



LIVE INTERACTIVE LEARNING @ YOUR DESKTOP



## Getting Your Class Started in ExploraVision

Thursday, October 23, 2008



# Introducing Today's Presenters

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# Today's Agenda

- 1. Introducing the Competition**  
**What is ExploraVision? Why should students participate? Prizes offered.**
- 2. ExploraVision & NSES**
- 3. How to Help Students Participate in ExploraVision**
- 4. Motivating Your Team: Some Dos and Don'ts**
- 5. Resources for Teachers and Students**



# 1. Introducing the Competition

**How many of you in the audience have either participated in or are familiar with ExploraVision?**

- A. I have participated in ExploraVision
- B. I have never participated in ExploraVision
- C. I have never participated in ExploraVision but I am familiar with the competition.





# 1. Introducing the Competition

## What is ExploraVision?

- Competition for all students in grades K-12. **FREE to enter!**
- Designed for students of all interest, skill & ability levels
- Students work in teams of 2-4 to select a technology, research how it works and why it was invented, and then project how that technology may change in the future.
- Each team is guided or led by a teacher



# 1. Introducing the Competition



- **ExploraVision teams must identify what breakthroughs are required for their vision to become a reality and describe both 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 nanotechnology applications.**
- **All inventions and innovations result from creative thinking and problem solving.**
- **Keep in mind that ExploraVision can be much more than a contest; it can be a tool to ignite every student's enthusiasm for science.**



# 1. Introducing the Competition

## Why Should Students Participate?

- **Motivates students to develop higher order thinking skills; to think about their role in the future; to use their imagination and creativity**
- **Provides an excellent way for students to learn how to work in cooperative learning groups**
- **It's not only for high achievers**
- **It's FUN & EDUCATIONAL! And everyone WINS something!!**





# 1. Introducing the Competition



## Prizes Offered

- **Every student who submits a complete entry receives a certificate of participation and a small gift.**
- **Honorable Mention Recognition for 500 teams!**
- **Regional Awards (24 teams): A Toshiba notebook computer for each regional winning school, and a special gift for each student, teacher and mentor.**
- **National Prize: Second Place (4 teams): US EE Savings Bond worth \$5,000 at maturity for each student; a trip to Washington, DC for coaches, mentors, students, families.**
- **National Prize: First Prize (4 teams): US EE Savings Bond worth \$10,000\* at maturity for each student; a trip to Washington, DC for coaches, mentors, students, families.**





## 1. Introducing the Competition

Let's Pause for  
Two Questions  
from the Audience





Getting Your Class Started in ExploraVision

# ExploraVision & NSES





## 2. ExploraVision & NSES

### **The Curriculum Is Already So Time Consuming...**

- ExploraVision does require extra work for both teachers and students, but it is an excellent way to incorporate the National Science Education Standards into your class, to motivate students, and to help them learn to organize and communicate what they learn.



## 2. ExploraVision & NSES

Let's ask the audience...

Which standards do you believe closely align with ExploraVision?

	Performance-based assessments of science & problem-solving abilities
	Engaging students in problem-solving & critical thinking activities
	Teaching students responsibility for their own learning
	Building strong communication skills
	Working in cooperative learning groups
	Stressing science is for <u>all</u> students
	Encouraging interdisciplinary learning

Answer: All of the above



## 2. ExploraVision & NSES

- Moving towards performance-based assessments of science and problem-solving abilities. ExploraVision requires that students work in teams, write, draw and present their conclusions. This work can assist your assessment of the students' learning.
- Engaging students in problem-solving and critical thinking activities. Designing ExploraVision entries provides an excellent opportunity for inquiry-based learning.
- Teaching students responsibility for their own learning. ExploraVision requires student commitment and initiative, challenging students to take an active role in their learning.



## 2. ExploraVision & NSES

- Building strong communication skills. ExploraVision provides multiple opportunities for students to communicate verbally and in writing, as well as through art and technology.
- Working in cooperative learning groups. ExploraVision entries are put together by teams of 2–4 students who must work together effectively if they are to be successful.
- Stressing science is for all students. ExploraVision is for all students, not just the more academically motivated.
- Encouraging interdisciplinary learning. ExploraVision teams must use language arts, math and social studies skills in addition to science.



