



Activity-Based Tutorials, Volume 1: Introductory Physics

 Indicates a research-demonstrated benefit

Overview

Guided-inquiry worksheets for small groups in recitation section of intro calculus-based physics. Instructors engage groups in Socratic dialogue.



Type of Method

Curriculum supplement, Tutorials



Level

Designed for: Intro College Calculus-based 

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



Setting

Designed for: Recitation/Discussion Session 

Can be adapted for: Lecture - Small (<30 students), Studio



Coverage

Many topics with less depth



Topics

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



Instructor Effort

Medium



Resource Needs

TAs / LAs, Computers for students, Advanced lab equipment, Cost for students, Tables for group work



Skills



Designed for: Conceptual understanding  , Making real-world connections


 , Using multiple representations 


Can be adapted for: Problem-solving skills, Metacognition



Research Validation

Based on research into: theories of how students learn  , student ideas about specific topics 

Demonstrated to improve: conceptual understanding 

Studied using: student interviews 



Compatible Methods

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

 **Similar
Methods**

[UW Tutorials](#), [OST Tutorials](#), [Lecture-Tutorials](#), [MBL](#), [New Model Course](#), [QuILTs](#),
[Thermal Tutorials](#), [Mechanics Tutorials](#), [Tutorials](#)

 **Developer(s)**

Michael C. Wittmann, Richard N. Steinberg, Edward F. Redish, and the Physics
Education Research Group at the University of Maryland

 **Website**

<http://perlnet.umaine.edu/abt/>

