

Exploravision project

Background information:

ExploraVision is a competition for all students in grades K-12 attending a school in the U.S., Canada, U.S. Territory or a Department of Defense school . It is designed to encourage students to combine their imagination with their knowledge of science and technology to explore visions of the future. Teams of students select a technology, research how it works and why it was invented, and then project how that technology may change in the future. They must then identify what breakthroughs are required for their vision to become a reality and describe the positive and negative consequences of their technology on society. Winning ideas have focused on things as simple as ballpoint pens and as complex as satellite communications. The student teams write a paper and draw a series of Web page graphics to describe their idea. Regional winners make a Web site and a prototype of their future vision.

ExploraVision is more than a contest. It can be a spark to ignite every student's enthusiasm for science. For example, the teachers at East Literature Magnet School in Nashville, Tennessee, teamed together to have every one of their 300 students in grades 6-12 participate in ExploraVision. As part of preparing entries for the contest, the teachers and parents created a Saturday "East ExploraVision Symposium." The student teams presented their projects before a panel of four, including a non-science teacher, a parent, a community representative, and an expert in science and technology. Every student had the experience of participating in a science forum, gaining valuable scientific experience, and developing their verbal presentation skills.

To prepare an entry, students work in groups of two, three or four, simulating Research and Development (R&D) teams, along with a team coach and an optional mentor. Each team selects a technology, or an aspect of a technology, that is present in the home, school, and/or community or any other technology relevant to their lives. For example, they may choose something as simple as a pencil or as complex as a quantum computer. 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 20 years from now. Finally, they must convey their vision to others through both a written description and five graphics simulating Web pages.

All inventions and innovations result from creative thinking and problem solving. When looking for ideas, have students look at the tools and technologies they use every day. Identify a problem that a current technology does not solve, then imagine possible solutions. Encourage original ideas and creative approaches.

Requirements of the Project:

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 entry components. The abstract should be on a separate page, and does not count as part of the description.

DESCRIPTION

Each team must prepare a written description of its project. The description may be a combination of text and artwork. The description must include the following sections with headings clearly labeled and in the order listed below:

- **Present Technology** -- Give an overview of the present form of the technology, including some scientific principles involved in its functioning.
- **History** -- Research and describe the history of the technology from its inception.
- **Future Technology** -- Describe the team's vision for what this technology will be like in 20 years, including scientific principles involved in developing the technology.
- **Breakthroughs** -- Research and describe breakthroughs that are necessary to make the future technology design a reality, i.e., Why doesn't this future technology exist today?
- **Design Process** -- Describe three alternative ideas or features the team considered for this ExploraVision project. The ideas and features should be directly related to the entry, not a list of other entries you may have submitted. Describe why the team rejected each feature and idea in favor of the ones in the submitted ExploraVision technology. Describe the team's design process.
- **Consequences** -- Recognizing that all technologies have positive and negative consequences, describe the potential positive and negative consequences of the new technology on society.

The description must also meet the following style requirements:

- Title at top of description
- Typed, double-spaced
- Eleven or fewer, numbered pages
- On standard 8 1/2"x11" white paper with 1" margins
- In English
- A standard font in 12-point size or larger.

BIBLIOGRAPHY

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. Internet sources, interviews, and non-original graphics should also be referenced in the bibliography. Footnotes are encouraged, but not required. The bibliography is not counted as part of the description.

WEB PAGE GRAPHICS

To communicate their vision of the future technology, team members must prepare five graphics simulating Web pages to promote their technology. Each of the five Web page graphics must be presented on a photocopy of the Toshiba/NSTA ExploraVision Awards Web Page Graphics Form, provided in the entry kit, on standard 8 1/2" x 11" white paper. The Web page graphics should relate to material presented in the written description and illustrate the attributes of the chosen technology. The pages should relate to one another as if the team was actually designing a Web site to promote their future technology. Web page graphics may be hand-drawn or computer-generated and may include text, pictures, photographs and diagrams. A collage of graphics or photographs may be pasted onto the Web page graphic form. Please remember to give proper credit in the bibliography to any non-original art work.

It may be helpful to view actual Web sites on a computer prior to beginning on the five Web page graphics. Past ExploraVision winners' Web sites may be viewed [here](#).

In order to enter:

Each complete entry must consist of a Toshiba/NSTA ExploraVision Awards Entry Form, signed by the students, coach and mentor; an abstract; a project description; bibliography; and five Web page graphics. Mail complete entries to:

Toshiba/NSTA ExploraVision Awards
1840 Wilson Boulevard
Arlington, VA 22201-3000

For information, call 1-800-EXPLOR9 or e-mail: exploravision@nsta.org.

