Guide

Open Source Tutorials

Indicates a research-demonstrated benefit

Overview

Guided-inquiry worksheets for small groups in recitation section of intro algebra-based physics. Instructors engage groups in Socratic dialogue.

Type of Method	Curriculum supplement
Level	**Designed for:** Intro College Algebra-based , TA/faculty professional development **Can be adapted for:** High School, Intro College Calculus-based, Intro College Conceptual, LA development
Setting	**Designed for:** Recitation/Discussion Session , Homework **Can be adapted for:** Lab , Lecture - Large (30+ students), Lecture - Small (<30 students), Studio
Coverage	Many topics with less depth
Topics	Mechanics, Electricity / Magnetism, Waves / Optics, Pedagogy
Instructor Effort	Medium
Resource Needs	TAs / LAs
Skills	**Designed for:** Conceptual understanding , Making real-world connections, Using multiple representations, Building models, Metacognition, Reconcile intuitions and everyday experiences with formal physics knowledge
Research Validation	**Based on research into:** theories of how students learn , student ideas about specific topics **Demonstrated to improve:** conceptual understanding , beliefs and attitudes **Studied using:** cycle of research and redevelopment , classroom observations , analysis of written work , research at multiple institutions , research by multiple groups , peer-reviewed publication

Compatible Methods	Peer Instruction, PhET, UW Tutorials, JiTT, Ranking Tasks, ILDs, CGPS, Physlets, Context-Rich Problems, RealTime Physics, TIPERs, ABP Tutorials, SCALE-UP, OSP, SDI Labs, Thinking Problems, Workbook for Introductory Physics, LA Program, CAE TPS, MBL, CPU, SCL, TEFA, Tools for Scientific Thinking, Tutorials, Clickers
Similar Methods	UW Tutorials, ABP Tutorials, Lecture-Tutorials, QuILTs, Thermal Tutorials, Mechanics Tutorials, Tutorials
Developer(s)	Rachel E. Scherr and Andrew Elby
Website	http://www.spu.edu/depts/physics/tcp/tadevelopment.asp
Intro Article	5244
Intro Article	Enabling Informed Adaptation of Reformed Instructional Materials

Teaching materials

Email Rachel Scherr at rescherr@gmail.com to get the password to download the full set of tutorials, tutorial homework, accompanying interactive lecture demonstrations, test questions, instructor's guides, and materials for TA training workshops.

Resources, training, & community

The developers have three pages with information about the Open Source Tutorials:

- http://spu.edu/depts/physics/tcp/tadevelopment.asp
- http://www2.physics.umd.edu/~elby/CCLI/index.html
- http://umdperg.pbworks.com/w/page/10511239/Tutorials%20in%20Physics%20Sense-Making