**TERMINOLOGY**

**Measured**

**One attribute**

**Frequency**

**Tally**

**Frequency charts**

**Bar graphs**

**Histograms**

**Circle (pie) charts**

**Mean, median, mode**

**Average**

**Middle**

**Frequently**

**Relationship , two**

**Two attributes**

**Independent (x - axis)**

**Dependent (y-axis)**

**Ordered pairs**

**Scatter plots**

**Two column charts**

key words

**VARIABLE**: an unknown value/attribute that can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ONE-VARIABLE DATA**: gives the measures of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Counts the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of occurrences for possible values of the variable

Often displayed as:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Analyzed using: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,   
and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, as well as range, variance, and standard deviation.

***Mean***: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a set of one-variable data

***Median***: the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ value in a SORTED set of one-variable data

***Mode***: the most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurring value in a set of   
one-variable data

***Correlation***: measures the strength of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between   
\_\_\_\_\_\_\_ variables

**TWO-VARIABLE DATA**: gives the measures of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Compares the values of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   
variables

Often displayed as:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Analyzed using: correlations, linear regression, and non-linear regression (more to come…)

**IDENTIFYING SITUATIONS OF ONE AND TWO VARIABLE DATA**

Ask yourself: 1. What is this information measuring?

2. How can this information be displayed?

3. How can this information be analyzed?

***Example 1*** State whether each situation involves one-variable or two-variable data. **Justify** your answer.

1. Noah researches annual hours of sunshine in Canadian cities.
2. A study compares the amount of time people spend watching TV and the amount of time reading.

**TYPES OF DATA**

**Categorical Data**: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** data that is arranged into categories

Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_

**Discrete Data**: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** data that is specific and can be counted (integers)

Examples: \_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Continuous Data**: **\_\_\_\_\_\_\_\_\_\_\_** data that can hold any value

Examples: \_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_

Discrete data is \_\_\_\_\_\_\_\_, continuous data is \_\_\_\_\_\_\_\_\_\_\_\_.

**KEY WORDS**

Non-numerical

Favourite colour

City

Sports team

gender

Numerical

Age

Class size

money

Numerical

Weight

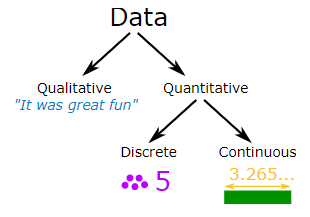
Height

Temperature

time

Counted

measured





**DISPLAYING DATA**

|  |  |
| --- | --- |
| **BAR GRAPH** | **HISTOGRAM** |
| Shows relative sizes of different results:   * One variable data * Shows frequency of each data * Discrete or categorical data | Shows frequency of a **RANGE** of data values   * One variable data * Groups numbers into ranges. * Used for **continuous data** |
|  | |
| **PIE CHART** | **SCATTER PLOT** |
| * One variable data * Shows proportion of each data value * Used for **categorical data** | Show the relationship between two sets of data.   * Two variable data * Shows two pieces of info for each item * Used for **discrete or continuous data** |

**DECIDING WHICH GRAPH TO DRAW**

Ask yourself:

1. Is it one or two variable data?

2. What type of data is it?

**Example 1:**

|  |  |
| --- | --- |
| **$ Spent**  **on Lunch** | **Frequency**  **(# of days)** |
| 0 to 2 | 6 |
| 2 to 4 | 4 |
| 4 to 6 | 8 |
| 6 to 8 | 3 |
| 8 to 10 | 2 |

a) Does the table show one or two variable data? \_\_\_\_\_\_\_\_\_\_\_\_

(*Note: Frequency is not a variable.)*

b) Graph the table.

|  |  |  |  |
| --- | --- | --- | --- |
| A | B | C | D |
| 4 | 12 | 10 | 2 |

**Example 2:** Here is how many students got each grade in recent test:

a) Does the table show one or two variable data? \_\_\_\_\_\_\_\_\_

b) Graph the table.

**Example 3:** 145 people were asked “Which is the nicest fruit?”:

a) One or two variable data? \_\_\_\_\_\_\_\_\_\_

b) Graph the table.

**Example 4:** For a class project, Dylan surveyed students about their part-time jobs. The data is shown below.

|  |  |  |
| --- | --- | --- |
|  | **Hours Spent at Part-Time Job** | |
| **Student** | **Week Hours** | **Weekend Hours** |
| Anya | 5.0 | 12.5 |
| Ellen | 8.0 | 12.0 |
| Fiona | 17.0 | 8.0 |
| Aaron | 0.0 | 16.5 |
| Leila | 10.0 | 16.0 |
| Mason | 9.5 | 8.0 |
| Petra | 15.0 | 6.0 |

1. What type of graph would be best to show how many   
   hours each student worked on the weekend?
2. What type of graph would best show a possible relationship between weekday and weekend hours?