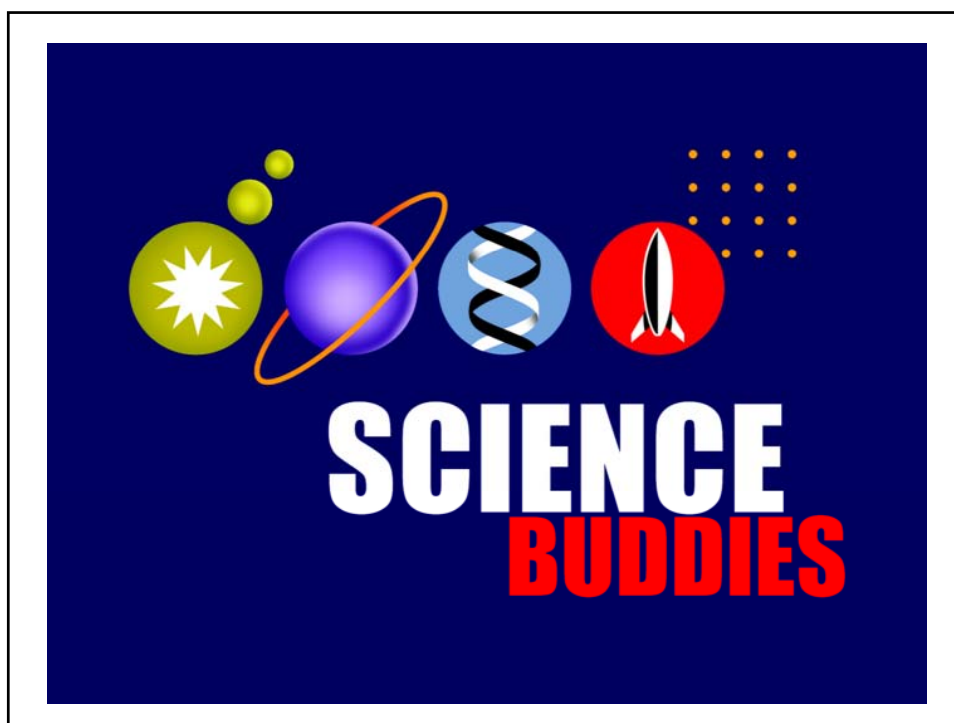




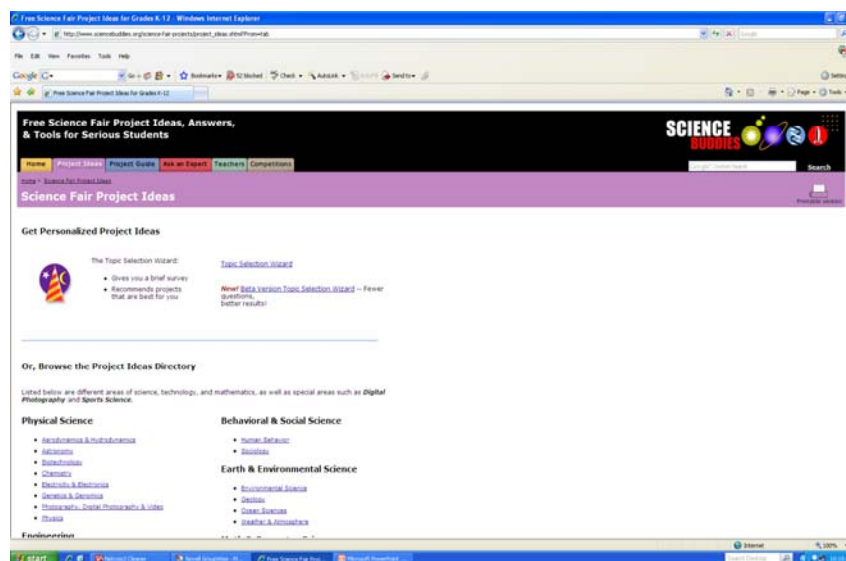
Science Buddies Website

 This is a screenshot of the Science Buddies website as it appeared in 2008. The browser window shows the URL 'http://www.sciencebuddies.org'. The website has a yellow header with the 'SCIENCE BUDDIES' logo and navigation tabs for 'Project Ideas', 'Project Guide', 'Ask an Expert', 'Teachers', and 'Competitions'. The main content area is divided into several sections:

