

## Experimental Design Diagram Keyword Definitions

**Independent Variable:** It is a variable that stands alone and isn't changed by the other variables you are trying to measure. For example, someone's age might be an independent variable. Other factors (such as what they eat, how much they go to school, how much television they watch) aren't going to change a person's age. In fact, when you are looking for some kind of relationship between variables you are trying to see if the independent variable causes some kind of change in the other variables, or dependent variables.

**Dependent Variable:** It is something that depends on other factors. For example, a test score could be a dependent variable because it could change depending on several factors such as how much you studied, how much sleep you got the night before you took the test, or even how hungry you were when you took it. Usually when you are looking for a relationship between two things you are trying to find out what makes the dependent variable change the way it does.

**Hypothesis:** It is a tentative explanation for an observation, phenomenon, or scientific problem that can be tested by further investigation. It is an idea based on observations without experimental evidence. It is usually a statement such as: "if ... then...".

**Levels of the IV:** The different levels of IV you are testing.

**Repeated trials:** The times you repeat the experiment to ensure you get the same results.

**Constants:** The things that do not change during your experiment.

# Experimental Design Diagram (EDD) with Explanations

## For Grades 3-6

5	<b>Title</b>		
	The effect of the IV on the DV		
6	<b>Hypothesis</b>		
	If the IV is _____ then the DV will _____		
1	<b>Independent Variable (IV)</b>		
	The thing 'I' change		
3	<b>Levels of the IV</b> (Label the level that will act as control, if there is one)	Divide this into how many types of IV you have and fill in the amounts	
		ex. 0 ml	10 ml
4	<b>Repeated Trials</b>		
2	<b>Dependent Variable (DV)</b>		
	The 'data' you will collect - measurements		
7	<b>Constants</b> (Be sure to include measurements where needed)		
	List in bullet format all the things that must stay the same to make the test fair. Include units when possible.  Example:  <ul style="list-style-type: none"> <li>Temperature</li> <li>Distance</li> <li>Location</li> </ul>		
<b>(The numbers in the left column refer to a suggested order in completing the EDD)</b>			