

Ann's Scientific Inquiry Investigation Design Diagram

Before Ann started her experiment, she completed an **Scientific Inquiry Investigation Design Diagram** that would help her think through her experiment. After reading the summary of Ann's experiment, fill in the diagram the way you think Ann did.

Research Project Title: Enhancing Jalapeno Pepper Production

Research Question: How will adding different concentrations of a soil microbial enhancer affect the production of jalapeno pepper plants?

Hypothesis: If higher concentrations of the soil microbial enhancer are applied, then the plants would produce more peppers.

Independent Variable: The different amounts of the soil microbial enhancer.

Levels of IV:	0% (control)	10%	20%	30%
Number of Trials:	10 plants	10 plants	10 plants	10 plants

Dependent Variable: general health (healthy or thriving), number of peppers and quality of peppers (1-3 scale).

Constants or controlled variables: Amount sunlight, type of plant, amount of water, number days, same chemical

Potential Flaws in Design: Answers will vary

*Levels of IV or Independent Variable will be how many changes you are making to the variable. For example, If you are changing the angle of a ramp you could have 0°, 45° and 90°. Zero degrees may be your control. Not all experiments will have controls.

* Number of trials or test subjects. This is where you write how many you will have in each experimental group or how many times you will run the experiment. You should have the same number for each level of the independent variable. If you are 10 trials down a ramp, then you would write 10 under each. Remember it is important to have a large testing group or trials to get more valid results.