

K-12 Catalog

2025

Thank you, from our hearts to yours.



You've shared a passion with us for inspiring students and furthering their interest in STEM careers, and for this we are so grateful.

Vernier Volunteers

As a company, we volunteer for organizations such as Habitat for Humanity, The Humane Society, Oregon Museum of Science & Industry, Portland Symphony, Oregon Public Broadcasting, LEGO® Robotic Tournaments, Meals-on-Wheels, The Nature Conservancy, Oregon Food Bank, and many other organizations.

Vernier employees are encouraged to volunteer for non-profit organizations of their choice on company time and receive four hours of pay each month for their volunteer time. Vernier employees regularly volunteer at schools—teaching children to read, teaching art literacy, and helping with field trips and other school functions.

Welcome!

Dear Educators and Partners,

What a warm welcome I have received this year! I'm so thrilled to join the mission that Dave and Christine created at Vernier and to work alongside educators who are at the heart of everything we do. My decision to join Vernier as CEO was deeply personal—shaped by my father's career as a teacher and administrator—and grounded in a shared commitment to advancing science education through hands-on learning and tools that make STEM accessible and engaging for all students.

At Vernier, we know that STEM education is transformative. Our solutions are not just designed for data collection but to empower students to become active participants in their learning. When students can observe real-world phenomena, ask questions, conduct investigations, and analyze data, they move beyond what's possible from only reading or watching to gain a deeper understanding of science. This experiential approach helps students build critical thinking skills and fosters a resilient mindset that will serve them in any path they choose, from continuing in higher education to entering the workforce.

Vernier data-collection tools transform a classroom from a place where science is talked about to a place where it is actively experienced. Through real-time data collection and analysis, students begin to form critical connections and see firsthand how science shapes the world around them. This is where the inspiration happens—where science becomes personal, exciting, and meaningful. Our goal is for students to see themselves as real scientists and problem solvers, gaining confidence to navigate our rapidly changing world with knowledge, curiosity, and skill.

For me, the chance to support educators and create these moments of inspiration for students is a privilege and a passion. I am excited to continue the Vernier legacy of excellence and to work alongside all of you as we inspire the next generation of thinkers, explorers, and problem solvers. Together, let's make science accessible, engaging, and empowering for every student.

Warm regards,



Jill Hedrick, CEO

About Vernier Science Education

Vernier Science Education® was co-founded in 1981 by Dave and Christine Vernier. The company is now owned by a Perpetual Purpose Trust, which empowers Vernier to stay committed to our core mission and values far into the future.

Vernier is proud to be recognized for its philanthropic commitment, environmental policies, steady growth, and as one of the Best 100 Companies to Work For in Oregon for more than 25 years.



2024 Best Companies to Work For in Oregon



2024 Healthiest Employers of Oregon



2024 Best Green Companies in Oregon

Contents

02	What's New
04	Vernier Connections®
06	Getting Started
08	Software
12	Interfaces
16	High School
18	Biology
24	Environmental Science
30	Earth Science
34	Chemistry
40	Physical Science
42	Physics
58	Engineering and Coding
60	Math
62	Middle School
68	Elementary School
70	Sensors & Accessories
74	Index

Inside back cover STEM Classroom

For college products, visit vernier.com/college

10 Tips for Writing Your Best Grant Proposal

We understand that grants are essential for obtaining the supplies, tools, and resources necessary to address the many needs of your students.

This year, with school budgets in such a precarious place, securing grant funding means you and your students can have the support needed to thrive, no matter where learning takes place.

We have created an infographic with 10 tips for grant writing to help you perfect your proposal with newfound confidence.

In addition, discover tips and opportunities for funding your K–12 STEM projects in our updated grant-writing guide. This comprehensive resource includes best practices for writing a successful grant proposal, as well as over 100 upcoming national and state-specific funding opportunities.



vernier.com/grants

What's New

Vernier Connections®

NEW

Vernier Connections deepens students' understanding of scientific concepts and develops critical skills such as inquiry, problem solving, communication, and collaboration. Phenomenon-based, three-dimensional lessons combine the benefits of web-based learning with hands-on investigation.

[Learn more on page 4.](#)

NEW Vernier Data Collection and Analysis Bundle

Make data collection and analysis easy and engaging for students with our 4-in-1 software bundle! This 3-year subscription provides access to robust apps that help students explore complex phenomena and connect scientific concepts to the real world.

DCA-3YR \$499

vernier.com/dca-3yr



Vernier Graphical Analysis® Pro



Vernier Video Analysis®



Vernier Spectral Analysis®



Vernier Instrumental Analysis®

NEW Accessories for an Eco-Friendly Lab

Three new products are now a part of the Vernier high school chemistry lineup, offering reliable, easy-to-use solutions that enhance the lab experience for students and educators. These accessories can be used alongside Vernier Go Direct® sensors to provide impactful learning experiences that are both efficient and environmentally conscious.

[Learn more on page 36.](#)



Electrochemistry Half-Cell Plate

ECHEM-PLT \$59

vernier.com/echem-plt



Electrochemistry Metals Kit

ECHEM-MTLS ⚡ \$20

vernier.com/echem-mtls



Precision Volume Dispenser

DC-DISP \$85

vernier.com/dc-disp

Now Shipping

Go Direct Salinity

Go Direct Salinity precisely measures the total dissolved salt content of ocean or brackish water.

GDX-SAL \$180

vernier.com/gdx-sal



Go Direct Soil Moisture

This sensor uses capacitance to measure the volumetric water content of soil.

GDX-SM \$149

vernier.com/gdx-sm



Watch the video!

Go Direct Force Plate

Measure the forces developed during stepping, jumping, and other human-scale actions. Observe change in apparent weight as you ride an elevator or measure reaction forces as you lean against a wall.

GDX-FP \$399

vernier.com/gdx-fp



Watch the video!

Cart Fan

Use the Cart Fan with the Dynamics Cart and Track System and Go Direct carts to investigate constant acceleration, balanced/unbalanced forces, and variable thrust angles.

DTS-CFAN \$89

vernier.com/dts-cfan



Watch the video!



Inspiring future generations of STEM-literate citizens

Web-based, interactive lessons designed to put hands-on investigation at the heart of students' learning

Vernier Connections deepens students' understanding of scientific concepts and develops critical STEM skills such as inquiry, problem solving, communication, and collaboration. The phenomenon-based lessons in Connections can be used to facilitate independent and cooperative learning or integrated into whole-class instruction. Formative assessment tasks focus on student reasoning and are designed to provide evidence of mastery of the three-dimensional elements.



3D learning
designed for
the NGSS

TEKS

Aligned to
the TEKS



Delivers
relevant & accessible
content



Integrates with
your LMS

Connections lessons keep students engaged as they progress through an inquiry cycle. Students are empowered to explore observable phenomena and their causes, develop explanations, and draw connections to their everyday lives.

Key features include

A content library that can be filtered by standard, topic, completion time, Vernier sensor, keyword, and more to quickly find the right lesson

Hands-on investigations that leverage Vernier sensors to develop students' skills in collecting and analyzing experimental data

Formative assessment with automated feedback integrated throughout the lesson so students can monitor and adjust their own learning

Real-time progress monitoring tools that make it easy for teachers to quickly identify students in need of support and topics in need of review

Time-saving **automated grading** and one-click grade passback to the LMS

Coming 2025
vernier.com/connections

Getting Started

A Guide to Vernier Data Collection

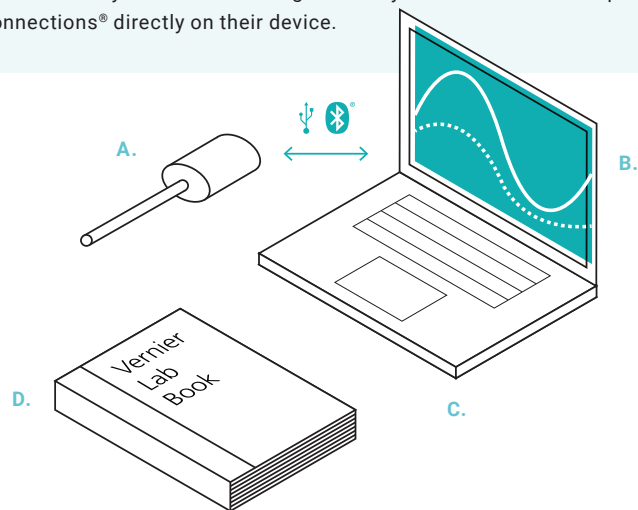
Our data-collection technology helps students record and analyze data from real-world phenomena and make critical connections with concepts and practices that support the development of scientific and critical thinking skills as well as real-world applications of science. Get to know our range of STEM solutions designed to inspire scientific curiosity and support student success.

[vernier.com/getting-started](https://www.vernier.com/getting-started)



Why Choose Go Direct Sensors?

Go Direct® sensors are an ideal fit for schools with one-to-one computing solutions. These sensors can connect to any Bluetooth® wireless technology-enabled device—like laptops, Chromebooks, or tablets—or connect via a wired USB connection. The flexible, wireless connection makes it easy for students to log and analyze data in Vernier Graphical Analysis® or Vernier Connections® directly on their device.



What You Need to Get Started

A. Go Direct Sensor

These versatile sensors connect to your device via Bluetooth wireless technology or USB.

B. Vernier Graphical Analysis Pro

With Vernier Graphical Analysis Pro, students can collect, graph, analyze, and share scientific data collected from Vernier sensors.

Learn more at

[vernier.com/graphical-analysis](https://www.vernier.com/graphical-analysis)

Vernier Connections

Connections' phenomenon-based lessons can be used to facilitate independent and cooperative learning or be integrated into whole-class instruction.

[vernier.com/connections](https://www.vernier.com/connections)

C. Device

Go Direct sensors connect to a wide variety of devices commonly used in classrooms, including Chromebooks, computers, compatible mobile devices, and LabQuest® 3.

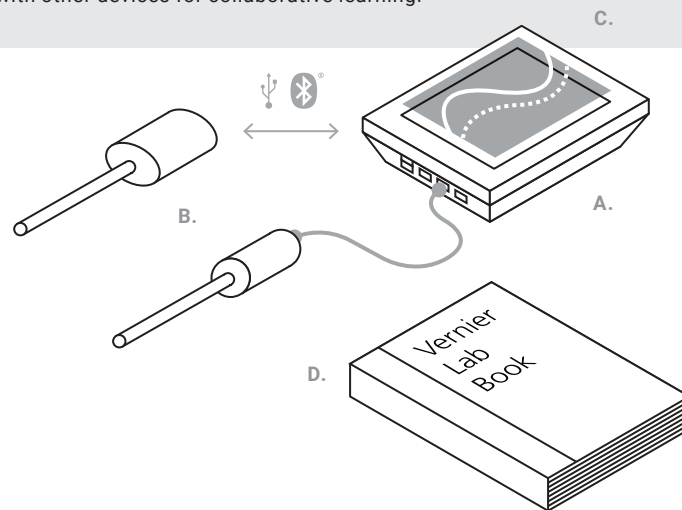
D. Lab Book

Step-by-step instructions at your fingertips save valuable time when integrating probeware into your curriculum. Many of our lab books provide support for Go Direct sensors and the Graphical Analysis app.

Our lab books come with a generous site license. Purchase once and share files school wide.

Why Choose LabQuest 3?

LabQuest 3 is an ideal solution for schools looking to provide students with an easy-to-use data-logging device. The built-in data-collection and analysis app works with all Vernier sensors, including LabQuest and Go Direct sensors. And as a standalone device, it minimizes on-screen distractions while still allowing students to share data in real-time with other devices for collaborative learning.



What You Need to Get Started

A. LabQuest 3

With its large, high-resolution screen, LabQuest can be easily navigated using gestures. It also offers fast data collection, wireless connectivity with Wi-Fi and Bluetooth wireless technology, and a rechargeable, high-capacity battery.

B. Sensors

Compatible with all Vernier sensors, LabQuest 3 connects wirelessly with the family of Go Direct sensors and connects easily to our wired LabQuest sensors.

C. Software

LabQuest 3 has built-in software, LabQuest App, that gives your students real-time graphing and analysis capabilities in one handheld device. LabQuest 3 also offers built-in apps, such as a Periodic Table, Sound Recorder, and more, and includes student instructions for over 75 of our most popular experiments.

D. Lab Book

Looking for even more lab ideas? Our popular, award-winning lab books provide hundreds of well-tested, customizable experiments.

Our lab books come with a generous site license. Purchase once and share files school wide.

LEARN MORE ABOUT LABQUEST 3 ON PAGE 12.

Vernier Graphical Analysis Pro

Deepen students' understanding of natural phenomena through meaningful interaction with data.

With the Vernier Graphical Analysis® app, students can visualize and interact with experiment data collected using nearly any Vernier sensor. Unlock key features with Graphical Analysis Pro and do more with your Vernier sensors to deepen and extend learning. With access to Pro, you can enrich live instruction while providing more opportunities for students to interact with and analyze data outside of class time.

Unlock Pro Access

A subscription site license to Graphical Analysis Pro provides all students and educators at your K-12 school with unlimited access to our award-winning app.

1-Year Site License (unlimited seats)

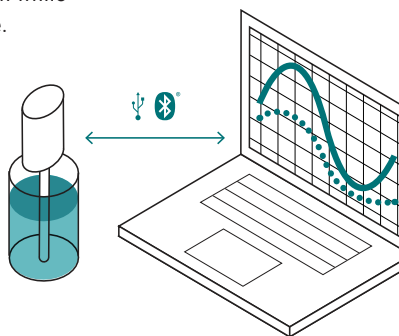
GAP-1YR \$149

3-Year Site License (unlimited seats)

GAP-3YR \$299

5-Year Site License (unlimited seats)

GAP-5YR \$499



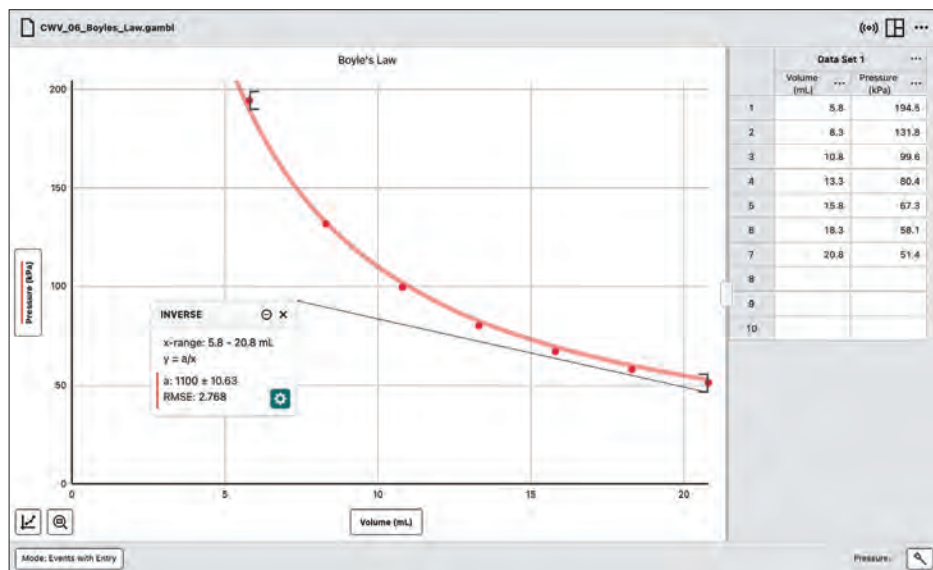
NEW

4-in-1 Bundle

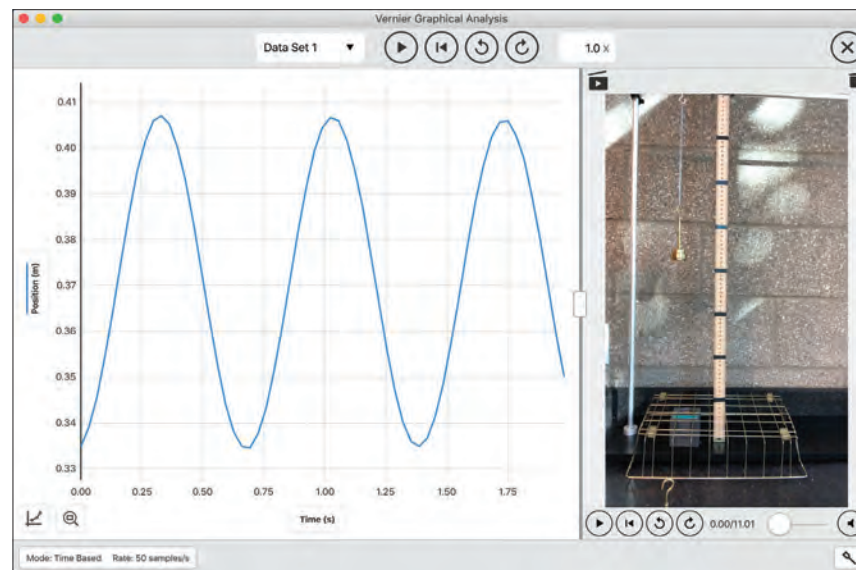
Get all the apps you need to make hands-on data collection easy and engaging for your students! Our new 4-in-1 bundle gives you a 3-year subscription to Vernier Graphical Analysis Pro, Vernier Video Analysis®, Vernier Spectral Analysis®, and Vernier Instrumental Analysis®.

DCA-3YR \$499

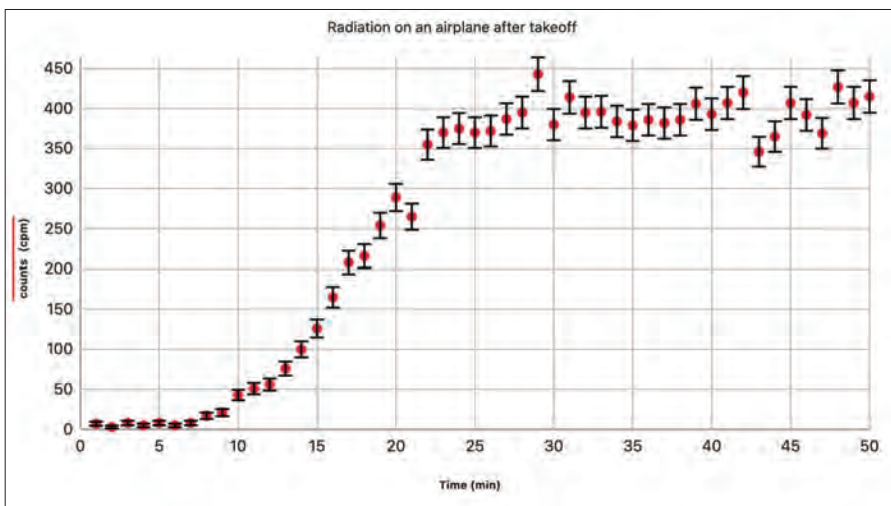
vernier.com/dca-3yr



Choose curve fits from a library of functions or define your own equation. Display uncertainty of fit parameters.



Collected sensor data is synchronized with the video, allowing students to replay, speed up, slow down, and pause recorded experiments at key moments.



Use advanced analysis features, such as error bars, to describe measurement uncertainty.

“The data-sharing feature is outstanding. The engagement is so much better when doing demo labs.”

— John Kunishima

Robert O. Townsend Junior High
Chino Hills, CA

Awards



FREE 30-DAY TRIAL

Get a 30-day free trial and learn about site license options and e-books at [vernier.com/gapro](https://www.vernier.com/gapro)

Key Features

With the free Graphical Analysis app, students can visualize and interact with experiment data collected using nearly any Vernier sensor.

Graphical Analysis Pro Features That Teachers Love

Live data sharing during demonstrations—great for in-person and remote learning

More graph types, including bar, histogram, and FFTs, plus the ability to plot categorical items

Video-sensor data sync, which enables students to replay, speed up, slow down, and pause recorded experiments at key moments in time

Library of over 45 sample experiments ready to be analyzed by students as prep work, homework, or a makeup assignment

Graph annotations so students can demonstrate their comprehension of the graph—and the underlying scientific concepts

Custom curve fits that enable students to fit a function of their choosing to experimental data

For more information, go to [vernier.com/graphical-analysis](https://www.vernier.com/graphical-analysis)



Vernier Video Analysis



Investigate projectile motion.



WORKS ON
CHROMEBOOKS!

Study Motion Everywhere

Vernier Video Analysis® helps students make connections between the classroom and the real world. With this streamlined app, students can use videos they find or record their own with mobile devices to measure motion of objects that they can't measure with a sensor.

1-Year Site License (unlimited seats)

VVA-1YR \$225

3-Year Site License (unlimited seats)

VVA-3YR \$450

Features

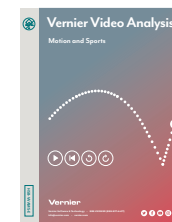
- Vernier Video Analysis app is compatible with multiple browsers and platforms: ChromeOS™, Windows®, macOS®, iOS, iPadOS®, and Android.™
- Students can use prepared videos, found videos, or their own videos for analysis.
- The app makes it possible to do experiments that cannot be done with sensors, such as analyzing the motion of a basketball in flight—objects can be tracked automatically by the app.
- Analysis is easy with multiple graphing options, so students are able to think critically about the collected data—they can even analyze the motion of multiple objects in a single video.
- With this app, you can apply vectors and vector components over the video after tracking a moving object, illuminating changes in position, velocity, and acceleration.
- When multiple objects have been marked, just enter their masses and the app can automatically calculate and display the center of mass location.
- Annual site-licensing makes purchasing and renewing quick and easy.

FREE 30-DAY TRIAL

Get a 30-day free trial and learn about site license options and e-books at [vernier.com/video-analysis](https://www.vernier.com/video-analysis)

Vernier Video Analysis: Motion and Sports

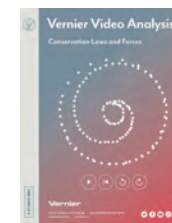
Vernier Video Analysis: Motion and Sports features 12 investigations using Vernier Video Analysis. In addition to traditional physics concepts such as velocity and acceleration, its investigation of sports activities expands learning opportunities and further connects the study of motion to students' daily lives.



Download only
HSB-VVAMS-E
\$29

Vernier Video Analysis: Conservation Laws and Forces

This e-book features 12 investigations dealing with topics such as conservation of energy and momentum using the Vernier Video Analysis app.



Download only
HSB-VVACLF-E
\$29



Vernier Spectral Analysis



Collect, Share, and Analyze Spectrometer Data

Our free Vernier Spectral Analysis® app makes it easy to incorporate spectroscopy into your biology, chemistry, and physics experiments. Using the app, students can collect a full spectrum and explore topics such as Beer's law, enzyme kinetics, and plant pigments.

Compatible with ChromeOS, Windows, macOS, iOS, iPadOS, and Android.

