

# Writing better lab reports

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## Style

If in doubt, follow the style of an actual scientific paper: tone, citation, detail, passive/active voice, captions, graphs.

## Layout Tips

As well as standard essay/assignment formatting, remember:

- Page numbering (bottom/right) except first page.
- New paragraphs indented a bit less than 1 cm
- Title page: Lab number/name, your name plus any lab partners, course and occurrence, lab section, date.
- Captions above tables and below figures, with descriptive title. Minimise extra lines, labels, colour, decoration.
- References will be cited in the text and listed at the end; check the Library website for the different formats, but if in doubt follow consistently the publication standards of your field.

## Structure

The sections of a lab report are not written in the same order they're read! Write them in the order shown below, order them as numbered:

### 4. Materials and Methods

Leave out obvious details here, but include all critical information for replicating the study. Justify the choices you've made.

### 5. Results (sometimes Results and Analysis sections)

Summarise (using tables), don't just dump data here. Analyse the data, showing summary stats and graphs. Describe figures in the text, refer to them (Figure 2), then show them.

### 6. Discussion and Conclusion

Are the results what you expected? Are they within a reasonable level of uncertainty of the predictions? If not, justify or explain. Show why your results matter, and cite literature.

### 3. Introduction

Background, theory, objectives; don't just copy out the lab intro.

### 7. References

Make sure everything here is cited in the body of your report, and vice versa. This is not a bibliography!

### 2. Abstract

Summarise the whole thing in one paragraph, maybe 5 or 6 sentences.

### 1. Title

Informative but concise.

## Audience

Write for the other students in your class (not your lecturer) pretending they're scientists like yourself. Use the passive voice, but don't overdo it. The introduction might be mostly in the present tense, but most of the report will be in the past.

## Non-standard sources

Wikipedia is a good start but it's not a primary source. Web pages are written by people, or maybe organisations; these are the authors. Include the date you accessed them. Lab reports and other unpublished materials are not usually considered primary sources. Discussions, unpublished lectures, and emails are cited but not included in the references (M. Dickison, pers. comm., 9 March 2009).

## Examples of Table and Figure formatting

Table 1 Prediction equations for avian body mass (kg) from bone measurements.

Measurement (mm)	a	X	b	R <sup>2</sup>
Femur diameter	21.25	F	2.41	0.88
Femur circumference	1.88	FC	2.26	0.89
Tibia diameter	12.90	T	1.94	0.87
Tibia circumference	5.99	TC	2.12	0.89

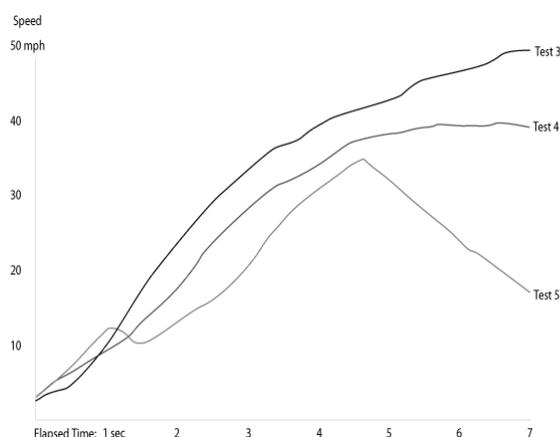


Figure 2 The effect of different substrates on velocity in juvenile chickens (*Gallus gallus*).

*Extra tip: try not to use the word “prove” in your discussion. Scientists don’t “prove” anything: they test hypotheses, which are supported or contradicted and maybe refuted.*

Dickison, MR. 2009. Are kiwi eggs big? [http://www.giantflightlessbirds.com/research/2007/12/are\\_kiwi\\_eggs\\_big.html](http://www.giantflightlessbirds.com/research/2007/12/are_kiwi_eggs_big.html). Accessed 9 March 2009

Dickison, MR. 2009. Writing better lab reports. LSBR01, Learning skills centre, University of Canterbury.

A good references: Knisely, Karin. 2005. *A student handbook for writing in biology* (2nd ed.). Sinauer, Sunderland, Mass.