Teacher's Guide to Science Buddies Student Resources

Tailor Science Buddies Student Resources to Fit Your Goals and Your Students' Needs

At Science Buddies, we understand that students have very different instructional needs, depending on a variety of factors, including their age, educational history, and academic resources. To help you determine which of our tools are best suited to your teaching goals, we've created a table of our student resources and how they can be utilized. You might find it helpful to choose one of the four teaching scenarios below that best describes your situation, and then expose your students to the resources corresponding to that scenario.

- **Detailed Guidance:** My students would benefit from detailed guidance and step-by-step instructions to help them understand the scientific method and complete a successful, fun, and academically challenging science fair project.
- **Moderate Help:** My students would benefit from help choosing an engaging age- and resource-appropriate science fair project, but I'd like them, primarily, to independently figure out the experimental procedure of their science fair projects.
- **Independent Exploration:** My students would benefit from checklists and reminders about how to create a well-controlled scientific experiment, but I'd like them to completely independently select a science fair topic and figure out the appropriate experimental procedure.
- **Original Research:** My advanced high school students are working on original, publishable research.

For the first three scenarios, refer to the tables below for how to use the Science Buddies website. If your students are doing Original Research, see our Advanced Science Competitions (http://www.sciencebuddies.org/science-fair-projects/competitions_index.shtml) resources.

Finding an Idea	Resource Description	Teaching Scenario: "My students would benefit from..."		
		Detailed Guidance	**Moderate Help**	**Independent Exploration**
Topic Selection Wizard (http://www.sciencebuddies.org/science-fair-projects/recommender_register.php)	Answering a few survey questions in the Topic Selection Wizard can help students hone in on areas of science that are intrinsically interesting to them, and even specific science fair projects they might enjoy.	**X**	**X**	
Project Ideas (http://www.sciencebuddies.org/science-fair-projects/project_ideas.shtml)	Our library includes 1000+ science fair project ideas in 30 areas of science. Project Ideas are either full length, including a Variations section, or they are abbreviated, allowing for more independent science fair project development.	**X**	**X**	
Full-length Project Ideas	Approximately 70 percent of our science fair projects are full-length outlines of science fair projects, including an introduction the scientific concepts, a bibliography for further reading, and an experimental and data-analysis outline to get the student started.	**X**		
Variations sections of full length Project Ideas	Nearly all of our full-length Project Ideas have a section entitled *Variations.* These are suggestions for a twist on the primary idea, and they generally require the student to develop his or her own procedure.		**X**	
	Over 30 percent of our science fair projects are what we call Abbreviated Project Ideas. These projects contain a brief abstract, and there is no			

Abbreviated Project Ideas	background information or procedure. An asterisk after the title easily identifies Abbreviated Project Ideas. *Tip:* To see all of the abbreviated project ideas, do a site search on "abbreviated project idea." Make sure to click the "Repeat the search with omitted search results included" option to ensure that they all show up.		**X**	

Following the Scientific Method	Resource Description	Teaching Scenario: "My students would benefit from..."		
		Detailed Guidance	**Moderate Help**	**Independent Exploration**
Project Guide (http://www.sciencebuddies.org/science-fair-projects/project_guide_index.shtml)	This online guide about how to do a science fair project includes guidelines and self-assessment checklists to ensure that a student's science fair project is well thought out, adheres to the scientific (or engineering) method, and has well-controlled variables.	**X**	**X**	**X**

Individualized Help	Resource Description	Teaching Scenario: "My students would benefit from..."		
		Detailed Guidance	**Moderate Help**	**Independent Exploration**
Ask an Expert (http://www.sciencebuddies.org/science-fair-projects/ask_an_expert_intro.shtml)	This feature is an online advice forum where professional scientists, engineers, and student volunteers help students discover the answers to science questions that they have been unable to find using other resources.	**X**	**X**	**X**