**Research Resources**

**FCI - Force Concept Inventory**

Hestenes, D., Wells, M. and Swackhamer, G. (1992). Force Concept Inventory. *The Physics Teacher, 30*, 141-158. <http://modeling.asu.edu/R&E/Research.html>

**BEMA - Brief Electricity and Magnetism Assessment**

Ding, L., Chabay, R. Sherwood, B. and Beichner, R. (2006). Evaluating an electricity and magnetism assessment tool: Brief electricity and magnetism assessment. *Physical Review Special Topics - Physics Education Research, 2,* 010105 4-7*.***Email Ruth Chabay for a copy**:[rwchabay@unity.ncsu.edu](mailto:rwchabay@unity.ncsu.edu)

**CSEM - Conceptual Survey of Electricity and Magnetism.**

Maloney, D. P., O’Kuma, T. L., Hieggelke, C. J. and Van Heuvelen, A. (2001). Surveying students’ conceptual knowledge of electricity and magnetism. *American Journal of Physics, Physics Education Research Supplement, 69*, S12-S23. **Email Dave Maloney for a copy** [Maloney@ipfw.edu](mailto:Maloney@ipfw.edu)

**CLASS**

Survey that measures expert-like perceptions and beliefs about learning and applying physics. <http://www.CLASS.colorado.edu>

Adams, W. K., Perkins, K. K., Podolefsky, N., Dubson, M., Finkelstein, N. D. and Wieman, C. E. (2006) A new instrument for measuring student beliefs about physics and learning physics: the Colorado Learning Attitudes about Science Survey. *Physical Review Special Topics - Physics Education Research, 2,* 0101011-14.

**Teaching Physics with the Physics Suite**

Joe Redish wrote this book in 2002. Has nice descriptions of various aspects of ed. research. <http://www2.physics.umd.edu/~redish/Book/> Purchase the book and get many of the above.

**Tutorials in Physics by the University of Washington**

The Instructor’s Guide includes diagnostic pre and post questions. Washington publishes their results on these questions with and without the use of Tutorials so you can compare to them.

McDermott, L. C., Shaffer, P. S. and The Physics Education Group Department of Physics University of Washington (2002). *Tutorials in Introductory Physics*. Prentice-Hall: Upper Saddle River, New Jersey.

**Concept Questions:**

Eric Mazur at Harvard has been creating, using and testing these questions for use with clickers; however, they also work for other activities. <http://www.seas.harvard.edu/galileo/login/>

Mazur, Eric (1997). *Peer Instruction: A User’s manual. Series in educational Innovation*, Prentice Hall: Upper Saddle River, NJ.

Also several other collections can be found here: <http://stemclickers.colorado.edu>

**Questions – email resources:**

[PhEThelp@colorado.edu](mailto:PhEThelp@colorado.edu) – Kathy, Wendy or Noah will respond

Can subscribe to [PHYSLRNR@LISTSERV.BOISESTATE.EDU](mailto:PHYSLRNR@LISTSERV.BOISESTATE.EDU) A range of physics education researchers as well as faculty interested in teaching.

[YOUNGPER@LISTS.MAINE.EDU](mailto:YOUNGPER@LISTS.MAINE.EDU) New graduates, postdocs and young faculty – almost all with a formal physics education research background.