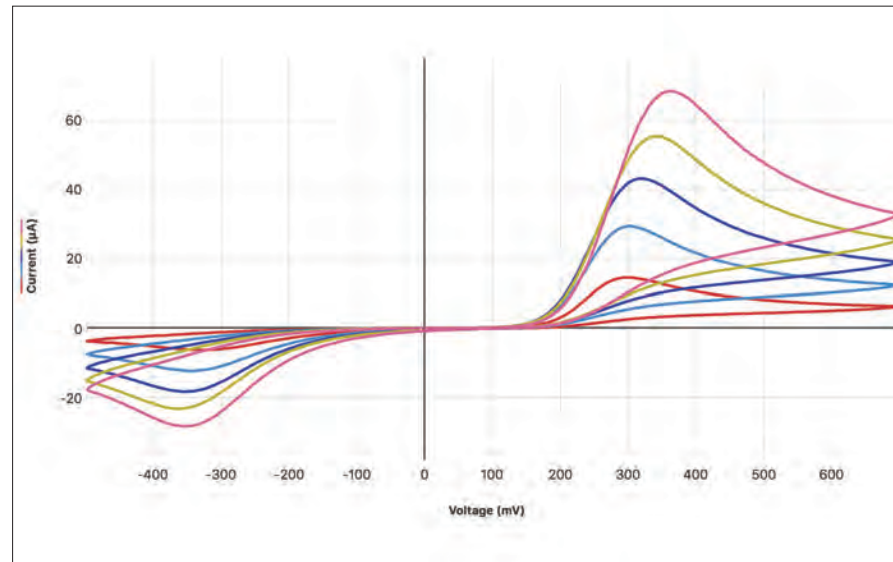
Features

- Follow on-screen instructions for simplified Beer's law or kinetics data collection.
- Collect full absorbance spectrum or percent transmittance data in less than one second.
- Analyze data with built-in analysis tools, including data interpolation and curve fits.
- Determine the order of kinetics reaction with the calculated columns function.
- Understand color transmission using the color strip shown on full spectrum graphs.
- View a full spectrum of your sample while collecting data for Beer's law or kinetics experiments.
- View spectral lines by collecting intensity vs. wavelength data.

Learn more at [vernier.com/spectral-analysis](https://www.vernier.com/spectral-analysis)



Vernier Instrumental Analysis



Incorporate Instrumentation into Your Curriculum

Our free Vernier Instrumental Analysis® app makes it easy to incorporate instrumentation into your chemistry curriculum. With this app, students can collect and analyze data from Mini GC, Mini GC Plus, Go Direct Mini GC™, Go Direct Cyclic Voltammetry System, and Go Direct Polarimeter using computers, Chromebooks, or other mobile devices.

Compatible with ChromeOS, Windows, macOS, iOS, iPadOS, and Android.

Features

- Perform peak integration.
- Split peaks present in your gas chromatograms.
- Determine peak retention time and area.
- Directly measure the optical rotation value of a sample in your polarimeter at a single point or over time.
- Capture and analyze polarimetry data to identify optically active compounds.
- Analyze, save, and export gas chromatography, voltammetry, and polarimetry data.
- Explore electrochemistry and redox reactions with voltammograms.

Learn more at [vernier.com/instrumental-analysis](https://www.vernier.com/instrumental-analysis)

LabQuest 3



LabQuest 3 is a powerful, easy-to-navigate, and versatile data-logging solution for STEM students.

LabQuest® 3 reimagines data collection by providing students with an innovative, easy-to-use interface. A larger screen and advanced touch screen abilities make it easier for students to collect, graph, and analyze data wherever they are—in the classroom or in the field. Challenge your students to gain a deeper understanding of science through data with the accessible, groundbreaking LabQuest 3.

- Connects wirelessly to the family of Go Direct® sensors
- Easy-to-use platform enables students to generate graphs and analyze results
- An excellent choice for laboratories, classrooms, or in-the-field investigations

LABQ3 \$399

LabQuest 3 purchase includes LabQuest 3 unit, rechargeable battery (in unit), AC power adapter, micro USB computer connection cable, and Quick-Start Guide



Full-Featured Data-Collection Platform

The most engaging and effective approach to science is interactive, with students collecting and analyzing data to understand and apply core concepts. Graphing and analyzing data is an essential component of the inquiry and learning process. LabQuest 3, with its built-in data-collection and analysis app that works with all Vernier sensors, supports hands-on data collection in the classroom, in the lab, and in the field.

- No laptops, Chromebooks, or tablets? No problem. LabQuest 3 can do it all—data collection, data analysis, and data sharing—no other device is needed.
- Keep your expensive computers safe from spills, drops, and crashes—use LabQuest 3 in the chemistry lab, at the watershed, or next to your bridge tester.
- With a portable design, your students take it anywhere they go.
- LabQuest 3 works with both Go Direct and wired LabQuest sensors.



Connectivity to Other Platforms

USB Sensor Interface

If you want to use your own computer or Chromebook™ to collect data, use LabQuest 3 as a conduit between our wired LabQuest sensors and your device. LabQuest 3 works as a USB sensor interface with Vernier Graphical Analysis®

One-to-Many Data Sharing

Students can share real-time data with multiple devices for a truly hands-on, collaborative learning experience. Use LabQuest 3 to transfer data wirelessly to computers, and mobile devices running Vernier Graphical Analysis®

Data Sharing from a LabQuest 3 can also be used to connect wired LabQuest sensors to mobile devices that don't support a USB interface.

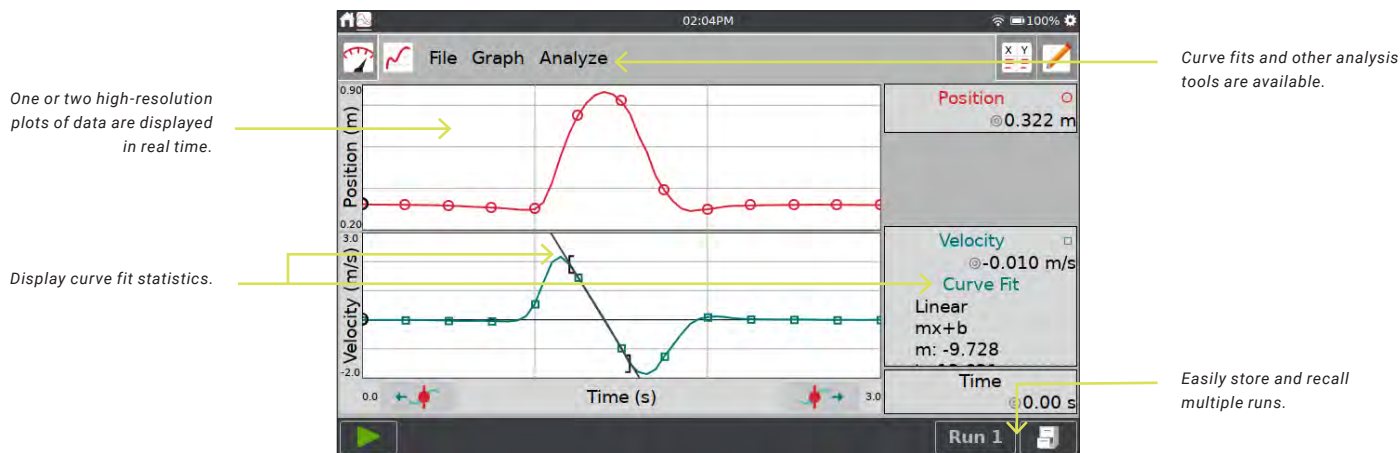
*Data Sharing from LabQuest 3 is not supported in the Progressive Web App version of Vernier Graphical Analysis®

Learn more at vernier.com/labq3

LabQuest App

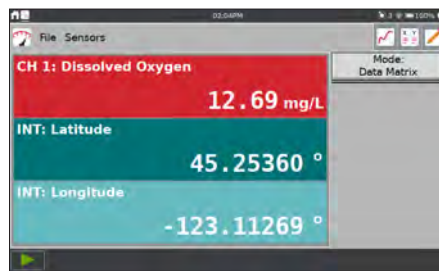
LabQuest 3 has built-in software that gives your students real-time graphing capabilities in a handheld device. It's powerful, yet beautifully simple.

- Collect data and view in a Data Table, Meter, and Graph.
 - Perform curve fits.
 - Use built-in sensors—GPS and Microphone.
 - Draw a prediction before collecting data.
 - Display two graphs at once.
- Display a tangent line or use the Integral function tool.
 - Calculate statistics for your data.
- Learn more about built-in applications and other great features at vernier.com/labq3

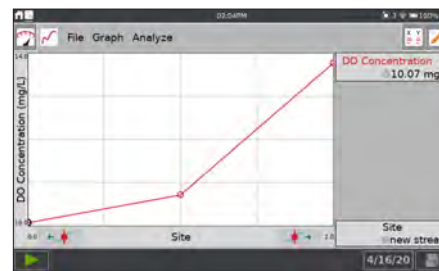


One-Touch Simplicity

Your students can collect data and view them in a Meter, Graph, or Data Table.



Meter



Graph

Site	Latitude (°)	Longitude (°)	Altitude (m)	DO Conc (mg/L)
new stream	45.50782	-122.85773	66	10.07
pond	45.50790	-122.85690	61	10.71
entrance	45.50841	-122.85613	51	13.77

Data Table

Learn more at vernier.com/labq3

LabQuest 3 Accessories and Replacement Parts

Product	Order Code	Price
LabQuest Charge Station	LQ3-CRG	\$149
LabQuest 3 Stand	LQ3-STN	\$5
LabQuest Power Supply*	LQ3-PS	\$11
LabQuest Lanyard	LQ3-LAN	\$9
LabQuest 3 Battery*	LQ3-BAT	\$34
LabQuest Battery Boost 3	LQ-B00ST3	\$119
Vernier Micro USB Cable*	CB-USB-MICRO	\$5
Vernier Micro USB to USB-C Cable	CB-USB-C-MICRO	\$9

*Included with LabQuest 3

LabQuest Viewer App



LabQuest Viewer

Teach students how to use LabQuest® by projecting your LabQuest screen. Display live images of all LabQuest units in your lab to monitor student progress or compare group data. LabQuest Viewer® is compatible with both macOS® and Windows® computers.

Computer software includes a site license for every teacher's computer in your school.

CD LQ-VIEW \$79
Download LQ-VIEW-E \$79

For more information, visit vernier.com/lq-view

LabQuest Viewer for iPad

Use LabQuest Viewer app for iPad® on your classroom iPad to wirelessly view and control LabQuest. When your iPad is used with a projector, you can easily display any LabQuest screen for the entire class to see.

For more information, visit vernier.com/lq-view-ipad



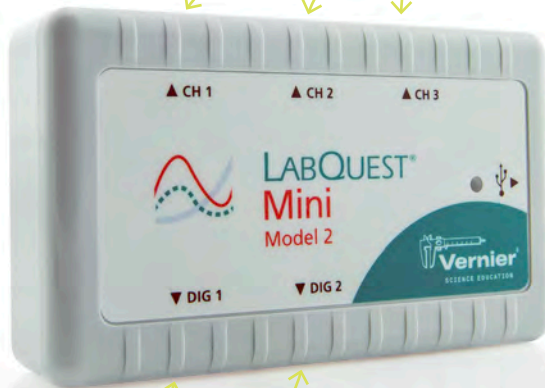


LabQuest Mini

LabQuest Mini (Model 2) brings the power of our award-winning LabQuest technology to you when you don't need the versatility of a standalone device. The perfect solution for educators collecting data using LabQuest sensors with a computer or Chromebook,™ LabQuest Mini interfaces with Vernier Graphical Analysis® (computers and Chromebooks only).

LQ-MINI \$189

[Learn more at vernier.com/lq-mini](http://vernier.com/lq-mini)



Three analog sensor ports for use with most sensors, such as temperature, pH, and force

USB connectivity

Connect LabQuest Mini to a Windows or macOS computer or a Chromebook to collect data.

Two digital sensor ports for use with digital sensors, such as motion detectors, photogates, chemical polarimeters, diffraction apparatus, and drop counters

Go!Link

The Go!Link® USB sensor interface is a quick and affordable way to get started with data-collection technology. It's a single-channel interface that connects most of our LabQuest sensors to your computer or Chromebook USB port.

GO-LINK \$75

[Learn more at vernier.com/go-link](http://vernier.com/go-link)



USB connectivity

Connect Go!Link to a Windows or macOS computer or a Chromebook to collect data.

One analog port for use with most sensors, such as temperature, pH, and force

USING GO DIRECT SENSORS? NO INTERFACE REQUIRED!

An interface is required when using wired LabQuest sensors. LabQuest Mini and Go!Link are not for use with Go Direct® sensors.

High School

Encourage your students and build their confidence in pursuing STEM career paths with hands-on experience using data-collection technology from Vernier. Our technology supports you as you prepare students to meet the NGSS and state standards through experiments that support three-dimensional learning.

[vernier.com/high-school](https://www.vernier.com/high-school)



Contents

17	Lab Books and Investigations
	Subjects
18	Biology
24	Environmental Science
30	Earth Science
34	Chemistry
40	Physical Science
42	Physics
58	Engineering and Coding
60	Math

For college products, visit [vernier.com/college](https://www.vernier.com/college)

Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

[vernier.com/training](https://www.vernier.com/training)

Lab Books & Investigations



E-books and Printed Books—the Choice Is Yours

Many of our popular, award-winning lab books are available in both e-version and printed formats. When you purchase a printed book, you also receive the electronic version. When you purchase either format, you receive

- Anytime access to the most up-to-date versions of experiments on all supported Vernier software (free Vernier web account required)
- Editable student files and complete teacher information files, including sample data and supplies lists
- A generous site license—purchase once and share files with other teachers in your school

Helping You Meet Standards and Learning Objectives

Vernier understands that helping students meet standards is an important part of teaching. As standards change, we are committed to providing you with the most current information. You will find the following alignments and correlations for Vernier lab books at [vernier.com/standards](https://www.vernier.com/standards)

- NGSS (Next Generation Science Standards)
- CSTA (Computer Science Teachers Association)
- AP* (Advanced Placement Program)
- IB† (International Baccalaureate Diploma Program)

Ideas for Your Science Classroom

If you are looking for experiments that can help you excite your students about STEM, check out our extensive library. We make it easy to find ideas from fellow educators and Vernier professionals.

Visit [vernier.com/ideas](https://www.vernier.com/ideas)

NGSS Aligned

To learn about the Next Generation Science Standards and Vernier, visit [vernier.com/ngss](https://www.vernier.com/ngss)

Learn more at [vernier.com/lab-books](https://www.vernier.com/lab-books)

* AP and Advanced Placement Program are registered trademarks of the College Entrance Examination Board, which was not involved in the production of and does not endorse this product.

† The IB Diploma Program is an official program of the International Baccalaureate Organization (IBO) which authorizes schools to offer it. The material available here has been developed independently of the IBO and is not endorsed by it.

HIGH SCHOOL

Biology

Our biology solutions include high-quality sensors, easy-to-use software, and exceptional technical support to set up you and your students for classroom success.

[vernier.com/biology](https://www.vernier.com/biology)



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

[vernier.com/training](https://www.vernier.com/training)

Go Direct CO₂ Gas

MOST POPULAR

Use Go Direct® CO₂ Gas to measure carbon dioxide gas levels, air temperature, and relative humidity. It's an excellent sensor for measuring fermentation, cell respiration, and photosynthesis.

GDX-CO2 \$229

[vernier.com/gdx-co2](https://www.vernier.com/gdx-co2)



Go Direct O₂ Gas

Use this sensor to measure gaseous oxygen concentration levels and air temperature.

GDX-O2 \$219

[vernier.com/gdx-o2](https://www.vernier.com/gdx-o2)



Go Direct Gas Pressure

Use Go Direct Gas Pressure to monitor gas pressure in a variety of experiments. Easily change the displayed units to any one of seven options. This sensor includes a syringe, tubing, and stoppers to ease experiment setup.

GDX-GP \$105

vernier.com/gdx-gp



Go Direct pH

This is an important and versatile sensor for lab and field activities alike. Go Direct pH is a general-purpose pH sensor used to monitor pH of aqueous solutions.

GDX-PH \$109

vernier.com/gdx-ph



Go Direct Optical Dissolved Oxygen

Use this sensor to measure dissolved oxygen, water temperature, and atmospheric pressure.

GDX-ODO \$385

vernier.com/gdx-odo



Go Direct Conductivity

Go Direct Conductivity determines the ionic content of an aqueous solution by measuring its electrical conductivity. It features a built-in temperature sensor, so you can simultaneously read conductivity and temperature.

GDX-CON \$129

vernier.com/gdx-con



Go Direct Temperature

Unlike a traditional thermometer, Go Direct Temperature allows students to collect real-time temperature measurements of a single instance or over a period of time.

GDX-TMP \$79

vernier.com/gdx-tmp



Go Direct EKG

Go Direct EKG measures electrical activity in the heart and electrical signals produced during muscle contractions.

GDX-EKG \$175

vernier.com/gdx-ekg



Human Physiology Go Direct Standard Package

This package includes nine sensors that work with Vernier Graphical Analysis® Pro and LabQuest® 3. Two useful accessories are also included.

Sensors

- Go Direct® Blood Pressure
- Go Direct EKG
- Go Direct Force and Acceleration
- Go Direct Hand Dynamometer
- Go Direct O₂ Gas
- Go Direct Respiration Belt
- Go Direct Surface Temperature
- Go Direct Spirometer
- Go Wireless® Heart Rate

Accessories

- Reflex Hammer Accessory Kit
- BioChamber 250 ⚡

GDP-HP-DX ⚡ \$1,363

Buy 8 or more packages at \$1,336 and save \$216.

vernier.com/gdp-hp-dx

Go Direct PAR

Go Direct PAR (Photosynthetically Active Radiation) measures photosynthetic light levels in both air and water.

GDX-PAR \$299

vernier.com/gdx-par



Go Direct Soil Moisture

Simply insert this rugged sensor into the soil to be tested, and the volumetric water content of the soil is reported in percent.

GDX-SM \$149

vernier.com/gdx-sm



Lab Books for Human Physiology

Our experiments are designed to encourage students to explore the physiology of various human organ systems. The setup for these experiments is minimal—students are collecting data within minutes.

Printed book + download HSB-HP \$45

Download only HSB-HP-E \$35

Printed book + download ALB-HP2 \$45

Download only ALB-HP2-E \$35

vernier.com/product/human-physiology-experiments/



Go Direct Hand Dynamometer

Measure grip strength, pinch strength, and muscle fatigue wirelessly.

GDX-HD \$135

vernier.com/gdx-hd



Go Direct Weather System

Easily monitor a wide variety of environmental factors with just one sensor. The included Go Direct Weather Vane accessory is required to report wind direction.

GDX-WTVA \$164

vernier.com/gdx-wtva



LabQuest 3

LabQuest 3 can serve as a standalone data-collection platform that works with all of our sensors. This makes it an excellent choice for teachers and students in the classroom and in the field.

LABQ3 \$399

vernier.com/labq3

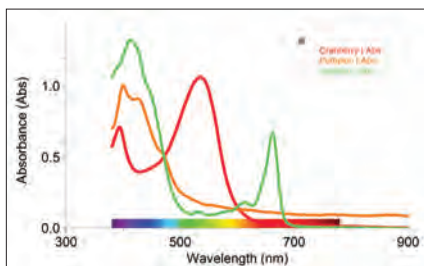


Go Direct SpectroVis Plus

Introduce your students to spectroscopy with our affordable Go Direct SpectroVis® Plus. Students can easily collect a full-wavelength spectrum (absorbance, percent transmittance, fluorescence, or intensity), study absorbance vs. concentration (standard curve), or monitor enzyme activity (kinetics). Collect and analyze data using Vernier Spectral Analysis® app or LabQuest App.

GDX-SVISPL \$479

vernier.com/gdx-svispl



⚡ For California Proposition 65 warning, see pp. 78–79.

Biology Go Direct Starter Package

This package includes 4 sensors that work with Vernier Graphical Analysis Pro and LabQuest 3.

- Go Direct Temperature
- Go Wireless Heart Rate
- Go Direct Gas Pressure
- Go Direct CO₂ Gas

GDP-BIO-ST \$512

[Learn more at vernier.com/gdp-bio-st](http://vernier.com/gdp-bio-st)



Biology Go Direct Standard Package

This package includes 11 sensors that work with Vernier Graphical Analysis Pro and LabQuest 3. Two sampling chambers are also included.

- Go Direct Temperature
- Go Direct Gas Pressure
- Go Direct O₂ Gas
- Go Direct CO₂ Gas
- Go Direct Colorimeter
- Go Direct Conductivity
- Go Direct EKG
- Go Direct pH
- Go Direct Optical Dissolved Oxygen
- Go Direct Respiration Belt
- Go Wireless® Heart Rate
- BioChamber 250 ⚡
- BioChamber 2000 ⚡

GDP-BIO-ODX ⚡ \$1,820

Buy 8 or more packages at \$1,784 and save \$288.

[Learn more at vernier.com/gdp-bio-odx](http://vernier.com/gdp-bio-odx)

Biology with Vernier

Biology with Vernier addresses the fundamentals of a high school biology course with 31 experiments that include cell respiration, photosynthesis, membrane diffusion, osmosis, human physiology, transpiration, fermentation, and more.