Click here to request your 2006 ExploraVision Awards brochure. (The 2006 brochure will be available in September.)

Each student is limited to one entry per year. Any entry that has won at ExploraVision's regional and/or national levels may not be re-submitted in future years. Any entry previously awarded a prize in another competition may not be submitted.

PLEASE NOTE:

Any student who was selected as a 1992-2004 ExploraVision Awards regional or national finalist can only compete in subsequent years with student team members who have not previously been selected as ExploraVision Awards regional or national finalists.

ExploraVision 2005 Entries are due at NSTA headquarters February 1, 2005. To confirm receipt of your entry, send by guaranteed mail (e.g. UPS or Federal Express). Do not attempt weekend delivery. Late entries and faxed or electronically submitted materials will be disqualified. NSTA and Toshiba are not responsible for lost, stolen, late or misdirected mail or deliveries.

Do not use report covers, binders, or folders. Entry materials will not be returned. Please retain a copy for your records. You may photocopy any part of the entry kit.

Entrants must be full-time students, in grades K-12, currently enrolled and attending a public, private, or home school in the United States or Canada. Students must be no older than 21 years of age. National Science Teachers Association employees, NSTA Board Members, ExploraVision Awards judges, and their respective families are not eligible to enter the competition.

To ensure fair consideration, those entries that are not submitted with all the required information and do not adhere to the rules will be disqualified. The volume of entries makes it impossible to give individual critiques to entrants.

Toshiba and the National Science Teachers Association reserve the right to use a student's, coach's or mentor's name, photograph, quote, likeness, descriptive essay, or Web page graphics for publicity and promotional purposes.

For a complete list of winners, go to [Past Winners K-12](#).

Students who enter the Toshiba/NSTA ExploraVision Awards competition retain rights to all ideas and products generated through their participation in the program. Neither NSTA nor Toshiba shall attempt to patent any student work. For information on patents and trademarks, you may contact:

United States Patent and Trademark Office
General Information Services Division
Crystal Plaza 3, Room 2C02
Washington, D.C. 20231
www.uspto.gov

or call 800-786-9199 or 703-308-HELP.

Judging (done by NSTA and will not impact grades):

Judging is organized into six regional areas of the United States and Canada. Points will be allocated to each part of the description, to the bibliography, and to the Web page graphics.

- Present Technology (10 points)
- History (10 points)
- Future Technology (20 points)
- Breakthroughs (15 points)
- Design Process (10 points)
- Consequences (10 points)
- Bibliography (5 points)
- Web Page Graphics (20 points)

The judging criteria for assigning points will be based on creativity, scientific accuracy, communication, and feasibility of vision. Judges will award higher scores to entries that are unique and different from those that have won previously. (See [Past Winners](#).)

Points for Present Technology and History total 25, while points for Future Technology, Breakthroughs, and Consequences total 50. Therefore, students should devote at least two-thirds of the description to Future Technology, Breakthroughs, and Consequences.

A judging committee will select 24 teams, one for each grade-level category in each of the six regions. To ensure an impartial selection process, the judges do not receive entry forms. Student, teacher, and school names must not appear anywhere other than on the ExploraVision Awards Entry Form. Regional winners will be notified in March.

Entry components

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 entry components. The abstract should be on a separate page, and does not count as part of the description.

Description: Each team must prepare a written description of its project. The description may be a combination of text and artwork, must include the following sections with headings clearly labeled and in the order listed below:

Present Technology – 10 points: Give an overview of the present form of the technology, including some scientific principles involved in its functioning.

History – 10 points: Research and describe the history of the technology from its inception.

Future Technology – 20 points: Describe the team's vision for what this technology will be like in 20 years, including scientific principles involved in developing the technology.

Breakthroughs – 20 points: Research and describe breakthroughs that are necessary to make the future technology design a reality, i.e., Why doesn't this future technology exist today?

Design Process – 10 points: Describe three alternative ideas or features the team considered for this ExploraVision project. The ideas and features should be directly related to the entry, not a list of other entries you may have submitted. Describe why the team rejected each feature and idea in favor of the ones in the submitted ExploraVision technology. Describe the team's design process.

Consequences – 10 points: Recognizing that all technologies have positive and negative consequences, describe the potential positive and negative consequences of the new technology of society.

Bibliography – 10 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.

Internet sources, interviews, and non-original graphics should also be referenced in the bibliography. Footnotes are encouraged, but not required. The bibliography is not counted as part of the description.

