Designed specifically to collect, display, and analyze data in physics and engineering labs.
Auto-ID sensors are recognized when they are plugged in (or identified through Bluetooth®)

Works with PASPORT, ScienceWorkshop, and new wireless sensors

In-app pairing of wireless sensors makes it easy to pick wireless sensors by proximity

Pre-configured photogate timers

Basic displays include graph, table, digits, meter, oscilloscope, text box, picture.

Make multiple pages with instructions and embedded live graphs.

Collect data and display it in real time.

Play back data in real time or slow or high speed.

Enter data manually – easy setup in a table

Lay out displays with smart guidelines.

Create a Journal by taking snapshots of pages or displays.

Copy and paste displays into documents.

Made a mistake? Just hit the Undo button.

Draw predictions on graphs before taking data.

Multiple y-axes and/or multiple plot areas

Perform Quick-Calcs on the graph axis to linearize data.

Curve-fits report the uncertainties in the parameters.

Multi-coordinate tool gives y-values wherever it intersects data.

Predictions are a powerful tool for learning. Students draw what they think the data will look like and then collect the data run and compare it to their predictions. Predictions can be made either point-by-point with a straight line filled between them or free-form.
PASCO Capstone Advanced Features

Sensors & Signal Generators
- Strip chart mode
- Start and stop conditions on time and sensor measurements
- FFT and oscilloscope
- Histogram
- Manual data collection: Keep sensor data points with click of button.
- Analyze video and display velocity and acceleration vectors on the video.
- Sync movies with sensor data.

Data Collection Modes
- Exclude or delete selected data points from analysis.
- Create models using the calculator.
- Calculated columns in tables
- Error bars
- Weighted linear fit that takes into account error bars
- More complex curve fits such as damped sine, Gaussian, sine series, and user-entered fits
- Smooth data directly on a graph with slider tool.
- Calculations involving logic statements and filters

Data Analysis
- Control amplitude, frequency, and waveforms.
- Configure signal generators with DC offset.
- Scan through a range of frequencies.
- Control the output with a calculation.

Calculator
Sophisticated scientific calculator has statistics, calculus, filters, logic functions, and special operations such as amplitude and period.

Versatile Tables
Measurement: assignment OK

<table>
<thead>
<tr>
<th>Calculations</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum= mass * (Velocity, Red [m/s])</td>
<td>kg m/s</td>
</tr>
<tr>
<td>Kinetic Energy= 0.5 * mass * (Velocity, Red [m/s])^2</td>
<td>J</td>
</tr>
<tr>
<td>mass= 0.5</td>
<td>kg</td>
</tr>
</tbody>
</table>

Error Bars and Weighted Linear Fits

Calculated columns can be edited in the table. Insert or delete columns or change decimal places using toolbar. Click and drag to rearrange columns. Change run colors directly in the table.

Graph uncertainties using user-entered error bars, absolute error, or percent error. The weighted linear fit incorporates the error bars.

For information on these products and more, go to pasco.com/capstone
**Video Analysis Features:**

- Show velocity and acceleration vectors
- Change to cylindrical coordinates
- Use magnifier to identify the exact center of the object
- Use calibration ruler at any time
- Back up and reposition any point
- Track more than one object
- Generate XY data for position, velocity, and acceleration
- Move the origin of the axes
- Rotate the axes, even after taking data
- Make linear measurements in frames or snapshots
- Measure the radius of circle
- Measure angles
- Create annotations
- Automatic frame-advance after taking a point
- Set the number of frames that are advanced
- Change playback rate

For information on these products and more, call your PASCO Education Specialist at 877-373-0300, or go to pasco.com/capstone

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