

Physics Strategies

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How do you get kids to learn Physics? We will discuss various methods to help kids learn Physics, from eBooks to team problem sets to lab challenges.

Ideas to share:

- Science Journals (TST, TPT, *etc.*)
 - New Teacher Toolbox
 - Science 2.0
- eBooks... (go4convert.com, 2epub.com, convertfiles.com, *etc.*)
- educreations, jing, *etc.*
- Maximizing use of a class website (Google Calendar)
- Problem Sets (presentations)
 - Team White Boarding
 - Individual White Boarding
 - Team peer tutoring
- Ranking Tasks
- Lab Challenges--lab activities that are done as competitions
 - Shoot the dime
 - Egg Blast
 - Cannon Lab
 - Paper Towers
 - Cantilevers
- Labs
 - Roller Coaster Lab--pipe insulation and a ball bearing (energy)
 - Collisions & Explosions Video Analysis Lab (momentum)
- Cover the Core--Take the CRT early--Have fun in May!
- Google Doc collaboration
- AP Physics 1 & 2 in 2 years.

PHYSICS.ALPINEDISTRICT.ORG/USTA

New AP PHYSICS Curriculum for 2014-15 School Year

AP has implemented key recommendations by replacing AP Physics B with two new courses: AP Physics 1 and AP Physics 2.

- An in-depth study by the [National Research Council](#) (NRC) concluded that AP Physics B is a very broad course that “encourages cursory treatment of very important topics in physics” rather than cultivating a deep understanding of key foundational principles. The NRC further concluded that students should experience a full treatment of Newtonian mechanics, including rotational dynamics and angular momentum, topics not covered in AP Physics B. The NRC also emphasized the need for **inquiry-based instruction** and **in-depth exploration of topics**. To achieve these important goals, and to provide the much-needed time for teachers to accomplish them, the NRC recommended spreading the course material over two years. After confirming this recommendation through college curriculum studies, higher-education validations, state-standards reviews, and AP teacher timing trials, the AP Program is replacing AP Physics B with two separate full-year courses.
- AP Physics 1 and AP Physics 2 will be offered in **fall 2014**; the exams will be administered in **May 2015**.
- **The New Courses**
 - **AP Physics 1: Algebra-based** is the equivalent to a first-semester college course in algebra-based physics, but is designed to be taught over a full academic year, allowing time for AP teachers and students to develop deep understanding of the content and to apply that knowledge through inquiry-based labs. The full year also allows time for inclusion of physics content specified by state standards. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It will also introduce electric circuits.
 - **AP Physics 2: Algebra-based** is the equivalent to a second-semester college course in algebra-based physics, but is designed to be taught over a full academic year, allowing time for AP teachers and students to develop deep understanding of the content and to apply that knowledge through inquiry-based labs. The full year also allows time for inclusion of physics content specified by state standards. The course covers fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics.