		Food A	Food B	Food C	Row Totals of Obs. only
Male	Obs				
	Exp. (calc)				
	Obs-Exp				
	$(O-E)^2$				
	$(O-E)^2/E$				
	X^2				
Females	Obs				
	Exp. (calc)				
	Obs-Exp				
	$(O-E)^2$				
	$(O-E)^2/E$				
	X^2				
	Column Totals of obs.				Grand Total

Obs/O = Observed, data you collected
Exp/E = Expected data of Null Hypothesis

How to Calculate Expepcted
Exp. = (Row Tot. X Column Tot.) / Grand Tot.

This is an algorithim to re-allocate the correct # of observations amoung the test groups (M/F), but do so while still keeping the same ratio between the categories (A/B/C), which is the null hypo, ie, that the test groups do NOT differ in their distribution amoung categories.

How to X^2
$X2 = \Sigma (O-E)^2/E$

This is an algorithim to calculate the mean/average difference of the observed from the expected. If the difference is great, there will be a large value of chi and it suggests the null is incorrect. If on the other hand, the difference is small then it suggests the frequency distribution of observed is not very different from the null, which states that the ratios across categories are equal.

Degrees of Freedom = (Row - 1)(Col. - 1), thus = 2.