Inferential Statistics (Quantitative Data)
Are you looking for a relation between two variables (correlation - there's an association between them) or if a change in one leads to a change in the other (manipulation)?

Correlation
- Size, direction, explanation
- t test of r vs. 0 (df = N – 2)

Relation
- Prediction

Regression

Manipulation
- Identify your independent variable, levels of treatment, and dependent variable.
- How many groups are there?

1 sample t-test (df = N – 1)

How many groups?
- 3 or more
- 2

1 way ANOVA (df = df_{between} / df_{within})

Independent samples t-test (df = N – 2)

Chi Square
(table of counts - observed vs. expected values)

Do you have Qualitative data?

Repeted Measures ANOVA (Focus on effect of time/treatment)

Steps to Significance Testing:
1. Define H₀ and H₁.
2. Pick your test, α, 1-tailed vs. 2-tailed, df. Find critical value in table.
3. Draw your diagram. Mark the rejection regions.
4. Calculate your test statistics (t or F)
5. Make a decision (retain or reject).
6. Write out your conclusion, in words and statistics (use your hypotheses).

Table t value (critical t) Table t value (critical t)

A Statistical Decision Tree
See also: http://bama.ua.edu/~jleeper/627/choosestat.html