[Learn more at vernier.com/bwv](http://vernier.com/bwv)





Printed book + download BWV \$59
Download only BWV-E \$45

Featured Products

Go Direct Sensors

Sensor		Order Code	Price
Go Direct® Blood Pressure		GDX-BP	\$125
Go Direct CO ₂ Gas		GDX-CO2	\$229
Go Direct Colorimeter		GDX-COL	\$135
Go Direct Conductivity		GDX-CON	\$129
Go Direct EKG		GDX-EKG	\$175
Go Direct Ethanol Vapor		GDX-ETOH	\$169
Go Direct Force and Acceleration (for use with Reflex Hammer Accessory Kit)		GDX-FOR	\$119
Go Direct Gas Pressure		GDX-GP	\$105
Go Direct Hand Dynamometer		GDX-HD	\$135
Heart Rate Monitors			
Go Wireless® Exercise Heart Rate		GW-EHR	\$79
Go Wireless Heart Rate		GW-HR	\$99
Go Direct O ₂ Gas		GDX-O2	\$219
Go Direct Optical Dissolved Oxygen		GDX-ODO	\$385

Go Direct PAR		GDX-PAR	\$299
pH Sensors			
Go Direct pH		GDX-PH	\$109
Go Direct Tris-Compatible Flat pH		GDX-FPH	\$139
Go Direct Respiration Belt		GDX-RB	\$125
Go Direct Salinity		GDX-SAL	\$180
Go Direct Soil Moisture		GDX-SM	\$149
Go Direct SpectroVis® Plus		GDX-SVISPL	\$479
Go Direct Spirometer		GDX-SPR	\$229
Temperature Probes			
Go Direct Surface Temperature		GDX-ST	\$99
Go Direct Temperature		GDX-TMP	\$79
Go Direct Weather System		GDX-WTVA	\$164

See all our products for biology at [vernier.com/biology](https://www.vernier.com/biology)

LabQuest Sensors

Sensor	Order Code	Price
25-g Accelerometer	ACC-BTA	\$110
Blood Pressure Sensor	BPS-BTA	\$120
CO ₂ Gas Sensor	C02-BTA	\$299
Colorimeter	COL-BTA	\$128
Conductivity Probe	CON-BTA	\$129
EKG Sensor	EKG-BTA	\$179
Ethanol Sensor	ETH-BTA	\$135
Gas Pressure Sensor	GPS-BTA	\$103
Hand Dynamometer	HD-BTA	\$124
Heart Rate Monitors		
Exercise Heart Rate Monitor	EHR-BTA	\$99
Hand-Grip Heart Rate Monitor	HGH-BTA	\$129
O ₂ Gas Sensor	O2-BTA	\$219
PAR Sensor	PAR-BTA	\$259
pH Sensors		
pH Sensor	PH-BTA	\$105
Tris-Compatible Flat pH Sensor	FPH-BTA	\$124
Soil Moisture Sensor	SMS-BTA	\$148
Spirometer	SPR-BTA	\$240
Temperature Probes		
Stainless Steel Temperature Probe	TMP-BTA	\$45
Surface Temperature Sensor	STS-BTA	\$34

Accessories

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89
Go Direct Sensor Clamp	GDX-CLAMP	\$14
Reflex Hammer Accessory Kit	RFX-ACC	\$29

See all our products for biology at [vernier.com/biology](https://www.vernier.com/biology)

Spectrophotometers

[vernier.com/spectrometers](https://www.vernier.com/spectrometers)

Spectrophotometer	Order Code	Price
Go Direct SpectroVis Plus	GDX-SVISPL	\$479
Go Direct Fluorescence/UV-VIS Spectrophotometer	GDX-SPEC-FUV	\$3,499
Go Direct UV-VIS Spectrophotometer	GDX-SPEC-UV	\$2,999
Go Direct Visible Spectrophotometer	GDX-SPEC-VIS	\$1,999

Digital Microscopes

Equipment	Order Code	Price
Celestron® Digital Microscope Imager	CS-DMI [⬆]	vernier.com/cs-dmi
5MP Celestron Digital Microscope	CS-5MP [⬆]	vernier.com/cs-5mp
USB Digital Microscope	BD-EDU-100	\$119

Lab Books*

Title	Order Code	Price
<i>Biology with Vernier</i>	Printed book + download: BWV	\$59
	Download only: BWV-E	\$45
<i>Investigating Biology through Inquiry</i>	Printed book + download: BIO-I	\$59
	Download only: BIO-I-E	\$45
<i>Human Physiology Experiments: Volume 1</i>	Printed book + download: HSB-HP	\$45
	Download only: HSB-HP-E	\$35
<i>Human Physiology Experiments: Volume 2</i>	Printed book + download: ALB-HP2	\$45
	Download only: ALB-HP2-E	\$35
<i>Agricultural Science with Vernier</i>	Printed book + download: AWV	\$59
	Download only: AWV-E	\$45

Looking for Replacement Parts?

Visit [vernier.com/replacements](https://www.vernier.com/replacements)

HIGH SCHOOL

Environmental Science

Help your students see that the environmental science concepts discussed in the classroom have serious implications on the world around them. Our hands-on investigations and data-collection technology help students form a better understanding of phenomena.

vernier.com/environmental-science



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Go Direct Soil Moisture

This sensor uses capacitance to measure the volumetric water content of soil.

GDX-SM \$149

vernier.com/gdx-sm



Go Direct Optical Dissolved Oxygen

This optical sensor makes it easy to measure dissolved oxygen in water, atmospheric pressure, and water temperature.

GDX-ODO \$385

vernier.com/gdx-odo



Go Direct Salinity

Go Direct® Salinity precisely measures the total dissolved salt content of ocean or brackish water.

GDX-SAL \$180

vernier.com/gdx-sal



Go Direct Tris-Compatible Flat pH

The flat glass, double-junction design makes this sensor a good choice for environmental science.

GDX-FPH \$139

vernier.com/gdx-fph



Go Direct Conductivity

Go Direct Conductivity determines the ionic content of an aqueous solution by measuring its electrical conductivity.

GDX-CON \$129

vernier.com/gdx-con



Go Direct Surface Temperature

This sensor has an exposed thermistor that results in an extremely rapid response time, making it perfect for use in air and water.

GDX-ST \$99

vernier.com/gdx-st



Go Direct Light and Color

Measure light intensity in the visible-to-ultraviolet electromagnetic spectrum. An RGB color sensor detects relative contributions of primary colors in light.

GDX-LC \$99

vernier.com/gdx-lc



Go Direct Weather System

Easily monitor a wide variety of environmental factors with just one sensor. Go Direct Weather System includes an affordable, wireless handheld sensor used to measure ambient temperature, humidity, wind speed, and more. The included Go Direct Weather Vane accessory is required to report wind direction.

GDX-WTVA (sensor and vane) \$164

vernier.com/gdx-wtva



Strengthen students' critical thinking skills by introducing them to alternative energy solutions to real-world problems.

The KidWind Project and Vernier have teamed up to provide the technology, resources, and support you need for your students to investigate renewable energy.

- **Engage your students** as they watch power output and energy production data develop in real time.
- **Inspire creativity** as your students build and test prototypes, test solutions to engineering problems, and optimize designs.
- **Measure** voltage and current, and calculate power, without using a multimeter.
- **Set up activities quickly** and easily, creating more time for instruction and exploration.



KidWind Advanced Wind Experiment Kit

Discover advanced concepts of wind turbine technology, including gearboxes and generator construction (with the optional KidWind simpleGEN). Students use the blades they design to generate electricity, lift weights, and pump water. This kit is recommended for use with our *Renewable Energy with Vernier* lab book.

KW-AWX \$174

KidWind Advanced Wind Experiment Kit Classroom Pack

KW-AWXC \$444

vernier.com/kw-awx



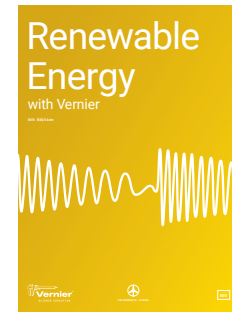
Renewable Energy with Vernier

The *Renewable Energy with Vernier* lab book features 26 experiments in wind and solar energy. The book contains a combination of explorations, classic experiments, inquiry investigations, engineering projects, and more.

vernier.com/rev

Printed book +
download
REV \$59

Download only
REV-E \$45



Solar Energy Exploration Kit

Explore solar energy with this innovative science kit designed to help students investigate energy transformations. Experiment with basic circuits and learn about important factors in photovoltaic systems.

KW-SEEK \$89

vernier.com/kw-seek



KidWind Blade Design Consumables

Bulk balsa, chipboard sheets, and dowels for blade making in the classroom. Pack includes 100 balsa sheets, 150 chipboard sheets, and 250 dowels.

KW-BDC \$169

vernier.com/kw-bdc



Go Direct Energy

This sensor quantifies the voltage, current, power, and energy output of small wind turbines and solar panels, such as those used in our KidWind Experiment Kits.

GDX-NRG \$99

vernier.com/gdx-nrg



LabQuest 3

LabQuest 3 is a powerful, easy-to-navigate, and versatile data-logging system.

LabQuest® 3 can serve as a standalone data-collection platform that works with all of our sensors. This makes it an excellent choice for teachers and students in the classroom as well as in the field.

LABQ3 \$399

vernier.com/labq3



Go Direct Sensor Clamp

The Go Direct® Sensor Clamp securely fastens to a wand-style Go Direct sensor, and the included lanyard works as a strap to prevent accidental drops during investigations in the field. Sensors are sold separately.

GDX-CLAMP \$14

vernier.com/gdx-clamp



Environmental Science Go Direct Starter Package

This package includes four sensors that work with Vernier Graphical Analysis® Pro and LabQuest 3.

- Go Direct Temperature
- Go Direct Tris-Compatible Flat pH
- Go Direct Conductivity
- Go Direct Optical Dissolved Oxygen

GDP-EV-ST \$732

Learn more at vernier.com/gdp-ev-st



Investigating Environmental Science through Inquiry

The *Investigating Environmental Science through Inquiry* lab book contains 34 inquiry-based environmental science investigations.

Topics include

- Earth systems and resources (air, water, and soil)
- The living world
- Global change and population
- Energy resources and consumption
- Pollution

Learn more at vernier.com/esi

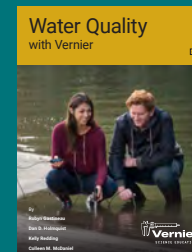


Printed book + download ESI \$59
Download only ESI-E \$45

Water Quality with Vernier

The *Water Quality with Vernier* lab book contains 18 water quality tests, including pH, total dissolved solids, dissolved oxygen, BOD, flow rate, turbidity, nitrates, and phosphates.

Learn more at vernier.com/wqv



Printed book + download WQV \$59
Download only WQV-E \$45

Featured Products

Go Direct Sensors

Sensor		Order Code	Price
Go Direct® CO ₂ Gas		GDX-CO2	\$229
Go Direct Colorimeter		GDX-COL	\$135
Go Direct Conductivity		GDX-CON	\$129
Go Direct Current		GDX-CUR	\$99
Go Direct Energy		GDX-NRG	\$99
Go Direct Ethanol Vapor		GDX-ETOH	\$169
Ion-Selective Electrodes			
Go Direct Ammonium Ion-Selective Electrode		GDX-NH4	\$299
Go Direct Calcium Ion-Selective Electrode		GDX-CA	\$299
Go Direct Chloride Ion-Selective Electrode		GDX-CL	\$299
Go Direct Nitrate Ion-Selective Electrode		GDX-NO3	\$299
Go Direct Light and Color		GDX-LC	\$99








Go Direct O ₂ Gas		GDX-O2	\$219
Go Direct Optical Dissolved Oxygen		GDX-ODO	\$385
pH Sensors			
Go Direct pH		GDX-PH	\$109
Go Direct Tris-Compatible Flat pH		GDX-FPH	\$139
Go Direct Salinity		GDX-SAL	\$180
Go Direct Soil Moisture		GDX-SM	\$149
Go Direct SpectroVis® Plus		GDX-SVISPL	\$479
Temperature Probes			
Go Direct Surface Temperature		GDX-ST	\$99
Go Direct Temperature		GDX-TMP	\$79
Go Direct Voltage		GDX-VOLT	\$95
Go Direct Weather System		GDX-WTVA	\$164

See all our products for environmental science at [vernier.com/environmental-science](https://www.vernier.com/environmental-science)

Go Direct Accessories

Accessory		Order Code	Price
Go Direct Charge Station		GDX-CRG	\$89
Go Direct Sensor Clamp		GDX-CLAMP	\$14

LabQuest Sensors

Sensor		Order Code	Price
Conductivity Probe		CON-BTA	\$129
Flow Rate Sensor		FLO-BTA	\$139
pH Sensor		PH-BTA	\$105
Tris-Compatible Flat pH		FPH-BTA	\$124
Salinity Sensor		SAL-BTA	\$149
Soil Moisture Sensor		SMS-BTA	\$148
Turbidity Sensor		TRB-BTA	\$124

Lab Equipment

Equipment	Order Code	Price
KidWind Advanced Wind Experimenty Kit	KW-AWX	\$174
KidWind Basic Wind Experiment Kit	KW-BWX	\$134
Solar Energy Exploration Kit	KW-SEEK	\$89
KidWind 2V/400mA Solar Panel	KW-SP2V	\$21
Vernier Variable Load	VES-VL	\$79
Primary Productivity Kit	PPK	\$49
Water Depth Sampler	WDS	\$114
Water Quality Bottles	WQ-BOT	\$28

Lab Books

Title	Order Code	Price
<i>Climate and Meteorology Experiments</i> (Go Direct sensors only)	Printed book + download: HSB-CM	\$29
	Download only: HSB-CM-E	\$24
<i>Investigating Environmental Science through Inquiry</i>	Printed book + download: ESI	\$59
	Download only: ESI-E	\$45
<i>Renewable Energy with Vernier</i>	Printed book + download: REV	\$59
	Download only: REV-E	\$45
<i>Solar Energy Explorations</i>	Printed book + download: MSB-SOLAR	\$29
	Download only: MSB-SOLAR-E	\$24
<i>Water Quality with Vernier</i> (LabQuest® sensors only)	Printed book + download: WQV	\$59
	Download only: WQV-E	\$45
<i>Wind Energy Explorations</i>	Printed book + download: MSB-WIND	\$29
	Download only: MSB-WIND-E	\$24

See all our products for environmental science at [vernier.com/environmental-science](https://www.vernier.com/environmental-science)

Looking for Replacement Parts?

Visit [vernier.com/replacements](https://www.vernier.com/replacements)

HIGH SCHOOL

Earth Science

When you use Vernier technology to teach Earth science, you can count on our affordable sensors, intuitive software, and creative solutions to help your students understand key Earth science concepts.

[vernier.com/earth-science](https://www.vernier.com/earth-science)



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

[vernier.com/training](https://www.vernier.com/training)

Go Direct Temperature

MOST POPULAR

This rugged probe measures the temperature of a variety of substances including air, soil, and water.

Range: -40 to 125°C

GDX-TMP \$79

[vernier.com/gdx-tmp](https://www.vernier.com/gdx-tmp)



Go Direct Temperature Teacher Pack

GDX-TMP-TP \$702

Includes 8 Go Direct® Temperature Probes and a Go Direct Charge Station.



Go Direct 3-Axis Magnetic Field

Useful for topics in geology, this sensor can determine the magnitude and direction of a magnetic field at any point in space.

GDX-3MG \$99

[vernier.com/gdx-3mg](https://www.vernier.com/gdx-3mg)



Go Direct pH

This wireless sensor monitors the pH of aqueous solutions and is perfect for lab and field experiments alike.

GDX-PH \$109

vernier.com/gdx-ph



Go Direct pH Teacher Pack

GDX-PH-TP \$935

Save money when you purchase the Go Direct pH Teacher Pack, which includes 8 Go Direct pH Sensors and a Go Direct Charge Station.



Go Direct Light and Color

Measure light intensity in the visible-to-ultraviolet electromagnetic spectrum. An RGB color sensor detects relative contributions of primary colors in light.

GDX-LC \$99

vernier.com/gdx-lc



Go Direct Conductivity

Go Direct Conductivity determines the ionic content of an aqueous solution by measuring its electrical conductivity.

GDX-CON \$129

vernier.com/gdx-con



Go Direct Motion

Go Direct Motion uses ultrasound to measure the position, velocity, and acceleration of moving objects.

GDX-MD \$129

vernier.com/gdx-md



Climate and Meteorology Experiments Go Direct Package

This package includes all the sensors needed to do the activities in the *Climate and Meteorology Experiments* lab book.

- Go Direct® Surface Temperature (2)
- Go Direct Light and Color
- Go Direct Weather System

GDP-CM \$461

Buy 8 or more packages at \$452
and save \$72.

Learn more at vernier.com/gdp-cm



Go Direct Weather System

Easily monitor a wide variety of environmental factors with just one sensor. Go Direct Weather System includes an affordable, wireless handheld sensor used to measure ambient temperature, humidity, wind speed, and more. The included Go Direct Weather Vane accessory is required to report wind direction.

GDX-WTVA (sensor and vane) \$164

Learn more at vernier.com/gdx-wtva



Climate and Meteorology Experiments

This lab book is packed with interactive experiments that challenge students to use data-collection technology to explore storm systems and other important weather-related topics.

Learn more at vernier.com/hsb-cm

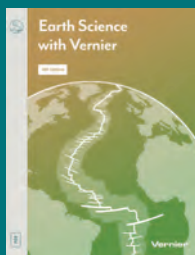


Printed book + download HSB-CM \$29
Download only HSB-CM-E \$24

Earth Science with Vernier

In addition to the 33 experiments in *Earth Science with Vernier*, the six projects in this lab book engage students as they learn about the world around them.

Learn more at vernier.com/esv



Printed book + download ESV \$59
Download only ESV-E \$45

Go Direct Surface Temperature

This sensor has an exposed thermistor that results in an extremely rapid response time, making it perfect for use in air and water.

GDX-ST \$99

Learn more at vernier.com/gdx-st



Featured Products

Go Direct Sensors

Sensor	Order Code	Price
Go Direct 3-Axis Magnetic Field	GDX-3MG	\$99
Go Direct CO ₂ Gas	GDX-CO2	\$229
Go Direct Conductivity	GDX-CON	\$129
Go Direct Current	GDX-CUR	\$99
Go Direct Energy	GDX-NRG	\$99
Go Direct Light and Color	GDX-LC	\$99
Go Direct Motion	GDX-MD	\$129
Go Direct O ₂ Gas	GDX-O2	\$219
Go Direct Optical Dissolved Oxygen	GDX-ODO	\$385
pH Sensors		
Go Direct pH	GDX-PH	\$109
Go Direct Tris-Compatible Flat pH	GDX-FPH	\$139
Temperature Probes		
Go Direct Surface Temperature	GDX-ST	\$99
Go Direct Temperature	GDX-TMP	\$79
Go Direct Voltage	GDX-VOLT	\$95
Go Direct Weather	GDX-WTHR	\$135
Go Direct Weather System	GDX-WTVA	\$164

Go Direct Accessories

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89
Go Direct Sensor Clamp	GDX-CLAMP	\$14

Looking for Replacement Parts?

Visit vernier.com/replacements

LabQuest Sensors

Sensor	Order Code	Price
Anemometer	ANM-BTA	\$109
Barometer	BAR-BTA	\$79
Flow Rate Sensor	FLO-BTA	\$139
Magnetic Field Sensor	MG-BTA	\$69
Salinity Sensor	SAL-BTA	\$149
Soil Moisture Sensor	SMS-BTA	\$148
Stainless Steel Temperature Probe	TMP-BTA	\$45
Tris-Compatible Flat pH Sensor	FPH-BTA	\$124
Turbidity Sensor	TRB-BTA	\$124

Accessories & Lab Equipment

Product	Order Code	Price
Electrode Support	ESUP	\$10
KidWind Basic Wind Experiment Kit	KW-BWX	\$134
Solar Energy Exploration Kit	KW-SEEK	\$89
KidWind 2V/400mA Solar Panel	KW-SP2V	\$21
Vernier Resistor Board	VES-RB	\$19

Lab Books

Title	Order Code	Price
<i>Earth Science with Vernier</i>	Printed book + download: ESV	\$59
	Download only: ESV-E	\$45
<i>Water Quality with Vernier</i> (LabQuest® sensors only)	Printed book + download: WQV	\$59
	Download only: WQV-E	\$45
<i>Climate and Meteorology Experiments</i> (Go Direct sensors only)	Printed book + download: HSB-CM	\$29
	Download only: HSB-CM-E	\$24

See all our products for Earth science at vernier.com/earth-science

HIGH SCHOOL

Chemistry

Vernier chemistry resources cover an array of key concepts to help prepare your students for what lies ahead. From gas laws to spectroscopy, our products are backed by an extensive collection of experiments and unparalleled technical support.

vernier.com/chemistry



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Go Direct Temperature

MOST POPULAR

Students can use this rugged, general-purpose sensor to monitor temperature.

Range: -40 to 125°C

GDX-TMP \$79

vernier.com/gdx-tmp



Go Direct Temperature Teacher Pack

GDX-TMP-TP \$702

Includes 8 Go Direct[®] Temperature Probes and a Go Direct Charge Station.



Go Direct pH

Conduct acid-base titrations, monitor pH changes during chemical reactions, and investigate household acids and bases. The wireless connection makes it easier to do field-based studies such as testing the pH of surface water.

GDX-PH \$109

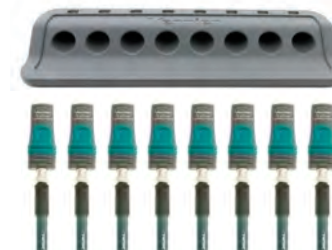
vernier.com/gdx-ph



Go Direct pH Teacher Pack

GDX-PH-TP \$935

Save money when you purchase the Go Direct pH Teacher Pack, which includes 8 Go Direct pH Sensors and a Go Direct Charge Station.



Go Direct Gas Pressure

Explore pressure changes and gas laws with this sensor that measures the absolute pressure of a gas.

GDX-GP \$105

vernier.com/gdx-gp



Go Direct Conductivity

Go Direct Conductivity determines the ionic content of an aqueous solution by measuring its electrical conductivity. It features a built-in temperature sensor to simultaneously read conductivity and temperature.

GDX-CON \$129

vernier.com/gdx-con



Go Direct Colorimeter

Explore absorbance and percent transmittance in a variety of experiments including Beer's law (absorbance vs. concentration) and kinetic studies (concentration vs. time). Students select between four wavelengths (430 nm, 470 nm, 565 nm, 635 nm) to set up their experiment.

GDX-COL \$135

vernier.com/gdx-col



Go Direct ORP

Determine the equivalence point of an oxidation-reduction titration or the oxidizing ability of chlorine in swimming pools. This sensor measures the capacity of a solution to either release or accept electrons from chemical reactions.

GDX-ORP \$119

vernier.com/gdx-orp



Go Direct Constant Current System

Determine Avogadro's number and perform various electroplating and electrolysis experiments. This system combines a DC power source with a built-in current sensor to eliminate the need for a separate power supply. It can deliver up to 0.6 A at 5 V DC.

GDX-CCS \$95

vernier.com/gdx-ccs



Go Direct CO₂ Gas

Measure the carbon dioxide levels in beverages and food products with Go Direct CO₂. Investigate the chemical makeup of baking soda, explore what makes soft drinks fizzy, or determine the rate of fermentation by yeast while metabolizing different sugars.

GDX-CO2 \$229

vernier.com/gdx-co2



NEW Accessories for an Eco-Friendly Lab

Three new products are now a part of the Vernier high school chemistry lineup, offering reliable, easy-to-use solutions that enhance the lab experience for students and educators. These accessories can be used alongside Vernier Go Direct® sensors to provide impactful learning experiences that are both efficient and environmentally conscious.

Electrochemistry Half-Cell Plate

The Electrochemistry Half-Cell Plate is a reusable, low-volume platform that holds up to eight metal-ion half-cells, each accessing the central salt bridge. When paired with the Electrochemistry Metals Kit and Go Direct Voltage Probe, it ensures precise, consistent exploration of oxidation-reduction reactions, the electrochemical series, and Nernst variables, while simplifying the setup and cleanup of electrochemical experiments.

ECHEM-PLT \$59

vernier.com/echem-plt

Electrochemistry Metals Kit

The Electrochemistry Metals Kit provides a convenient, reusable set of seven different metal samples for conducting electrochemical experiments (aluminum, copper, iron, lead, nickel, silver, and zinc). When paired with a half-cell plate and voltage probe, this convenient kit simplifies the study of oxidation, reduction, the electrochemical series, and Nernst variables.

