

Westbriar Science Fair

Guidelines for Experiment driven projects

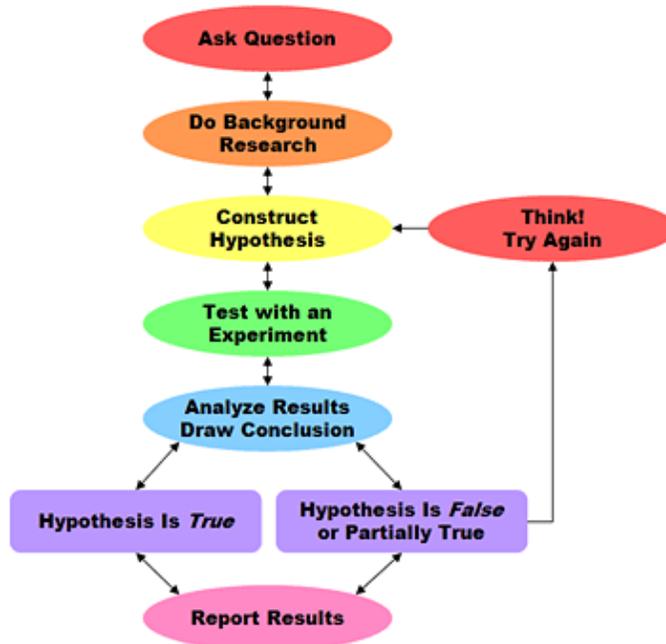
The following is a guide for an experimental project, but you'll also find it useful for projects on scientific models, demonstrations, collections, observations, and inventions.

<p>1. Choose a topic that interests you</p> <p>Think about things in science that you find interesting. To get ideas, try looking at: science resource books; library books; science Web sites; encyclopedias; science magazines; newspaper articles; and educational TV programs, museums, and films.</p> <p>Suggested Internet sites include:</p> <ul style="list-style-type: none"> • http://www.sciencebuddies.org/ • www.ipl.org/div/kidspace/ • http://www.sciencebob.com/ • http://www.sciencefairadventure.com/ • http://www.sciencekids.co.nz • http://thehappyscientist.com/ 	<p>2. Gather Information, Identify a Problem or Ask a Question</p> <p>Once you have selected a topic, you need to learn a little before you decide on a question you want to answer. Do some reading and speak with your parents and/ or teacher. Next, choose a question you want to answer. When choosing a question:</p> <ul style="list-style-type: none"> • Be specific • Choose a question you'll be able to answer. Remember you'll need to get materials and conduct an experiment. • Choose a question you're really interested in answering!
<p>3. Make a Hypothesis</p> <p>A hypothesis is your guess about what the answer to your question will be. For example, if you are asking "Which cleanser cleans grease off floors the best?", your hypothesis might be "Hot soapy water cleans grease off floors better than vinegar, plain water, laundry soap, or soda water."</p> <p>When you conduct your experiment, you will be testing your hypothesis. It doesn't really matter whether your hypothesis was correct. It is important to:</p> <ul style="list-style-type: none"> • Experiment carefully • Keep good records • Use your observations to check out your hypothesis 	<p>4. Experiment, Observe, and Keep Good Records</p> <p>Before you start your experiment, there are a few things you need to do:</p> <ul style="list-style-type: none"> • Make a list of all the materials you will need • Gather those materials • Clear an area to work • Set up a notebook to record procedures and observations. Prepare to take photographs and figure out exactly what you will be looking for.
<p>5. Analyze and Draw Conclusions</p> <p>When your experiment is complete, it is time to go over your records. An easy way to do this is by making a chart. Use the chart or graphs to help you answer your hypothesis. Also, this is a good time to try to figure out why you got the answers you did. You may need to look up information, or discuss with someone, to help answer your questions. In some cases, you may need to repeat an experiment. Your conclusion should say whether your hypothesis was right or wrong. You may also want to tell why things might have happened the way they did. Your conclusions should be short, to the point, and supported by your data/ observations.</p>	<p>6. Prepare Your Presentation</p> <p>You can use your computer to create your project presentation or draw it out on a poster board and use it in your video. Consider the following when preparing your presentation:</p> <ul style="list-style-type: none"> • Should I include graphs, drawings, charts, photographs, or pictures? • What part of my experiment should I show? <p>Important: Even if your project didn't work out as you expected, make an exhibit for the Fair. Share what you learned.</p>

Prepare a video with your findings. Ensure that in your video you include the following:

- Your name, grade and teacher
- The title of your Science Project
- The problem you set out to answer
- Your hypothesis
- Materials used
- Your procedure
- Some data
- Your conclusion

Science Fair Project Process



Science Fair Project Checklist

You should be able to answer “Yes” to each question.

1. Is the topic interesting enough to read about, and then work on for the next couple months?	2. Can I find at least 3 sources of written information on the subject?
3. Can I measure changes to the important factors (variables) using a number that represents a quantity, such as a count, percentage, length, width, weight, voltage, velocity, energy, time, etc.? Can I measure a factor (variable) that is simply present or not present? For example: - Lights are ON in one trial, lights are OFF in another trial	• Can I design a “fair test” to answer my question? In other words, can I change only one factor (variable) at a time, and control other factors that might influence my experiment, so that they do not interfere?
4. Is my experiment safe to perform?	5. Do I have all the materials and equipment I need for my project, or will I be able to obtain them quickly and at a low cost?
6. Do I have enough time to do my experiment more than once before the Fair?	7. Does my project meet all the rules and requirements I agreed to on the registration form?