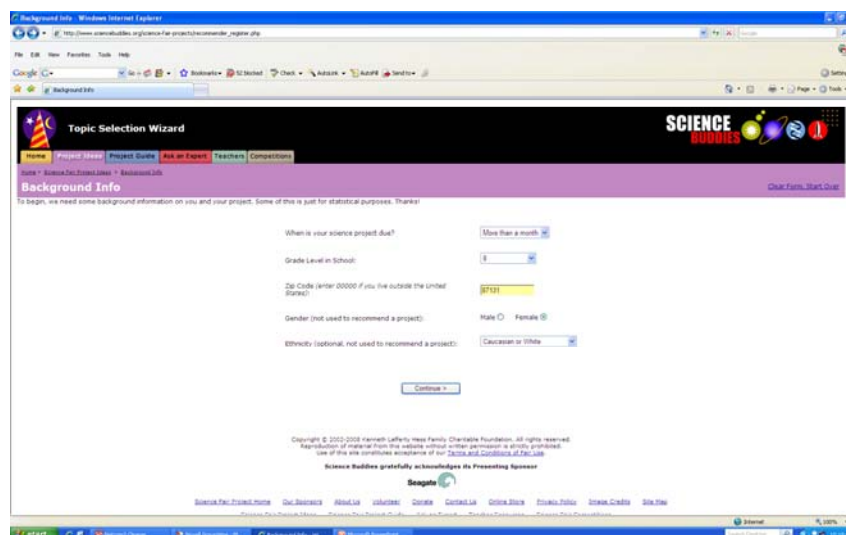
- Science Fair Project Ideas:** Promotes over 700 project ideas, a Topic Selection Wizard, and a Science Fair Project Ideas Directory.
- Student Resources:** Includes a Science Fair Project Guide, a volunteer resource board, and Advanced Science Competitions.
- Awards and Recognition:** Features the American Library Association Great Websites for Kids award logo.
- Science Buddies News:** A section for updates and news.
- Teacher Resources:** Offers Science Buddies in Action, a Teacher Resource page, and Project Ideas in Action.
- Announcements:** A section for free, full-color scientific method classroom posters.

 The footer includes the 'sciLINKS' logo and mentions its selection for Solstice by the National Science Teachers Association.

Project Ideas



Topic Selection Wizard



Topic Selection Wizard

Science Buddies Topic Selection Wizard - Science Interest Survey

For every question you will be answering "Yes," "No," or "Sometimes." Use the following guidelines when you select your choice:

- Yes** = I do the activity or feel this way very often, if not all the time
- Sometimes** = I do this activity or feel this way once in a while, or occasionally
- No** = I almost never do this activity or feel this way

Remember, you must answer every question! Then click on the "Continue" button at the bottom of the page.

1. Do you like building or repairing mechanisms and machines?	☐ Yes	☐ Sometimes	☐ No
2. Do you enjoy gardening and working with plants?	☐ Yes	☐ Sometimes	☐ No
3. Are you curious about laws like gravity and electromagnetism that govern the physical world?	☐ Yes	☐ Sometimes	☐ No
4. Do you enjoy thinking about solutions to society's problems?	☐ Yes	☐ Sometimes	☐ No
5. Do you like learning about what makes us healthy and what makes us sick?	☐ Yes	☐ Sometimes	☐ No
6. Do you enjoy building a spreadsheet with formulas or programming a computer?	☐ Yes	☐ Sometimes	☐ No
7. Do you invent devices to solve problems you encounter?	☐ Yes	☐ Sometimes	☐ No
8. Do you like to go hiking or snorkeling just so that you can observe how animals behave in their natural environment?	☐ Yes	☐ Sometimes	☐ No
9. Do you enjoy science experiments where you measure mass, time, voltage, and other physical attributes?	☐ Yes	☐ Sometimes	☐ No
10. Do you enjoy studying the forces of nature such as the weather and earthquakes?	☐ Yes	☐ Sometimes	☐ No

Topic Selection Wizard

Science Buddies Topic Selection Wizard - Recommendations

Use the color-coded stars to rate the projects. The more stars, the more interesting the project is to you.