ECHEM-MTLS \$20

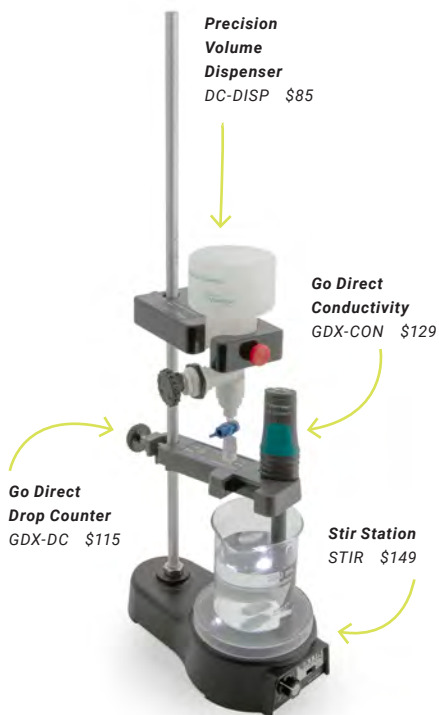
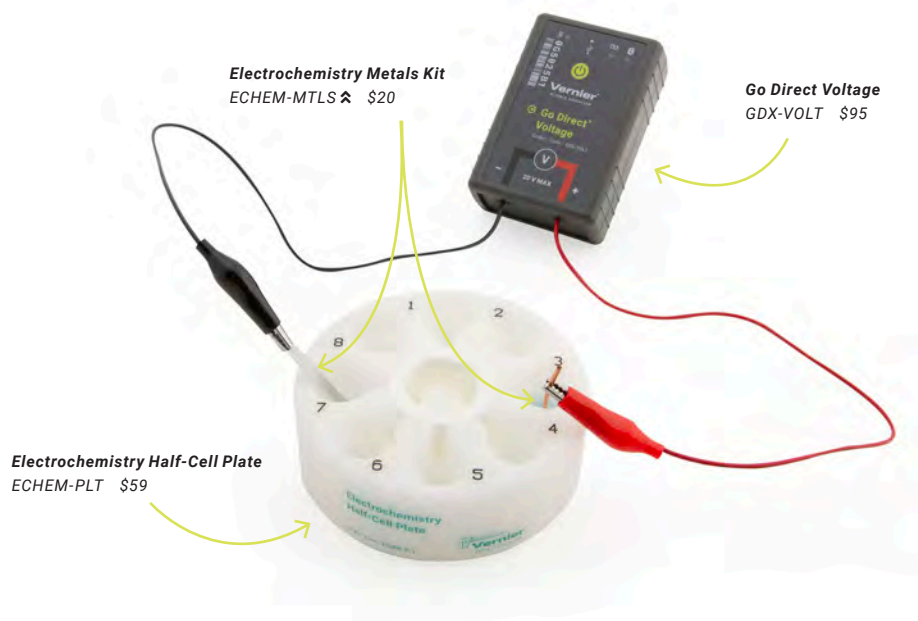
vernier.com/echem-mtls

Precision Volume Dispenser

The Precision Volume Dispenser gives students and educators a precise, rugged, and easy-to-use alternative to a burette. It can be used with the Go Direct Drop Counter, Go Direct pH Sensor, Go Direct Conductivity Probe, and Go Direct Oxidation-Reduction Potential (ORP) Sensor to conduct acid-base, conductometric, or potentiometric titrations.

DC-DISP \$85

vernier.com/dc-disp



Forensic Chemistry Experiments

This book includes 15 phenomena-based, 3D-aligned experiments that engage high-school and college-level chemistry students in forensics cases, from identifying a mystery powder to solving a fictional murder. Students explore core chemistry concepts using Vernier sensors such as pH, pressure, conductivity, and temperature.

Printed book + download

HSB-FCHEM \$45

Download only

HSB-FCHEM-E \$35

vernier.com/hsb-fchem



Food Chemistry Experiments

This book includes 14 phenomena-based experiments that use Vernier sensors such as spectrophotometers, temperature probes, and CO₂ gas sensors to explore key chemistry concepts centered around food—from analyzing carotenoids in vegetables to measuring iron in cereal.

Printed book + download

HSB-FCHEM \$45

Download only

HSB-FCHEM-E \$35

vernier.com/hsb-food



Go Direct SpectroVis Plus

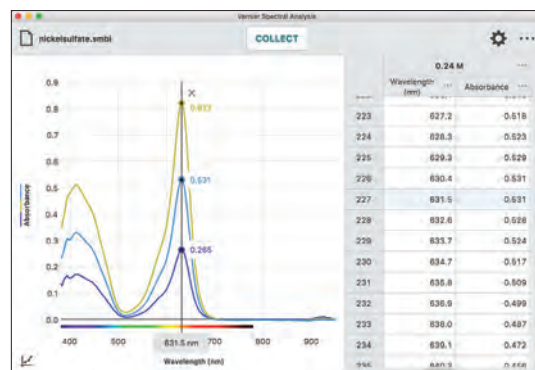
Introduce your students to spectroscopy with the affordable Go Direct SpectroVis® Plus Spectrophotometer. With a range of 380 to 950 nm, students can easily collect a full-wavelength spectrum (absorbance, percent transmittance, fluorescence, or intensity), study absorbance vs. concentration (Beer's law), or monitor rates of reaction (kinetics). Collect and analyze data using Vernier Spectral Analysis® or LabQuest® App.

GDX-SVISPL \$479

vernier.com/gdx-svispl



Our innovative, easy-to-use instruments collect data within seconds. Explore our full suite of spectrometers at vernier.com/spectrometers



Vernier Spectral Analysis App

Our free Vernier Spectral Analysis® app makes it easy to incorporate spectroscopy into your chemistry experiments. Using the app, students can collect a full spectrum and explore topics such as Beer's law, kinetics, and fluorescence.

This user-friendly software includes analysis features such as curve fitting and data interpolation.

FREE DOWNLOAD

vernier.com/spectral-analysis



Chemistry Go Direct Starter Package

This package includes four sensors that work with Vernier Graphical Analysis® Pro and LabQuest 3.

- Go Direct Temperature (2)
- Go Direct Gas Pressure
- Go Direct pH

GDP-CH-ST \$372

[Learn more at vernier.com/gdp-ch-st](http://vernier.com/gdp-ch-st)



Chemistry Go Direct Standard Package

This package includes 8 sensors that work with Vernier Graphical Analysis Pro and LabQuest 3.

- Go Direct Temperature (2)
- Go Direct Gas Pressure
- Go Direct pH
- Go Direct Voltage
- Go Direct Conductivity
- Go Direct Colorimeter
- Go Direct Drop Counter

GDP-CH-DX \$846

Buy 8 or more packages at \$830 and save \$128.

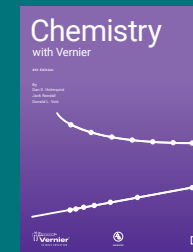
[Learn more at vernier.com/gdp-ch-dx](http://vernier.com/gdp-ch-dx)



Chemistry with Vernier

Combine *Chemistry with Vernier* with a package (shown above) to teach students the essentials of chemistry. This lab book contains 36 ready-to-use student experiments and instructor information, including sample data.

[Learn more at vernier.com/cwv](http://vernier.com/cwv)

















Printed book + download CWV \$59
Download only CWV-E \$45

MORE CHEMISTRY LAB BOOKS ON PAGE 39

Featured Products

Go Direct Sensors

Sensor		Order Code	Price
Go Direct® CO ₂ Gas		GDX-CO2	\$229
Go Direct Colorimeter		GDX-COL	\$135
Go Direct Conductivity		GDX-CON	\$129
Go Direct Platinum-Cell Conductivity		GDX-CONPT	\$189
Go Direct Constant Current System		GDX-CCS	\$95
Go Direct Current		GDX-CUR	\$99
Go Direct Drop Counter		GDX-DC	\$115
Go Direct Electrode Amplifier		GDX-EA	\$79
Go Direct Ethanol Vapor		GDX-ETOH	\$169
Go Direct Gas Pressure		GDX-GP	\$105
Go Direct Melt Station		GDX-MLT [⚠]	\$599
Go Direct Mini GC™		GDX-GC	\$3,999
Go Direct ORP		GDX-ORP	\$119
pH Sensors			
Go Direct Glass-Body pH		GDX-GPH	\$159

Go Direct pH		GDX-PH	\$109
Go Direct Tris-Compatible Flat pH		GDX-FPH	\$139
Go Direct Polarimeter		GDX-POL	\$545
Go Direct Radiation Monitor		GDX-RAD	\$219
Spectrometers		vernier.com/spectrometers	
Go Direct Emissions Spectrometer		GDX-SPEC-EM	\$950
Go Direct Fluorescence/UV-VIS Spectrophotometer		GDX-SPEC-FUV	\$3,499
Go Direct SpectroVis® Plus		GDX-SVISPL	\$479
Go Direct UV-VIS Spectrophotometer		GDX-SPEC-UV	\$2,999
Go Direct Visible Spectrophotometer		GDX-SPEC-VIS	\$1,999
Temperature Probes			
Go Direct Surface Temperature		GDX-ST	\$99
Go Direct Temperature		GDX-TMP	\$79
Go Direct Thermocouple		GDX-TC	\$118
Go Direct Wide-Range Temperature		GDX-WRT	\$139
Go Direct Voltage		GDX-VOLT	\$95

See all our products for chemistry at vernier.com/chemistry

Go Direct Charge Station

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89

LabQuest® Sensors

Sensor	Order Code	Price
Colorimeter	COL-BTA	\$128
Conductivity Probe	CON-BTA	\$129
Current Probes		
Constant Current System	CCS-BTA	\$79
Current Probe	DCP-BTA	\$49
Drop Counter	VDC-BTD	\$109
Electrode Amplifier	EA-BTA	\$55
Gas Pressure Sensor	GPS-BTA	\$103
Instrumentation Amplifier	INA-BTA	\$89
Melt Station	MLT-BTA ⚡	\$629
ORP Sensor	ORP-BTA	\$115
pH Sensors		
Glass-Body pH Electrode BNC (requires Electrode Amplifier)	GPH-BNC	\$95
pH Sensor	PH-BTA	\$105
Tris-Compatible Flat pH Sensor	FPH-BTA	\$124
Radiation Monitor	VRM-BTD	\$199

Temperature Probes		
Stainless Steel Temperature Probe	TMP-BTA	\$45
Surface Temperature Sensor	STS-BTA	\$34
Thermocouple	TCA-BTA	\$79
Wide-Range Temperature Probe	WRT-BTA	\$119
Voltage Probes		
Differential Voltage Probe	DVP-BTA	\$49
Voltage Probe	VP-BTA	\$14

Balances

Sensor	More Info
OHAUS Scout® (120 g) ⚡	vernier.com/ohs-123
OHAUS Scout (220 g) ⚡	vernier.com/ohs-222
OHAUS Scout (420 g) ⚡	vernier.com/ohs-422

Spectrometers

Spectrometer	Order Code	Price
Go Direct Emissions Spectrometer	GDX-SPEC-EM	\$950
Go Direct Fluorescence/UV-VIS Spectrophotometer	GDX-SPEC-FUV	\$3,499
Go Direct SpectroVis Plus	GDX-SVISPL	\$479
Go Direct UV-VIS Spectrophotometer	GDX-SPEC-UV	\$2,999
Go Direct Visible Spectrophotometer	GDX-SPEC-VIS	\$1,999

Gas Chromatograph

Gas Chromatograph	Order Code	Price
Go Direct Mini GC™	GDX-GC	\$3,999

Lab Equipment and Accessories

Accessory	Order Code	Price
Cuvette Rack	CUV-RACK	\$9
Electrode Support	ESUP	\$10
Melt Station Capillary Tubes	MLT-TUBE	\$24
Plastic Cuvettes (100)	CUV	\$24
Stir Station	STIR	\$149
NEW Precision Volume Dispenser	DC-DISP	\$85
NEW Electrochemistry Half-Cell Plate	ECHEM-PLT	\$59
NEW Electrochemistry Metals Kit	ECHEM-MTLS ⚡	\$20

Lab Books[†]

Title	Order Code	Price
<i>Chemistry with Vernier</i>	CWV	\$59
<i>Advanced Chemistry with Vernier</i>	CHEM-A	\$59
<i>Vernier Chemistry Investigations for Use with AP* Chemistry</i>	APCHEM	\$59
<i>Investigating Chemistry through Inquiry</i>	CHEM-I	\$59
<i>Food Chemistry Experiments</i>	HSB-FOOD	\$45
<i>Forensic Chemistry Experiments</i>	HSB-FCHEM	\$45
<i>Organic Chemistry with Vernier</i>	CHEM-0	\$59

[†] Books listed here include printed book and download; also available as a download only.

* AP and Advanced Placement Program are registered trademarks of the College Entrance Examination Board, which was not involved in the production of and does not endorse this product.

Looking for Replacement Parts?

Visit vernier.com/replacements

HIGH SCHOOL

Physical Science

From matter and energy to motion and forces, Vernier offers the support you need and the technology your students can use to investigate physical science.

vernier.com/physical-science



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Go Direct Sensor Carts

With our Go Direct® Sensor Carts, students can explore force, position, velocity, and acceleration directly on their devices via Bluetooth® wireless technology—no wires or additional equipment required. Each cart features built-in sensors to simplify experiment setup.

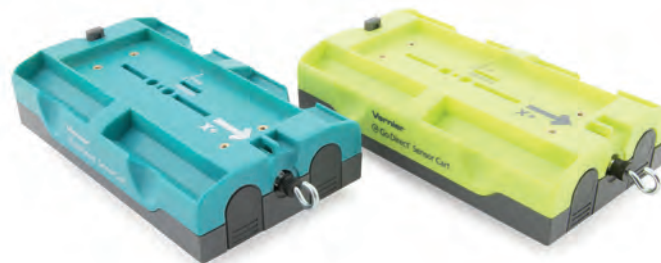
Go Direct Sensor Cart (Green)

GDX-CART-G \$205

Go Direct Sensor Cart (Yellow)

GDX-CART-Y \$205

vernier.com/gdx-cart



Go Direct Temperature

MOST POPULAR

Students can use this rugged, general-purpose sensor to monitor temperature.

Range: -40 to 125°C

GDX-TMP \$79

vernier.com/gdx-tmp



Go Direct Temperature Teacher Pack

GDX-TMP-TP \$702

Includes 8 Go Direct Temperature Probes and a Go Direct Charge Station.



Go Direct Light and Color

Students use this sensor to measure the brightness of a light bulb or the reflectance of light from various objects. They can also measure UV light and relative amounts of red, blue, and green light.

GDX-LC \$99

vernier.com/gdx-lc



Go Direct Force and Acceleration

Students use this sensor to measure forces of up to 50 N. The included 3-axis accelerometer makes it a versatile sensor for many topics in physical science.

GDX-FOR \$119

vernier.com/gdx-for



Go Direct Sensors

Sensor	Order Code	Price
Go Direct 3-Axis Magnetic Field	GDX-3MG	\$99
Go Direct Acceleration	GDX-ACC	\$115
Carts and Tracks		
Dynamics Cart and Track System with Go Direct Sensor Carts	DTS-GDX	\$636
Go Direct Sensor Cart (Green)	GDX-CART-G	\$205
Go Direct Sensor Cart (Yellow)	GDX-CART-Y	\$205
Go Direct Conductivity	GDX-CON	\$129
Go Direct Current	GDX-CUR	\$99
Go Direct Energy	GDX-NRG	\$99
Go Direct Force and Acceleration	GDX-FOR	\$119
Go Direct Gas Pressure	GDX-GP	\$105
Go Direct Light and Color	GDX-LC	\$99
Go Direct Motion	GDX-MD	\$129
Go Direct pH	GDX-PH	\$109
Go Direct Photogate	GDX-VPG	\$105
Go Direct Sound	GDX-SND	\$99
Go Direct Structures & Materials Tester	GDX-VSMT	\$1,199
Temperature Probes		
Go Direct Surface Temperature	GDX-ST	\$99
Go Direct Temperature	GDX-TMP	\$79
Go Direct Thermocouple	GDX-TC	\$118
Go Direct Voltage	GDX-VOLT	\$95

Go Direct Charge Station

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89

Accessories

Accessory	Order Code	Price
Friction Block	PHY-FRBL	\$17
Hanging Masses	PHY-HM250 ⚡	\$23
Meter Stick	PHY-METER	\$11

See all our products for physical science at vernier.com/physical-science

Go Direct pH

Go Direct pH is a general-purpose pH sensor used to monitor pH of aqueous solutions.

GDX-PH \$109

vernier.com/gdx-ph



Physical Science with Vernier

Physical Science with Vernier contains 40 ready-to-use experiments for physical science. Experiments are included for nine Vernier sensors and cover a variety of topics in chemistry and physics.

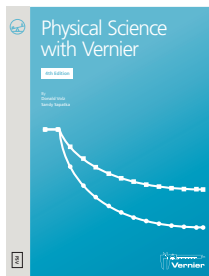
vernier.com/psv

Printed book + download

PSV \$59

Download only

PSV-E \$45



HIGH SCHOOL

Physics

From kinematics to optics, Vernier technology helps your students connect the dots between the classroom and the real world. Our physics products enable student and educator success so that you can spend less time troubleshooting and more time teaching your students about the scientific principles of the world around them.

vernier.com/physics

Cart Fan

The Cart Fan is a modular fan you can add to the Dynamics Cart and Track System and Go Direct carts that provides a constant force for dynamics investigations. Using one or multiple fans on a single cart allows students to investigate constant acceleration, balanced/unbalanced forces, and variable thrust angles.

DTS-CFAN \$89

vernier.com/dts-cfan



FOR MORE INFORMATION ABOUT CART AND TRACK SYSTEMS, SEE PAGE 46.

Go Direct Force Plate

Measure the forces developed during stepping, jumping, and other human-scale actions. Observe change in apparent weight as you ride an elevator or measure reaction forces as you lean against a wall.

GDX-FP \$399

vernier.com/gdx-fp



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Go Direct Motion Detector

Go Direct® Motion uses ultrasound to measure the position, velocity, and acceleration of moving objects.

GDX-MD \$129

vernier.com/gdx-md



Go Direct Force and Acceleration

Measure forces as small as ± 0.1 N and up to ± 50 N with this sensor that couples a 3-axis accelerometer with a stable and accurate force sensor. Use it to measure pushes and pulls in the classroom or outdoors.

GDX-FOR \$119

vernier.com/gdx-for



Go Direct Photogate

This double-gate sensor includes two photogates built into the arms of the sensor. It accurately measures velocity and acceleration.

GDX-VPG \$105

vernier.com/gdx-vpg



Go Direct Acceleration

Collect acceleration, rotation, and altitude data in the classroom or in the field.

GDX-ACC \$115

vernier.com/gdx-acc



Go Direct Voltage

This sensor combines a wide input voltage range and high precision, making it an excellent choice for investigations of both AC/DC circuits and electromagnetism.

GDX-VOLT \$95

vernier.com/gdx-volt



Go Direct Current

Measure electric currents in circuits with this versatile sensor.

GDX-CUR \$99

vernier.com/gdx-cur



Go Direct 3-Axis Magnetic Field

Determine the magnitude and direction of a magnetic field at any point in space with this 3-axis sensor.

GDX-3MG \$99

vernier.com/gdx-3mg



Go Direct Sound

Use this sensor to easily capture and evaluate waveforms, or measure sound level in decibels.

GDX-SND \$99

vernier.com/gdx-snd



Vernier Graphical Analysis Pro

Unlock key features with Vernier Graphical Analysis® Pro and do more with your Vernier sensors to deepen and extend learning. With access to Pro, you can enrich live instruction while providing more opportunities for students to interact with and analyze data outside of class time.

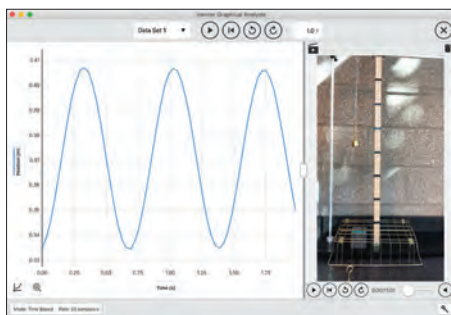
1-Year Site License (unlimited seats)
GAP-1YR \$149

3-Year Site License (unlimited seats)
GAP-3YR \$299

vernier.com/graphical-analysis

FREE 30-DAY TRIAL

Get a 30-day free trial and learn about site license options at vernier.com/gapro



Vernier Video Analysis

The Vernier Video Analysis® app brings video analysis to your students in an easy-to-use, streamlined application. Students can design their own scientific investigations, record videos, and then analyze the motion. This app gives your students the opportunity to observe and study hard-to-replicate phenomena regardless of device—it even works with Chromebooks!

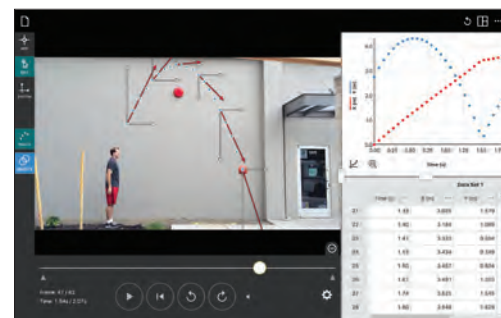
1-Year Site License (unlimited seats)
VVA-1YR \$225

3-Year Site License (unlimited seats)
VVA-3YR \$450

vernier.com/video-analysis

FREE 30-DAY TRIAL

Get a 30-day free trial and learn about site license options and e-books at vernier.com/video-analysis



Get everything you need with our new 4-in-1 software bundle! **3-Year Site License** DCA-3YR \$499 | Learn more at vernier.com/dca-3yr

Advanced Physics with Vernier—Mechanics

Teach mechanics concepts at the AP* or college level. Experiments are designed for an interactive teaching style, with planned moments for instructor- or student-led discussion.

Printed book + download PHYS-AM \$59
Download only PHYS-AM-E \$45

vernier.com/phys-am



Advanced Physics with Vernier—Beyond Mechanics

The second of a two-volume set, this book focuses on second-semester topics in college physics. It is recommended for AP* and IB² physics courses.

Printed book + download PHYS-ABM \$59
Download only PHYS-ABM-E \$45

vernier.com/phys-abm

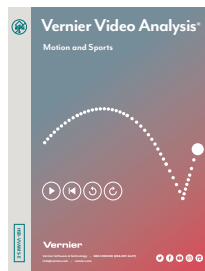


Vernier Video Analysis: Motion and Sports

In addition to traditional physics concepts such as velocity and acceleration, the 12 investigations in this book include analysis of sports activities. This further connects concepts of motion to students' daily lives.

