Guide

Investigative Science Learning Environment

Indicates a research-demonstrated benefit

Overview

Comprehensive learning system for introductory physics that engages students in experiences that mirror experiences of practicing scientists.

Type of Method	Instructional strategy, Curriculum supplement
Level	**Designed for:** Intro College Calculus-based , Intro College Algebra-based , High School **Can be adapted for:** Teacher Prep Course, Teacher Professional Development, Intro College Conceptual, Intermediate, Upper-level Undergraduate, Graduate School, Any
Setting	**Designed for:** Lecture - Large (30+ students) , Lecture - Small (<30 students) , Recitation/Discussion Session , Lab , Studio
Coverage	Few topics with great depth, Many topics with less depth
Topics	Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical
Instructor Effort	Medium
Resource Needs	Projector, Advanced lab equipment, Cost for students
Skills	**Designed for:** Conceptual understanding , Problem-solving skills , Lab skills , Using multiple representations , Designing experiments , Metacognition **Can be adapted for:** Making real-world connections
Research Validation	**Based on research into:** theories of how students learn , student ideas about specific topics **Demonstrated to improve:** conceptual understanding , problem-solving skills , lab skills **Studied using:** student interviews , classroom observations , analysis of written work , research at multiple institutions
Compatible Methods	PhET, JiTT, Physlets, SCALE-UP, Modeling, OSP, LA Program, MBL, CPU, PUM, Clickers, Responsive Teaching

Similar Methods	PUM
Developer(s)	Eugenia Etkina, Alan Van Heuvelen
Website	http://www.islephysics.net/