Lab Reports

Examples for Success
Lab Report Outline

Introduction
• Purpose of the experiments
• Background and context information
• Use information from the lab manual
• Optional: Literature Review or outside references

Materials & Methods
• How was the lab procedure conducted?
• Materials used?
• Methods of testing or observation?
• Be sure to write this section in the past-tense.

Results
• Detailed and concise reporting in paragraph form.
• Tables
• Figures (graphs, charts, drawings)
• Conclusive statement about the results
• Be sure to write this section in the past-tense.

Discussion
• Analysis of the data.
• Why these results?
• Refer back to the information you provided in the introduction (background and context).
• Refer to evidence or research that supports your explanation of “why.”
• See detailed instructor guidelines!

References
• Alpha order
• List ALL sources you cited in the report, including, for example, the lab manual, lab handout, textbook, lecture notes, and any other sources
• APA format
All animals rely on senses of taste and smell to find acceptable food for survival. Chemoreceptors are found in the taste buds on the tongue in humans (Campbell, 2008, p. 30), for example, for tasting food. Flies are able to taste food by walking on it (Dethier, 1963, p. 92).
Somewhere in your lab report you will use information you obtained from the textbook (Starr, Evers, & Starr, 2018, p.41) and from the lab manual (Perry, Morton, & Perry, 2015, p. 23).

References


<table>
<thead>
<tr>
<th>Citing a handout from the instructor</th>
<th>Citing a lecture from the instructor</th>
</tr>
</thead>
</table>
### Tables – good and bad


#### Good Table

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Number of 10 Flies Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>glucose</td>
<td>3.2 ± 1.5</td>
</tr>
<tr>
<td>maltose</td>
<td>7.8 ± 2.3</td>
</tr>
<tr>
<td>sucrose</td>
<td>8.6 ± 2.1</td>
</tr>
<tr>
<td>saccharin</td>
<td>0.2 ± 0.5</td>
</tr>
</tbody>
</table>

Table 1. The average number of flies in each lab group that fed from 0.3M concentrations of each chemical tested. The mean ± standard deviation is shown.
Tables must have labels, captions and legends

Table 4. Population variation in hatch success (mean percent) of unfertilized eggs for females from populations sampled in 1997. N = number of females tested.

<table>
<thead>
<tr>
<th>Population</th>
<th>Mean (%)</th>
<th>Standard Deviation</th>
<th>Range</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaver Creek</td>
<td>7.31</td>
<td>13.95</td>
<td>0-53.16</td>
<td>15</td>
</tr>
<tr>
<td>Honey Creek</td>
<td>4.33</td>
<td>7.83</td>
<td>0-25.47</td>
<td>11</td>
</tr>
<tr>
<td>Rock Bridge Gans Creek</td>
<td>5.66</td>
<td>13.93</td>
<td>0-77.86</td>
<td>38</td>
</tr>
<tr>
<td>Cedar Creek</td>
<td>6.56</td>
<td>9.64</td>
<td>0-46.52</td>
<td>64</td>
</tr>
<tr>
<td>Grindstone Creek</td>
<td>8.56</td>
<td>14.77</td>
<td>0-57.32</td>
<td>19</td>
</tr>
<tr>
<td>Jacks Fork River</td>
<td>5.28</td>
<td>8.28</td>
<td>0-30.96</td>
<td>28</td>
</tr>
<tr>
<td>Meramee River</td>
<td>5.49</td>
<td>10.25</td>
<td>0-45.76</td>
<td>45</td>
</tr>
<tr>
<td>Little Dixie Lake</td>
<td>7.96</td>
<td>14.54</td>
<td>0-67.66</td>
<td>71</td>
</tr>
<tr>
<td>Little Prairie Lake</td>
<td>6.86</td>
<td>7.84</td>
<td>0-32.40</td>
<td>36</td>
</tr>
<tr>
<td>Rocky Forks Lake</td>
<td>3.31</td>
<td>4.12</td>
<td>0-16.14</td>
<td>43</td>
</tr>
<tr>
<td>Winegar Lake</td>
<td>10.73</td>
<td>17.58</td>
<td>0-41.64</td>
<td>5</td>
</tr>
<tr>
<td>Whetstone Lake</td>
<td>7.36</td>
<td>12.93</td>
<td>0-63.38</td>
<td>57</td>
</tr>
</tbody>
</table>

Figures – good and bad

Source: Goodwin, A. Handbook for writing lab reports in biology. Biology Department, Massachusetts College of Liberal Arts.
http://library.mcla.edu/ld.php?content_id=33204076

https://kwlibguides.lonestar.edu/c.php?g=46518&p=295112

Figure 2. Actual heart rate vs. perceived heart rate before, during and after moderate exercise on a rowing machine. The perceived heart rate was calculated by multiplying the rating of perceived exertion (RPE) by 10. N=3. Error bars show standard deviation.
Figures must have labels, captions and legends

You may insert photographs or diagrams to report and describe your lab experiment and results.

Figure 6. Onion skin cell observed through microscope at 40x magnification. Hines, M. 2019, Feb 4.

Resources:


Purdue Owl *Guide to APA Tables*

Purdue Owl *Guide to APA Figures*

UConn *Lab Report Checklist*

Questions?

**Email Melissa!**

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