PRISMS PLUS

Indicates a research-demonstrated benefit

Overview

Physics Resources and Instructional Strategies for Motivating Students (PRISMS) PLUS is a high school physics curriculum and professional development program that utilizes a learning cycle pedagogy. PRISMS PLUS utilizes high interest activities that integrates inexpensive and easily accessible materials with instructional technologies in an approach in which students are provided experiences to explore physical phenomena prior to being introduced to the physics ideas related to the phenomena.

Type of Method	Instructional strategy, Full curriculum
Level	**Designed for:** High School , Teacher Professional Development **Can be adapted for:** Teacher Preparation, Middle School, Intro College Algebra-based, Intro College Conceptual
Setting	**Designed for:** Lecture - Small (<30 students) , Studio **Can be adapted for:** Lecture - Large (30+ students), Recitation/Discussion Session, Lab
Coverage	Few topics with great depth, Teachers can select from many topics, but only cover a few in depth.
Topics	Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical, Modern / Quantum
Instructor Effort	Medium
Resource Needs	Computers for student use in class, Lab equipment for student use - professional, Lab equipment for student use - simple
Skills	**Designed for:** Problem-solving skills , Conceptual understanding of physics content , Connecting conceptual and mathematical understanding , Understanding how physics relates to the real world , Enjoyment of physics , Creativity , Think like a scientist, Self-confidence around physics, Representing knowledge in multiple ways, Designing experiments, Autonomy **Can be adapted for:** Coherent framework for physics, Reflecting on one's own learning, Laboratory skills

Research Validation	**Based on research into:** how students learn , student ideas about specific topics , research into instructional practice **Demonstrated to improve:** scores on multiple choice conceptual tests , traditional problem-solving ability , beliefs about physics **Studied using:** conceptual pre/post exams , problem-solving pre/post exams , classroom observations , video of students , analysis of written work
Compatible Methods	Modeling, CPU
Similar Method	None
Developer(s)	Lawrence Escalada, Roy Unruh, Timothy Cooney, and master high school physics teachers
Website	http://www.uni.edu/prisms/prisms/prisms-plus