

# Scientific Research Project Vocabulary

**Abstract** - a brief summary of the important parts of the investigation

**Analyze** - to study or determine the nature and relationship of the various parts of the investigation

**Anomalous Data (outliers)** - an observation that is well outside the expected range of values in the study

**Bar Graph** - a graph consisting of vertical or horizontal bars whose lengths are proportional to amounts or quantities

**Conclusion** - a summary of the key points and a statement of opinion or decisions reached about the study

**Constant Variable** - a variable that is not changed during experimentation

**Controlled Variable** - a constant variable that is part of the experiment and is not being tested but is used for comparison

**Data** - factual information, especially information organized for analysis or used to reason or make decisions

**Data Analysis (interpretation)** - making sense of observations and data collected during an experiment using appropriate measures of central tendency (mean, median, mode, range) and by looking at patterns and relationships between the independent variable and the dependent variable

**Data Table** - organizes data into rows and columns

**Dependent (Responding) Variable** - the event studied and expected to change when the independent variable is changed and that can be observed (qualitative) and measured (quantitative)

**Extraneous Data** - data that is not relevant to the specific question or area being analyzed

**Hypothesis** - a statement that explains or makes generalizations about a set of facts or principles, usually forming a basis for possible experiments to confirm its viability

**Independent (Manipulated) Variable** - the variable which an experimenter deliberately manipulates in order to observe its relationship with some other quantity, or which defines the distinct conditions in an experiment

**Line Graph** - a diagram of lines made by connecting data points which represent successive changes (usually over time) in the value of a variable quantity or quantities

**Observations** - detailed examination of phenomena related to the investigation

**Operational Definition** - a description of an experimental procedure for the translation of a variable into measurement or numeric value

**Procedure** - a step-by-step set of instructions written to conduct an investigation and to identify what data will be collected and how it will be analyzed

**Scientific method** - a method of research in which a problem is identified, relevant data are gathered, a hypothesis is formulated from the data and the hypothesis is empirically tested

**Variable** - a factor or condition that is subject to change, especially one that is allowed to change in an experiment to test a hypothesis