




Context-Rich Problems

 Indicates a research-demonstrated benefit

Overview

Students work in small groups on short, realistic scenarios, giving them a plausible motivation to solve problems.



Type of Method

Curriculum supplement



Level

Designed for: Intro College Calculus-based 

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



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

Tables for group work





Skills



Designed for: Conceptual understanding  , Problem-solving skills 

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 

Studied using: classroom observations 



Compatible Methods

[Peer Instruction](#), [PhET](#), [UW Tutorials](#), [JiTT](#), [Ranking Tasks](#), [ILDs](#), [CGPS](#), [Physlets](#), [RealTime Physics](#), [TIPERs](#), [ABP Tutorials](#), [SCALE-UP](#), [OSP](#), [SDI Labs](#), [OST Tutorials](#), [Thinking Problems](#), [Workbook for Introductory Physics](#), [LA Program](#), [CAE TPS](#), [Lecture-Tutorials](#), [Astro Ranking Tasks](#), [MBL](#), [CPU](#), [SCL](#), [TEFA](#), [Tools for Scientific Thinking](#), [M&I](#), [Tutorials](#), [Clickers](#), [Responsive Teaching](#)

 **Similar Method** [CGPS](#)

 **Developer(s)** University of Minnesota Physics Education Research Group

 **Website** <http://groups.physics.umn.edu/physed/Research/CRP/crintro.html>

Teaching materials

The University of Minnesota has created an [online archive of context-rich problems](#), where you can find problems for many topics in introductory mechanics and electromagnetism.