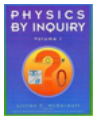

Physics by Inquiry

Indicates a research-demonstrated benefit

Overview

Lab-based guided-inquiry curriculum for future and current teachers to develop deep understanding of physics content and scientific reasoning skills.

Type of Method	Full curriculum
Level	**Designed for:** Teacher Prep Course , Teacher Professional Development , Intro College Conceptual **Can be adapted for:** Pre-intro course for underprepared students
Setting	**Designed for:** Lecture - Small (<30 students) , Studio **Can be adapted for:** Recitation/Discussion Session, Lab
Coverage	Few topics with great depth
Topics	Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical, Astronomy
Instructor Effort	High
Resource Needs	Simple lab equipment, Cost for students, Tables for group work, Very well-trained instructors, minimal equipment for experiments
Skills	**Designed for:** Conceptual understanding , Making real-world connections, Using multiple representations, Designing experiments, Metacognition, Ability to teach by inquiry
Research Validation	**Based on research into:** theories of how students learn , student ideas about specific topics **Demonstrated to improve:** conceptual understanding , teacher RTOP scores **Studied using:** student interviews , research at multiple institutions , research by multiple groups
Compatible Methods	JiTT, SCALE-UP, LA Program, Diagnoser
Similar Methods	UW Tutorials, PET, PSET

Developer(s)	Lillian C. McDermott, Peter S. Shaffer and the Physics Education Group at UW
Website	http://www.phys.washington.edu/groups/peg/pbi.html

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