Web Page Graphics – 20 points: To communicate their vision of the future technology, team members must prepare five graphics simulating web pages to promote their technology. Each of the five web pages must be presented on a photocopy of the Toshiba/NSTA ExploraVision Awards Web Page Form, provided in the entry kit, on standard 8 ½ " x 11" white paper. The web page graphics should relate to material presented in the written description and illustrate the attributes of the chosen technology. The pages should relate to one another as if the team was actually designing a website to promote their future technology. Web page graphics may be hand-drawn or computer-generated and may include text, pictures, photographs, and diagrams. A collage of graphics or photographs may be pasted onto the web page form. Please remember to give proper credit in the bibliography to any non-original art work.

Grading (my grading scale which will be the student's grade regardless of if they enter the ExploraVision competition)

Present Technology

Not present
0 1 2 3 4 5 6 7 8 9 10

Partial description

full and complete description

History

Not present
0 1 2 3 4 5 6 7 8 9 10

Partial description

full and complete description

Future Technology

Not present
0 2 4 6 8 10 12 14 16 18 20

Partial description

full and complete description

Breakthroughs

Not present
0 2 4 6 8 10 12 14 16 18 20

Partial description

full and complete description

Design Process

Not present
0 1 2 3 4 5 6 7 8 9 10

Partial description

full and complete description

Consequences

Not present
0 1 2 3 4 5 6 7 8 9 10

Partial description

full and complete description

Bibliography

Not present
0 1 2 3 4 5 6 7 8 9 10

Partial description

full and complete description

Web Page Graphics

Not present
0 2 4 6 8 10 12 14 16 18 20

Partial description

full and complete description

TOTAL POINTS _____ / 110 points

Prizes

The 24 regional winning teams will have the use of a Toshiba laptop computer with modem and Web site design software. This laptop will be given to the school listed on the entry form as a regional prize. Each of the 24 teams will create a Web site for their future technology using their original entry as a guide. Web sites must be able to be viewed within approximately five minutes (keep the time limit in mind if adding video footage, fancy graphics, and/or numerous links) and must relate to the original project description. All team members must contribute to the production of the Web site. Web sites will be judged on creativity, originality, and the substance of the promotional message and not on the professional quality of the Web site.

Easy-to-follow step-by-step instructions will be provided to regional teams. These directions are intended for the beginning computer user who has no experience in Web site design. ExploraVision provides a perfect opportunity for teachers to learn with students how to create a Web site. NSTA will offer extra resources and technical support to guide regional winners who request additional assistance with Web site creation. Primary Level and Upper Elementary Level teams may receive additional help from their adult advisors in producing their Web sites.

Regional winning teams must also create a prototype of their technology. Prototypes may be actual models or visual representations of the technology. They do not have to be working devices. Drawings or photographs or videos of the prototypes should appear on team Web sites. Prototypes are not to be submitted with the Web site.

Web sites from the 24 regional winning teams are due in April. A national judging committee, made up of leading science educators and science and technology experts, will review original entries and actual Web sites, and select eight finalist teams (four first-place and four second-place), two from each grade-level entry category. All decisions of the judges are final. The eight finalist teams will be notified in May.

FOR THE STUDENTS

Student members of the four first-place teams will each receive a U.S. EE Savings Bond worth \$10,000 at maturity. Second-place winners will receive U.S. EE series bonds worth \$5,000 at maturity. U.S. EE savings bonds issue price is half their face value. First- and second-place Canadian winners receive Canada savings bonds purchased for the equivalent issue price in Canadian dollars. Canada bonds face value may vary based on the current exchange rate (for \$5,000 U.S. and \$2,500 U.S.) at time of purchase. National finalist team members and their parents/guardians will travel to Washington, D.C. in June for ExploraVision Awards Weekend where they will be recognized for their outstanding achievement.

Each student on the 24 regional winning teams and Honorable Mention teams will be recognized for their creative vision with a special gift.

Every student team member who enters the competition with a complete entry will receive a certificate of participation and a small gift. Student entry certificates and gifts will be sent to the coach for distribution. Coaches are encouraged to submit all completed ExploraVision projects so that every student can be recognized for his or her effort.

FOR THE COACHES AND MENTORS

The coach and mentor of each finalist team will be given a trip to Washington, D.C., in June, to attend the awards ceremony. Each coach and mentor of the 24 regional winning teams will receive a gift. Every coach and mentor who sponsors a team with a complete entry will receive a small gift and a certificate of participation.

FOR THE SCHOOLS

Schools of the 24 regional winning teams will each receive a Toshiba laptop computer, which will be used by the regional winning teams to create their Web sites.