

## Sample Completed Experimental Design Diagram

**Question:**

*What is the Effect of Fertilizer on Plant Height?*

**Hypothesis:**

*If the amount of fertilizer is increased, then the average plant height will increase.*

**Independent Variable (IV):** *Amount of fertilizer*

| Levels of the IV<br><small>(Label the level that will act as the control, if there is one)</small> | <i>0 grams of fertilizer per liter of water<br/><br/>(Control)</i> | <i>5 grams of fertilizer per liter of water</i> | <i>10 grams of fertilizer per liter of water</i> | <i>15 grams of fertilizer per liter of water</i> |
|--|--|---|--|--|
| Repeated trials  | <i>10</i>  | <i>10</i>                                       | <i>10</i>  | <i>10</i>  |

**Dependent Variable (DV):**

*Average height of plant*

**Constants:** (Be sure to include measurements where needed)

**Plant type - 5 cm tall bean plants**

*Planting containers- 500 cm<sup>3</sup> clay pot for each plant*

*Soil amount – 400 cm<sup>3</sup> per pot*

*Soil type – Brand X potting soil used for all plants*

*Water source – tap water*

*Water amount – 100 ml per plant every 3 days*

*Fertilizer type – Brand Y plant food used for all plants*

*Fertilizer application – dissolved in tap water used to water plants*

*Light – all plants are placed on a plant cart, 50 cm below 100-watt incandescent light bulbs*

*Temperature – 30 degrees C*