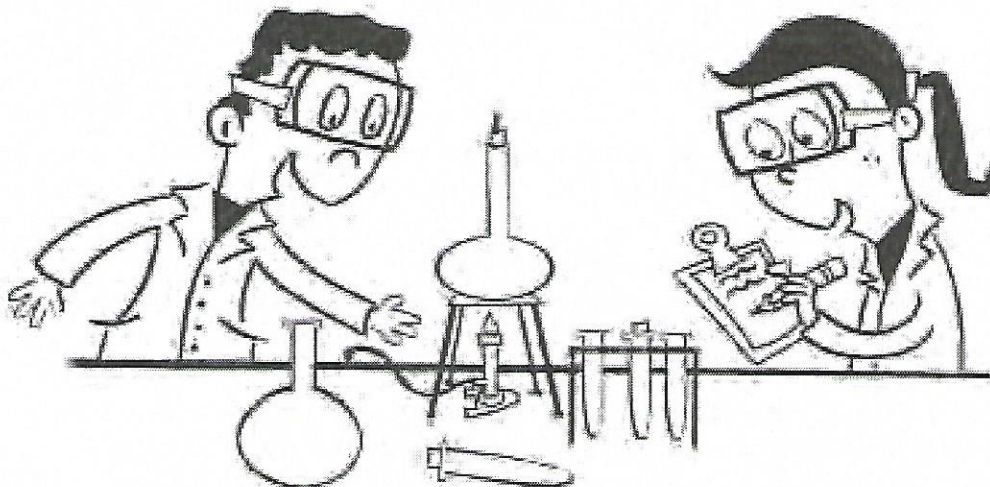


# Steps to the Scientific Method

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Your teacher has just announced that there's going to be a science fair this year, and that your project needs to follow the scientific method—the step-by-step process that scientists follow when they perform an experiment. Where should you begin? Step One: Don't panic! Step Two: Check out the cheat sheet below. It outlines the scientific method.



## 1. Make an observation. Then, propose a research question based on your observation.

A good science-fair project question is testable and measurable. For example: *Which brand of bubble gum keeps its flavor longest?* You can test this by chewing different brands of gum and measuring how long the flavor lasts for each brand. The best questions are usually ones that you have a genuine interest in answering.

## 2. Identify the variables.

A science-fair project involves *variables*, or things that change or could be changed. There are two types of variables: independent and dependent variables. An *independent variable* is one that you change on purpose. For instance, if you were experimenting to find out which brand of gum keeps its flavor longest, you may choose to test three different brands of bubble gum. The *dependent variable*, or the factor that responds to a change in the independent variable, would be the amount of time that the flavor lasts.

You'll also want to identify your *constants*, or things that will stay unchanged. For instance, you might test only bubble gum that is sugar free. And to make sure that the amount of gum you test is equal each time, you might choose to test only sticks of gum—not gumballs.