






















Physics Union Mathematics

 Indicates a research-demonstrated benefit

Overview

A physics/physical science curriculum that builds on intrinsic mathematical reasoning to develop and strengthen mathematics and physics concepts.

 Type of Method	Full curriculum, Curriculum supplement
 Level	Designed for: High School  , Middle School Can be adapted for: Teacher Prep Course, Teacher Professional Development, Intro College Calculus-based, Intro College Algebra-based, Intro College Conceptual
 Setting	Designed for: Lecture - Small (<30 students)  , Recitation/Discussion Session, Lab, Homework
 Coverage	Few topics with great depth
 Topics	Mechanics, Electricity / Magnetism
 Instructor Effort	High
 Resource Needs	Projector, Computers for students, Advanced lab equipment, Tables for group work
 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  , lab skills  Studied using: classroom observations 
 Compatible Methods	JiTI , Physlets , SCALE-UP , Modeling , OSP , ISLE , CPU
 Similar Methods	ISLE
 Developer(s)	Eugenia Etkina, Suzanne Brahmia, Chis D'Amato, James Finley, Jim Flakker, Danielle Bugge, Richard Therkorn



Website

<http://pum.rutgers.edu>



Intro Article

10390



Intro Article

[Searching for Evidence of Student Understanding](#)