



RealTime Physics

 Indicates a research-demonstrated benefit

Overview

RealTime Physics is a series of introductory laboratory modules that use computer data acquisition tools (microcomputer-based lab or MBL tools) to help students develop physics concepts and acquire laboratory skills. Besides data acquisition, computers are used for basic mathematical modeling, data analysis, and simulations. Students construct their own models of physical phenomena based on observations and experiments.





Type of Method

Curriculum supplement





Level

Designed for: Intro College Calculus-based , Intro College Algebra-based 
Can be adapted for: High School



Setting

Designed for: Lab , Homework
Can be adapted for: Studio 



Coverage

Many topics with less depth



Topics

Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical



Instructor Effort

Low




Resource Needs

Computers for student use in class, Lab equipment for student use - professional, Cost for students, Tables arranged for group work










Skills

Designed for: Conceptual understanding of physics content , Connecting conceptual and mathematical understanding, Laboratory skills, Representing knowledge in multiple ways



Research Validation

Based on research into: how students learn , student ideas about specific topics 
Demonstrated to improve: scores on multiple choice conceptual tests 
Studied using: conceptual pre/post exams , beliefs pre/post exams , research conducted at multiple institutions , research conducted by someone other than developers 



**Compatible
Methods**

[Peer Instruction](#), [PhET](#), [UW Tutorials](#), [JiTT](#), [Ranking Tasks](#), [ILDs](#), [CGPS](#), [Physlets](#), [Context-Rich Problems](#), [Workshop Physics](#), [TIPERs](#), [ABP Tutorials](#), [SCALE-UP](#), [OSP](#), [OST Tutorials](#), [Workbook for Introductory Physics](#), [LA Program](#), [CAE TPS](#), [MBL](#), [CPU](#), [TEFA](#), [Tools for Scientific Thinking](#), [Tutorials](#), [Clickers](#), [SDI Labs](#)



**Similar
Methods**

[ILDs](#), [Workshop Physics](#), [SDI Labs](#), [MBL](#), [SCL](#), [Tools for Scientific Thinking](#)



Developer(s)

David Sokoloff, Ron Thornton, and Priscilla Laws



Website

http://pages.uoregon.edu/sokoloff/Active_Learning.html