**Making Data Tables**

**Components of a Data Table:**

1. **Title:** The title describes the variables and what is being measured.

Make sure to capitalize the Title.

Ex. The Effects of Fertilizer Type on Plant Growth

Independent variable

Dependent variable

1. **Variables and Control Group:** Every data table shows the relationship between the independent and dependent variable (Remember there is only 1 independent variable). The names of the variables are usually the headings of the columns or rows of your table. You need to also include the control group.

Ex. **Independent Variable:** *Type of Fertilizer*

**Dependent Variable:** *Average Height of Plant (cm)*

**Control Group:** *No fertilizer*

1. **Measureable Units:** Make sure to include units for any numbers used.

Ex. **Dependent variable unit:** *Centimeters (cm)*

1. **Data:** Make sure to include quantitative and qualitative data if applicable.

Ex. **Quantitative data:** 12-cm (Height of plants)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Effects of Fertilizer on Plant Growth | | | | |  |  |
| **Type of Fertilizer** | **Average Height of Plants (cm)** | | | | | | | |
| Day 1 | | Day 2 | | Day 3 | | | Average |
| Fertilizer A | *10-cm* | *Plant is green and firm* | *12-cm* | *Plant is green and firm* | *14-cm* | *Plant is green and firm* | | *12-cm* |
| Fertilizer B | *10-cm* | *Plant is green and firm* | *15-cm* | *Plant is yellowish-green and firm* | *20-cm* | *Plant is yellowish-green and firm* | | *15-cm* |
| No Fertilizer | *10-cm* | *Plant is green and firm* | *11-cm* | *Plant is green and firm* | *13-cm* | *Plant is green and a little wilty* | | *11.25 cm* |

**Qualitative data:** Plant is green and firm

**Setting Up the Data Table:**

1. Using a ruler draw a table leaving enough spaces for all of your data.
2. Write your title identifying the variables at the top of the data table.
3. Label the column on the left with the independent variable
4. Label the columns to the right the dependent variable. Remember to include enough space to record quantitative and qualitative data if applicable.
5. If you plan to take data regularly (every minute, hour, day, etc.), plan to show those times in your data table.
6. Collect your data during your investigation and record it in the appropriate box.
7. Check data table for completeness or errors.

**Practice:** *Make a data table of the following investigations. To help you, first identify the independent and dependent variables.*

**Investigation 1:** Isaac wanted to know if the number of homework assignment completed in a science class affected a student’s science grade (percentage %) on average. He collected the following data:

25 assignments completed = 95% Independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

21 assignments completed = 89%

17 assignments completed = 75% Dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15 assignments completed = 65%

8 assignments completed = 50%

**Investigation 2:** Tonya measured the heart rate (measured in beats per minute) for different types of activities (running and walking). She did 3 trials and averaged the data for each activity. She collected the following data:

Running: 162, 168, 174, avg: 168 Independent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Walking: 110, 115, 108, avg: 111

No Activity: 68, 72, 70, avg: 70 Dependent variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_