

Quarter 2 Scientist Challenge

“Data” Study Guide

**Remember to continuously review The Scientific Method Study Guide
– you are responsible for ALL the material on it!*

Data: pieces of information that are collected in order to solve science questions

- Can be information you collect during an experiment using the scientific method
- On PSSAs – you will be given various forms of data and will be expected to know how to interpret that data in order to correctly answer a question

Types of Data:

- **Quantitative Data:** information recorded as counts or measurements; quantities of something; uses numbers, has units etc.
 - **Mean:** the “average”, calculated to provide a single value from replicate data
 - Add the values from each trial
 - Divide by the number of trials
- **Qualitative Data:** measures the qualities, such as color or shape; expressed using words (Language), codes, drawings or symbols
 - **Mode:** the value or item that appears most often in the data

Graphs Show Patterns in Data:

- **Graphs:** a visual way of showing the data
 - Are created from the data to show the patterns in the data
 - Then the graphs are analyzed to determine if the results matched the hypothesis

Analyzing the Data

- **Bar Graphs** for amounts
- **Line Graphs** for measurements that change over time
- **Circle Graphs** to show how parts make up a whole