

How to Write Controlled Variables in Science

What are controlled (constant) variable?

Variables can sometimes affect an experiment when you do not want them to. In order for you to conduct a proper investigation, you have to set up the right environment that is as controlled as possible. You need to make sure that you control the effects of as many factors, or variables, as you can so that you can prove your hypothesis. Some of these variables will stay the same throughout the whole investigation. These are the **controlled** or **constant variables**. They do not get to play along in the experiment, even though they may be indirectly part of it.

Ways to improve my Controlled (constant) Variables:

Review the grading rubric below for the difference between accomplished, developing, and not met.

	Accomplished	Developing	Not Met
Controlled (constant) Variables	The researcher described the variables being kept the same in the experiment and provides explanation for controlling them.	The researcher described the variables being kept the same in the experiment.	The researcher did not describe the variables being kept the same in the experiment.

Controlled (constant) Variables samples with Mrs. Weimer's feedback

1. Our controlled variables include the same location, same types of materials for shoes, same amount of materials, same type of terrain and if possible, the same climate. It is necessary to keep controlled variables because an experiment could become very confusing and time-consuming if there is more than one variable being manipulated.
2. Same tester, same materials "rubber baseboard, string/twine, canvas fabric, SOS/Brillo pad, rubber tubing, sponge". Same location, method of testing.
3. Materials for the sole of the shoe.

Comment [s1]: Rating of Accomplished. Researcher clearly provides the items that need to be kept constant through the experiment so that only one variable is being changed. The explanation for controlling these items is provided.

Comment [s2]: Rating of Developing. Researcher clearly provides the items that need to be kept constant through the experiment but does not explain why these need to be controlled.

Comment [s3]: Rating of Not Met. Researcher provides the manipulated (independent) variable instead of the items that need to be controlled.