

Bibliography

Laboratory work

- *NEW* Ackerman, J.D. & Nishizaki, M.T., 1999. **How stiff is a French fry? – Teaching biomechanics to biology students.** *J.Biol.Educ.*, **34** (1), 36-40. Presents a simple technique to measure an important biomechanical feature of tissues, namely tissue stiffness or elastic modulus. Several experimental manipulations are suggested and results are provided for one of these which can easily be conducted in an A-level or early university 3-hour teaching practical (or laboratory).
- *NEW* Edited by Beer, D.F., 1992. **Teaching in Laboratories.** The Institute of Electrical and Electronics Engineers, Inc., New York. This anthology delivers concrete advice from foremost experts on how to communicate more effectively in the workplace. Beer includes discussions of a variety of approaches.
- *NEW* Birnie, J. & O'Connor, K.M. 1998 **Geography Discipline Network Guide: Practicals and Laboratory Work in Geography.** 64pp. Geography Discipline Network, Cheltenham. This Guide discusses the purpose of practical work, with a review of research on the effectiveness of laboratory teaching in science; the role of postgraduates who support practical work; and alternatives for laboratory work. Transferable skills in practical teaching and learning are considered. Checklists to assist in analysing the purpose of practicals are provided. The Guide provides a set of thirteen case studies of ideas for practical and laboratory sessions in geography. Throughout the Guide the emphasis is on practical advice.
For more information, see also:
<http://trapdoor.glos.ac.uk/el/philg/gdn/guides/summary.htm>
- *NEW* Boud, D., Dunn, J. & Hegarty-Hazel, E., 1986. **Teaching in Laboratories.** SRHE & NFER-NELSON, Surrey. A complete guide to the design and organisation of laboratory activities and the conduct of laboratory teaching. An exhaustive up-to-date account and appraisal of current practise, with recommendations for change supported by case studies. A wide literature is examined for adequacy and practicality and an extensive bibliography supplied.
- *NEW* Chart, H. (editor), 1994. **Methods in Practical Laboratory Bacteriology.** CRC Press LLC. ISBN: 0849386926. Hardcover, 176 pages. This book provides detailed technical information to insure that the reader achieves consistent and reliable data. An advance text with some useful undergraduate relevance.
- *NEW* Coyne, G.S., 1997 (second edition). **The Laboratory Companion: A Practical Guide to Materials, Equipment, and Technique.** John Wiley & Sons. ISBN: 0471184225. A practical guide to materials, equipment, and technique. An important resource for students as well as veteran scientists and lab technicians. Provides complete coverage of all commonly used lab equipment.
- *NEW* Gibbs, G., Gregory, R., & Moore, I., 1997. **Teaching More Students series: 7. Labs and Practicals with more students and fewer resources.** 67pp. Oxford Centre for Staff Development, Oxford. Includes sections on: Reviewing aims and resources; Teaching and assessing the aims of lab work; Alternatives to working in the lab; Doing what you can before and after the lab; Using teamwork; Alternatives to assessing practical reports; Case studies. Well worth reading.

Compiled by Allan Jones, Co-ordinator of Special Interest Group: Practical work in the Biosciences

- *NEW* Nachtigall, W., 1995. ***Exploring with the microscope***. Sterling Publishing Company, Inc., New York. This book teaches the general principles behind buying and using a microscope.
- *NEW* Stehli, G., Dr., 1960. ***The Microscope and how to use it***. Dover Publications Inc., New York. This book teaches the general principles behind using a microscope properly including preparation of samples.
- *NEW* Turner, M.E., Paradise, N.F. & Johnson, M.L., 1998. **Simulating a research environment in an undergraduate genetics laboratory**. *J.Biol.Educ.*, **32** (2), 92-96. Creating the excitement of scientific discovery in an undergraduate genetics laboratory.

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- Franklin, S., Peat, M., & Lewis, A., 2002. **Traditional versus computer-based dissections in enhanced learning in a tertiary setting: a student perspective**. *J.Biol.Educ.*, **36** (3), 124-129. This paper describes a study investigating both the use and usefulness of laboratory dissections and computer-based dissections, in a tertiary, first-year human biology course. The outcomes reinforce the need to offer a variety of learning experiences that target different styles of learning.

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