Download only HSB-VVAMS-E \$29

vernier.com/hsb-vvams-e



Vernier Video Analysis: Conservation Laws and Forces

Examine topics beyond basic motion using the 12 investigations in this book. Like its counterpart (left), videos are included in the electronic download, making it easy to integrate video analysis into homework or classwork.

Download only HSB-VVACLf-E \$29

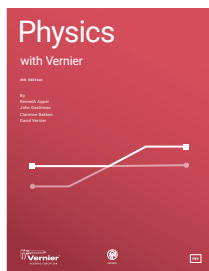
vernier.com/hsb-vvaclf-e



Physics with Vernier

Physics with Vernier has 35 experiments in mechanics, sound, light, electricity, and magnetism. This book has a wide variety of experiments for motion detectors, force sensors, light sensors, magnetic field sensors, photogates, temperature probes, and more.

vernier.com/pwv



Printed book + download PWV \$59
Download only PWV-E \$45

Sensor Cart Physics

(Go Direct sensors only)

Students use the Vernier Go Direct® Sensor Cart to complete the 24 investigations in this e-book—the guided-inquiry format gives students agency in choosing what they measure and analyze.

vernier.com/hsb-scp-e



Download only HSB-SCP-E \$45

Physics Explorations and Projects

Physics Explorations and Projects is a collection of investigations aligned to the NGSS. These investigations invite students to explore phenomena without extensive instructions. The guided-inquiry format encourages students to choose what variables to measure and analyze.

vernier.com/pep



Printed book + download PEP \$59
Download only PEP-E \$45

Physics Go Direct Standard Package

This package includes 12 products that work with Vernier Graphical Analysis Pro and LabQuest® 3.

- Go Direct Motion
- Go Direct Force and Acceleration
- Go Direct Voltage
- Go Direct Current (2)
- Go Direct Photogate
- Go Direct Acceleration
- Go Direct Sound
- Go Direct Light and Color
- Go Direct 3-Axis Magnetic Field
- Ultra Pulley Attachment
- Picket Fence

GDP-PHY-DX \$1,092

Buy 8 or more packages at \$1,071 and save \$168.

Learn more at vernier.com/gdp-phy-dx



Physics LabQuest 3 Standard Package

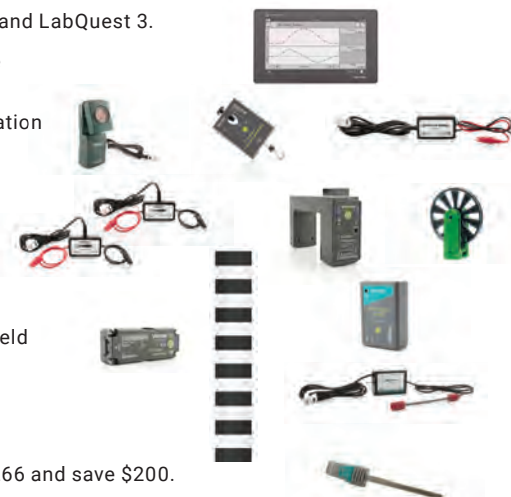
This package includes 13 products that work with Vernier Graphical Analysis Pro and LabQuest 3.

- Vernier LabQuest 3 Interface
- Motion Detector
- Go Direct Force and Acceleration
- Differential Voltage Probe
- Current Probe (2)
- Go Direct Photogate
- Go Direct Acceleration
- Go Direct Sound
- Light Sensor †
- Go Direct 3-Axis Magnetic Field
- Ultra Pulley Attachment
- Picket Fence

LQ3-PHY-DX † \$1,291

Buy 8 or more packages at \$1,266 and save \$200.

Learn more at vernier.com/lq3-phy-dx



† For California Proposition 65 warning, see pp. 78–79.

* AP and Advanced Placement Program are registered trademarks of the College Entrance Examination Board, which was not involved in the production of and does not endorse this product.

† The IB Diploma Program is an official program of the International Baccalaureate Organization (IBO) which authorizes schools to offer it. The material available here has been developed independently of the IBO and is not endorsed by it.

Dynamics Cart and Track Systems

One Dynamics System—Three Ways to Collect Data

Depending on your budget and your needs, we offer three ways to collect motion data.

1 Go Direct Sensor Cart

The wireless Go Direct® Sensor Cart includes an optical encoder on a wheel to sense the displacement of the cart, on or off the track. No interface is needed to use this system with the Vernier Graphical Analysis® Pro app. Students can perform impulse and momentum experiments with the built-in force sensor, and the 3-axis accelerometer means you can take your Sensor Cart off campus to investigate accelerations on a swing or merry-go-round.

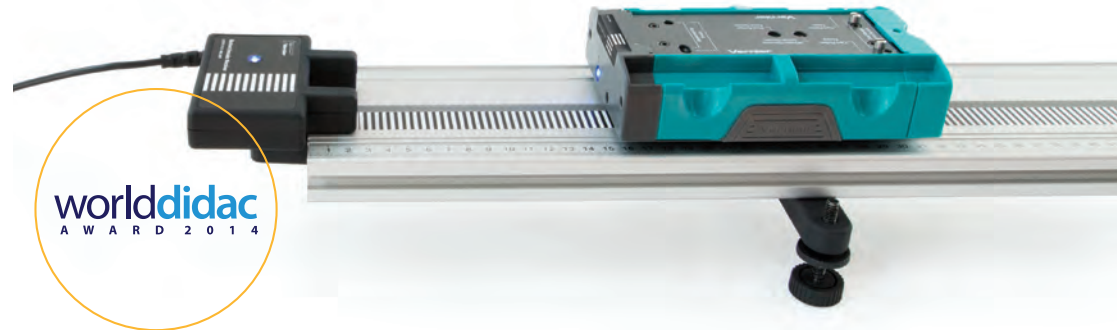


2 The Motion Encoder*

VERNIER EXCLUSIVE

For classrooms already equipped with data-collection interfaces, the Motion Encoder dramatically improves data quality and simplifies experiment setup over the traditional ultrasonic Motion Detector. An optical sensor under the dynamics cart senses the passage of the cart over a striped decal on the track. The displacement information is sent as an encoded IR signal to a receiver at the track's end. This optical-only system provides excellent, repeatable, and noise-resistant data.

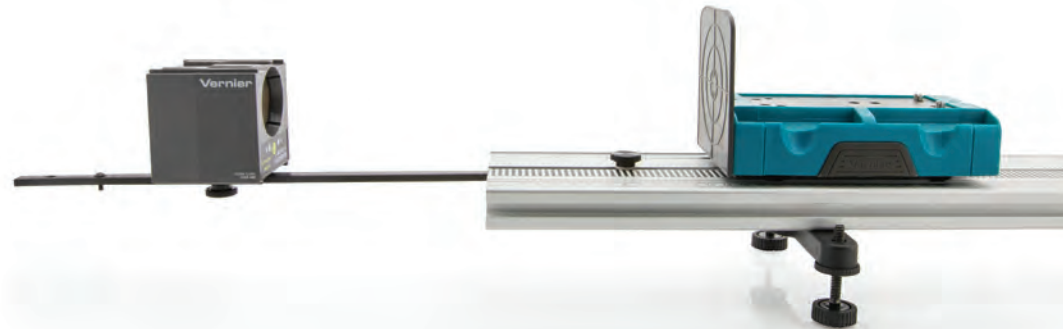
* U.S. Patent No. 9,488,503



3 A Traditional Motion Detector

The Motion Detector is the classic method for collecting position data. Use a Motion Detector bracket to measure cart motion for the entire length of the track. You can even use two Motion Detectors at once to study cart collisions.

Unlike the Motion Encoder or Go Direct Sensor Cart, the Motion Detector can be used for dynamics experiments other than cart-on-track experiments. Students can graph their own walking motion, study a simple pendulum, or graph a ball toss with a Motion Detector. If you want to use only a Motion Detector for all of your motion experiments, get the Dynamics Cart and Track System without the Motion Encoder or Go Direct Sensor Cart.



Dynamics Cart and Track System with Go Direct Sensor Cart

BUILT-IN SENSORS = LOWER TOTAL COST

The Dynamics Cart and Track System with Go Direct Sensor Cart includes essential laboratory equipment for teaching dynamics and kinematics. With our Go Direct Sensor Cart, students can explore force, position, velocity, and acceleration directly on their device using Bluetooth® wireless technology. There are no wires to create drag, and no additional equipment is required! Each cart features built-in sensors that simplify experiment setup and make this system the best choice for studying dynamics and kinematics.

with 1.2 m Track DTS-GDX \$636

vernier.com/dts-gdx

with 2.2 m Track DTS-GDX-LONG \$748

vernier.com/dts-gdx-long



Dynamics Cart and Track System with Motion Encoder

THIS OPTION REQUIRES AN INTERFACE SUCH AS LABQUEST 3 OR LABQUEST MINI

The Dynamics Cart and Track System with Motion Encoder includes an optical position sensing system to record cart motion.

with 1.2 m Track DTS-EC \$540

vernier.com/dts-ec

with 2.2 m Track DTS-EC-LONG \$652

vernier.com/dts-ec-long



Dynamics Cart and Track System

USE WITH SENSORS YOU ALREADY OWN—SENSORS ARE NOT INCLUDED

The Dynamics Cart and Track System features the Combination Track/Optics Bench, two low-friction plastic carts (one standard and one with an adjustable plunger), and attachment accessories.

with 1.2 m Track DTS \$360

vernier.com/dts

with 2.2 m Track DTS-LONG \$472

vernier.com/dts-long



Cart Fan

The Cart Fan is a modular fan you can add to Dynamics Cart and Track Systems and Go Direct carts that provides a constant force for dynamics investigations. Using one or multiple fans on a single cart allows students to investigate constant acceleration, balanced/unbalanced forces, and variable thrust angles.

DTS-CFAN \$89

vernier.com/dts-cfan



Friction Pad DTS

Add a Friction Pad to any of our plastic dynamics carts to study the effect of consistent friction on the motion of the cart.

DTS-PAD \$32

vernier.com/dts-pad



Motion Encoder Cart and Receiver

This kit includes a fully assembled Motion Encoder Cart, as well as the Motion Encoder Receiver and Motion Encoder Long Track Strip.

DTS-MEC \$267

vernier.com/dts-mec



Eddy Current Brake

Eddy current brakes are used as a braking system for high-speed trains and roller coasters. Recreate this unusual braking system in your classroom or laboratory by installing our Eddy Current Brake into the end cap of a plastic Vernier dynamics cart. As the cart moves over the track, the magnets in the Eddy Current Brake create an electromagnetic drag on the cart that is proportional to the cart's speed.

DTS-ECB \$19

vernier.com/dts-ecb



Bumper and Launcher Kit

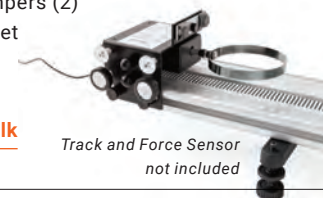
With the Bumper and Launcher Kit, students can use the Dynamics Cart and Track System to perform Hooke's law experiments or study momentum and impulse.

The kit includes

- Clay (~20 grams)
- Clay holders (2)
- Dual-magnet bumper
- Force sensor mounting screw
- Hoop bumpers (2)
- Magnetic bumpers (2)
- Rubber bumpers (2)
- Track bracket

BLK \$99

vernier.com/blk



1D Motion and Force



Go Direct Motion

Go Direct® Motion uses ultrasound to measure the position, velocity, and acceleration of moving objects.

GDX-MD \$129

vernier.com/gdx-md

Go Direct Photogate

This double-gate sensor includes two photogates built into the arms of the sensor. It accurately measures velocity and acceleration.

GDX-VPG \$105

vernier.com/gdx-vpg



Go Direct Sensor Carts

We've added wireless sensors to our popular dynamics cart. Each cart includes an encoder wheel to report position, velocity, and acceleration, plus a force sensor and a 3-axis accelerometer. Conduct basic physics investigations with or without a track.

Go Direct® Sensor Cart (Green)

GDX-CART-G \$205

Go Direct Sensor Cart (Yellow)

GDX-CART-Y \$205

INCLUDES
24
EXPERIMENTS

Sensor Cart Physics



Download only
HSB-SCP-E \$45



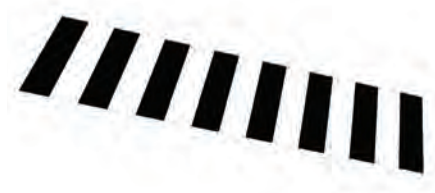
vernier.com/gdx-cart

Picket Fence

The Picket Fence has eight opaque bars spaced every 5 cm, silk-screened directly onto clear plastic. Drop the picket fence through a photogate to obtain records of position, velocity and acceleration vs. time in order to measure g .

PF \$10

vernier.com/pf



Ultra Pulley Attachment

Add an Ultra Pulley to your Photogate to monitor motion as a string passes over the pulley or as the pulley rolls along a table.

SPA \$24

vernier.com/spa



Go Direct Force Plate

Measure the forces developed during stepping, jumping, and other human-scale actions. Observe change in apparent weight as you ride an elevator or measure reaction forces as you lean against a wall.

GDX-FP \$399

vernier.com/gdx-fp



Go Direct Force and Acceleration

Measure forces as small as ± 0.1 N and up to ± 50 N with this sensor that couples a 3-axis accelerometer with a stable and accurate force sensor. Use it to measure pushes and pulls in the classroom or outdoors.

GDX-FOR \$119

vernier.com/gdx-for



LabQuest Products for 1D Motion and Force

Product		Order Code	Price
Accelerometers			
Low-g Accelerometer vernier.com/lga-bta		LGA-BTA	\$99
3-Axis Accelerometer vernier.com/3d-bta		3D-BTA	\$105
25-g Accelerometer vernier.com/acc-bta		ACC-BTA	\$110
Dual-Range Force Sensor vernier.com/dfs-bta		DFS-BTA	\$124
Force Plate vernier.com/fp-bta		FP-BTA	\$395
Motion Detectors			
Motion Detector vernier.com/md-btd		MD-BTD	\$105
Go! Motion vernier.com/go-mot		GO-MOT	\$139
Photogate vernier.com/vpg-btd		VPG-BTD	\$55

Go Direct Projectile Launcher

Use the Go Direct® Projectile Launcher to investigate important concepts in two-dimensional kinematics. Launch steel balls at angles between 0 and 90 degrees and over distances up to 2.5 m.

GDX-PL \$499

vernier.com/gdx-pl



Independence of Motion Accessory

The Independence of Motion Accessory enables students to use the Vernier Projectile Launcher to perform the classic experiment where one ball is dropped as another is projected horizontally. The balls strike the floor simultaneously.

IOM-VPL \$59

vernier.com/iom-vpl



Time of Flight Pad

The Time of Flight Pad is used with a projectile launcher or photogate (not included) to precisely measure how long a projectile has been in motion.

TOF-VPL \$84

vernier.com/tof-vpl



Go Direct Rotary Motion Package

The Go Direct Rotary Motion Sensor and Rotational Motion Accessory Kit can be used to study rotational inertia, conservation of angular momentum, and additional rotational motion concepts.

GDX-RMPK \$324

vernier.com/gdx-rmpk



Go Direct Rotary Motion

Measure angular displacement, angular velocity, and angular acceleration easily and precisely.

GDX-RMS \$195

vernier.com/gdx-rms



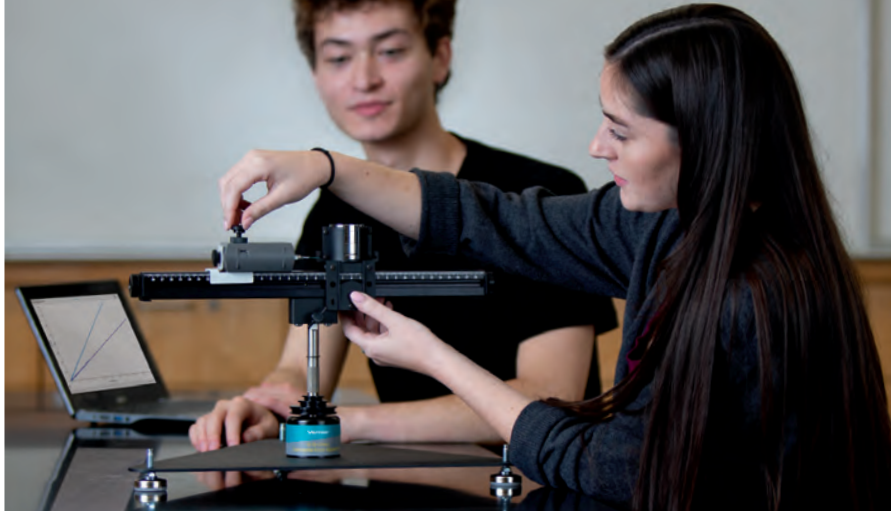
Rotational Motion Accessory Kit

Use this kit with a rotary motion sensor to study the motion of a physical pendulum; the rotational inertia of disks, rings, and point masses; and the conservation of angular momentum.

AK-RMV \$129

vernier.com/ak-rmv





Go Direct Centripetal Force System

Easily measure angular velocity and centripetal force and acceleration without the hassle of wires using this system (includes a Go Direct Centripetal Force Apparatus and Go Direct Force and Acceleration).

GDX-CFAF \$444

vernier.com/gdx-cfaf



Go Direct Centripetal Force Apparatus

This rotational system mounted on a solid base is designed to work with Go Direct Force and Acceleration (not included).

GDX-CFA \$325

vernier.com/gdx-cfa



Moment of Inertia Kit

Expand the capabilities of a Vernier centripetal force apparatus to investigate moments of inertia of different geometries.

CFA-MIK \$219

vernier.com/cfa-mik



Motor Accessory Kit

Control the rotational rate of the Go Direct Centripetal Force Apparatus so students can focus on a single variable.

GDX-CFA-MAK \$199

vernier.com/gdx-cfa-mak



Go Direct Force and Acceleration

Measure forces as small as ± 0.1 N and up to ± 50 N with this sensor that couples a 3-axis accelerometer with a stable and accurate force sensor. Use it to measure pushes and pulls in the classroom or outdoors.

GDX-FOR \$119

vernier.com/gdx-for

Hanging Masses

PHY-HM250 \$23

Friction Block

PHY-FRBL \$17

Go Direct Voltage

This sensor combines a wide input voltage range and high precision, making it an excellent choice for investigations of both AC/DC circuits and electromagnetism.

GDX-VOLT \$95

vernier.com/gdx-volt



Go Direct Current

Measure electric currents in circuits with this versatile sensor.

GDX-CUR \$99

vernier.com/gdx-cur



High Current Sensor

Range: ± 10 A

HCS-BTA \$89

vernier.com/hcs-bta



Instrumentation Amplifier

Range: ± 1 V

INA-BTA \$89

vernier.com/ina-bta



Go Direct 3-Axis Magnetic Field

Determine the magnitude and direction of a magnetic field at any point in space with this 3-axis sensor.

GDX-3MG \$99

vernier.com/gdx-3mg



Go Direct Static Charge

Unlike a traditional electroscope, Go Direct® Static Charge offers a means for quantitative measurement and analysis of positive and negative charges of objects that would not be possible in a traditional lab—such as measuring the charge on a balloon.

GDX-Q \$109

vernier.com/gdx-q



30-Volt Voltage Probe

Range: ± 30 V

30V-BTA \$59

vernier.com/30v-bta



Power Amplifier

Use this as a power supply for DC and AC circuit investigations or to drive devices such as speakers, lamps, and small DC motors.

PAMP \$249

vernier.com/pamp



Electricity and Magnetism

Vernier Circuit Board 2

Use this convenient platform to study basic series and parallel circuits as well as RLC circuits. Many components for experimentation are provided.

VCB2 ⬆ \$145

vernier.com/vcb2



Extech® Digital Power Supply

This power supply provides constant current or constant voltage for physics activities that require DC power.

EXPS \$259

vernier.com/exps



Electrostatics Kit

Students use the Electrostatics Kit to perform a range of experiments in electrostatics with Go Direct Static Charge.

ESK-CRG ⬆ \$129

vernier.com/esk-crg



Thermodynamics

Temperature Probes

Go Direct Surface Temperature

Range: -25 to 125°C

GDX-ST \$99



Go Direct Temperature

Range: -40 to 125°C

GDX-TMP \$79



Surface Temperature Sensor

Range: -25 to 125°C

STS-BTA \$34



Stainless Steel Temperature Probe

Range: -40 to 135°C

TMP-BTA \$45



vernier.com/temperature-sensors

Gas Pressure Sensors

Go Direct Gas Pressure

Range: 0 to 400 kPa

GDX-GP \$105



Gas Pressure Sensor

Range: 0 to 210 kPa

GPS-BTA \$103



vernier.com/gas-pressure-sensors

Resonance Apparatus

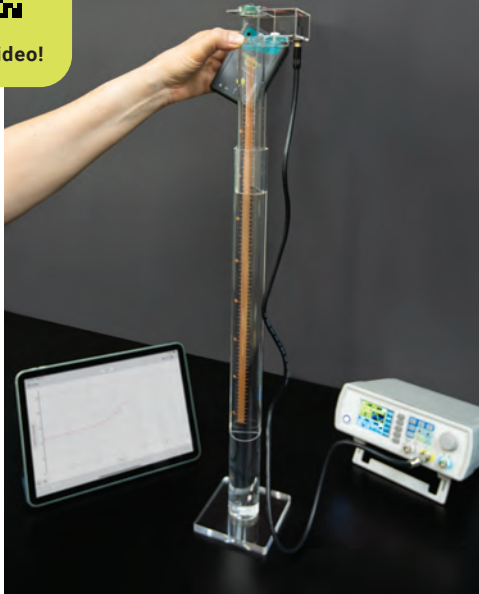
The Resonance Apparatus is used for the classic experiment of determining the speed of sound using the principle of resonance in a tube that is closed at one end. Fill the apparatus with water and use a tuning fork or the included speaker to produce sound. Listen for the resonance while moving the inner tube, or use a sound sensor to locate the resonance lengths.

RES-APP \$199

vernier.com/res-app



Watch the video!

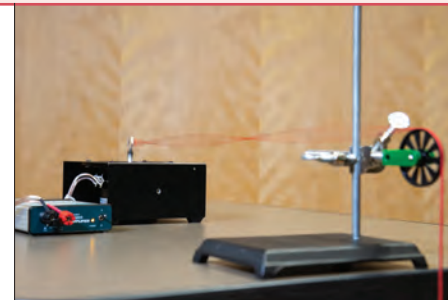


Frequency Generator

Easily connect the Frequency Generator to the Power Amplifier to create sine, square, sawtooth, and triangle waves at a wide range of frequencies. It also outputs DC voltage.

FGEN-PAMP \$189

vernier.com/fgen-pamp



Power Amplifier

Drive devices such as speakers, lamps, and small DC motors.

PAMP \$249

vernier.com/pamp



Microphone

Display and study the waveforms of sounds from voices and musical instruments. This sensor is also appropriate for speed of sound experiments.

