

NAME \_\_\_\_\_

## Narrowing Your Topic Down to a Question<sup>i</sup>

1. Now that you have a topic, use the following guidelines to see if it is a topic you can work with.

**Check off the criteria your topic fulfills.**

- Are you interested in the topic?
- Can you do a test to find an answer to a question?
- Can do it with only a little help from parents, teachers and friends?
- Does it harm people or animals, including yourself?
- Does it make you think of new questions you want to explore?

2. <sup>ii</sup>Now try to focus on one aspect of one topic in particular by asking a question that you're curious about. For example:

- Botany: What makes plants droop?
- Physics: Why are some people's glasses so thick?

**List five questions that are related to your topic and circle the one that is most promising or interesting to you.**

- 1.
- 2.
- 3.
- 4.
- 5

3. Now use this idea, but be more specific. What would you really like to figure out or show? Think of the most exact information you can discover and be very specific. In science, information has to be exact if it's really going to matter. For example:

- Botany: What effect does temperature have on the transpiration rate of a plant?
- Physics: What effect does the thickness of a lens have on the angle of refraction?

In order to get there, we need to brainstorm a few more steps. Starting with the question you chose, answer the following questions:

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4. What materials are readily available for doing an experiment on (insert topic) \_\_\_\_\_?
  
5. What is the scientific concept behind this question? (You may have to do research to find out.)
  
6. What are all the factors that would influence this concept?
  
7. Then pick one from your list above: (independent variable) \_\_\_\_\_
8. How could I change this factor in order to have something to compare?
  
9. How can I measure the response of (dependent variable) \_\_\_\_\_ to the change?

10. Now write your question in the form:

**What effect does (independent variable from #7) have on (dependent variable from #9)?**

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<sup>i</sup> Dr. Marszalek , Mrs. Mazanek , and Mrs. Mohr of Twin Groves Middle School, Buffalo Grove, Illinois 60089, can be found at <http://www.twingroves.district96.k12.il.us/ScienceInternet/NarrowingTopic.html>

<sup>ii</sup> Janice Van Cleave's Science Fair Handbook at <http://school.discovery.com/sciencefaircentral/scifairstudio/handbook/stepstotopic.html>