The 2017 Discovery Education 3M Young Scientist Challenge

Overview
The Discovery Education 3M Young Scientist Challenge is a premier national science competition for students in grades 5 through 8. In its tenth year, the Young Scientist Challenge is designed to encourage the exploration of science and innovation among America's youth and to promote the importance of science communication. In 1999, Discovery Communications launched the competition to nurture the next generation of American scientists at a critical age when interest in science begins to decline. In 2008 3M joined forces with Discovery Education in a quest to nurture the next generation of American scientists with an innovative and interactive science program open to every middle school student in America. Over the past 18 years, winners have gone on to speak in front of members of Congress, work with the nation's top scientists, and pursue academic careers in science.

Process
In order to enter, students must be in grades 5 through 8, and must submit a video entry (see below) online at https://www.youngscientistlab.com/challenge by April 19, 2017.

Students are challenged to create a one-to-two-minute video describing an innovative solution to a real-world problem using science and engineering principles. Video entries must demonstrate the student’s understanding of the scientific concept explained and should also exhibit his or her comfort level discussing science in general.

Videos do NOT need to be “produced” or have high production value. Judges are not evaluating production skills. Videos may be recorded on cell phones or simple digital cameras, for example. In addition, local libraries and schools may be able to loan cameras to students.

Videos will be screened to determine whether they meet all entry requirements and will then be presented to a panel of online judges. Judges will review the video submissions and choose the 10 national finalists who will go on to compete for $25,000 and the title of “America’s 2017 Top Young Scientist.” Judges will then identify up to 51 state merit winners: one from each state and the District of Columbia. Winning entries will be based on the average of scores awarded by a panel of judges using the following rubric:
(i) Creativity (ingenuity and innovative thinking) (30%);  
(ii) Scientific knowledge (30%);  
(iii) Persuasiveness and effective communication (20%); and  
(iv) Overall presentation (20%)

**Summer Mentorship**

In June, 10 national finalists will be paired with 3M scientists to complete a summer assignment having to do with innovation. Together they will work virtually through pre-assigned objectives with resources and support provided by Discovery Education and 3M.

**The Finals**

In the fall, the 10 finalists will receive an all-expense-paid trip to the competition finals (October 2017 at 3M’s world headquarters in St. Paul, MN), consisting of a series of scientific challenges designed for students in grades 5 through 8. Finalists will be judged on their scientific problem solving and communication skills.

**Prizing**

**First Place**

- $25,000
- The title of "America's Top Young Scientist"
- A once-in-a-lifetime opportunity to attend a taping of a Discovery network show
- A Contest Trophy

**10 Finalists**

- A trip for the student and ONE parent/guardian to competition finals
- $1,000
- A chance to win an opportunity to attend a taping of a Discovery network show
- A Contest Medal

**Three Runner-Up Prize Winners**

- A once-in-a-lifetime opportunity to attend a taping of a Discovery network show

**Honorable Mention (total of 6 awarded)**

- "Excitations" for a $500 excursion, subject to terms at https://discovery.excitations.com/about/terms

**Merit Winners (up to 51 - one from each State and the District of Columbia)**

- 3M Innovation Prize Packs
VIDEO SUBMISSION
The challenge is to create a one- to two- minute video that...
• explains the problem and how it impacts the entrant, their family, their community or the global population;
• describes a new innovation or solution that could solve or impact the problem;
• explains the science, technology, engineering and/or mathematics behind their innovation; and
• illustrates how their innovation could both address the everyday problem they've identified and have a broader impact locally or globally.

THOUGHT STARTERS
The following ideas are thought-starters to help students identify a problem and think about a creative solution. Students are encouraged to consider one of these topics or come up with their own ideas!

Manufacturing
From automobile makers to home appliance manufacturers to food & beverage professionals, science is essential to making the industrial plants and facilities run more efficiently across every category, improving both the way manufacturers operate and the products they put into the world.

What kinds of technologies, innovations, or solutions might:
• Ensure clean breathing air for people in all communities?
• Help increase the production of goods without the use of fossil fuels?
• Improve the efficiency of production at minimal costs?

Energy
Energy is the key to keeping the world working and one of the most fundamental parts of our daily lives. By using science, we can help conserve and create energy in new and innovative ways.

What kinds of technologies, innovations, or solutions might:
• Provide electricity to underdeveloped countries?
  o See how our 2016 winner Maanasa Mendu was inspired by the natural design of tree leaves to create an energy harvesting device that can be used in both urban and rural environments
• Provide safe drinking water to people across the world?
  o See how our 2015 winner Hannah Herbst thought to use energy from ocean currents to provide a power source and fresh water to developing countries.
• Find a way to help people reduce their environmental footprint by using alternative energy sources?
• Reuse energy in creative ways?
Safety
Whether you’re on the sports field or crossing the street, safety should always come first. Not only can we use science to protect our bodies from physical conditions, but we can also help improve quality of life by making the things we consume (food, drinks and air) safer and cleaner.
What kinds of technologies, innovations, or solutions might:
- Improve air and water quality in highly polluted areas?
- Detect and alert people of the likelihood of an accident happening?
- Reduce the risk of injury during a fall?
- Prevent a sports related injury from happening?
- Protect people from workplace dangers?

Healthcare
Living a healthy lifestyle and ensuring the health of others is crucial to having long and productive lives. Not only does science solve our biggest problems inside the human body, but it also helps us create the tools that doctors, nurses and other healthcare professionals need to improve – and save – lives.
What kinds of technologies, innovations, or solutions might:
- Deliver effective and affordable medical products to hospitals and doctor’s offices all over the world?
- Improve the quality of food and its packaging?
- Detect and alert people of the onset of health problems?
- Make healthcare products available to underdeveloped communities?
- Perform diagnostics without the use of modern technology?

Transportation
Science and innovation can help make cities “smarter” as populations move toward urban areas. Smart vehicles, road safety and public transportation are a few of the transportation mechanisms that will become increasingly important as we figure out how to improve movement within and between the planet’s most populated locations.
What kinds of technologies, innovations, or solutions might:
- Make airplanes, cars and trains run more efficiently?
- Connect the traffic and safety functions of a city with vehicles on the roads and rails?
- Make transportation easier without automation?
- Create affordable housing for city dwellers that is also safe and easily accessible?
- Make infrastructure able to withstand weather and traffic conditions of cities with growing populations?