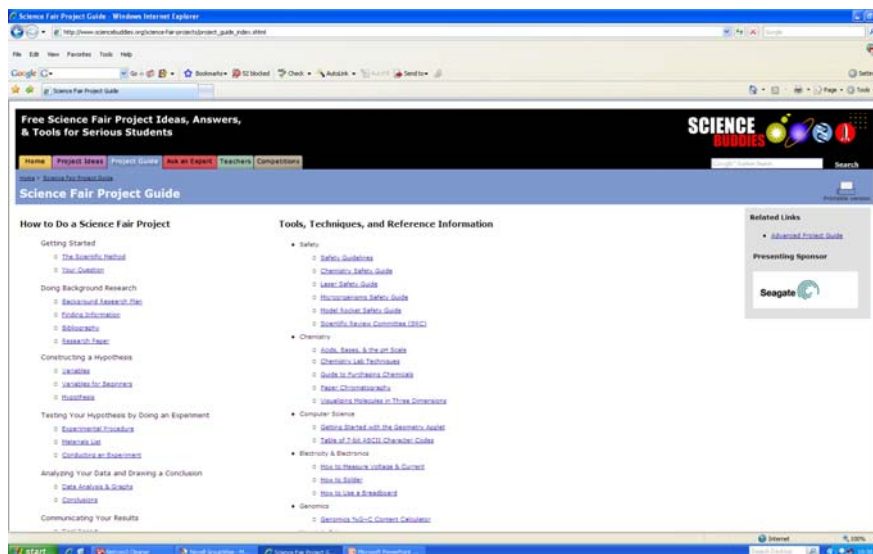
Recommendation Summary

Summarizing the list on the left, the Wizard predicts these to be your top areas of interest:

- Human Behavior
- Business
- Environmental Systems
- Transportation/Communication
- Healthcare
- Computer Science
- Weather & Atmosphere
- Genetics
- Chemistry
- Earth/Space

Project Recommendations:

- Multitasking: Brain Drain or Boost in Efficiency?** There's a good idea to plug into iTunes, surf the web, or watch TV while doing homework or trying to read? Lots of people do it and claim that jumping from one activity to another keeps their attention level up and even gives their brain some time to "relax" between the more challenging tasks. Just how efficient is multitasking? In this project, you'll find out after testing the ability of volunteers to successfully do two or more things at once. [Read More...](#)
- Spending Habits: Tightwads vs. Spendthrifts** Do you have a hard time hanging on to your money or do you have a harder time letting it go? This project shows you how to conduct a simple survey to measure how people manage their money. Find out what percentage of your classmates are "spendthrifts" and what percentage are "tightwads." [Read More...](#)
- What Conflicting Mental Tasks Reveal About Thinking, The Stroop Effect** Can you put your head with one hand while you rub your stomach with the other? This experiment is kind of the that, but it can actually give you some insight into how your mind works. The task is to name colors. It sounds simple enough, but see what happens when color words get in the way. [Read More...](#)
- Testing for Alibi in a Photo Lineup** You may have read about criminal cases where innocent people have been wrongly convicted of a crime. Sometimes, modern DNA analysis techniques have provided the evidence to exonerate these innocent people. In many cases, mistaken identification by eyewitnesses provided strong evidence for the original conviction. How can prosecutors and defense attorneys make sure that photo lineup procedures used to identify criminal suspects are unbiased? This project shows you how to conduct an objective test for bias in a simulated photo lineup. [Read More...](#)
- Honesty: How Prevalent is It?** How trusting are you? Do you think people are basically honest, or do you think people are usually honest only when they think someone is watching? This project explores how well the honor system works for a bake sale-type charity donation. Find out if your hunch is correct. [Read More...](#)



Scientific Method

Free Science Fair Project Ideas, Answers, & Tools for Serious Students

Steps of the Scientific Method

Key Info

- The scientific method is a way to ask and answer scientific questions by making observations and doing experiments.
- The steps of the scientific method are to:
 - Ask a Question
 - Do Background Research
 - Construct a Hypothesis
 - Test Your Hypothesis by Doing an Experiment
 - Analyze Your Data and Draw a Conclusion
 - Communicate Your Results
- It is important for your experiment to be a fair test. A "fair test" occurs when you change only one factor (variable) and keep all other conditions the same.

Overview of the Scientific Method

The scientific method is a process for experimentation that is used to explore observations and answer questions. Scientists use the scientific method to search for cause and effect relationships in nature. In other words, they design an experiment so that changes to one item cause something else to vary in a predictable way.

Just as it does for a professional scientist, the scientific method will help you to focus your science fair project questions, construct a hypothesis, design, execute, and evaluate your experiment.

