



## Open Source Tutorials

Indicates a research-demonstrated benefit

### Overview

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



**Type of Method**

Curriculum supplement



**Level**

**Designed for:** Intro College Algebra-based , TA/faculty professional development  
**Can be adapted for:** High School, Intro College Calculus-based, Intro College Conceptual, LA development



**Setting**

**Designed for:** Recitation/Discussion Session , Homework  
**Can be adapted for:** Lab , Lecture - Large (30+ students), Lecture - Small (<30 students), Studio



**Coverage**

Many topics with less depth



**Topics**

Mechanics, Electricity / Magnetism, Waves / Optics, Pedagogy



**Instructor Effort**

Medium



**Resource Needs**

TAs / LAs









**Skills**

**Designed for:** Conceptual understanding , Making real-world connections, Using multiple representations, Building models, Metacognition, Reconcile intuitions and everyday experiences with formal physics knowledge



**Research Validation**

**Based on research into:** theories of how students learn , student ideas about specific topics   
**Demonstrated to improve:** conceptual understanding , beliefs and attitudes   
**Studied using:** cycle of research and redevelopment , classroom observations , analysis of written work , research at multiple institutions , research by multiple groups , peer-reviewed publication

 <b>Compatible Methods</b>	<a href="#">Peer Instruction</a> , <a href="#">PhET</a> , <a href="#">UW Tutorials</a> , <a href="#">JiTT</a> , <a href="#">Ranking Tasks</a> , <a href="#">ILDs</a> , <a href="#">CGPS</a> , <a href="#">Physlets</a> , <a href="#">Context-Rich Problems</a> , <a href="#">RealTime Physics</a> , <a href="#">TIPERs</a> , <a href="#">ABP Tutorials</a> , <a href="#">SCALE-UP</a> , <a href="#">OSP</a> , <a href="#">SDI Labs</a> , <a href="#">Thinking Problems</a> , <a href="#">Workbook for Introductory Physics</a> , <a href="#">LA Program</a> , <a href="#">CAE TPS</a> , <a href="#">MBL</a> , <a href="#">CPU</a> , <a href="#">SCL</a> , <a href="#">TEFA</a> , <a href="#">Tools for Scientific Thinking</a> , <a href="#">Tutorials</a> , <a href="#">Clickers</a>
 <b>Similar Methods</b>	<a href="#">UW Tutorials</a> , <a href="#">ABP Tutorials</a> , <a href="#">Lecture-Tutorials</a> , <a href="#">QuILTs</a> , <a href="#">Thermal Tutorials</a> , <a href="#">Mechanics Tutorials</a> , <a href="#">Tutorials</a>
 <b>Developer(s)</b>	Rachel E. Scherr and Andrew Elby
 <b>Website</b>	<a href="http://www.spu.edu/depts/physics/tcp/tadevelopment.asp">http://www.spu.edu/depts/physics/tcp/tadevelopment.asp</a>
 <b>Intro Article</b>	5244
 <b>Intro Article</b>	<a href="#">Enabling Informed Adaptation of Reformed Instructional Materials</a>

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## **Teaching materials**

Email Rachel Scherr at [rescherr@gmail.com](mailto:rescherr@gmail.com) to get the password to download the full set of tutorials, tutorial homework, accompanying interactive lecture demonstrations, test questions, instructor's guides, and materials for TA training workshops.

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## **Resources, training, & community**

The developers have three pages with information about the Open Source Tutorials:

- <http://spu.edu/depts/physics/tcp/tadevelopment.asp>
- <http://www2.physics.umd.edu/~elby/CCLI/index.html>
- <http://umdperg.pbworks.com/w/page/10511239/Tutorials%20in%20Physics%20Sense-Making>