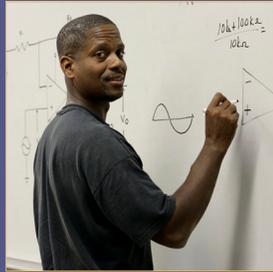


PASCO Professional Development

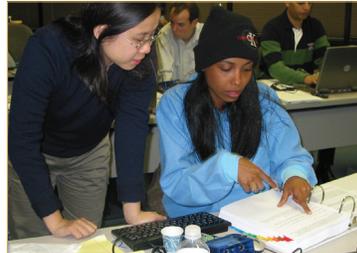
teaching educators how to teach science
with sensor-based technology



PASCO®
www.pasco.com/pd

“When educators learn, students learn more.”

Hayes Mizell, in “Why Professional Development Matters.” Written for Learning Forward.
http://www.learningforward.org/docs/pdf/why_pd_matters_web.pdf



PASCO's Professional Development provides teachers with the training, guidance, and innovative solutions they need to lead sensor-based science lessons. Our trainers are curriculum experts who model how to confidently guide students through inquiry-based science lessons.

PASCO training sessions are relevant for teachers at all grade levels. Trainings include classroom-ready activities aligned to STEM-based standards and national and state correlations for:

- *Elementary and middle school sciences*
- *High school and higher education Biology, Chemistry, Earth Science, Environmental Science, Physical Science, and Physics*
- *Advanced, AP*, and IB courses in Biology, Chemistry, Environmental Science, and Physics*

PASCO PD is fully customizable and tailored to your scope and sequence, so you get affordable training that fits your curriculum... and your budget.

Our trainers model techniques by demonstrating and engaging teachers in lessons built on solid pedagogy and an inquiry-based approach.

Our PD includes ongoing teacher support and a free follow-up webinar. PASCO PD isn't just a one-time workshop. Our trainers provide their ongoing support and expertise, whenever and wherever you need it.

* AP is a registered trademark of the College Board, which was not involved in the production of, and does not endorse, this product.



What a PASCO PD plan provides for you and your school or district...

1 Student-centered, classroom-ready lab activities for all the sciences

Our labs range from structured-inquiry to open-inquiry. They can be used on multiple platforms including iPads®, Android™ tablets, PCs, and Macs. With them, teachers can:

- Integrate technology into the classroom, while showing students better ways to collect data.
- Engage students and make data meaningful for them while they *do* science.

2 An implementation plan that is tailored to your scope and sequence

- Single-subject or multi-subject groups, any grade level... K-12 and higher education
- “Get started” Level 1 training, or more advanced training for current users or those transferring into a new environment, such as iPads

3 Customizable delivery options and training formats that fit your needs

We custom-design our training to suit your time frame, budget, and skill set. We offer on-campus training, co-teaching training, web-based training, and train-the-trainer programs.

4 Skills necessary to implement the Next Generation Science Standards

PASCO’s trainers will show you how to use probeware to effectively engage students in scientific and engineering practices, while addressing disciplinary core ideas and crosscutting concepts.

5 The bottom line... results

PASCO’s PD approach is to help you create a solid foundation for STEM success, as students develop these fundamental skills underlying science content standards:

- ✓ Critical thinking skills
- ✓ Procedural expertise
- ✓ Proficiency in design and construction of lab experiments
- ✓ Analytical skills
- ✓ Inquiry-based learning leading to science literacy



Brent -
 Margaret + John
 Mary Pat -
 Ellen -
 Raymond -
 Mike -
 Scamus + Tom -
 Kendahl -
 Armand + Fred -



Our modeling and pedagogy produce results you can measure!

Modeling Based on Standards

Modeling student lessons is at the center of our PD program. Our trainers model techniques that are consistent with those outlined by the National Board for Professional Teaching Standards, the National Science Teachers Association's Standards, and ISTE's National Education Technology Standards.

