Guide

Activity-Based Tutorials, Volume 1: Introductory Physics

Indicates a research-demonstrated benefit

Overview

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

Type of Method	Curriculum supplement, Tutorials
Level	**Designed for:** Intro College Calculus-based **Can be adapted for:** High School, Intro College Algebra-based
Setting	**Designed for:** Recitation/Discussion Session **Can be adapted for:** Lecture - Small (<30 students), Studio
Coverage	Many topics with less depth
Topics	Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical
Instructor Effort	Medium
Resource Needs	TAs / LAs, Computers for students, Advanced lab equipment, Cost for students, Tables for group work
Skills	**Designed for:** Conceptual understanding , Making real-world connections , Using multiple representations **Can be adapted for:** Problem-solving skills, Metacognition
Research Validation	**Based on research into:** theories of how students learn , student ideas about specific topics **Demonstrated to improve:** conceptual understanding **Studied using:** student interviews
Compatible Methods	Peer Instruction, PhET, UW Tutorials, JiTT, Ranking Tasks, ILDs, CGPS, Physlets, Context-Rich Problems, RealTime Physics, TIPERs, SCALE-UP, OSP, SDI Labs, OST Tutorials, Thinking Problems, Workbook for Introductory Physics, LA Program, CAE TPS, MBL, CPU, SCL, TEFA, Tools for Scientific Thinking, Tutorials, Clickers

Similar Methods	UW Tutorials, OST Tutorials, Lecture-Tutorials, MBL, New Model Course, QuILTs, Thermal Tutorials, Mechanics Tutorials, Tutorials
Developer(s)	Michael C. Wittmann, Richard N. Steinberg, Edward F. Redish, and the Physics Education Research Group at the University of Maryland
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