

Advanced Physics through Inquiry Experiment Guides



PS-2848 and PS-2849

Advanced-level labs suitable for IB® and Advanced Physics 1 and 2*

- ▶ 29 labs designed to address scientific learning objectives and practices.
- ▶ Embedded learning cycle process focuses on exploration, concept invention, and application.
- ▶ Guides include a flash drive with editable student handouts.
- ▶ Also include teacher tips, lab prep info, sample data, and answers to analysis for each lab.
- ▶ Support the use of SPARKvue, PASCO Capstone™, and all PASPORT interfaces.

| ADV PHYSICS 1 EXPERIMENTS | SENSORS | | | | | ALIGNMENT |
|--|---------|-----------------------|------------|---------------|-----------------|----------------|
| | Motion | High Resolution Force | Smart Gate | Rotary Motion | Voltage/Current | IB Standards** |
| 1. Graphical Analysis: Motion | ● | | | | | 2.1 |
| 2. Newton's Second Law | ● | ● | | | | 2.2 |
| 3. Atwood's Machine | | | ● | | | 2.2 |
| 4. Coefficients of Friction | ● | ● | | | | 2.2 |
| 5. Two Dimensional Motion: Projectiles | | | ● | | | 1.3, 2.1 |
| 6. Conservation of Mechanical Energy | | | ● | | | 2.3 |
| 7. Work and Kinetic Energy | | | ● | | | 2.3 |
| 8. Conservation of Momentum | ● | | | | | 2.4 |
| 9. Momentum and Impulse | ● | ● | | | | 2.4 |
| 10. Rotational Dynamics | | | | ● | | B.1 |
| 11. Rotational Statics | | | | | | B.1 |
| 12. Periodic Motion: Mass and Spring | | ● | | | | 4.1, 9.1 |
| 13. Simple Pendulum | | | ● | | | 4.1, 9.1 |
| 14. Resonance and Standing Waves | | | | | | B.4 |
| 15. DC Circuits | | | | | ● | 5.1-5.3 |

* IB is a registered trademark of the International Baccalaureate Organization, 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.

Advanced Physics 1 Starter Bundle

PS-2815

- | | |
|---|---|
| 1. Motion Sensor PS-2103A | 11. Super Pulley Kit ME-9433 |
| 2. Smart Gate PS-2180 | 12. Angle Indicator ME-9495A |
| 3. High Resolution Force Sensor PS-2189 | 13. Cart Picket Fences (2-pack) ME-9804 |
| 4. PAScar (set of 2) ME-6950 | 14. Photogate Brackets (2-pack) ME-9806 |
| 5. Discover Friction Accessory ME-8754 | 15. Pivot Clamp ME-9836 |
| 6. Photogate Pendulum Set ME-8752 | 16. Demonstration Spring Set ME-9866 |
| 7. Dynamics Track End Stop (2-pack) ME-8971 | 17. Pendulum Clamp ME-9506 |
| 8. PASTrack ME-6960 | 18. Compact Cart Mass (2) ME-6755 |
| 9. Discover Collision Bracket ME-8973A | 19. Cart Mass (3) ME-6756 |
| 10. Mass and Hanger Set ME-8979 | |



Advanced Physics 1 Expansion Bundle

PS-2833

- Motion Sensor PS-2103A
- Voltage/Current Sensor PS-2115
- Rotary Motion Sensor PS-2120
- AC/DC Electronic Lab Kit EM-8656
- Photogate Mounting Bracket ME-6821A
- Mini Projectile Launcher ME-6825A
- Tension Protractor (2) ME-6855
- Pendulum Accessory ME-8969
- 4-mm Banana Plug Patch Cord Set SE-7123
- Tuning Fork Set SE-7342
- Carbon Paper (100 sheets) SE-8693
- Resonance Air Column WA-9606



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

PASCO knows how rigorous IB Physics, Biology and Chemistry 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 experiment 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 Physics 1 and 2

PASCO Advanced Experiment Guides and Lab Investigations

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

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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