MCA-BTA \$55 vernier.com/mca-bta



Go Direct Sound

Use Go Direct® Sound to easily capture and evaluate waveforms.

GDX-SND \$99

vernier.com/gdx-snd



Sound Level Sensor

Use the Sound Level Sensor to easily measure sound level in decibels (dB) in a variety of experiments.

Range: 55 to 110 dB

SLS-BTA \$69 vernier.com/sls-bta



Power Amplifier Accessory Speaker

Study mechanical waves on strings and springs.

PAAS-PAMP ⚡ \$155

vernier.com/paas-pamp



Go Direct Light and Color

Measure light intensity in the visible to ultraviolet electromagnetic spectrum. An RGB color sensor detects relative contributions of primary colors in light.

GDX-LC \$99

vernier.com/gdx-lc



Light Sensor

Investigate polarizers, reflectivity, and solar energy with this sensor that approximates the human eye in spectral response. It's great for inverse square law experiments.

LS-BTA \$69

vernier.com/ls-bta



Optics Expansion Kit

Use the Optics Expansion Kit with your dynamics track (not included) to conduct optics experiments, such as image formation with lenses and light intensity vs. distance. You can even use the kit to build a basic telescope.

Kit includes

- 3 lenses (100 mm converging lens, 200 mm converging lens, -150 mm diverging lens)
- Screen
- Combination luminous and point light source
- Light Sensor Holder*
- Aperture screen
- Power supply

The Optics Expansion Kit is used in *Physics with Vernier* and *Advanced Physics with Vernier—Beyond Mechanics* experiments.

OEK \$199

Download free sample experiments at vernier.com/oek

* The Light Sensor Holder can be used with any style Vernier light sensor.

Combination Dynamics Track and Optical Bench

The Combination Dynamics Track and Optical Bench is aluminum and includes a metric scale. Extremely rigid, this 1.2 (or 2.2) meter track will not sag under use. The track includes two Adjustable Two Foot Levelers.

1.2 m Track TRACK \$160

vernier.com/track

2.2 m Track TRACK-LONG \$272

vernier.com/track-long

Polarizer/Analyzer Set

PAK-OEK \$89

vernier.com/pak-oek



Mirror Set

M-OEK \$69

vernier.com/m-oek



Light source not included

Color Mixer

CM-OEK \$189

Download a free sample experiment at vernier.com/cm-oek



Diffraction Apparatus

Using the Diffraction Apparatus, with its included Red Diffraction Laser, high-precision slits, and High Sensitivity Light Sensor, students can create, view, and measure diffraction and interference patterns.

The Diffraction Apparatus requires a Combination Track/Optics Bench (not included).

DAK \$669

vernier.com/dak



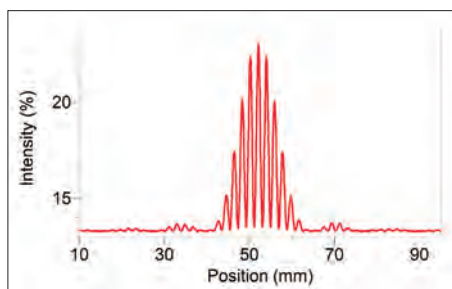
Combination 1.2 m Track/ Optics Bench

TRACK \$160 vernier.com/track

Green Diffraction Laser (optional)

Add this to your Diffraction Apparatus to study the effect of wavelength on a diffraction pattern.

GDL-DAK \$250 vernier.com/gdl-dak



See website for replacement parts.

Go Direct Emissions Spectrometer

This emissions spectrometer connects to your device via Bluetooth® wireless technology or USB to give precise measurements over a range of 350–900 nm. Use it with or without an optical fiber (not included) to examine spectra of light bulbs, spectrum tubes, or the sun.

GDX-SPEC-EM \$950

vernier.com/gdx-spec-em



Vernier Emissions Fiber

VSP-EM-FIBER \$94

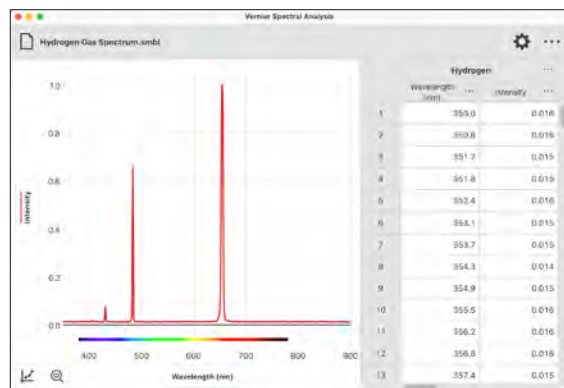
vernier.com/vsp-em-fiber



Vernier Spectral Analysis App

Our free Vernier Spectral Analysis® app makes it easy to incorporate spectroscopy into your physics lab. Using the app, students can analyze spectra from diverse sources such as spectrum tubes, light bulbs, and the sun.

vernier.com/spectral-analysis



Radiation Monitors

Go Direct Radiation Monitor

Explore radiation statistics, measure the rate of nuclear decay, and monitor radon progeny. Go Direct® Radiation Monitor detects alpha, beta, gamma, and X-ray radiation, and includes LED and audible indicators.

GDX-RAD \$219

vernier.com/gdx-rad



Vernier Radiation Monitor

The Vernier Radiation Monitor detects alpha, beta, gamma, and X-ray radiation and can be used for experiments in nuclear counting statistics, shielding, and decay rate measurements.

VRM-BTD \$199

vernier.com/vrm-btd



Spectrum Tube Single Power Supply

These power supplies feature an ultra-safe design for electrifying spectrum tubes.

ST-SPS ⚡ \$299

vernier.com/st-sps

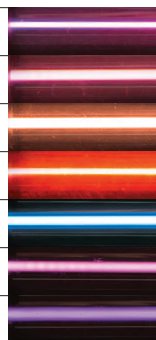


Spectrum Tubes

Spectrum Tubes are permanently enclosed in protective plastic carriers, with no exposed high voltage.

All Spectrum Tubes are sold separately:

Hydrogen	ST-H ⚡	\$49
Nitrogen	ST-N ⚡	\$49
Helium	ST-HE ⚡	\$49
Neon	ST-NE ⚡	\$49
Carbon Dioxide	ST-CO2 ⚡	\$49
Air	ST-AIR ⚡	\$49
Argon	ST-AR ⚡	\$49



vernier.com/spectrum-tubes

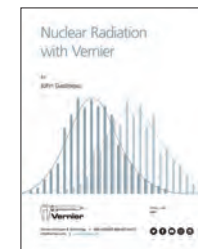
Spectrum Tubes carry a two-year warranty (hydrogen tube: two years or 40 hours, whichever comes first; all other tubes: two years or 100 hours, whichever comes first).

Nuclear Radiation with Vernier

This free e-book includes six experiments for data collection with a radiation monitor:

- Distance and Radiation
- Counting Statistics
- Lifetime Measurement
- Background Radiation Sources
- Radiation Shielding
- Alpha, Beta, and Gamma

FREE DOWNLOAD
vernier.com/nrv-e



Featured Products

Looking for Replacement Parts?

Visit vernier.com/replacements

Go Direct Sensors

Sensor	Order Code	Price
Go Direct 3-Axis Magnetic Field	GDX-3MG	\$99
Go Direct Acceleration	GDX-ACC	\$115
Carts and Tracks		
Dynamics Cart and Track System with Go Direct Sensor Carts	DTS-GDX	\$636
Go Direct Sensor Cart (Green)	GDX-CART-G	\$205
Go Direct Sensor Cart (Yellow)	GDX-CART-Y	\$205
Go Direct Centripetal Force Apparatus	GDX-CFA	\$325
Go Direct Current	GDX-CUR	\$99
Go Direct Force and Acceleration	GDX-FOR	\$119
Go Direct Force Plate	GDX-FP	\$399
Go Direct Gas Pressure	GDX-GP	\$105
Go Direct Light and Color	GDX-LC	\$99
Go Direct Motion	GDX-MD	\$129
Go Direct Photogate	GDX-VPG	\$105
Go Direct Projectile Launcher	GDX-PL	\$499
Go Direct Radiation Monitor	GDX-RAD	\$219
Go Direct Rotary Motion	GDX-RMS ⚡	\$195
Go Direct Sound	GDX-SND	\$99
Go Direct Static Charge	GDX-Q	\$109
Temperature Probes		
Go Direct Surface Temperature	GDX-ST	\$99
Go Direct Temperature	GDX-TMP	\$79
Go Direct Voltage	GDX-VOLT	\$95

Go Direct Charge Station

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89

LabQuest® Sensors

Sensor	Order Code	Price
Accelerometers		
3-Axis Accelerometer	3D-BTA	\$105
25-g Accelerometer	ACC-BTA	\$110
Low-g Accelerometer	LGA-BTA	\$99
Carts and Tracks		
Dynamics Cart and Track System with Motion Encoder	DTS-EC	\$540
Encoder Fan Cart	CART-FEC	\$245
Current Sensors		
Current Probe	DCP-BTA	\$49
High Current Sensor	HCS-BTA	\$89
Electricity and Magnetism Sensors		
Charge Sensor	CRG-BTA	\$89
Magnetic Field Sensor	MG-BTA	\$69
Force Sensors		
Dual-Range Force Sensor	DFS-BTA	\$124
Force Plate	FP-BTA	\$395
Gas Pressure Sensor	GPS-BTA	\$103
Light Sensors		
Diffraction Apparatus	DAK	\$669
Light Sensor	LS-BTA ⚡	\$69
Motion Detectors		
Go! Motion® (USB sensor)	GO-MOT	\$139
Motion Detector	MD-BTD	\$105
Photogate	VPG-BTD	\$55
Power Amplifier	PAMP	\$249
Projectiles		
Projectile Launcher	VPL	\$440
Time of Flight Pad	TOF-VPL	\$84

See all our products for physics at vernier.com/physics

Radiation Monitor	VRM-BTD	\$199
Rotary Motion Sensor	RMV-BTD ⚡	\$189
Sound Sensors		
Microphone	MCA-BTA	\$55
Sound Level Sensor	SLS-BTA	\$69
Temperature Probes		
Stainless Steel Temperature Probe	TMP-BTA	\$45
Surface Temperature Sensor	STS-BTA	\$34
Voltage Probes		
30-Volt Voltage Probe	30V-BTA	\$59
Differential Voltage Probe	DVP-BTA	\$49
Instrumentation Amplifier	INA-BTA	\$89
Voltage Probe	VP-BTA	\$14

Emissions Spectrometer

Spectrometer	Order Code	Price
Go Direct Emissions Spectrometer	GDX-SPEC-EM	\$950

Physics Lab Supplies

Part	Order Code	Price
Cart Fan	DTS-CFAN	\$89
Friction Block	PHY-FRBL	\$17
Hanging Masses	PHY-HM250 ⚡	\$23
Meter Stick	PHY-METER	\$11
Solenoid	PHY-SN700	\$79
Frequency Generator	FGEN-PAMP	\$189
Electrostatics Kit	ESK-CRG ⚡	\$129
Extech Digital DC Power Supply	EXPS	\$259
Spectrum Tube Single Power Supply	ST-SPS ⚡	\$299

HIGH SCHOOL

Engineering and Coding

Encourage curiosity, build confidence, and spark an interest in STEM careers in your students. Vernier solutions give your students practical ways to learn engineering design principles and integrate sensor data into computer science concepts.

vernier.com/engineering



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

PLTW Engineering and Computer Science

Project Lead The Way (PLTW) empowers students to develop in-demand, transportable knowledge and skills through programs in computer science, engineering, and biomedical science.

vernier.com/pltw

PLTW

Go Direct Structures & Materials Tester

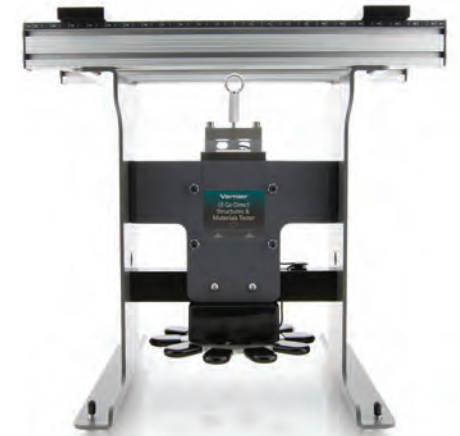
Use our Go Direct® Structures & Materials Tester to evaluate the strength of model bridges and engineered structures by measuring the applied load. Utilizing both load and displacement sensors, your students can evaluate the properties of materials.

Benefits

- Force and displacement sensors connect via Bluetooth® wireless technology or USB
- Uses Vernier Graphical Analysis® Pro app to collect and analyze data
- Exact force and displacement for bends and breaks
- Accurate positioning for center and off-center loading
- Free software simplifies bridge-building contests
- Includes *Materials Testing: Beams to Bridges* e-book

GDX-VSMT \$1,199

vernier.com/gdx-vsmt

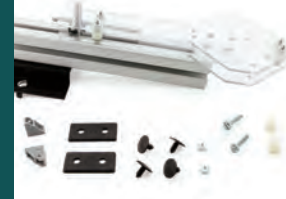


Truss Tester Accessory

The Truss Tester Accessory attaches to the Go Direct Structures & Materials Tester, holds a single truss upright, and makes it possible for the load to be applied in a variety of locations.

VSMT-TRUSS \$149

vernier.com/vsmt-truss



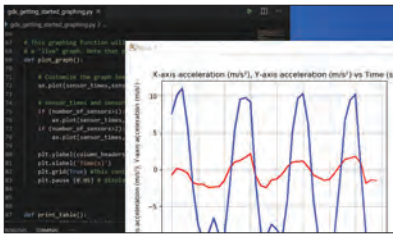
Go Direct Bridge Competition Software

Make data collection easy and seamless for bridge-building competitions with our free Go Direct Bridge Competition Software. This software provides real-time graphing to give students immediate feedback on bridge performance and displays side-by-side comparisons for the entire class.

FREE DOWNLOAD

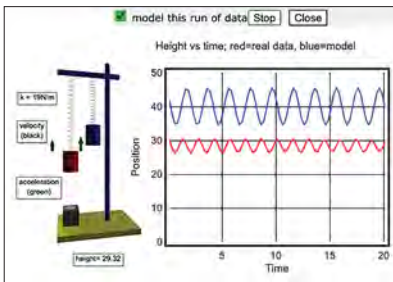
vernier.com/godirect-bridge-competition-software

Code with Python



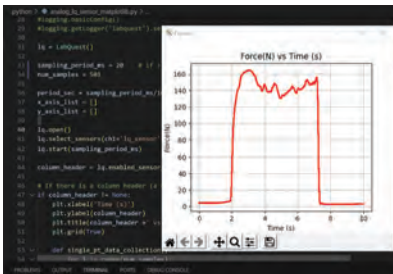
Python with Go Direct Sensors

Create Python® code to capture data from Go Direct sensors. Supported on Windows® 10, macOS® and Linux (including Raspberry Pi®)



Web VPython with Go Direct Sensors

Create 3D animations in a browser with Web VPython and Go Direct sensors. Both are compatible with a Chrome™ browser on Windows, macOS, and Chromebooks.



Python with LabQuest Sensors

Communicate with your LabQuest® sensors in Python. For LabQuest and Python, we offer support for Windows and macOS.

```

1.1 1.2 1.3 Boyle's Law
boyles_law.py
from Go_Direct import *
sensor = gdx()
the_p = []
the_v = []
reciprocals = []
samples = 6
for n in range(samples):
    while True:
        clear_history()
        print('pressure = {:.2f} kPa'.format(sensor))
        print('Press [enter] to measure')
    
```

Python with TI Calculators and Go Direct Sensors

Students can code beyond the screen of select TI calculators by integrating live sensor data into their Python programming language activities.

Available resources for using Python with Vernier sensors include a GitHub® repository, an introductory guide, and sample programs and activities.

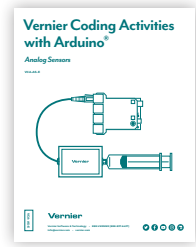
vernier.com/python

For other coding solutions, including Scratch, JavaScript, and LabVIEW™, see vernier.com/hs-engineering

Code with Arduino

Combining Vernier sensors with the inexpensive, easy-to-program Arduino® microcontrollers makes integrating coding and engineering into your curriculum simple and affordable.

vernier.com/arduino



Practice Engineering Design with Renewable Energy

Challenge students to apply their knowledge as they explore the engineering design of wind turbines.

KidWind Advanced Wind Experiment Kit	KW-AWX	\$174
Go Direct Energy	GDX-NRG	\$99
KidWind Basic Building Parts	KW-BTPART	\$16
<i>Renewable Energy with Vernier</i>		
• Printed book + download:	REV	\$59
• Download only:	REV-E	\$45

vernier.com/kidwind

HIGH SCHOOL

Math

Confidence in math grows when students grasp its connection to everyday life. And now with enhanced compatibility between Vernier and Texas Instruments, students can explore math in tangible, real-world scenarios by wirelessly capturing and analyzing data on their TI calculators in real time.

vernier.com/math



Wirelessly Collect and Analyze Data on TI Calculators with Vernier Go Direct Sensors

Unlock the doors to a deeper understanding of math and science through real-time data collection and analysis. Using the Vernier DataQuest® app on the TI-Nspire™ CX II and TI-Nspire CX II CAS calculators, students can predict, collect, and analyze data from select Go Direct sensors.

Connect any compatible Go Direct® sensor wirelessly using the TI Bluetooth® Adapter or directly through USB.



TI Bluetooth Adapter
TI-CALC-BTADPT \$23
**Includes cable; TI calculators sold separately*



TI Calculator Data-Only Go Direct Sensor Cable
CB-GDX-TICALC \$9
**TI calculators sold separately*



Seamlessly connect your TI calculator to supported Go Direct sensors using the Vernier DataQuest App and the TI Bluetooth Adapter.



This data-only sensor cable is specially designed to transmit data from supported Go Direct Sensors without depleting the calculator's battery.



Go Direct Temperature
GDX-TMP \$79



Go Direct pH
GDX-PH \$109



Go Direct Gas Pressure
GDX-GP \$105



Go Direct Light and Color
GDX-LC \$99



Go Direct Force and Acceleration
GDX-FOR \$119



Go Direct Motion
GDX-MD \$129

TI-Nspire Go Direct Package

Add hands-on exploration using Go Direct sensors to your TI-Nspire CX II and TI-Nspire CX II CAS handhelds with this convenient package. (TI-Nspire calculators sold separately.)

- Go Direct Force and Acceleration
- Go Direct Gas Pressure
- Go Direct Light and Color
- Go Direct Motion
- Go Direct pH
- Go Direct Temperature
- Data-Only Go Direct Sensor Cable
- TI Bluetooth Adapter

GDP-TICALC \$672 vernier.com/gdp-ticalc

Python Programming with TI and Vernier




Empower students to code their own data-collection programs with Python®! By downloading and transferring Python modules for Go Direct sensors to their TI graphing calculators, students can easily experiment with input and output controls using their collected data.

TI-Nspire CX II (TI-NSCX2)	TI-84 Plus CE Python (TI-84PCE)
Supports 6 Go Direct sensors	Supports 6 Go Direct sensors
Connects with 1 Go Direct sensor at a time	Connects with 1 Go Direct sensor at a time
Uses up to 4 sensor channels at a time (for sensors that have multiple sensor channels)	Uses 1 sensor channel at a time (for sensors that have multiple sensor channels)
Requires TI-Bluetooth Adapter	Requires TI-Bluetooth Adapter

Learn more about the TI Go Direct Python Module at www.education.ti.com/go-direct

More Options to Collect Data with TI Calculators

Connect a Vernier sensor directly to any TI-Nspire handheld or TI-84 Plus graphing calculator and start collecting data. Collect data with the CBR 2 motion detector or EasyTemp® temperature probe, or use EasyLink® with a supported sensor to explore math and science concepts found in real-world phenomena such as light, pressure, force, and more.

Product	Order Code	Price	URL
 CBR2	CBR2	\$103	vernier.com/cbr2
 EasyLink	EZ-LINK	\$79	vernier.com/ez-link
 EasyTemp	EZ-TMP	\$48	vernier.com/ez-temp

For other solutions, see vernier.com/math

Calculator Products

For more information about compatibility, see our website.

Product	Order Code	Price		
Calculators	TI-84 Plus CE Python	TI-84PCE	\$135	
	TI-84 Plus CE Python Teacher Pack (10 EZ-Spot calculators & charging station)	TI-84PCE-TPK	\$1,377	
	TI-84 Plus Calculator	TI-84PL	\$111	
	TI-84 Plus EZ-Spot Teacher Pack (10 EZ-Spot calculators)	TI-84PL-TPK	\$1,105	
	TI-Nspire CX II Handheld	TI-NSCX2	\$143	
	TI-Nspire CX II Teacher Pack (10 EZ-Spot handhelds & docking station)	TI-NSCX2-TPK	\$1,514	
	TI-Nspire CX II CAS Handheld	TI-NSCXCAS2	\$145	
	TI-Nspire CX II CAS Teacher Pack (10 handhelds & docking station)	TI-NSCXCAS2-TPK	\$1,542	
	Charging/ Docking Station	TI-84 Plus CE Charging Station	TI-84PCE-CS	\$73
		TI-Nspire CX Docking Station	TI-NSCX-DS	\$130
Data Collection	CBR 2	CBR2	\$103	
	EasyLink	EZ-LINK	\$79	
	EasyTemp	EZ-TMP	\$48	
	Go Direct Sensor Connectivity Kit for TI Calculators* (includes TI Bluetooth Adapter and Data-Only Sensor Cable)	TICALC-GDX-BTUSB-KT	\$32	
	TI Bluetooth Adapter	TI-CALC-BTADPT	\$23	
	TI Calculator* Data-Only Go Direct Sensor Cable	CB-GDX-TICALC	\$9	
	Emulator Software/ Online Calculators	TI-SmartView™ Emulator software for TI-84		
		TI-84 Plus CE Online Calculator		
TI-Nspire CX Online Calculator				
TI-Nspire CX Student Software				
TI-Nspire CX CAS Student Software				
	TI-Nspire CX Premium Teacher Software			
Miscellaneous Accessories	Easy to Go! USB Adapter	MINI-USB	\$22	
	Go! to Easy USB Adapter	USB-MINI ↕	\$9	
TI Navigator™ System	30-User TI-Nspire CX Navigator System	TI-NAV-CX30	\$2,220	
	10-User TI-Nspire CX Navigator System	TI-NAV-CX10	\$1,289	
	10-User TI-Nspire CX Navigator Add-on†	TI-NAV-10ADDON	\$829	

TI products purchased in the United States are covered by a one-year warranty based on the date of purchase. Units are warranted against defective materials or workmanship.

