



Advanced Biology through Inquiry Teacher Guide

Advanced-level labs suitable for IB® and Advanced Biology*

- ▶ 22 rigorous labs support the IB Biology standards.
- ▶ Labs can be completed in 45-minute blocks with readily available materials.
- ▶ Flexible format provides guided-inquiry opportunities and scaffolding to successfully move students toward experiments of their own design.
- ▶ Easy and meaningful data collection leads to increased time for data analysis and student inquiry.

PS-2852

▶ Supports the use of SPARKvue, PASCO Capstone™, and all PASPORT interfaces.

▶ Includes sample data, inquiry possibilities, answers, assessment, teacher tips, and lab prep information.

EXPERIMENTS	SENSORS									ALIGNMENT		
	CO ₂ Gas	Colorimeter	Conductivity	Ethanol	Oxygen	pH	Quad Temp	Temperature	Weather	Barometer/ Low Pressure	AP® Big Ideas**	IB Standards***
1. Enzyme Activity					●					▲	1, 2, 4	2.5
2. Diffusion			▲			●					2	1.4, 10.3
3. Osmosis		●									2, 3	1.4
4. Plasmolysis			●								2	1.4
5. Cell Size							●				1, 2	1.1
6. Homeostasis							●				3, 4	N/A
7. Cellular Respiration	●				▲						1, 2, 4	2.8
8. Fermentation				●	▲						2, 4	2.1, 2.8
9. Photosynthesis	●				▲						2, 4	2.9
10. Plant Pigments											2, 4	2.9
11. Transpiration		▲							●	●	2, 4	9.1
12. Mitosis			▲			▲					3	1.6
13. Meiosis											3	3.3, 10.1
14. Transformation											3	B.1
15. Understanding Inherited Mitochondrial Disorders											2, 3, 4	3.4, 10.2
16. Sickle Cell Gene Detection											3, 4	3.1, 10.2
17. Energy Dynamics	●				▲			●			2, 4	4.2
18. Artificial Selection			▲			▲					1	N/A
19. BLAST Bioinformatics											1	3.1, B.5
20. Population Genetics											1	10.3
21. Mathematical Modeling of Evolution											1	10.3
22. Animal Behavior											2, 4	A.4

● Required for use in this experiment. ▲ Suggested for student inquiry.

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 **AP is a trademark registered and/or owned by the College Board, which was not involved in the production of, and does not endorse, this product.
 ***Students in Group 4 Experimental Sciences are required to use datalogging in an experiment and software for graph plotting.

Biology Starter Sensor Bundle

PS-2920

1. Carbon Dioxide Gas Sensor PS-2110
2. Oxygen Gas Sensor PS-2126A
3. Barometer/Low Pressure Sensor PS-2113A
4. pH Sensor PS-2102



Biology Standard Sensor Bundle

PS-2925A

1. Carbon Dioxide Gas Sensor PS-2110
2. Oxygen Gas Sensor PS-2126A
3. Barometer/Low Pressure Sensor PS-2113A
4. Advanced Water Quality Sensor PS-2230
5. Weather Anemometer PS-2174
6. Photosynthesis Tank PS-2521B



Datalogging and software for your IB® Biology, Chemistry, and Physics programs

PASCO knows how rigorous IB Biology, Chemistry, 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 Biology

PASCO Advanced Teacher Guides and Lab Investigations

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

Free Whitepaper.

"Meeting the World's Needs for 21st Century Science Instruction" www.pasco.com/BestPractices

Request a free experiment guide.

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