Pedagogy

Our trainers guide teachers as they integrate technology into their lessons and model an inquiry-based approach to teaching science. We help teachers create a learning environment where their students drive the experiment; make predictions about how an experiment will unfold; and collect and analyze the data to see how their predictions compare to actual results.



Case Study: Newport News Public Schools

Newport News is making great strides in improving student science scores while using PASCO's probeware, data collection devices, and professional development program. NNPS serves almost 30,000 students, and in 2010 the school district used \$12 million in stimulus money to boost its STEM curriculum. The division's leadership team firmly believes in bringing inquiry into science, so they are redesigning the NNPS science curriculum.

NNPS is implementing a "backward design" model, which uses the state and national standards to determine the big ideas or major understandings that students should learn. The overarching goal of this model is to develop a curriculum that fosters dynamic, student-centered instruction in the classroom. This redesign is expected to last several years.

The school labs have been retooled and outfitted with PASCO technology. Now each building in the district has several complete class sets of handheld devices and probeware, and all of the NNPS science instructors receive professional development on an ongoing basis.

During the large stimulus project, Secondary Science Supervisor Dewey Ray developed a master secondary science plan, and one of the department's goals was to increase the Pass Advanced Rates on all of the Standards of Learning science tests (based on Virginia's 2003 SOLs). The results are impressive!

- ✓ **Biology:** increased Pass Advanced Rates in 5 out of 6 schools.
- ✓ **Chemistry:** increased Pass Advanced Rates in 4 out of 6 schools.
- ✓ **Earth Science:** increased Pass Advanced Rates in 6 out of 6 schools.

The table below shows results of NNPS's Standards of Learning testing, which shows the improvement in their high school Scientific Investigation scores between 2007 and 2012.

Biology	2007-2008	2011-2012	Gains
DHS	67.31	73.8	+ 9%
HHS	59.85	71.8	+22%
MHS	67.62	83.5	+23%
WHS	53.82	71.3	+32%
WoHS	67.58	86.4	+28%

Chemistry

DHS	71.59	83.5	+17%
HHS	65.77	78.2	+19%
MHS	83.54	92.5	+11%
WHS	72.09	83.3	+15%
WoHS	79.45	90.1	+13%

Earth Science

DHS	62.18	70.7	+14%
HHS	70.37	75.4	+7%
MHS	75.27	82.5	+10%
WHS	60.81	74.3	+22%
WoHS	66.29	83.1	+25%

**Results are based on Virginia's 2003 Standards of Learning, Scientific Investigation reporting category.*

"This was the best workshop I ever attended."

- Mercersburg Academy Summer Institute Participant

The PASCO Team

the perfect combination of experience and expertise!

Our PD team's goal is to provide teachers with the training, guidance, and innovative solutions they need to successfully lead their students through inquiry - and sensor-based science lessons.

The PASCO PD team is made up of curriculum experts and teachers who are passionate about science and teaching science. We know when you spend time in a Professional Development session, you want to learn from someone who has real classroom experience. And that's what PASCO delivers. We make sure that you take away the pedagogy and practical skills you can implement in your classroom, which benefits both you and your students.

We are education experts who have developed standards-based lab activities to help teachers create a STEM - and inquiry-based learning environment. This environment helps teachers guide students through the process of prediction, investigation, and analysis, which promotes critical thinking and group discussion.



Call today for a free consultation:

800-772-8700

or visit pasco.com/pd

What NSTA says about the value of Professional Development

In May 2006, the National Science Teachers Association (NSTA) issued its official position paper on the value of professional development for science teachers, which states that:

- *"NSTA believes a high-quality science teacher workforce requires meaningful, ongoing professional development."*
- *"Studies suggest that high-quality teaching can make a significant difference in student learning."*
- *"Professional development is central to teaching and must be given full support by school districts and their leaders."*
- *"Steps must be taken to build awareness of the importance of professional development..."*



PASCO[®]

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