




## Physical Science and Everyday Thinking

 Indicates a research-demonstrated benefit

### Overview

PSET is a one semester, guided-inquiry physical science course that incorporates extensive small group and whole class discussion and Laboratory work to help students develop a deep conceptual understanding of big ideas in physical science (including Newton's Second Law, the Law of Conservation of Energy and Atomic-Molecular Theory). PSET also incorporates specific activities that focus on the nature of science and the nature of learning.



#### Type of Method

Full curriculum



#### Level

**Designed for:** Teacher Preparation 

**Can be adapted for:** Teacher Professional Development



#### Setting

**Designed for:** Studio , Lecture - Small (<30 students)

**Can be adapted for:** Lab



#### Coverage

Few topics with great depth



#### Topics

Mechanics, Electricity / Magnetism, Thermal / Statistical



#### Instructor Effort

Medium






#### Resource Needs

Projector in class, Computers for student use in class, Computers for student use outside of class, Lab equipment for student use - professional, Cost for students, Tables arranged for group work





#### Skills

**Designed for:** Conceptual understanding of physics content , Reflecting on one's own learning 




**Can be adapted for:** Think like a scientist , Understanding how physics relates to the real world, Enjoyment of physics, Representing knowledge in multiple ways



#### Research Validation

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

**Demonstrated to improve:** scores on multiple choice conceptual tests , beliefs about physics 

**Studied using:** conceptual pre/post exams , beliefs pre/post exams , video of students 

 **Compatible  
Methods**

[PhET](#), [JiTT](#), [Physlets](#), [SCALE-UP](#), [OSP](#), [LA Program](#), [CPU](#)

 **Similar  
Methods**

[PBI](#), [PET](#), [LEPS](#)

 **Developer(s)**

Fred Goldberg, Rebecca Kruse, Steve Robinson, Valerie Otero and Nephi Thompson

 **Website**

<http://cpucips.sdsu.edu/web/pset/>