## 2. ExploraVision & NSES

The process of putting together an ExploraVision entry will help your students understand:

1. The importance of invention in history
2. The scientific breakthroughs required to create an invention
3. The gradual “building block” nature of scientific progress
4. How science relies on constant improvement of technological tools in order to progress
5. That all new technologies have both positive and negative impacts on our lives



## 2. ExploraVision & NSES

Let's Pause for  
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Getting Your Class Started in ExploraVision

# How to Help Students Participate in ExploraVision





### 3. How to Help Students Participate in ExploraVision

Teachers' roles will vary somewhat according to the age level of the student teams. But regardless of whether your students are first graders or high school seniors, you will need to:

- **Sponsor your students** - Each team should be composed of 2-4 students. Teacher advisors can sponsor (advise, coach, enter) more than one team.
- **Assign roles** - Everyone should be involved in the initial brainstorming process, but after that, the students will need to have assigned roles in the project.
- **Facilitate** – Coaches organize one or more teams; arrange for in-class or outside time to meet; assist students with research, writing and grammar as needed.



### 3. How to Help Students Participate in ExploraVision

- **Seek assistance** – Enlist the help of a mentor to work with your team(s). The mentor may be another teacher, a scientist, engineer, business person, or parent.
- **Encourage them** – Remind the students that their project is important, that they are making progress, and that you think what they are doing is worthwhile.
- **Brainstorm** – All innovations & inventions result from creative thinking and problem solving. One approach might be to identify a problem that a current technology does not solve, and imagine possible solutions.



### 3. How to Help Students Participate in ExploraVision

- Challenge them to test the limits of their imaginations and ground their ideas – Even the most motivated teams will need a creative push every now and then to continue forward. Ask questions, send them on treasure hunts and wild goose chases, and challenge them to rethink how they see the world.
- Make sure that the students actually complete their entries and mail them or submit online on schedule – All of their hard work requires a finale, so don't let them miss the deadline.



## 3. How to Help Students Participate in ExploraVision

### **Open-Ended Problem Solving:**

#### **One Key to Invention**

- **Open-ended problem solving is often used in engineering. It can be used as a way to structure your teams' ExploraVision efforts**



## 3. How to Help Students Participate in ExploraVision

### Key Steps in Open-Ended Problem Solving

1. Identify the problem
2. Describe the problem in a “design brief,” including the constraints and limitations
3. Gather information
4. Brainstorm for solutions
5. Select a solution
6. Develop an implementation strategy
7. Design a prototype
8. Test
9. Redesign
10. Complete project



### 3. How to Help Students Participate in ExploraVision

**Let's review...**

**What can teachers do to help students participate in ExploraVision?**

- A. Develop a great idea and do the project for them
- B. Brainstorm, assign roles, offer encouragement
- C. Discourage mentor involvement
- D. Offer candy or other bribe



## Getting Your Class Started in ExploraVision

# Motivating Your Team: Some Dos and Don'ts



## 4. Motivating Your Team: Some Dos & Don'ts



One of the crucial roles of the teacher is to provide motivation at the appropriate times. But it is often just as easy to turn an idea off as it is to turn on. So remember:

### DO:

- **Help the team determine a schedule and timeline, and monitor their progress**
- **Coach them on being a team**
- **Give students feedback**
- **Make them famous**
- **If possible, provide them a little freedom from other class work**
- **Remind your team that every student who enters is a winner and will receive recognition**
- **ENCOURAGE, ENCOURAGE, & ENCOURAGE!**



## 4. Motivating Your Team: Some Dos & Don'ts



### DON'T:

- **Don't forget that an idea is a fragile thing. Three easy ways to squash ideas:**
  - “Well, I think it's a little too...”
  - “I'm not sure this is what we're looking for...”
  - “Ha, ha, ha, ho, ho, hee, hee...”
- **Don't make the process too complex. Remind students that most inventions arise from simple ideas.**
- **Don't ignore the obvious. Winning entries are not always glitzy. Have them think about tasks they do every day – are there ways to do them better?**



## 4. Motivating Your Team: Some Dos & Don'ts

Let's Pause for  
Two Questions  
from the Audience





## 5. Resources for Teachers & Students

- Visit the ExploraVision web site:

<http://www.exploravision.org>

### where you will find:

- How to obtain entry materials
- The entry process
- Prizes, Rules and FAQ's
- Past winners
- Videos of interviews from teachers and students

# Join us!



## How to Submit Quality ExploraVision Entries

Wednesday, November 5, 2008

6:30 p.m. - 8:00 p.m. Eastern time



# Thank you!



Other questions?

Please email [exploravision@nsta.org](mailto:exploravision@nsta.org) or call  
1-800-EXPLOR-9

## **ExploraVision Team**

Marie Wiggins, Director, Corporate Partnerships

Brian Short, ExploraVision Manager



<http://www.illuminate.com>



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