




## Teaching with Clickers

 Indicates a research-demonstrated benefit

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### Overview

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Clickers are electronic devices that allow students to vote on multiple-choice questions and instructors to collect and display the results of voting instantaneously. If used well, clickers can help facilitate student engagement and collaboration, leading to better learning. Clickers are not really a teaching method, but a technology that can be used as a part of many different teaching methods, including Peer Instruction, TEFA, and CAE Think-Pair-Share (see similar methods).



#### Level

**Designed for:** High School, Intro College Calculus-based, Intro College Algebra-based, Intro College Conceptual, Astronomy, Other Science

**Can be adapted for:** Any



#### Setting

**Designed for:** Lecture - Large (30+ students)

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



#### Coverage

Few topics with great depth, Many topics with less depth



#### Topics

Mechanics, Electricity / Magnetism, Waves / Optics, Thermal / Statistical, Modern / Quantum, Mathematical, Astronomy, Other Science, Pedagogy



#### Instructor Effort

Medium



#### Resource Needs

Clickers, Cost for students



#### Skills

**Designed for:** Conceptual understanding of physics content

**Can be adapted for:** Problem-solving skills, Connecting conceptual and mathematical understanding, Coherent framework for physics, Understanding how physics relates to the real world, Think like a scientist, Reflecting on one's own learning, Self-confidence around physics, Enjoyment of physics, Representing knowledge in multiple ways



#### Research Validation

**Based on research into:** how students learn 



### Compatible Methods

[Peer Instruction](#), [PhET](#), [UW Tutorials](#), [JiTT](#), [Ranking Tasks](#), [ILDs](#), [CGPS](#), [Physlets](#), [Context-Rich Problems](#), [RealTime Physics](#), [TIPERs](#), [ABP Tutorials](#), [SCALE-UP](#), [Modeling](#), [OSP](#), [SDI Labs](#), [OST Tutorials](#), [ISLE](#), [Thinking Problems](#), [Workbook for Introductory Physics](#), [LA Program](#), [LEPS](#), [CAE TPS](#), [Lecture-Tutorials](#), [Astro Ranking Tasks](#), [MBL](#), [New Model Course](#), [CPU](#), [SCL](#), [TEFA](#), [CU Modern](#), [CU E&M](#), [CU QM](#), [QuILTs](#), [IQP](#), [Thermal Tutorials](#), [Mechanics Tutorials](#), [Paradigms](#), [Tools for Scientific Thinking](#), [PI QM](#), [M&I](#), [Tutorials](#), [MOP](#), [Responsive Teaching](#)



### Similar Methods

[Peer Instruction](#), [CAE TPS](#), [TEFA](#), [PI QM](#)



### Website

<http://stemclickers.colorado.edu>