Flowchart:

```

graph TD
    A[Ask Question] --> B[Do Background Research]
    B --> C[Construct Hypothesis]
    C --> D[Test with an Experiment]
    D --> E[Analyze Results Draw Conclusion]
    E --> F[Communicate Your Results]
    F --> A
  
```

Related Links

- Scientific Method Overview
- Free Scientific Method Worksheets

Scientific Method

Steps of the Scientific Method

Detailed Help for Each Step

Step	Detailed Help for Each Step
Ask a Question: The scientific method starts when you ask a question about something that you observe. How, what, when, where, why, or how?	Your Question
Do Background Research: Rather than starting from scratch in putting together a plan to answer your question, you want to be a savvy scientist and try your first careful research to help you find the best way to do things and make sure you don't repeat mistakes from the past.	Background Research, Plan Your Experiment, Research Tools
Construct a Hypothesis: A hypothesis is an educated guess about how things work. "If _____, then _____." "If _____, then _____."	Hypothesis Construction, Research Tools
Test Your Hypothesis by Doing an Experiment: Your experiment tests whether your hypothesis is true or false. It is important for your experiment to be a fair test. You conduct a fair test by making sure that you change only one factor at a time while keeping all other conditions the same.	Experiment Procedures, Constructing an Experiment
Analyze Your Data and Draw a Conclusion: Once your experiment is complete, you collect your measurements and analyze them to see if your hypothesis is true or false. Scientists often find that their hypothesis was false, and in such cases they will construct a new hypothesis starting the entire process of the scientific method over again. Even if they find that their hypothesis was true, they may want to test it again in a few ways.	Data Analysis & Graphs, Conclusion
Communicate Your Results: To complete your science fair project you will communicate your results to others in a final report and/or a display board. Professional scientists also make their findings known by publishing their final report in a scientific journal or by presenting their results at a poster at a scientific meeting.	Final Report, Display Board, Science Fair Projects

Even though we show the scientific method as a series of steps, keep in mind that new information or thinking might cause a scientist to back up and repeat steps at any point during the process. A process like the scientific method that involves such backing up and repeating is called an **iterative process**.

Throughout the process of doing your science fair project, you should keep a journal containing all of your important ideas and information. This journal is called a **laboratory notebook**.

Ask An Expert

Free Science Fair Project Ideas, Answers, & Tools for Serious Students

Ask an Expert: Answers to Your Science Questions

The Ask an Expert Forum is intended to be a place where students can go to find answers to science questions that they have been unable to find using other resources. Our team of volunteer scientists have been providing answers to science questions for over ten years now, so before you ask your question, make sure to search the discussion board as your science question may have already been answered.

Science Buddies also offers science help through a variety of other online resources specifically for students doing science projects and experiments. Whether you need help picking a topic or understanding how to set up your experiment, our Topic Selection Wizard and project guide can provide you with the science help you need. In order to find the resource that best suits your needs, please click on the appropriate link below.

I need help finding a topic area I might like. [Take Survey to Find Topic](#)

I know my exact topic, need help doing background research. [Background Research Tips](#)

I know my exact topic, need help with how to setup experiment, etc. [General Project How-To](#)

I have a specific question about my science fair project that I have tried to research but have been unable to answer using other resources. [Ask a Specific Question](#)

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[Science Fair Project Ideas](#) [Science Fair Project Guide](#) [Ask an Expert](#) [Teacher Resources](#) [Science Fair Competitions](#)

Teacher Resources

Free Science Fair Project Ideas, Answers, & Tools for Serious Students

Teacher Resources

Sponsored by a generous grant from **Agilent Technologies Foundation**

As part of its effort to help strengthen science education, Science Buddies provides a number of teacher resources. These tools may also be of interest to many parents:

- **Never Science Project Assessment Tools** are tried-and-true methods from teachers and other dependable resources that will help your students reap the full benefits from their science fair projects.
- **Never Teacher's Guide to Science Projects** is designed to help teachers prepare, organize, and manage a science project program in the classroom.
- **Available Now! A Guide to Planning a Science Fair** is an invaluable step-by-step guide loaded with tools, tips, and tricks for those teachers who want to offer their students the benefits of a full science fair event.
- **Never The Science Fair Project Grading Rubric** consist of teacher-vetted rubrics for each step of a science fair project from grading the question to evaluating the display board.
- **Never Our Scientific Method Classroom Poster** is also available in PDF format.
- **Never Sign up for the Science Buddies Quarterly Newsletter** and be the first to hear about great new project ideas, teacher resources, changes to our website, and much more!
- **The Science Fair Schedule Worksheet** will help you plan and schedule science fair assignments.
- **The Topic Selection Wizard** is an interactive questionnaire to help science fair participants narrow their area of interest.
- **Printable copies of our Science Fair Project Guide** webpages are perfect handouts for students.
- **Ask an Expert** is an online bulletin board where students can use to ask science fair and/or career-oriented questions of our volunteer advisors, all of whom are professional scientists or engineers.