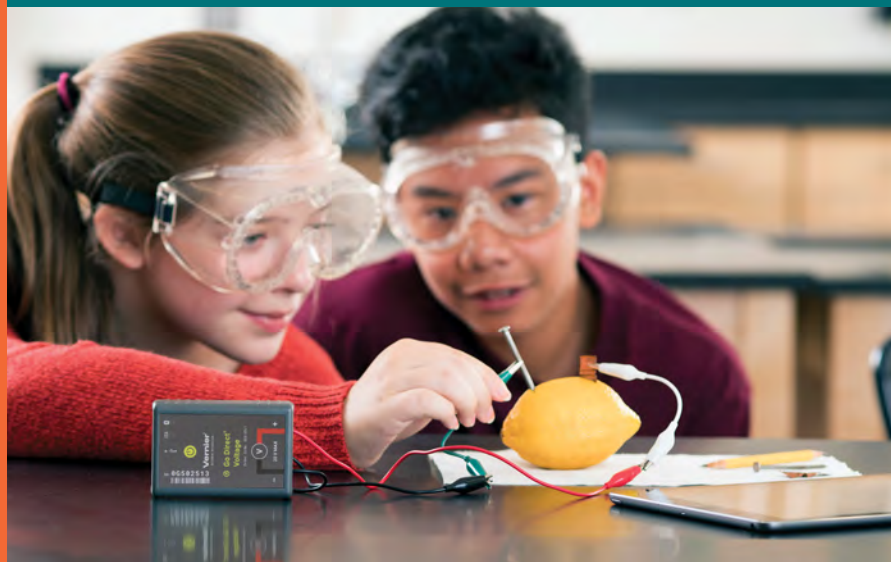
* Supports TI-Nspire CX II and TI Nspire CX II CAS calculators only

† Requires purchase of a Navigator system

Middle School

Hands-on learning with technology is ideal for middle school students. Enhance their discovery and understanding of the world around them with the use of Vernier technology. Using our versatile, cutting-edge products and ready-to-go experiments correlated to the NGSS, you can encourage your students' curiosity and prepare them for high school—and the world beyond.

vernier.com/middle-school



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Go Direct Temperature

MOST POPULAR

Students can use this rugged, general-purpose sensor to monitor temperature.

Range: -40 to 125°C

GDX-TMP \$79

vernier.com/gdx-tmp



Go Direct Temperature Teacher Pack

GDX-TMP-TP \$702

Includes 8 Go Direct® Temperature Probes and a Go Direct Charge Station



Go Direct Force and Acceleration

Measure forces as small as ± 0.1 N and up to ± 50 N with this sensor that couples a 3-axis accelerometer with a stable and accurate force sensor. Use it to measure pushes and pulls in the classroom or outdoors.

GDX-FOR \$119

vernier.com/gdx-for



Go Direct Motion

Go Direct Motion uses ultrasound to measure the position, velocity, and acceleration of moving objects.

GDX-MD \$129

vernier.com/gdx-md



Go Direct 3-Axis Magnetic Field

Determine the magnitude and direction of a magnetic field at any point in space with this 3-axis sensor.

GDX-3MG \$99

vernier.com/gdx-3mg



Go Direct Gas Pressure

Go Direct Gas Pressure measures the absolute pressure of a gas.

GDX-GP \$105

vernier.com/gdx-gp



Go Direct pH

Go Direct pH is a general-purpose pH sensor used to monitor pH of aqueous solutions.

GDX-PH \$109

vernier.com/gdx-ph



Go Direct Light and Color

Go Direct Light and Color combines the power of multiple sensors to measure light intensity in the visible range and UV portions of the electromagnetic spectrum.

GDX-LC \$99

vernier.com/gdx-lc



Go Direct Voltage

Go Direct Voltage combines a wide input voltage range and high precision, making it an excellent choice for investigations of both AC/DC circuits and electromagnetism.

GDX-VOLT \$95

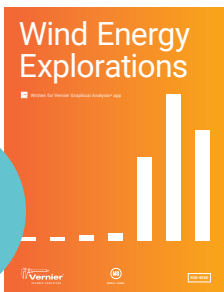
vernier.com/gdx-volt



Wind Energy Explorations

Students gain an understanding of energy, circuits, and loads, as well as practice engineering design as they use this lab book to explore wind energy.

INCLUDES
9
EXPERIMENTS



Printed book + download

MSB-WIND \$29

Download only

MSB-WIND-E \$24

vernier.com/msb-wind-e

Wind Energy Explorations Go Direct Packages

Single Station Package (shown below)

This package includes

- Go Direct® Energy (1)
- Vernier Resistor Board (1)
- KidWind Basic Wind Experiment Kit

GDP-MS-WE \$252



[Learn more at vernier.com/gdp-ms-we](http://vernier.com/gdp-ms-we)

Classroom Package

This package includes

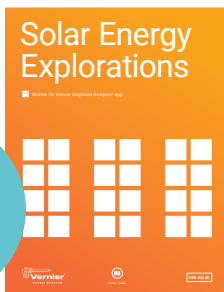
- Go Direct Energy (3)
- Vernier Resistor Boards (3)
- KidWind Basic Wind Experiment Classroom Pack (includes materials for 6 to 10 groups of 2 to 4 students each)

GDP-MS-WEC \$708

Solar Energy Explorations

Solar energy provides a relevant topic for students to explore energy, temperature, and electrical circuits, culminating in an engineering design project.

INCLUDES
9
EXPERIMENTS



Printed book + download

MSB-SOLAR \$29

Download only

MSB-SOLAR-E \$24

vernier.com/msb-solar

Solar Energy Explorations Go Direct Package

This package includes sensors that work with Vernier Graphical Analysis® Pro and LabQuest® 3. It also includes an experiment kit and a resistor board.

- Go Direct Energy
- Solar Energy Exploration Kit
- Go Direct Surface Temperature
- Vernier Resistor Board

GDP-MS-SE \$306

Buy 8 or more packages at \$300 and save \$48.



[Learn more at vernier.com/gdp-ms-se](http://vernier.com/gdp-ms-se)

OpenSciEd

Vernier knows that science education is not static. Your students need to understand critical scientific concepts, use these concepts to solve problems, and understand how they connect to the real world. These objectives are incorporated into the main pillars of the three-dimensional learning framework developed by the National Research Council.

We are proud to partner with OpenSciEd®, a provider of high-quality, open-source science instructional materials. Our partnership gives you access to free field-tested and EQuIP-approved units that support the three-dimensional learning approach. Vernier provides free downloadable supplements that integrate data-collection technology into these units. When Vernier technology is paired with OpenSciEd's classroom-tested curriculum, your students establish a deep understanding of critical scientific concepts through data collection.

[Learn more at vernier.com/opensci-ed](http://vernier.com/opensci-ed)



Exploring Life Science

From yeast to humans, this e-book provides opportunities for students to learn about life science.

Learn more at vernier.com/msb-ls-e



Download only
MSB-LS-E \$13

Exploring Life Science Go Direct Package

This package contains the following: Go Direct Gas Pressure, Go Wireless® Heart Rate, Go Direct Conductivity, and Gas Pressure Sensor Bulb.

GDP-MS-LS \$340

Buy 8 or more at \$334 and save \$48.



Middle School Explorations: Chemical Reactions

In the six experiments in this book, students gain an understanding of various types of chemical reactions as they build a model to explain what goes on at the molecular level during a chemical reaction.

Learn more at vernier.com/msb-cr-e



Download only
MSB-CR-E \$24

Go Direct Temperature

This is a rugged, general-purpose sensor that students can use to monitor temperature.

GDX-TMP \$79

Teacher pack is also available (includes 8 Go Direct Temperature Probes and a Charge Station).

GDX-TMP-TP \$702



Middle School Science Go Direct Package

This package includes 12 sensors that work with Vernier Graphical Analysis Pro and LabQuest 3.

- Go Direct Motion Detector
- Go Direct pH
- Go Direct Voltage
- Go Direct Temperature (2)
- Go Direct Light and Color
- Go Direct Force and Acceleration
- Go Direct Gas Pressure
- Go Wireless Heart Rate
- Go Direct Conductivity
- Go Direct 3-Axis Magnetic Field
- Gas Pressure Sensor Bulb

GDP-MS-DX \$1,148

Buy 8 Middle School Science Go Direct Packages at \$1,126 each and save \$176!

Learn more at vernier.com/gdp-ms-dx



Middle School Science with Vernier

The *Middle School Science with Vernier* lab book contains 38 experiments in Earth science, life science, and physical science written specifically for students in grades 6–8. Making use of 10 different Vernier sensors, your students will enjoy doing these well-tested science experiments.

Includes experiments from these e-books

- *Exploring Life Science*
- *Exploring Earth and Space Science*
- *Exploring Physical Science*

Learn more at vernier.com/msv



Printed book + download
MSV \$59

Download only
MSV-E \$45

Exploring Physical Science

From matter and energy to motion and forces, students explore a wide variety of topics in basic chemistry and physics in this e-book.

Learn more at vernier.com/msb-ps-e



Download only
MSB-PS-E \$24

Exploring Physical Science Go Direct Package

This package contains the following Go Direct® sensors: Temperature (2), Gas Pressure, Force and Acceleration, Motion Detector, Voltage, 3-Axis Magnetic Field, and Light and Color.

GDP-MS-PS \$804

Buy 8 or more at \$788 and save \$128.



Exploring Earth and Space Science

Weather, soil, and water quality are a few of the Earth science topics students explore in this e-book.

Learn more at vernier.com/msb-ess-e



Download only
MSB-ESS-E \$24

Exploring Earth and Space Science Go Direct Package

This package contains the following Go Direct sensors: Temperature (2), Light and Color, Motion Detector, Conductivity, and pH.

GDP-MS-ESS \$624

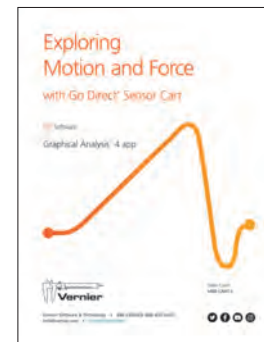
Buy 8 or more at \$612 and save \$96.



Exploring Motion and Force with Go Direct Sensor Cart

In this e-book, students explore the force of friction, aspects of motion, and simple machines such as levers, ramps, and pulleys.

Learn more at vernier.com/msb-cart-e



Download only
MSB-CART-E \$24

Exploring Motion and Force with Go Direct Sensor Cart Package

This package contains the following Go Direct sensors: Sensor Cart (Green) and Sensor Cart (Yellow).

GDP-MS-SC \$410

Buy 8 or more at \$402 and save \$64.



The Cart Guide helps make it easy to take your dynamics experiments off track. Sold as a package of 10 Cart Guides.

CGUIDE-10 \$99

Featured Products

Go Direct Sensors

Sensor	Order Code	Price
Go Direct 3-Axis Magnetic Field	GDX-3MG	\$99
Carts and Tracks		
Dynamics Cart and Track System with Go Direct Sensor Carts	DTS-GDX	\$636
Go Direct Sensor Cart (Green)	GDX-CART-G	\$205
Go Direct Sensor Cart (Yellow)	GDX-CART-Y	\$205
Go Direct Conductivity	GDX-CON	\$129
Go Direct Current	GDX-CUR	\$99
Go Direct Energy	GDX-NRG	\$99
Go Direct Force and Acceleration	GDX-FOR	\$119
Go Direct Gas Pressure	GDX-GP	\$105
Go Wireless® Heart Rate	GW-HR	\$99
Go Direct Light and Color	GDX-LC	\$99
Go Direct Motion	GDX-MD	\$129
Go Direct Optical Dissolved Oxygen	GDX-ODO	\$385
pH Sensors		
Go Direct pH	GDX-PH	\$109
Go Direct Tris-Compatible Flat pH	GDX-FPH	\$139
Go Direct Sound	GDX-SND	\$99
Go Direct Structures & Materials Tester	GDX-VSMT	\$1,199
Temperature Probes		
Go Direct Surface Temperature	GDX-ST	\$99
Go Direct Temperature	GDX-TMP	\$79
Go Direct Voltage	GDX-VOLT	\$95
Go Direct Weather System	GDX-WTVA	\$164

Go Direct Charge Station

Accessory	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89

Additional Products

Products	Order Code	Price
Cart Guide (pkg. of 10)	CGUIDE-10 ⚡	\$99
pH Storage Solution	PH-SS	\$25
KidWind Basic Wind Experiment Kit	KW-BWX	\$134
Solar Energy Exploration Kit	KW-SEEK	\$89
Vernier Resistor Board	VES-RB	\$19

Coding

[vernier.com/scratch](https://www.vernier.com/scratch)

Products	Order Code	Price
Go Direct Force and Acceleration (for use with Scratch)	GDX-FOR	\$119

Lab Books

Title	Order Code	Price
<i>Middle School Science with Vernier</i>	Printed book + download: MSV	\$59
	Download only: MSV-E	\$45
<i>Exploring Motion and Force with Go Direct Sensor Cart</i>	MSB-CART-E	\$24
<i>Exploring Physical Science*</i>	MSB-PS-E	\$24
<i>Exploring Life Science*</i>	MSB-LS-E	\$13
<i>Exploring Earth and Space Science*</i>	MSB-ESS-E	\$24
<i>Solar Energy Explorations</i>	Printed book + download: MSB-SOLAR	\$29
	Download only: MSB-SOLAR-E	\$24
<i>Wind Energy Explorations</i>	Printed book + download: MSB-WIND	\$29
	Download only: MSB-WIND-E	\$24
<i>Earth Science with Vernier</i>	Printed book + download: ESV	\$59
	Download only: ESV-E	\$45
<i>Climate and Meteorology Experiments</i>	Printed book + download: HSB-CM	\$29
	Download only: HSB-CM-E	\$24

* All experiments from this e-book are included in Middle School Science with Vernier.

See all our products for middle school science at [vernier.com/middle-school](https://www.vernier.com/middle-school)

LabQuest 3 Interface and Sensors

Learn more about LabQuest® 3 and sensors at [vernier.com/labq3](https://www.vernier.com/labq3)

Looking for Replacement Parts?

Visit [vernier.com/replacements](https://www.vernier.com/replacements)

Elementary School

Technology engages young students. Our carefully designed hands-on data-collection technology helps elementary school teachers introduce young learners to science and STEM. We've created easy-to-use resources to help you educate and inspire your students.

vernier.com/elementary-school



Professional Development

We are here to help. Our webinars, workshops, and personalized training options offer innovative ways to engage students with STEM in a traditional classroom or virtual environment.

vernier.com/training

Elementary Science Go Direct Package

This package includes 8 products that work with Vernier Graphical Analysis[®] Pro and LabQuest[®] 3.

- Go Direct[®] Temperature
- Go Direct Light and Color
- Go Direct Motion
- Go Direct 3-Axis Magnetic Field
- Go Direct Gas Pressure
- Go Direct Voltage
- Go Direct Force and Acceleration
- Gas Pressure Sensor Bulb

GDP-EL-DX • \$732
Buy 8 or more packages at \$718
and save \$112.

[Learn more at vernier.com/gdp-el-dx](http://vernier.com/gdp-el-dx)



Elementary Science with Vernier

This collection of experiments for elementary students includes the topics of temperature, motion, force, magnetism, light, electricity, and gas pressure.

Includes Experiments from These E-books

- *Investigating Temperature*
- *Investigating Gas Pressure*
- *Investigating Motion*
- *Investigating Force*
- *Investigating Light*
- *Investigating Magnetism*
- *Investigating Voltage*

[Learn more at vernier.com/ewv](http://vernier.com/ewv)



Printed book + download
EWV \$59

Download only
EWV-E \$45

Investigating Wind Energy



Printed book + download
ELB-WIND \$27

Download only
ELB-WIND-E \$24

With the *Investigating Wind Energy* lab book, students conduct investigations to learn about energy transfer, basic electric circuits, and blade design.

Investigating Wind Energy Package

Contains the following products

- Go Direct Energy
- Vernier Resistor Board
- KidWind MINI Wind Turbine with Blade Design

GDP-EL-WE \$187

Buy 8 or more at \$184 and save \$24.

vernier.com/gdp-el-we

Investigating Solar Energy



Printed book + download
ELB-SOLAR \$27

Download only
ELB-SOLAR-E \$24

The *Investigating Solar Energy* lab book draws on solar energy as a real-world example through which to investigate energy transfer, series and parallel circuits, and other factors that affect solar panel output.

Investigating Solar Energy Package

Contains the following products

- Go Direct Energy
- Go Direct Surface Temperature
- Solar Energy Exploration Kit
- Vernier Resistor Board







GDP-EL-SE \$306

Buy 8 or more at \$300 and save \$48.

vernier.com/gdp-el-se

Featured Products

Go Direct Sensors

Sensor		Order Code	Price
Go Direct 3-Axis Magnetic Field		GDX-3MG	\$99
Go Direct Energy		GDX-NRG	\$99
Go Direct Force and Acceleration		GDX-FOR	\$119
Go Direct Gas Pressure		GDX-GP	\$105
Go Direct Light and Color		GDX-LC	\$99
Go Direct Motion		GDX-MD	\$129
Go Direct Sound		GDX-SND	\$99
Go Direct Surface Temperature		GDX-ST	\$99
Go Direct Temperature		GDX-TMP	\$79
Go Direct Voltage		GDX-VOLT	\$95
Go Direct Weather		GDX-WTHR	\$135
Go Direct Accessories			
Go Direct Charge Station		GDX-CRG	\$89
Coding			
Go Direct Force and Acceleration (for use with Scratch)		GDX-FOR	\$119

vernier.com/scratch

See all our products for elementary school science at vernier.com/elementary-school

Sensors & Accessories

The Vernier Sensor Advantage

Outstanding Performance

With over 40 years of experience developing technology for education, we design our sensors for active, hands-on experiments. Vernier sensors are rugged, classroom-proven technology that are well supported and easy to use. The sensors provide consistent, high-quality results for the demands of the classroom.

Connect & Collect

Simply connect, and you're ready to collect. All Vernier sensors on the following pages are automatically detected and set up for data collection when used with Vernier software.

Go Direct Sensors

Our Go Direct® sensors connect directly to a computer, Chromebook™ or mobile device via Bluetooth® wireless technology or USB connection. Most sensors include a rechargeable battery to power the sensor when used wirelessly.

LabQuest Sensors

Our LabQuest® sensors require an interface from the LabQuest family, such as LabQuest 3 or LabQuest Mini. The interface sends information from the sensor to the data-collection and analysis software on a device such as a computer, Chromebook, or mobile device.

For more information on sensor compatibility, visit [vernier.com/sensors](https://www.vernier.com/sensors)

Generous Warranty

Buy with confidence. Most Vernier sensors are covered by a 5-year limited warranty. During the warranty period, Vernier will repair or replace the item if there is a defect in materials or workmanship. Outside the warranty, Vernier will attempt to repair most products, often at no charge.

Sensors

Go Direct Sensors

Sensor	Order Code	Price
Go Direct 3-Axis Magnetic Field	GDX-3MG	\$99
Go Direct Acceleration	GDX-ACC	\$115
Go Direct Blood Pressure	GDX-BP	\$125
Carts and Tracks		
Dynamics Cart and Track System with Go Direct Sensor Carts	DTS-GDX	\$636
Go Direct Sensor Cart (Green)	GDX-CART-G	\$205
Go Direct Sensor Cart (Yellow)	GDX-CART-Y	\$205
Go Direct Centripetal Force Apparatus (requires Go Direct Force and Acceleration)	GDX-CFA	\$325
Go Direct CO ₂ Gas	GDX-CO2	\$229
Go Direct Colorimeter	GDX-COL	\$135
Conductivity Probes		
Go Direct Conductivity	GDX-CON	\$129
Go Direct Platinum-Cell Conductivity	GDX-CONPT	\$189
Go Direct Constant Current System	GDX-CCS	\$95
Go Direct Current	GDX-CUR	\$99
Go Direct Cyclic Voltammetry System	GDX-CVS	\$999
Go Direct Drop Counter	GDX-DC	\$115
Go Direct EKG	GDX-EKG	\$175
Go Direct Electrode Amplifier	GDX-EA	\$79
Go Direct Energy	GDX-NRG	\$99
Go Direct Ethanol Vapor	GDX-ETOH	\$169
Go Direct Force and Acceleration	GDX-FOR	\$119
Go Direct Force Plate	GDX-FP	\$399
Gas Pressure Sensors		
Go Direct Gas Pressure	GDX-GP	\$105
Go Direct Wide-Range Pressure	GDX-WRP	\$219
Go Direct Wide Range Pressure (Liquid and Gas Compatible)	GDX-WRPL	\$249
Go Direct Hand Dynamometer	GDX-HD	\$135

Heart Rate Monitors

Go Wireless® Exercise Heart Rate	GW-EHR	\$79
----------------------------------	--------	------

Go Wireless Heart Rate	GW-HR	\$99
------------------------	-------	------

Go Direct Ion-Selective Electrode Amplifier	GDX-ISEA	\$79
---	----------	------

Ion-Selective Electrodes (ISE)*

Go Direct Ammonium ISE	GDX-NH4	\$299
------------------------	---------	-------

Go Direct Calcium ISE	GDX-CA	\$299
-----------------------	--------	-------

Go Direct Chloride ISE	GDX-CL	\$299
------------------------	--------	-------

Go Direct Nitrate ISE	GDX-NO3	\$299
-----------------------	---------	-------

Go Direct Potassium ISE	GDX-K	\$299
-------------------------	-------	-------

Go Direct Light and Color	GDX-LC	\$99
---------------------------	--------	------

Go Direct Melt Station	GDX-MLT ⚡	\$599
------------------------	-----------	-------

Go Direct Mini GC	GDX-GC	\$3,999
-------------------	--------	---------

Go Direct Motion	GDX-MD	\$129
------------------	--------	-------

Go Direct O ₂ Gas	GDX-O2	\$219
------------------------------	--------	-------

Go Direct Optical Dissolved Oxygen	GDX-ODO	\$385
------------------------------------	---------	-------

Go Direct ORP	GDX-ORP	\$119
---------------	---------	-------

Go Direct PAR	GDX-PAR	\$299
---------------	---------	-------

pH Sensors

Go Direct Glass-Body pH	GDX-GPH	\$159
-------------------------	---------	-------

Go Direct pH	GDX-PH	\$109
--------------	--------	-------

Go Direct Tris-Compatible Flat pH	GDX-FPH	\$139
-----------------------------------	---------	-------

Go Direct Photogate	GDX-VPG	\$105
---------------------	---------	-------

Go Direct Polarimeter	GDX-POL	\$545
-----------------------	---------	-------

Go Direct Projectile Launcher	GDX-PL	\$499
-------------------------------	--------	-------

Go Direct Pyranometer	GDX-PYR	\$299
-----------------------	---------	-------

Go Direct Radiation Monitor	GDX-RAD	\$219
-----------------------------	---------	-------

Go Direct Respiration Belt	GDX-RB	\$125
----------------------------	--------	-------

Go Direct Rotary Motion	GDX-RMS ⚡	\$195
-------------------------	-----------	-------

* Ion-Selective Electrodes require excellent chemical technique and careful calibration to obtain accurate results; they are not recommended for elementary or middle school students.

