each group should present its future technology to the class. Encourage students to consider the pros and cons of their visions. For homework, work with students on the "Consequences" section.	**Days 15–16**	**Week 6**	**Weeks 9–12**
Step 5: Presenting the Project	Students prepare the project entries and draw out plans for the sample web pages (5) including images of future technologies. For homework, complete all sections of the description and begin to write the abstract and bibliography.	**Days 17–20**	**Week 7**	**Weeks 13–15**
Step 6: Final Look	Make last minute revisions. Double-check project registration and submit the complete project online.	**Day 21**	**Week 8**	**Week 16**

For sample projects and more information about how you can incorporate ExploraVision into the curriculum, please visit ***www.exploravision.org***

All teams are required to submit the following form online.

Please print and upload this form in the team registration site available on www.exploravision.org. It's simple and easy to submit this online with your team information and projects!

Your full team – coach, students and a mentor (if one was designated) are being requested to confirm the team information. Please take a moment to ensure the spellings of names match the online registration form, etc. Failure to comply may result in disqualification of your team.

List the Name of the Team Project: _____

Name of the Team Coach: _____

Name of the School: _____

Grades Band of the Team: (Circle) **K-3** **4-6** **7-9** **10-12**

We affirm that this project for the Toshiba/NSTA ExploraVision Competition is original and has been independently conceived and developed by the student members of the team who are all US or Canadian citizens or legal residents. We also affirm that we have read and understand the rules of the competition and have ensured that this entry satisfies the requirements of the competition available on www.exploravision.org. We further affirm that we are not related to Toshiba or NSTA staff, ExploraVision judges, or Board Members of the National Science Teaching Association or Toshiba.

Signature of the Coach: _____ **Date:**_____

Signature of the Mentor: _____ **Date:**_____

Signature of Students (2-4 students per team)

1)_____ **Date:**_____

2)_____ **Date:**_____

3)_____ **Date:**_____

4)_____ **Date:**_____

In addition to the signatures of the team members above. NSTA is requesting that your school administration also confirms that you and the students above are participating in the competition.

Name of School Principal:

_____

Signature of School Principal:

_____

Download the form and submit online within the project registration and submission site available on www.exploravision.org.

TOSHIBA/NSTA EXPLORAVISION SAMPLE WEB PAGE FORM

Please photocopy this sheet

In the space below, please describe any special effects that might be applied to your web page.

Sample Web Page #____ of 5 (must include 5 forms)