

How to Write a Manipulated Variable in Science

What is a manipulated (independent) variable?

Well... a variable, in science, can be anything. More specifically, in an experiment, a variable can cause something to change, be the result of something that changed, or be controlled so it has no effect on anything.

Variables that cause something to change are called **independent variables** or **manipulated variables**. Whether you choose to call it an independent variable or a manipulated variable depends on the term you pair it with.

Ways to improve my Manipulated (independent) Variable:

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

	Accomplished	Developing	Not Met
Manipulated (independent) Variable	The researcher described the variable being changed in the experiment and provides explanation for the change	The researcher described the variable being changed in the experiment.	The researcher did not indicate the manipulated variable in the experiment.

Manipulated (independent) Variables samples with Mrs. Weimer's feedback

1. We will manipulate the type of material used for the sole of our shoe. This is important because we want to know what type of material **will** create more traction between shoes and land, so will be able to run faster.
2. The type of **material** for the sole will be changed.
3. We are changing the **springiness**, traction, flexibility, and comfort.

Comment [s1]: Rating of accomplished. Researcher has clearly provided the item changed and reason for the change.

Comment [s2]: Rating of developing. Researcher clearly states the item changed but does not provide the reason for the change.

Comment [s3]: Rating of not met. Researcher has not explained what is being changed or provided a reason for the change.