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| Descriptive Investigation* Collecting data that measures or describes objects or events
* It has a question
* **No** hypothesis or controlled variables
 | Comparative Investigation* Observing and collecting data to find similarities and differences between two objects or events
* Includes hypothesis
 | Experimental Investigation* Designing a fair test using a procedure with variables & controls to answer a question or problem
* Uses ALL steps of the scientific method
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| Scientific MethodOrganized way to answer a science question/problem with a hypothesis, experiment, variables, multiple trials, data collection, analysis, conclusion | HypothesisEducated guess that can be tested to answer a scientific question or problem; an idea that can be tested by experiment or observation | TheoryA well-established, reliable explanation that has been tested in many conditions by multiple people |
| Independent VariableVariable that is manipulated during the experiment; it goes on the x-axis(**MIX**: Manipulated, Independent, X-axis) | Dependent VariableResponds to changes in the independent variable and is measured; it goes on y-axis (**DRY:** Dependent, Responding, Y-axis) | Controlled VariableVariable that is held constant during an experiment |
| Metric SystemMeasurement System that uses metric prefixes to represent powers of 10 (like kilo, hecta, deka, deci, centi, or milli) | Water DisplacementMethod used to find the volume of an irregular object by placing the object in water and measuring how much the water volume goes up | TableUses columns and rows to organize data |
| Bar Graphhttp://sr.photos2.fotosearch.com/bthumb/CSP/CSP958/k9589268.jpgUses bars to show or compare data in different categories or groups  | Circle Graphhttp://t2.gstatic.com/images?q=tbn:ANd9GcRdTkMZL07P85zKw8oS0FFz8hpTEpMg2oMV1q7M3rbtH3yj9lZbUses a circle to show parts of a whole (percents)  | Line GraphShows trends or changes in data, often over timehttp://www.myschoolhouse.com/clipart/LineGraph.gif |
| MeanThe arithmetic average; add the numbers and divide by the numbers of numbers | MedianThe middle number when arranged in order from least to greatest | ModeThe most frequent number in a list of numbers |