



Classification Answers

Exercise I

Kingdom	Plantae
Phylum	Angiosperms
Class	Eudicots
Order	Ericales
Family	Ericaceae
Genus	Calluna
Species	vulgaris

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Partners include: Environment Agency, Natural England, National Trust, Peak District National Park Authority, United Utilities and Yorkshire Water.



Exercise 2

1. Groups 1: Class
 2: Order
 3: Family
2. Plant A is *Calluna vulgaris* as the other two are in the same genus so placed in a different oval to *C. vulgaris*.
3. *Erica tetralix* and *Erica cinerea* are the most closely related as they are in the same genus.
4. Cross breed the two plants and then try to breed the offspring; if they are the same species, their offspring will be fertile.
5. Bilberry should have a dot in oval 3 (the Ericaceae family) like the other 3 but should not share a smaller oval with any of the others.

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Statistical exercise

	Average per cent cover	Standard deviation
Penguins	17	6.78
Control	5	10.00
Woodhead	0	0.00
Josephs Patch	22	8.72

1. A control is used so that if there is no difference in the average percentage cover of the species on the restored site and the intact site, it is possible to ascertain whether this difference is indeed due to restoration or just due to chance alone. If the control site also has no difference from the intact site then the likelihood is that the similarity is due to chance.
2. Yes there is a significant difference. The averages are different and taking into account the standard deviation, the values do not overlap at all.
3. No there is no significant difference. The averages are close but looking at the standard deviations, there is a large overlap. This stage of the restoration has been successful as there is as much grass cover as the intact site, whereas on the site that has never been treated and the control site there is a significantly lower percentage cover of grass.
4. The control site has the greatest variation in percentage cover (it has the greatest standard deviation at 10). This variation may be caused by other plants covering some of the quadrats, but not others, or more erosion in some quadrats.

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