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SCIENCE BUDDIES

Project Ideas Roundup



Kite Science: Hands-On Flight

Windy spring weather and warming temperatures can equal perfect conditions for a visit to the park or to the beach -- or even to the schoolyard -- with a kite. Flying a kite might seem like child's play, but kites are a wonderful way to introduce and explore principles of aerodynamics, and they have furthered research in other fields as well. Ben Franklin, Alexander Graham Bell, and the Wright Brothers all put kites to use!



With a range of variables that can be altered, tested, or explored, a kite project sets you up for outdoor fun that is full of high-flying science -- if you can get the kite off the ground! On the blog, we've pulled together [a set of kite-centered Science Buddies Project Ideas](#) to help get you started.

Is it Red or Blue? Can You Fool Your Friends?

In keeping with the time-honored tradition of April Fool's Day jokes and riddles, we've got a fun human behavior puzzler you can try out with students, friends, and family.

"Sally sells seashells by the seashore" is a well-known *tongue twister*. Your tongue gets caught up in the similar words. The Stroop effect is a *brain twister*.

What color is the **type** of each of these words? Try saying them aloud.

Red blue green yellow black

If you had trouble, you're not alone! The Stroop effect states that if the name of a color is printed in a different color ink, naming the color of the ink can be tricky. The following project ideas explain the science behind Stroop.

- [Get the Scoop on Stroop](#)
- [What Conflicting Mental Tasks Reveal About Thinking: The Stroop Effect](#)

A Career in Mechanical Engineering



Designing and Testing the Spacecraft of Tomorrow

Want to know what it's really like to spend all day simulating conditions of space? Curious about design aspects of the Orion spacecraft? Interested in engineering?

In the first in a series of featured career profiles on the Science Buddies blog, you will meet Marc Church, Senior Mechanical Engineer at Lockheed Martin. [Read Marc's profile](#) and learn about his current work conducting thermal testing for spacecraft and how he became interested in engineering.

We will be taking questions submitted by teachers, parents, and students for Marc to answer in a follow-up Q&A session.

Teachers, this is a great opportunity for your students to learn more about a career in engineering. Please encourage them to visit the blog and ask their questions!

Note: We'll be giving away copies of the 2010 Year in Space calendar to a few lucky participants!

- [Warped Words and the Stroop Effect](#)

Mechanical Engineering: Bending Under Stress

How much strain can asparagus take?

Difficulty: 3

From the spine of a kite to the poles that hold up a tent, a variety of devices depend upon **flexible rods**. Even a fly swatter uses a flexible cylindrical rod as its handle, and if a fishing pole didn't bend, the big ones would surely "get away." These rods bend under pressure from wind, weight, or collision, and hopefully they don't snap in two!

Using asparagus stalks, you can explore principles related to "**stress**" and **structural failure** in this mechanical engineering project:

- [Veggie Snap! Modifying Bending Stresses in a Flexible Rod](#)

Colorful Chemistry

Color can be a wonderful visual indicator, letting you know that something being tested for has been found or that something is "happening" in a chemistry project. The following science projects use color-changing chemicals:

- [Use the Power of Purple to Evaluate Fats in Cooking Oils](#) puts tincture of iodine (a deep purple solution) to use to detect healthy, unsaturated fats in cooking oils.
- [Got Iron? Use a Color-based Test to Measure the Concentration of Iron in Water](#) uses an indicator solution that turns from clear to orange-red in the presence of iron.

Staff Scientist's Pick of the Month: *Can Video Games Help Deflect Pain*



Personal experience led Staff Scientist Kristin to explore the relationship between playing video games and pain management. Can video games be used as an effective component of pain management strategies?

Turn Windy Days into Discovery Days



Difficulty: 2

April showers bring May flowers... and lots of wind! You can get an idea of how much wind there is by looking at the trees, but there is a more exact way to measure wind speed. In the Science Buddies project [How Does a Wind Meter Work?](#), you'll make your own measuring instrument, called an *anemometer*, out of everyday items you can find around your house. With your own anemometer, you'll always know if it's kite weather or not!

Newly Released Science Fair Project Ideas



Looking for something new?

The following Project Ideas were recently added to the Science Buddies library:

Difficulty: 3-5

- [Don't Get Burned! Measure the UV Index at Different Times of the Day](#)
- [Save Those Spoiling Strawberries!](#)
- [Now You See It, Now You Don't: Investigating Inattentive Blindness](#)
- [Too Much of a Good Thing? Study the Effect of Fertilizers on Algal Growth](#)

Difficulty: 5-7

- [From Dull to Dazzling: Using Pennies to Test How pH Affects Copper Corrosion](#)
- [Scintillating Scents: The Science of Making Perfume](#)
- [From Bitter to Sweet: How Sugar Content Changes in Ripening Fruit](#)
- [Got Iron? Use a Color-based Test to Measure the Concentration of Iron in Water](#)
- [Tee Time: How Fast is Your Golf Swing?](#)

Difficulty: 7-8

- [Investigate the Kinetics of the Amazing Iodine Clock Reaction](#)
- [Put Some Energy Into It! Use a Calorimeter to Measure the Heat Capacity of Water](#)

All you need to put this idea to the test is a bucket of ice water, a good game, and some *foot*-hardy volunteers! [Read the story behind this project on our blog.](#)

Looking for a Perfect Project for *You*?



Our [Topic Selection Wizard](#) can help guide you to a science project that fits your areas of interest *and* meets science fair requirements. Give it a try today!

- [The Cannon Fungus: Grow a Fungus That Fires Objects at Light Sources!](#)
- [Use the Power of Purple to Evaluate Fats in Cooking Oils](#)
- [Exploring DNA Damage: What Effect Do Ultraviolet Rays Have on Yeast Colony Growth?](#)
- [Salt Bridge Over Electrified Waters: How Electricity Changes pH](#)
- [Slimey Likes It! Studying Chemotaxis in *Physarum Polycephalum*](#)

Experience Zero Gravity...Without Leaving Earth!

The Northrop Grumman Foundation Weightless Flights of Discovery program is a unique initiative that places teachers on zero-gravity aircraft flights that create temporary weightlessness, similar to what you'd experience on the Moon or Mars. Illinois teacher Erin Moore found [last year's flight](#) to be a dream come true.



The deadline to apply is April 30. For more information, including eligibility and requirements, visit www.northropgrumman.com/goweightless.

Keep in Touch

We post regular updates and announcements on the [Science Buddies at Facebook](#) page. Stop by and mark yourself a "fan." It's an easy way to find out about new projects, giveaways and other Science Buddies news. No Facebook? You can also follow us at [Twitter](#) or on our [blog](#).



Follow ScienceMom at Twitter

Our "Science Mom" now has her own [Twitter stream](#). Sign up to follow her suggestions for bringing science into the home and to the dinner table.



Help Spread the Word

If you have a friend, colleague, or family member that you think would enjoy Science Buddies and the Science Buddies newsletters, please forward a copy of this month's Project Ideas Roundup with the "Forward email" link below. *(If you received a copy of the newsletter from a friend and would like to sign up, please visit: <http://tinyurl.com/ydqjbsq>.)*

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