Effect of system on barley or feed or food on energy content

# Hand in on a Word document via NESS by 4th May

# Aims

* To know what goes in each section of a scientific report
* To practise writing concisely and clearly, but with all relevant detail
* To practise good technique in Word processing (using styles)
* To practise using citations and referencing

# Task

Write up you investigation as a short scientific report as you would for a journal. You need the following sections, which should all be formatted as ‘Heading 1’ in your document

* Abstract
* Introduction
* Method
* Results (note – only one results section – it has been split into 3 for the purposes of marking)
* Discussion
* Conclusion
* References
* Appendix

The PowerPoint will give you more detail as to what will go in each section, and the mark scheme below also gives clear guideline

I do not expect this to be more than two sides of A4. Do not write too much! After writing it – go through and see what words or sentences you can manage without. Make it as few words as possible, but keep readable.

# Mark criteria

This is what I will use – and return with your work. Note that each of the sections do not have equal weighting.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sections/guidance** | **<40** | **40-49** | **50-59** | **60-69** | **70+** | **Criteria/guidance** |
| **Title**  Someone should be able to read the title and decide whether they want to read more of the document. |  |  |  |  |  | * Not ‘assignment 5’ or ‘report’ or ‘barley report’. * Describes the work clearly and concisely |
| **Abstract**  A summary of all aspects of work – someone should be able to read the abstract and get an overview of the work and decide if they need to read more |  |  |  |  |  | * A sentence or two on the intro, aim, method, results and conclusion (can be numbered) * Concise and complete * Someone should be able to read it in isolation and understand |
| **Introduction**  Sets the scene for the work and states the aim |  |  |  |  |  | * Starts off talking about the topic in broad terms/might say why important * Hones in on specific area of interest * Might identify gaps in knowledge … * … which then leads on the aim at the end of intro * Includes citations/references from the literature |
| **Method**  So a scientist in same field, if given the data, can repeat the experiment and analysis |  |  |  |  |  | * Concisely written * Logical order * States relevant information so that work can be repeated * Omits irrelevant information e.g. who did what, that you drew bar chart or calculated means * States type of analysis (e.g. T-test) * Contains all required factors in analysis * Does not mention about manipulation of data or drawing of graphs or testing of normality |
| **Results – graphs**  Should be understood by scientist if you take the graph and caption away from rest of report.  Don’t include graph and table of same data. Graph usually better. |  |  |  |  |  | * Caption should be below graph. Do not include the title provided by software, even if modified * Caption should include Figure number, short description and (n=30) – where n is the number of samples you had (not necessarily 30). If there are error bars state if SE, SD or CI. * Do not write “graph to show” or similar – keep words to minimum, these are unnecessary words * Label your axes and include units if necessary * Wouldn’t usually include graph if no significance – would just state that not significant (in this case though, I want you to because otherwise you will have nothing) * Don’t include info twice i.e. if bar chart don’t need table. |
| **Results – description**  Every graph or table should have a sentence or two drawing the reader to what you think are the most important points, and presenting the statistical evidence in standard format. |  |  |  |  |  | * Concise description of most important points * Include values if appropriate – sensible decimal places * Include statistics: test statistic abbreviation; degrees freedom, P-value category e.g. (T3=3.71; P<0.05) * P value categories are P<0.05; P<0.01 or P<0.001 – or P>0.05 (or NS) * Degrees of freedom should be subscript * Should refer back to relevant figure * Do not write “The results show that” – this is waffle … but “Figure 1 shows” |
| **Results - accuracy** |  |  |  |  |  | * Statistical values should be correct (this has already been assessed on spreadsheet – so not reassessed here) |
| **Discussion**  Explanation of what was found |  |  |  |  |  | * Explains results and compares with the literature * Relates back to the introduction * Includes citations * Do not draw too much attention to your errors or the poor experimental design. Put positive spin on it by suggesting further work carried out in a slightly different way. |
| **Conclusion**  A brief overall concluding statement, usually relates back to title or aim |  |  |  |  |  | * Draws work together * Sensible conclusion based on what has been written above * Does not introduce new ideas, simply summarises |
| **References** |  |  |  |  |  | * 2 or 3 in total required * If referenced should be cited and vice-versa * Using Harvard (see “How to Reference” on subject page of library website, if you can’t remember or “Cite them Rite” |
| **Appendix**  Usually these are not read, so do not put anything in here that is part of the ‘story’ you want to tell. It is just for if someone wants to check the analysis**.** |  |  |  |  |  | * Should be well-organised – with sub-headings in a logical order * In this case – put Excel calculation * Some people want the whole statistical output * Should be correct |
| **Word processing** |  |  |  |  |  | * Use of styles * Do not press enter twice or repeatedly between paragraphs to create a space – create a style that has an automatic space after and before * Consider use of captions and hyperlinks if you want to be clever! |