



Kids Explore Alternative Fuel Sources and Sequence the DNA of Living Organisms with ScienceBuddies.org

Science Magazine Honors Science Buddies with Prestigious "Science Prize for Online Resources in Education"

April 28, 2011, Carmel, CA – A high school student explores fuels of the future by using mud to build a microbial fuel cell. A 12-year-old using tools for sequencing DNA discovers a plant genome that hasn't yet been documented. Could these be the scientists of tomorrow? That's the hope of non-profit ScienceBuddies.org, an organization that is actively engaging students in hands-on science.

Because of its success at drawing students into deeper scientific interest and exploration, the site was just awarded the *Science* Prize for Online Resources in Education by the journal *Science*. Bruce Alberts, editor-in-chief, said, "Science Buddies builds a remarkable bridge between inquisitive students who want access to current research and <u>scientists who want to conduct outreach</u> for their own projects. Scientists hope to inspire these students to become future colleagues."

Science Buddies attracted 9.8 <u>million</u> unique visitors in 2010, including students and teachers from across the country whose enthusiasm for science was nurtured through online access to hands-on projects, guidance from volunteer scientists, and classroom tools for a variety of disciplines. Kenneth Hess, founder and president of Science Buddies, said, "We've developed personalized learning tools to help students select a topic and give them a <u>framework for projects</u>; the brain power to succeed comes from the kids."

Science Buddies features <u>1,000+ project ideas</u> ranging from everyday topics such as food science to advanced projects in genetics, engineering, and medicine. Its <u>Topic Selection Wizard</u> questions students about their everyday interests and directs them to topics *they* enjoy, igniting their passion for learning.

Science Buddies also partners with well-known academic institutions to make cutting-edge research accessible to K-12 students. "A few years ago, I began researching renewable energy technology at MIT," said Dr. Elizabeth R. Young. "This high-level work requires equipment and materials costing tens of thousands of dollars. Now, through Science Buddies, we've <u>created a similar experiment</u> that students can perform in their own kitchens. These 'kids' are exploring catalysts for splitting water into hydrogen and oxygen, at the same time becoming passionate about developing alternative fuels for their generation."

<u>Science Buddies' mission</u> is to help students build literacy in science and technology so they can become productive and engaged citizens in the 21st century.

Science Buddies Facts and Figures

- 10,000,000+ unique visitors will use ScienceBuddies.org in 2011
- 1,000+ Project Ideas are provided for students in grades K 12
- On average, each Project Idea is visited by 14,000 users annually
- Academic Outreach Partnerships are in place with researchers from MIT, the New York State Museum, Princeton, the University of California, and others
- Total page views in 2010: 88,713,150
- Approximately 56% of users are female
- Approximately 20% of Science Buddies traffic comes from outside the U.S.
- 50 volunteers staff the Ask an Expert Forum
- Detailed information is provided on more than 100 science careers
- View Statistics on the State of Science Education <u>here</u>
- Learn how students and teachers use Science Buddies for creative science projects

Science Buddies Timeline

September 2001	www.ScienceBuddies.org website launched
October 2002	Launch of first <i>Science Fair Project Guide</i> and <i>Topic Selection Wizard</i>
September 2003	Science Buddies introduces <i>Ask an Expert</i> , an online science project help forum staffed by volunteer scientists and high school students
December 2005	Traffic milestone: Science Buddies serves more than 1,000,000 visitors this year
<u>July 2006</u>	Launch of new <i>Teacher Resources</i> section with Science Project resources and a Guide to coordinating Science Fairs
August 2008	New release of <i>Topic Selection Wizard</i> . Questions identify a student's specific interests and abilities to present a custom list of ideal projects
February 2009	Parent Resources area includes ideas for science projects to do at home, tips for earning Scout badges, and more
August 2009	New Career Profiles section highlights training and jobs in science, technology, engineering, and math
<u>July 2010</u>	New <i>Advanced Project Guide</i> prepares students for major international science competitions
December 2010	Traffic milestone: 9,800,000 unique visitors in 2010
<u>Today</u>	 Science Buddies is still free to use and free of ads More than 1,000 Project Ideas covering all areas of science 4.8 million+ registered users of the Topic Selection Wizard; overall traffic expected to surpass 10 million unique visitors More than 50 volunteers — professional scientists and enthusiastic students — staff the Ask an Expert forum

