

Labwork

Things to consider:

- The intellectual engagement students have with the exercise – are they just following recipes on auto-pilot? Practical work should prepare students for final year projects and being independent researchers;
- Risk assessments take a long time to fill in and get approved;
- The Equality Act 2010 (see Diversity section) - is the practical accessible to all students?
- Provide handouts and encourage students to read them before the practical so they know what they are going to be doing. Perhaps introduce a pre-lab test or assignment which requires students to have read the schedule;
- Consider the previous knowledge and skills of the students; and
- Meeting demonstrators before the practical so they know what is expected of them and have an opportunity to ask you any questions about the practical.



Further information

Collis, M., Gibson, A., Hughes, I., Sayers, G., and Todd, M. (2008) **The Student View of 1st year Laboratory Work in the Biosciences – score gamma?** *Bioscience Education* 11. www.bioscience.heacademy.ac.uk/journal/vol11/beej-11-2.aspx

Crocker, K., Andersson, H., Lush, D., Prince, R. and Gomez, S. (2010) **Enhancing the Student Experience of Laboratory Practicals Through Digital Video Guides** *Bioscience Education* 16 www.bioscience.heacademy.ac.uk/journal/vol16/beej-16-2.aspx

Hughes, I. (2004) **Coping strategies for staff involved in assessment of laboratory write-ups.** *Bioscience Education* 3. www.bioscience.heacademy.ac.uk/journal/vol3/beej-3-4.aspx

Luck, M. (2008) **Student Research Projects - Guidance on Practice in the Bioscience.** UK Centre for Bioscience, Higher Education Academy. www.bioscience.heacademy.ac.uk/resources/guides/

MacKenzie, J. and Ruxton, G. (2006) **Experimental Design Skills.** *Bioscience Bulletin* 18, p10. www.bioscience.heacademy.ac.uk/ftp/newsletters/bulletin18.pdf

McClean, S. and Hagan, P. (2009) **Labs, Camera, Action!** *Bioscience Bulletin* 27, p9. www.bioscience.heacademy.ac.uk/ftp/newsletters/bulletin27.pdf

Pannell, J.R. (2010) **Putting Data Ahead of Theory in Biology Practicals.** *Bioscience Bulletin* 31, p 4. www.bioscience.heacademy.ac.uk/ftp/newsletters/Bulletin31.pdf

Bioscience Bulletin Special Issues on Practical Work. *Bioscience Bulletin* 33 (2011) www.bioscience.heacademy.ac.uk/ftp/newsletters/bulletin33.pdf and *Bioscience Bulletin* 26 (2009) www.bioscience.heacademy.ac.uk/ftp/newsletters/bulletin26.pdf

Resources for your students

Barnard C., Gilbert, F. and McGregor, P. (2007) **Asking Questions in Biology: A Guide to Hypothesis Testing, Experimental Design and Presentation in Practical Work and Research Projects** 3rd ed. Benjamin Cummings.

Jones, A., Reed, R. and Weyers, J. (2007) **Practical Skills in Biology. 4th ed. Essex: Longman.** OR Reed, R., Holmes, D., Weyers, J. and Jones, A. (2007) **Practical Skills in Biomolecular Sciences. 3rd ed.** Upper Saddle River, NJ: Prentice Hall.

Student Short Guide: Making the most out of practical work from the Centre, gives students hints and tips on how they can get the most from their time in the lab or the field. www.bioscience.heacademy.ac.uk/ftp/resources/shortguides/practical.pdf