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We Ask that Downloaders Please Send Us an Email

To help us improve our material, we ask that you send us an email after you have used our downloads or directed a class to use the Topic Selection Wizard. We have a strict privacy policy, and none of the information you provide will be given to third parties. In your email, please include:

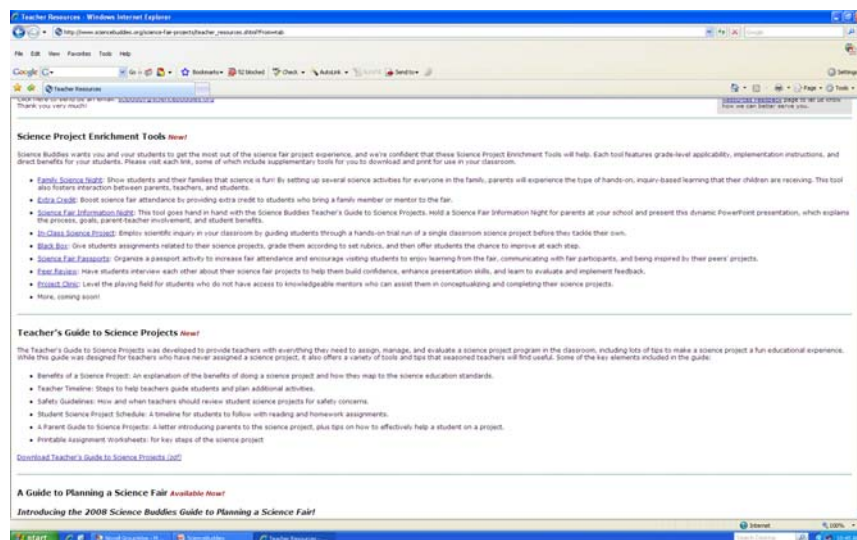
Free Scientific Method Classroom Poster

Available Now!

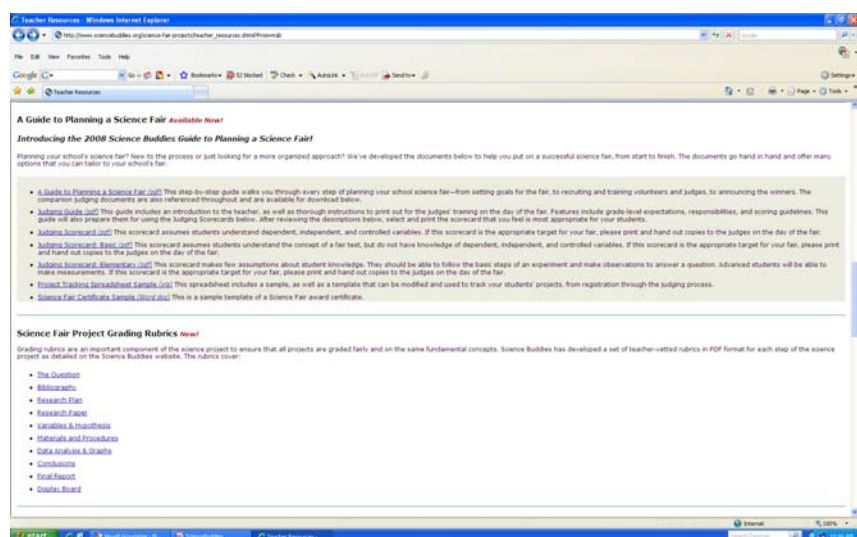
Newsletter

Sign up for the Science Buddies Newsletter

Teacher Resources



Teacher Resources



Teacher Resources

Scientific Method Classroom Poster *new!*

In partnership with Seagate Technology, Science Buddies has developed a 24" x 36" classroom poster providing an overview of the six steps of the scientific method as described on the Science Buddies website. We have limited quantities of this poster available to teachers free of charge and there are no shipping and handling charges. Please allow 4-6 weeks for shipping.