Overview of ScienceBuddies.org Resources

Student Resources

- <u>Topic Selection Wizard</u>: Students answer a series of questions to identify science fair projects targeted to their interests
- <u>Science Fair Project Ideas Directory</u>: Browse through a list of all of our science fair project ideas organized by area of science
- Ask an Expert: Our online bulletin board staffed by volunteer scientists and top high school students ready to answer science fair project questions
- Advanced Science Competitions: Tips and techniques to prepare for an advanced science competition such as ISEF or Intel STS
- <u>Career Profiles</u>: More than 100 profiles of careers in science technology, engineering, and math, designed to help students learn what scientists do and how they can pursue a career in science
- <u>Project Guide</u>: A step-by-step guide on how to do a science project using the scientific method

Partnering with Scientists

- <u>Science Buddies Academic Outreach Partnerships</u> enables researchers to put cutting-edge, real-world research into the hands of students
- Ask an Expert: Scientists volunteer to staff this online bulletin board to address questions and guide students in their science fair projects

<u>Teacher and</u> Parent Resources

- <u>Teacher Resources</u>: Everything teachers need to plan, manage, and evaluate a science fair or a science project in the classroom
- Science Fair Project Guide Printable Handouts and Worksheets
- Grading Rubrics for science teachers
- <u>Project Ideas Directory</u>: Browse through a list of all of our project ideas organized by topic — appropriate for science fairs or summer fun at home
- Our <u>Summer Science Camp Resource</u> helps parents learn more about the benefits of summer science enrichment programs and locate quality summer science programs in their area

Fostering a Passion for Science

Parents See Their Children's Science Grades Improve

"My sons love Science Buddies. They had a hard time in science, and because of your website and help, their grades have gone up and they are more interested in science. Your website is a great tool for them to use. A lot of what you do on it they are doing in school. We also love doing the experiments at home."

-Parent Melissa Wilburn of Republic, PA

Students Mirror Investigations Performed by Researchers at MIT

Science Buddies partners with well-known academic institutions to make cutting-edge research accessible to K-12 students. "A few years ago, I began researching renewable energy technology at MIT. This high-level work required equipment and materials costing tens of thousands of dollars. Now, through Science Buddies, we've created a similar experiment that students can perform in their own kitchens. These 'kids' are exploring catalysts for splitting water into hydrogen and oxygen, at the same time becoming passionate about developing alternative fuels for their generation."

— Dr. Elizabeth R. Young, MIT Researcher

High School Teacher Says Science Buddies is the Best Place to Start

The following quote is directly from an email from an Antioch, CA, high school teacher: "Science Buddies is more than just a source of ideas (although it is an excellent one of those). It contains guidance, shared experience, rubrics, plans for starting science fairs, and even a way for a student to get outside assistance on a project. I find myself using it more and more each year and tell every student I meet that wants to do a science project: 'Start with Science Buddies.' "

Advice in "Ask an Expert" Forum Helps Christina Wang Win a Top Prize at ISEF competition Christina Wang, a high school sophomore, developed a microbiology project analyzing the growth of facultative anaerobe *B. subtilis* under microaerophilic conditions. As her project, and its focus on bacteriology, took shape, she began getting extensive feedback and guidance at Ask an Expert from volunteer Donna Hardy of Bio-Rad. At Ask an Expert, she asked questions, summarized her research and reading of current articles, and refined her direction, all the while demonstrating a seemingly inexhaustible curiosity and enthusiasm for all aspects of the scientific process. Continuing with related research as a junior, Christina returned to the Intel ISEF, where she won a second-place Grand Award in microbiology in 2010.