Summary of Basic Statistical Tests in R

Type of data	What you want to know…	If data are…	then, in R, do…
1 numerical vector	normal distribution?		`shapiro.test(), ks.test()`
	equal probabilities?	counts	`chisq.test()`
	location of mean?	normal	`t.test()`
		non-normal	`wilcox.test()`
2 independent vectors	same distribution?		`ks.test(), w jitter`
	same means?	normal	`t.test()`
		non-normal	`wilcox.test()`
	same variances?	normal	`var.test()`
2 paired vectors	same means?	normal	`t.test(paired = T)`
		non-normal	`wilcox.test(paired = T)`
	functional relation?	normal	`lm()`[1]
	correlated?	normal	`cor.test()`
		non-normal	`cor.test(method='spearman')`
1 numerical vector + 1 factor	different group means?	normal, same variances	`lm()`[1], `anova()`[2], `aov()`
		different variances	`kruskal.test()`
2 numerical vectors + 1 factor	different means? interactions?	normal	`lm()`
2 vectors of counts	different proportions?		`chisq.test()`, `fischer.test()`

[1]In linear regression, watch out for outliers and nonlinear covariates.
[2]In anova with factor levels > 2, multiple comparisons inflate chances of a significant result; use Bonferroni correction or Tukey's HSD.

(adapted from Lab Syntax lecture on Baayen ch. 4 by Joan Bresnan, February 2011)