What are we measuring?
Whether the statistic is significant (do these results tell us something or could they have been produced by mere random chance?)

Data
- Assumed distribution: Normal
  - Assumed variance: Homogeneous
    - Typical Data: Ratio or Interval
      - Data set relationships: Independent
        - Usual central measure: Mean
  - Assumed variance: Any
    - Typical Data: Ratio or Ordinal or Nominal
      - Data set relationships: Any
        - Usual central measure: Median

Parametric
- How many treatment variables?
  - Testing whether a car is more often heads is testing one treatment, testing whether fertilizer, soil, genetics, etc. affect corn stock growth is testing two or more factors (treatments)
- Number of categories (What are you trying to compare?)
  - Test data vs expected data? (t-test)
    - Test the means of different samples if rain, sun, or snow if (treatment variable was weather (ANOVA))
- Paired or unpaired?
  - (e.g., one car tested with fuel A and B vs two of the same cars, one tested with fuel A, and another tested separately with fuel B)
- One-way ANOVA
  - Paired: t-test for paired data
    - Unpaired: t-test for unpaired data
- Two-way ANOVA

Non-Parametric
- How many groups?
- Independent or repeated Measures?
  - Repeated measure designs are when the participants do all conditions, or receive the treatment of the experiment. Independent measures are when you have separate groups
  - Mann-Whitney test
  - Frieden's test
  - Wilcoxon test
  - Kruskal-Wallis test

One-sample test
- Mann-Whitney test
- Frieden's test
- Wilcoxon test
- Kruskal-Wallis test
- Welch ANOVA