We also have a PDF version of this poster available for anyone interested in printing their own copies. For student handouts, printing on legal-size paper (8.5 x 14 inches) works quite nicely.

[Request a Free Poster](#)
[Download Scientific Method Poster \(.pdf\)](#)

Science Fair Schedule Worksheet

This worksheet is a handy tool to help construct a schedule for science fair assignment due dates. In contrast to the timelines and schedules included in our Teacher's Guide to Science Projects, these worksheets are not tied directly to the resources in our online Science Project Guide and can be helpful for teachers who are planning a science project but might be using materials other than those provided on our website. It has three sections:

1. **Holiday/Work Day Planner.** This worksheet lets you summarize all your holidays and teacher workdays in one spot to assist in scheduling the science fair assignments. If you have a good school calendar handy, you can skip this step.
2. **Science Fair Assignment Worksheet.** This worksheet helps you plan when student assignments should be due.
3. **Scheduled Parent Schedule.** Transfer the dates from the worksheet to this schedule and you can distribute it to students and parents. We highly recommend that parents receive a copy of the schedule. You may also want to add a permission slip and/or notification of the student's project topic.

[Download Science Fair Schedule Worksheet \(Word doc\)](#) This document offers a more generic schedule which can easily be integrated with any science project resources.
[Download Teacher's Guide to Science Projects \(.pdf\)](#) This document includes a schedule that is fully integrated with the content on the Science Buddies website.

Topic Selection Wizard

You can access the Topic Selection Wizard from the [Science Fair Project Overview](#) page. Try it!

Printable Copies of our Science Fair Project Guide Webpages

Each of the webpages of the Science Fair Project Guide can be printed using the Printable Version button at the top of the screen. We are still developing the PDF versions of the recently redesigned Science Fair Project Guide pages and we hope to have them available in the next few weeks.

- [Download Scientific Method Poster \(.pdf\)](#)

Teacher Resources

Ask an Expert

You can access [ask an expert](#) from here, or by clicking on the blue Ask an Expert tab at the top of the page. Try it! We can help with student, teacher, or parent questions about science fairs or science fair projects.

The Classroom Scientists Program

Please Note: The Classroom Scientists Program will not be in operation during the 2007-2008 school year.

The Classroom Scientists Program, formerly called our Ask an Expert Mentoring Program, offers personalized help to smaller groups of twenty to thirty students as they complete individual science fair projects. The program is structured with a schedule, assignments and a final goal of completing a science fair project and entering it in a local or regional science fair. Five to ten experts will work with a small group of twenty to thirty students to offer guidance, feedback and review the work. The objective is to help a group of students by developing a fun online science community where students can go for support on their projects that will ultimately help them develop a better understanding of science and the scientific method.

The expert group will be comprised of science professionals and top high school science students. All mentoring or "meetings" will take place on private, password-protected discussion boards. An online orientation guide prepares Experts for the program. It covers things like how to use the online message board forum effectively, roles and responsibilities, and gives examples of sciences from prior participants.

Generally, the program ends when the Investigator enters the finished project in a local science fair. If the Investigator qualifies for a regional or state science fair, additional fine tuning is encouraged to polish the project so that it presents its best face. Most Investigators are amazed by what they can accomplish with a little help from e-science.

The size of the Classroom Scientists Program is very limited, and you should know that it requires a good deal of teacher support to be successful. Most spaces for the coming year are already filled. Send us an email: sbubb@sciencebuddies.org if you are interested in the program.

Presenting Science Buddies to Others

If you have a need to present the Science Buddies resources to students, parents, or other teachers and you don't have a live Internet connection, you can use our PowerPoint presentation. This 6 MB PowerPoint file contains screenshots from our website.

[Download Science Buddies PowerPoint \(.ppt\)](#)

If you would like a one-page flyer to give to students, send home to parents, pass out at a school open house, or post, you can use the general flyer. This 56 KB PDF file contains a brief description of all the tools and resources offered by Science Buddies. A few versions of the flyer are available that are recognition to sponsors who have underwritten support of Science Buddies for a specific region.

[Download Science Buddies General Flyer \(.pdf\)](#)

Regional Flyers (.pdf)

- [Download Science Buddies Bay Area Flyer](#)
- [Download Science Buddies Central Coast County Flyer](#)
- [Download Science Buddies Midwest Flyer](#)
- [Download Science Buddies Maryland Flyer](#)
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