



## The go-to place for resources based on physics education research (PER)

### Guides to 50+ research-based teaching methods

### Verified educators can download 50+ research-based assessments

Tell us about your course to find materials relevant to you.

Any Subject | Any Level | Any Setting | Save Course

Student Skills Developed

- Conceptual Understanding
- Problem-solving Skills
- Lab Skills
- Real-world Connections
- Multiple Representations
- Thinking Like A Scientist

Instructor Effort Required

High | Medium | Low

Research Validation

- Gold Star Validation
- Validated Level 2
- Validated Level 1
- Research-Based

Resources Required

55 Teaching Methods

PhET Interactive Simulations

Tutorials in Introductory Physics

Tell us about your course to find assessments relevant to you.

Any Subject | Any Level | Submit

Assessment Focus

- Content Knowledge
- Problem-solving
- Scientific reasoning
- Lab skills
- Beliefs / Attitudes
- Interactive teaching

Format

- Pre/post ?
- Multiple-choice
- Multiple-response ?
- Agree/disagree ?
- Short answer
- Rubric ?
- Observation protocol ?

Research Validation ?

- Gold star validation
- Silver validation
- Bronze validation
- Research-based

Translations

51 Research-Based Assessments

Content Knowledge

- Force Concept Inventory (FCI) - Mechanics Content Knowledge (Forces, Kinematics) - 30 min
- Force and Motion Conceptual Evaluation (FMCE) - Mechanics Content Knowledge (Kinematics, Forces, Energy, Graphing) - 35 min
- Test of Understanding Graphs in Kinematics (TUG-K) - Mechanics Content Knowledge (Kinematics, Graphing) - 45 min
- Energy and Momentum Conceptual Survey (EMCS)

### Video workshops for TA/LA training and faculty PD

What is Periscope?

Periscope: Looking into Learning

What is Periscope?

A collection of lessons for faculty and LAs/TAs to:

- watch and discuss videos of best-practices physics classrooms
- apply lessons learned to actual teaching situations
- practice interpreting student behavior
- become more effective teachers

View Collection

Find the Periscope video collection at <http://PhysPort.org/periscope>

New Faculty Workshop - Introduction

Virtual New Faculty Workshop

What is the Virtual New Faculty Workshop?

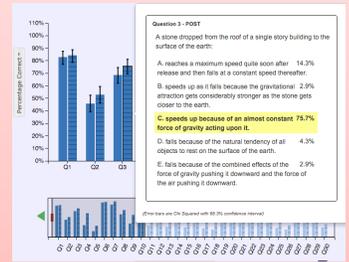
Videos of presentations from the live Workshop for New Faculty in Physics and Astronomy feature:

- leaders in physics education research and curriculum development
- teaching techniques proven to work in many environments
- cutting-edge developments in physics/astronomy curriculum and pedagogy

View Collection

### Data Explorer (open beta)

Instant analysis and visualization of concept inventories in physics



See other side for details

### Expert Recommendations by PhysPort staff and experts in PER

- Best Practices for administering concept inventories – Adrian Madsen, Sam McKagan, and Ellie Sayre
- What kind of racial, gender, and sexual orientation bias still exist in physics and what can I do about it? – Ramón Barthelemy
- How do I use PhET simulations in my physics class? – Stephanie Chasteen and Yuen-ying Carpenter
- And many more...

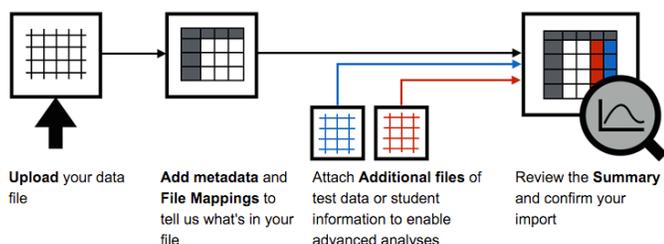
## Analyze your students' responses to concept inventories in physics:

- Force Concept Inventory (FCI)
- Brief Electricity and Magnetism Assessment (BEMA)
- Maryland Physics Expectations Survey (MPEX)
- Many more coming soon...
- Force and Motion Conceptual Evaluation (FMCE)
- Conceptual Survey of Electricity and Magnetism (CSEM)
- Colorado Learning Attitudes about Science Survey (CLASS)

### Easy upload:

#### Get Started with the Data Explorer

The Data Explorer will score and analyze your raw results for a variety of *research-based assessments*. Follow this process to build your dataset:



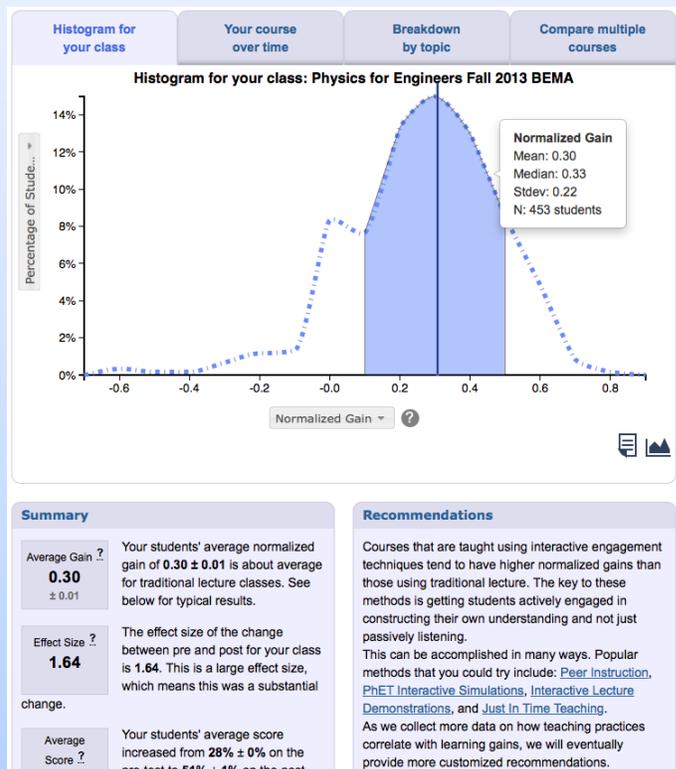
#### Specify what's in your columns:

A			D
Student ID			Pre Q3
ID			3
8249			5
7697	5	4	1
4707	1	1	5
5373	1	5	3
4375	2	1	4

It looks like columns C - AE are FCI Questions 2-30. Confirm columns C - AE?

Cancel | Save and Exit | Back | Save and Continue

### Instant analysis and visualization:



## Now available in open beta!

To be a beta tester, register at

[www.physport.org/dataexplorer](http://www.physport.org/dataexplorer)

## Need custom analysis?

Premium services available for a fee:

- Custom assessments
- Departmental analysis tools
- Research analysis tools

To find out more, contact Sam McKagan: [smckagan@aapt.org](mailto:smckagan@aapt.org)