



Tools for Scientific Thinking

 Indicates a research-demonstrated benefit

Overview

Laboratory activities that use microcomputer-based laboratory tools to develop both conceptual understanding and quantitative laboratory skills.





Type of Method

Curriculum supplement



Level

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



Setting

Designed for: Lab 
Can be adapted for: Studio



Coverage

Many topics with less depth



Topics

Mechanics, Thermal / Statistical



Instructor Effort

Low






Resource Needs

Computers for students, Advanced lab equipment, Cost for students, Tables for group work



Research Validation

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

Demonstrated to improve: conceptual understanding 

Studied using: research at multiple institutions 



Compatible Methods

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



Similar Methods

[ILDs](#), [RealTime Physics](#), [SDI Labs](#), [MBL](#), [SCL](#)



Developer(s)

Ron Thornton and David Sokoloff



Website

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

