




Responsive Teaching in Science

 Indicates a research-demonstrated benefit

Overview

A practice of attending and responding to the substance of students' thinking. The instructor's next moves are based on students' emerging ideas.



Type of Method

Instructional strategy



Level

Designed for: Middle School, Elementary School

Can be adapted for: Any



Setting

Designed for: Lecture - Small (<30 students) 

Can be adapted for: Recitation/Discussion Session, Lab, Studio



Coverage

Few topics with great depth



Topics

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



Instructor Effort

High



Resource Needs

Simple lab equipment




Skills

Designed for:

Can be adapted for: Designing experiments, Metacognition



Research Validation

Based on research into: theories of how students learn  , teaching of science

Demonstrated to improve: beliefs and attitudes  , classroom discourse

Studied using: classroom observations  , analysis of written work 




Compatible Methods

[Peer Instruction](#), [PhET](#), [JiTT](#), [Ranking Tasks](#), [CGPS](#), [Physlets](#), [Context-Rich Problems](#), [Workshop Physics](#), [TIPERs](#), [SCALE-UP](#), [Modeling](#), [SDI Labs](#), [ISLE](#), [Thinking Problems](#), [LA Program](#), [MBL](#), [CPU](#), [SCL](#), [TEFA](#), [Energy Project](#), [SGSI](#), [Paradigms](#), [Clickers](#)



Similar Methods

[Energy Project](#), [SGSI](#)

 **Developer(s)** Fred Goldberg, Sharon Bendall, Mike McKean, and Jennifer Radoff

 **Website** <http://cipstrends.sdsu.edu/responsiveteaching>