



## Conduct Your Experiment

With your detailed procedure in hand, you are almost ready to start your experiment.

Before beginning, prepare a data table to help you collect your data. A data table will ensure that you are consistent in recording your data and will make it easier to analyze your results once you have finished your experiment.



Sample Data Table

Trial	Faucet Opening (the Independent Variable)	Water Flow (the Dependent Variable)
#1	1/4 open	[Write your data in this column as you make measurements during your experiment.]
#2	1/4 open	
#3	1/4 open	
#4	1/2 open	
#5	1/2 open	
#6	1/2 open	
#7	3/4 open	
#8	3/4 open	
#9	3/4 open	
#10	Fully open	
#11	Fully open	
#12	Fully open	

Note: Some experiments will require additional columns for two or more dependent variables.

It is also important to take very detailed notes as you conduct your experiments. In addition to your data, record your **observations** as you perform the experiment. Write down any problems that occur, ideas that come to mind, or interesting occurrences. Be on the lookout for the unexpected. Your observations will be useful when you analyze your data and draw conclusions.

We suggest that you get a **project notebook** so that all your information is kept in one place (don't use loose-leaf notebooks, you want to make sure all your information stays together). The data that you record now will be the basis for your research paper and your conclusions so capture everything in your **project notebook**, including successes, failures, and accidents.

If possible, take **pictures** along the way, these will later help you explain what you did and enhance your display for the science fair.

Be as exact as possible about the way you conduct your experiment, especially in your measurements and note taking. Failures and mistakes are part of the learning process, so don't get discouraged if things do not go as planned the first time. You should have built enough time in your schedule to allow you to repeat your test a couple of times.

In fact, it's a good idea to do a quick **preliminary run** of your experiment. Show your preliminary data to your mentor or teacher, and make revisions to your procedure if necessary. Often there are glitches in the procedure that are not obvious until you actually perform your experiment--this is normal.

## Your Assignment

Have fun and be safe while conducting your experiment!

## Grading Yourself

What Makes for a Good Experiment?	For a Good Experiment, You Should Answer "Yes" to Every Question
Are you collecting your data using a data table?	Yes / No
Are you taking detailed notes about your observations and recording them in your project notebook?	Yes / No
Are you being consistent, careful, and accurate when you take your measurements?	Yes / No
Are you being careful to insure that your controlled variables remain constant so as not to affect your results?	Yes / No
If you ran into any unexpected problems, have you adjusted your procedure accordingly?	Yes / No
If you are doing an engineering or programming project, have you involved some of your targeted users in the testing of your prototype?	Yes / No

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