



PS-2828

# Advanced Chemistry through Inquiry Teacher Guide

Lab activities suitable for IB® and Advanced Chemistry\*

- ▶ 17 labs designed to address scientific learning objectives and practices.
- ▶ Consistent Process-Oriented Guided Inquiry Learning **POGIL** approach.
- ▶ Embedded learning cycle process focuses on exploration, concept invention, and application.
- ▶ Includes teacher tips, lab preparation information, sample data, and answers to analysis for each activity.

- ▶ Includes a flash drive with editable student handouts.
- ▶ Supports the use of SPARKvue, PASCO Capstone™, and all PASPORT interfaces.

EXPERIMENTS	SENSORS								ALIGNMENT
	Advanced Chemistry Sensor (4-in-1 sensor)				Colorimeter	High Accuracy Drop Counter	Voltage/Current	Oxygen Reduction Potential Probe**	IB Standards***
	Conductivity	pH	Pressure	Stainless Steel Temperature					
1. Modeling Chemistry	●	●	●	●					1.1, 4.1, 4.4
2. Light, Color and Concentration					●				1.3
3. Gravimetric Analysis of a Precipitate									1.3
4. Stoichiometry in Solutions	●			●		●			1.3
5. Polar and Non-polar substances		●							4.4
6. Solubility	●								1.3
7. Empirical Formula					●				1.2
8. Measuring Vitamin C – A Redox Titration						●		●	9.1
9. Factors that Affect Reaction Rate			●	●					6.1
10. Measuring the Speed of a Reaction				●	●				16.1
11. Energy in Chemical Reactions				●					5.1-5.3
12. Chemical Equilibrium				●	●				7.1, 17.1
13. Shapes of Titrations		●				●			1.3, 8.1-8.4, 18.2, 18.3
14. Weak Acid Titration		●				●			1.3, 8.1-8.4, 18.2, 18.3
15. Introduction to Buffers		●							18.3
16. Buffer Properties		●							18.3
17. Moving Electrons							●		9.1, 9.2, 19.1

\* IB is a registered trademark of the International Baccalaureate Organization, which was not involved in the production of, and does not endorse, this product.

\*\* Use with the pH port of the Advanced Chemistry Sensor.

\*\*\* Students in Group 4 Experimental Sciences are required to use datalogging in an experiment and software for graph plotting.



## Chemistry Starter Sensor Bundle

PS-2921

1. Chemistry Sensor PS-2170
2. High Accuracy Drop Counter PS-2117
3. Colorimeter PS-2121



## Chemistry Standard Sensor Bundle

PS-2927C

1. Advanced Chemistry Sensor PS-2172
2. Colorimeter PS-2121
3. High Accuracy Drop Counter PS-2117
4. Voltage/Current Sensor PS-2115
5. Fast Response Temperature Probe PS-2135
6. Oxidation Reduction Potential Probe CI-6716



# Datalogging and software for your IB<sup>®</sup> Chemistry, Biology, and Physics programs

PASCO knows how rigorous IB Chemistry, Biology and Physics programs are. And we have the perfect solution for students in Group 4 Experimental Sciences. Since they are required to use electronic measurement and sensors in an experiment and software for graphing, PASCO's award-winning SPARKvue software, advanced-level teacher guides and lab investigations, and the best available sensor-based technology are just what you need for your IB science programs.

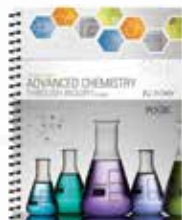
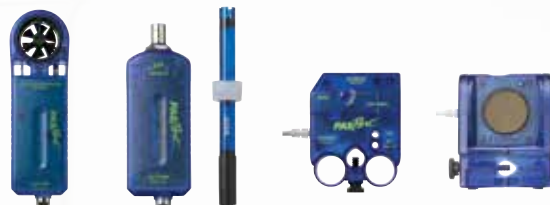


## SPARKvue Software

PASCO's award-winning science learning environment turns your devices into dataloggers, so download the free app, connect your sensors, and start collecting and graphing data today.

## PASPORT Sensors

PASCO offers more than 80 dataloggers that allow students to measure and plot data in real time.



Advanced Chemistry

## PASCO Advanced Teacher Guides and Lab Investigations

PASCO advanced teacher guides are aligned to IB standards and include Advanced Chemistry, (see reverse side), Advanced Biology, and Advanced Physics 1 and 2.

## Free Whitepaper.

"Meeting the World's Needs for 21st Century Science Instruction" [www.pasco.com/BestPractices](http://www.pasco.com/BestPractices)

## Request a free experiment guide.

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