

Exercise 1

- Three sword fighters are comparing their swords. Obi Wan Kenobi claims that light sabers are the best, Beatrix Kiddo swears by Hattori Hanzo katanas and Frodo Baggins prefers Elvish daggers.



Exercise 1

- Five different people are randomly assigned to each weapon (15 people all together) and sent out to battle.
- The number of kills they achieve are listed in the table to the right.
- State the null and alternative hypotheses and perform an ANOVA on the data.
- What are your conclusions?
- If you reject the null hypothesis, then conduct post-hoc tests (Scheffé) to determine the best sword.

Light Saber	Katana	Dagger
6	6	0
8	5	4
5	9	0
4	4	1
2	6	0
T = 25	T = 30	T = 5

Exercise 2

- The heights (cm) of men, women and hermaphrodites are given in the table.
- Plot histograms of each groups' heights.
- If we wanted to compare these groups what assumption(s) of the ANOVA does/do these data violate?

Males	Hermaphrodites	Females
178	165	164
177	179	164
180	178	163
178	166	165
180	178	164
178	162	162
177	178	165
178	163	164
176	177	163
176	176	163
177	164	164
177	163	164
179	180	166
179	164	165
179	164	162
178	179	165
178	177	166
179	165	163

Exercise 3

- Given the data on the right, use your favourite software to compute both an independent measures t-test and an independent measures ANOVA (as in today's lecture) and verify that $F = t^2$.

Group 1	Group 2
5	9
4	7
7	7
1	7
6	5
7	8
6	8
6	9
5	11
4	7