For hypothesis testing, to start we first need to formulate a null hypothesis and an alternative hypothesis. Our null hypothesis is the hypothesis in our experiment that has no significant statistical difference/effect compared to our observations, and our alternative hypothesis is the opposite our null. The alternative hypothesis will have a significant statistical difference/effect.

Our population parameter is the specific parameter/observation that we are testing for in our experiment. Our sample estimate is the corresponding value calculated from our specific sample.

Test statistic is a value calculated from the sample data that is used to test the null hypothesis and is dependent on the specific statistical test that we use such as chi square or binomial test.

Our null distribution is our distribution of the test statistic if the null hypothesis is true.

Significance level is the probability of rejecting the null hypothesis when it is true. This is based on the alpha value which for our purposes is usually 0.05.

The p-value is the probability of observing a test statistic as extreme or more extreme than the one calculated from the sample. If the p-value is less than the significant level (a (0.05)), the null hypothesis is rejected and the alternative hypothesis is accepted.