

## Roller Coaster Cart Experiment

In this experiment, the scientist is testing to see if changing the slope of the hill will affect how fast the car goes. Which one is the independent variable and which one is the dependent variable?

The independent variable (IV) is the variable that the scientist is changing and the dependent variable (DV) is the variable that the scientist is measuring. The independent variable affects the dependent variable, but the control variable is help constant so that the independent variable is the only variable being tested. There are often multiple control variables in an experiment, as everything other than the IV and DV must be held constant.



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### Independent Variable

[Slope of the I-Track](#)

Independent variable is the variable in an experiment that is manipulated by the scientist in order to see if it leads to different effects.

### Dependent Variable

[D-Shaped Stop Watch](#)

The dependent variable in an experiment is the variable that is measured or the result.

### Independent variable affects the dependent variable

[The Slope of the I-Track determines the D-Shaped Stop Watch Time](#)

The independent variable is changed by the scientist to see if the dependent variable is affected. In any experiment, the scientist is trying to test if changing one thing causes the result to be different. So what is being changed is the independent variable and the result or outcome is the dependent variable.

### Control (Constant) Variable

[Constant C-Carts](#)

The control variable is the variable the stays constant in the experiment. There are often many control variables in an experiment, because the goal is to keep everything other than the IV and DV constant.

### Other Variable:

#### Kids

[Size of the Kids](#)

The size of the kids could affect the time it takes to travel the track length. If in one set of cars had high school kids, and the other set had 1st graders, the cars with high school kids would go slower. Do you think it's important to keep the size of the kids constant?