Go Direct Salinity	GDX-SAL	\$180
Go Direct Soil Moisture	GDX-SM	\$149
Go Direct Sound	GDX-SND	\$99
Spectrometers		
Go Direct Emissions Spectrometer	GDX-SPEC-EM	\$950
Go Direct Fluorescence/UV-VIS Spectrophotometer	GDX-SPEC-FUV	\$3,499
Go Direct SpectroVis® Plus	GDX-SVISPL	\$479
Go Direct UV-VIS Spectrophotometer	GDX-SPEC-UV	\$2,999
Go Direct Visible Spectrophotometer	GDX-SPEC-VIS	\$1,999
Go Direct Spirometer	GDX-SPR	\$229
Go Direct Static Charge	GDX-Q	\$109
Go Direct Structures & Materials Tester	GDX-VSMT	\$1,199
Temperature Probes		
Go Direct Surface Temperature	GDX-ST	\$99
Go Direct Temperature	GDX-TMP	\$79
Go Direct Thermocouple	GDX-TC	\$118
Go Direct Wide-Range Temperature	GDX-WRT	\$139
Go Direct Voltage	GDX-VOLT	\$95
Go Direct Weather	GDX-WTHR	\$135

LabQuest Sensors

Sensor	Order Code	Price
Accelerometers		
3-Axis Accelerometer	3D-BTA	\$105
25-g Accelerometer	ACC-BTA	\$110
Low-g Accelerometer	LGA-BTA	\$99
Anemometer	ANM-BTA	\$109
Barometer	BAR-BTA	\$79
Blood Pressure Sensor	BPS-BTA	\$120
Charge Sensor	CRG-BTA	\$89
CO ₂ Gas Sensor	CO2-BTA	\$299
Colorimeter	COL-BTA	\$128
Conductivity Probe	CON-BTA	\$129
Constant Current System	CCS-BTA	\$79
Current Probes		
Current Probe	DCP-BTA	\$49
High Current Sensor	HCS-BTA	\$89

Diffraction Apparatus	DAK	\$669
Digital Control Unit	DCU-BTD	\$69
Drop Counter	VDC-BTD	\$109
EKG Sensor	EKG-BTA	\$179
Electrode Amplifier	EA-BTA	\$55
Energy Sensor	VES-BTA	\$99
Ethanol Sensor	ETH-BTA	\$135
Flow Rate Sensor	FLO-BTA	\$139
Force Sensors		
Dual-Range Force Sensor	DFS-BTA	\$124
Force Plate	FP-BTA	\$395
Gas Pressure Sensors		
Gas Pressure Sensor	GPS-BTA	\$103
Pressure Sensor 400	PS400-BTA	\$229
Hand Dynamometer	HD-BTA	\$124
Heart Rate Monitors		
Exercise Heart Rate Monitor	EHR-BTA	\$99
Hand-Grip Heart Rate Monitor	HGH-BTA	\$129
Instrumentation Amplifier	INA-BTA	\$89
Ion-Selective Electrodes (ISE)*		
Ammonium ISE	NH4-BTA	\$299
Calcium ISE	CA-BTA	\$299
Chloride ISE	CL-BTA	\$299
Nitrate ISE	NO3-BTA	\$299
Potassium ISE	K-BTA	\$299
Light Sensor	LS-BTA ⚡	\$69
Magnetic Field Sensor	MG-BTA	\$69
Melt Station	MLT-BTA ⚡	\$629
Microphone	MCA-BTA	\$55
Motion Detectors		
Dynamics Cart and Track System with Motion Encoder	DTS-EC	\$540
Motion Detector	MD-BTD	\$105
O ₂ Gas Sensor	O2-BTA	\$219
ORP Sensor	ORP-BTA	\$115
PAR Sensor	PAR-BTA	\$259

pH Sensors		
Glass-Body pH Electrode BNC (requires Electrode Amplifier)	GPH-BNC	\$95
pH Sensor	PH-BTA	\$105
Tris-Compatible Flat pH Sensor	FPH-BTA	\$124
Photogate	VPG-BTD	\$55
Power Amplifier	PAMP	\$249
Projectile Launcher	VPL	\$440
Pyranometer	PYR-BTA	\$279
Radiation Monitor	VRM-BTD	\$199
Relative Humidity Sensor	RH-BTA	\$79
Respiration Monitor Belt (requires Gas Pressure Sensor)	RMB	\$63
Rotary Motion Sensor	RMV-BTD ⚡	\$189
Salinity Sensor	SAL-BTA	\$149
Soil Moisture Sensor	SMS-BTA	\$148
Sound Level Sensor	SLS-BTA	\$69
Spirometer	SPR-BTA	\$240
Temperature Probes		
Extra-Long Temperature Probe	TPL-BTA	\$99
Stainless Steel Temperature Probe	TMP-BTA	\$45
Surface Temperature Sensor	STS-BTA	\$34
Thermocouple	TCA-BTA	\$79
Wide-Range Temperature Probe	WRT-BTA	\$119
Turbidity Sensor	TRB-BTA	\$124
UV Sensors		
UVA Sensor	UVA-BTA	\$118
UVB Sensor	UVB-BTA	\$119
Voltage Probes		
30-Volt Voltage Probe	30V-BTA	\$59
Differential Voltage Probe	DVP-BTA	\$49
Voltage Probe	VP-BTA	\$14

USB-Only Sensors

Sensor	Order Code	Price
Go! Motion®	GO-MOT	\$139
Go!Temp®	GO-TEMP	\$49
OHAUS® Balances ⚡	vernier.com/ohaus	
Vernier Flash Photolysis Spectrometer	VSP-FP	\$5,999

⚡ For California Proposition 65 warning, see pp. 78–79.

Accessories & Replacement Parts

Sensors

Part Name	Order Code	Price
Blood Pressure Sensors		
Small Blood Pressure Cuff	CUFF-SM	\$35
Standard Blood Pressure Cuff	CUFF-STD	\$32
Large Blood Pressure Cuff	CUFF-LG	\$40
CO₂ and/or O₂ Gas Sensors		
250 mL Nalgene® Bottle (1 opening)	C02-BTL	\$5
BioChamber 250 (250 mL) (2 openings)	BC-250 ⚡	\$9
BioChamber 2000 (2000 mL) (2 openings)	BC-2000 ⚡	\$22
Colorimeters		
Cuvette Lids (pkg. of 100)	CUV-LID	\$9
Cuvette Rack	CUV-RACK	\$9
Plastic Cuvettes (Visible Range) (pkg. of 100)	CUV	\$24
Conductivity Probes		
Conductivity Low Standard (500 mL)	CON-LST	\$25
Conductivity Middle Standard (500 mL)	CON-MST	\$25
Conductivity High Standard (500 mL)	CON-HST	\$25
Dissolved Oxygen Probe (Go Direct®, order code GDX-ODO)		
Go Direct Optical Dissolved Oxygen Replacement Cap	GDX-ODO-CAP	\$79
Optical DO Probe Metal Guard	ODO-GRD	\$64
Dissolved Oxygen Probe (Non-optical, order code DO-BTA)		
DO Calibration Solution (60 mL)	DO-CAL	\$5
DO Filling Solution (130 mL)	FS	\$6
DO Polishing Strips	PS	\$4
DO Probe Membrane Cap	MEM	\$15
Drop Counters		
Microstirrer	MSTIR	\$9
Precision Volume Dispenser	DC-DISP	\$85
Reagent Reservoir, 2 Valves, and Tip	VDC-RR	\$10
Stopper Stem	PS-STEM	\$1
Plastic 2-Way Valve	PS-2WAY	\$2
EKG Sensors		
EKG Electrodes (100)	ELEC	\$19
Electrode Amplifier (Go Direct, order code GDX-EA)		
Go Direct pH Electrode BNC	GDX-PH-BNC	\$50
Go Direct Glass-Body pH Electrode BNC	GDX-GPH-BNC	\$94
Go Direct Flat pH Electrode BNC	GDX-FPH-BNC	\$83
Go Direct ORP Electrode BNC	GDX-ORP-BNC	\$59

Electrode Amplifier (LabQuest®, order code EA-BTA)		
pH Electrode BNC	PH-BNC	\$68
Glass-Body pH Electrode BNC	GPH-BNC	\$95
Flat pH Electrode BNC	FPH-BNC	\$84
ORP Electrode BNC	ORP-BNC	\$62
Energy Sensors		
Vernier Resistor Board	VES-RB	\$19
Vernier Variable Load	VES-VL	\$79
Ethanol Sensors		
Ethanol Cap Assemblies (pkg. of 3)	ETH-CAPS	\$10
Ethanol Stopper	ETH-STOP	\$6
Ethanol Tape	ETH-TAPE	\$3
Force Sensors		
Reflex Hammer Accessory Kit	RFX-ACC	\$29
Replacement Accessory Rod	ACC-R0D	\$4
Springs Set	SPRINGS	\$18
Dual-Range Force Sensor Replacement Parts Kit	DFS-RPK	\$24
Bumper Launcher Kit	BLK	\$99
Hoop Bumpers for Bumper and Launcher Kit	H00PS-BLK	\$19
Gas Chromatographs		
GC Septa (pkg. of 4)	GC-SEP	\$34
GC Syringe, 1 µL Hamilton	GC-SYR-MIC	\$129
Gas Pressure Sensors		
Gas Pressure Sensor Bulb (1)	GPS-BULB1	\$7
Gas Pressure Sensor Bulb (set of 4)	GPS-BULB4	\$25
Pressure Sensor Accessories Kit	PS-ACC	\$12
#1 1-Hole Rubber Stopper	PS-ST0P1	\$1
#5 2-Hole Rubber Stopper	PS-ST0P5	\$1.50
Luer-Lock Connector	PS-LUER	\$1
Plastic 2-Way Valve	PS-2WAY	\$2
Plastic Tubing	PS-TUBING	\$1
Plastic Tubing Clamps (pkg. of 100)	PTC	\$129
Stopper Stem	PS-STEM	\$1
Syringe (20 mL, plastic)	PS-SYR	\$2
Syringe (20 mL, plastic) (pkg. of 10)	PS-SYR10	\$18
Heart Rate Sensors		
Heart Rate Hand Grips	HR-GRIP	\$41
Exercise Heart Rate Strap	HR-STRAP	\$21
Polar Transmitter Module	HR-TRANS	\$58

Ion-Selective Electrodes		
ISE Ammonium Replacement Module [†]	NH4-MOD	\$89
ISE Calcium Replacement Module [†]	CA-MOD	\$89
ISE Nitrate Replacement Module [†]	N03-MOD	\$89
ISE Potassium Replacement Module [†]	K-MOD	\$89
ISE Ammonium Low Standard (500 mL)	NH4-LST	\$25
ISE Ammonium High Standard (500 mL)	NH4-HST	\$25
ISE Calcium Low Standard (500 mL)	CA-LST	\$25
ISE Calcium High Standard (500 mL)	CA-HST	\$25
ISE Chloride Low Standard (500 mL)	CL-LST	\$25
ISE Chloride High Standard (500 mL)	CL-HST	\$25
ISE Nitrate Low Standard (500 mL)	N03-LST	\$25
ISE Nitrate High Standard (500 mL)	N03-HST	\$25
ISE Potassium Low Standard (500 mL)	K-LST	\$25
ISE Potassium High Standard (500 mL)	K-HST	\$25
Melt Stations		
Melt Station Capillary Tubes (pkg. of 100)	MLT-TUBE	\$24
Motion Detectors		
Go! Motion® to Computer Cable	GMC-USB	\$5
Motion Detector Cable	MDC-BTD	\$5
Motion Detector Clamp	MD-CLAMP	\$15
pH and ORP Sensors		
Microstirrer	MSTIR	\$9
pH Buffer Capsules (10 each of pH 4, 7, 10)	PH-BUFCAP	\$34
pH Storage Bottles (pkg. of 5)	BTL	\$10
pH Storage Solution (500 mL)	PH-SS	\$25
Photogates		
Cart Picket Fence	PF-CART	\$6
Go Direct Photogate Timing Cable	VPG-CB-GDX	\$8
Go Direct Time of Flight Pad Cable	T0F-CB-GDX	\$8
Laser Pointer	LASER	\$24
Laser Pointer Stand	STAND	\$29
Photogate Bar Tape Kit	TAPE-VPG ⚡	\$17
Picket Fence	PF	\$10
Pulley Bracket	B-SPA	\$12
Ultra Pulley Attachment	SPA	\$24
Polarimeters (Chemical)		
Polarimeter Sample Cells (pkg. of 4)	CELLS-POL	\$69

[†] ISE modules have a life expectancy of 1 to 2 years. We recommend that you do not purchase ISE replacement modules too far in advance of their expected time of use; degradation occurs while replacement modules are stored on the shelf.

Power Amplifier (order code PAMP)		
Accessory Speaker	PAAS-PAMP ⬆	\$155
Projectile Launchers		
Goggles (set of 2)	GGL-VPL	\$6
Time of Flight Pad	TOF-VPL	\$84
Steel Balls (set of 6)	STB-VPL	\$7
Projectile Stop	PS-VPL	\$40
Independence of Motion Accessory	IOM-VPL	\$59
Wax Tape (300 ft.)	WXT-VPL	\$18

Rotary Motion Sensors		
Rotational Motion Accessory Kit	AK-RMV ⬆	\$129
Rotary Motion Motor Kit	MK-RMV ⬆	\$12
Rotary Motion Sensor Replacement Pulley	RMV-PULLEY	\$5
Rotary Motion Sensor Replacement Parts Kit	RMV-RPK	\$25

Salinity Sensors		
Salinity Standard (500 mL)	SAL-ST	\$25

Spectrophotometers/Spectrometers		
Cuvette Lids (pkg. of 100)	CUV-LID	\$9
Cuvette Rack	CUV-RACK	\$9
Plastic Cuvettes (visible) (pkg. of 100)	CUV	\$24
Plastic Cuvettes (UV-VIS) (pkg. of 100)	CUV-UV ⬆	\$179
Quartz Cuvettes (pkg. of 2)	CUV-QUARTZ	\$299
Fluorescence/UV Quartz Cuvette (pkg. of 1)	CUV-QUARTZ-FUV	\$249
Spectrophotometer Optical Fiber (for GDX-SVISPL, GDX-SPEC-UV, GDX-SPEC-FUV)	VSP-FIBER	\$79
Vernier Emissions Fiber (for GDX-SPEC-EM, GDX-SPEC-VIS)	VSP-EM-FIBER	\$94

Spirometers		
Disposable Bacterial Filter (pkg. of 10)	SPR-FIL10	\$45
Disposable Bacterial Filter (pkg. of 30)	SPR-FIL30	\$129
Disposable Mouthpiece (pkg. of 30)	SPR-MP30	\$17
Disposable Mouthpiece (pkg. of 100)	SPR-MP100	\$39
Noseclip (pkg. of 10)	SPR-NOSE10	\$10
Noseclip (pkg. of 30)	SPR-NOSE30	\$25
O ₂ Gas Sensor to Spirometer Adapter	O2-SPR	\$8

Structures & Materials Testers		
Truss Tester Accessory	VSMT-TRUSS	\$149

Turbidity Sensor (order code TRB-BTA)		
Turbidity Accessories Replacement Kit	TRB-ACC	\$39
Turbidity Bottles (pkg. of 6)	TRB-BOT	\$39

Voltage and Current Probes		
Electrochemistry Half-Cell Plate	ECHEM-PLT	\$59
Electrochemistry Metals Kit	ECHEM-MTLS ⬆	\$20
Inductor	IND	\$40

Large Capacitor	VCB2-CAP	\$30
Miniature Alligator Clips for Vernier Circuit Board	VCB-GATOR	\$15
Optional Breadboard Kit for the Vernier Circuit Board 2	VCB2-0BBK	\$29
Replacement Lamps for Vernier Circuit Board	VCB-BULB	\$12
Resistivity Rods	RRS ⬆	\$89
Vernier Circuit Board 2	VCB2 ⬆	\$145

Dynamics Cart and Track System

Part Name	Order Code	Price
For any Cart		
Cart Guide (pkg. of 10)	CGUIDE-10 ⬆	\$99
For any Cart and Track System		
Adjustable Two Foot Leveler	AL-VDS	\$10
Adjustable End Stop	AS-VDS	\$8
Anti-Roll Pegs	VDS-ARP10	\$3
Axles and Wheels for Cart	WHEELS-VDS	\$15
Cart Picket Fence	PF-CART	\$6
Cart-Plunger Cart (plastic)	DTS-CART-P	\$84
Cart-Standard Cart (plastic)	DTS-CART-S	\$73
Motion Detector Bracket	DTS-MDB	\$11
Optics Accessories	page 55	
Photogate Bracket	PGB-VDS	\$5
Pulley Bracket	B-SPA	\$12
Vernier Dynamics System Replacement Parts Kit	VDS-RPK ⬆	\$29

For Dynamics Cart and Track Systems Only (Plastic Carts)		
Cart Fan	DTS-CFAN	\$89
DFS/Accelerometer Fasteners	DTS-ACC	\$9
Eddy Current Brake	DTS-ECB	\$19
Friction Pad DTS (for plastic carts)	DTS-PAD	\$32
Mass DTS (hexagonal bars)	DTS-MASS	\$16
Motion Detector Reflector Flag	DTS-FLAG	\$9

For Vernier Dynamics Systems Only (Metal Carts)		
Friction Pad (for metal carts)	PAD-VDS	\$35
Mass for Dynamics Carts (500 g block)	MASS	\$12

BTA/BTD Cables & Adapters

Part Name	Order Code	Price
Analog Cables and Adapters		
Analog Bare Wire Cable	CB-BTA	\$5
Analog Breadboard Cable	BB-BTA	\$12
Analog Protoboard Adapter	BTA-ELV	\$12

Analog Sensor Extension Cable (2 m)	EXT-BTA	\$12
Digital Cables and Adapters		
Digital Bare Wire Cable	CB-BTD	\$5
Digital Breadboard Cable	BB-BTD	\$11
Digital Protoboard Adapter	BTD-ELV	\$12
Digital Sensor Extension Cable (2 m)	EXT-BTD	\$12

LabQuest 3, LabQuest 2, and Original LabQuest

Part Name	Order Code	Price
LabQuest Battery Boost 3	LQ-B00ST3	\$119
LabQuest Charge Station	LQ3-CRG	\$149
LabQuest Power Supply	LQ3-PS	\$11
Vernier Mini USB Cable	CB-USB-MINI	\$5
Vernier USB Type C to Mini USB Cable	CB-USB-C-MINI	\$9

For LabQuest 3 Only		
LabQuest 3 Battery	LQ3-BAT	\$34
LabQuest 3 Lanyard	LQ3-LAN	\$9
LabQuest 3 Stand	LQ3-STN	\$5

For LabQuest 2 and Original LabQuest Only		
LabQuest Tether (pkg. of 5)	LQ-TETH-5	\$5
LabQuest Lanyard	LQ-LAN	\$5
LabQuest SD Card	LQ-SD	\$12
LabQuest Stylus (pkg. of 5)	LQ2-STYL-5	\$5

For LabQuest 2 Only		
LabQuest 2 Lab Armor	LQ2-ARMOR	\$15
LabQuest 2 Stand	LQ2-STN	\$5
LabQuest 2 Battery	LQ2-BAT	\$23

For Original LabQuest Only		
Original LabQuest Battery	LQ-BAT	\$19

Go Direct

Part Name	Order Code	Price
Go Direct Charge Station	GDX-CRG	\$89
Go Direct Sensor Cart Charge Station	GDX-CART-CRG	\$149
Go Direct Sensor Clamp	GDX-CLAMP	\$14
Go Direct Sensor Connectivity Kit for TI Calculators	TICALC-GDX-BTUSB-KT	\$32
Vernier Micro USB Cable	CB-USB-MICRO	\$5
Vernier USB Type C to Micro USB Cable	CB-USB-C-MICRO	\$9

Additional Replacement Parts Available Online
Visit [vernier.com/replacements](https://www.vernier.com/replacements)

Index

A

Accelerometers
3-Axis Accelerometer vernier.com/3d-bta
25-g Accelerometer vernier.com/acc-bta
Go Direct Acceleration 43
Go Direct Force and Acceleration 43
Low-g Accelerometer vernier.com/lga-bta
Accessories and replacement parts 72–73
Advanced Biology with Vernier
vernier.com/bio-a
Advanced Chemistry with Vernier
vernier.com/chem-a
Advanced Physics with Vernier—Beyond Mechanics 44
Advanced Physics with Vernier—Mechanics 44
Agricultural Science with Vernier
vernier.com/awv-e
Ammonium ion-selective electrodes
Ammonium ISE vernier.com/nh4-bta
Go Direct Ammonium ISE
vernier.com/gdx-nh4
Anemometers
Anemometer vernier.com/anm-bta
Go Direct Weather 20, 25, 32
Arduino® products 59

B

Balances vernier.com/ohaus
Barometer vernier.com/bar-bta
BioChamber 250 vernier.com/bc-250
BioChamber 2000 vernier.com/bc-2000
Biology with Vernier 21
Bio-Rad® vernier.com/bio-rad-kits
Blood pressure sensors
Blood Pressure Sensor
vernier.com/bps-bta
Go Direct Blood Pressure
vernier.com/gdx-bp
BNC electrodes 72
BlueView Transilluminator
vernier.com/blue-view
Bumper and Launcher Kit 47

C

Cables 73
Calcium ion-selective electrodes
Calcium ISE vernier.com/ca-bta
Go Direct Calcium ISE
vernier.com/gdx-ca
Calculators vernier.com/calculators
Calibration standards 73–74
Canadian sales 77
Cart Fan 3, 42, 47
Cart Guide vernier.com/cguide-10
CASE vernier.com/partners
CBR 2™ vernier.com/cbr2
Celestron® Digital Microscope Imagers
vernier.com/cs-5mp
Centripetal force apparatus 51
Charge sensors
Charge Sensor vernier.com/crg-bta
Go Direct Static Charge 52
Charging stations
Go Direct Charge Station
vernier.com/gdx-crg
Go Direct Sensor Cart Charge Station
vernier.com/gdx-cart-crg
LabQuest Charge Station
vernier.com/lq3-crg
TI-84 Plus CE Charging Station
vernier.com/ti-84pce-cs
TI-Nspire™ CX Docking Station
vernier.com/ti-nscx-ds
Chemical polarimeter
Go Direct Polarimeter 36
Chemistry with Vernier 37
Chloride ion-selective electrodes
Chloride ISE vernier.com/cl-bta
Go Direct Chloride ISE
vernier.com/gdx-cl
Climate and Meteorology Experiments 32
CO₂ gas sensors
CO₂ Gas Sensor vernier.com/co2-bta
Go Direct CO₂ Gas 18, 35
Coding 58–59, 61
Color Mixer Kit vernier.com/cm-oeK
Colorimeters
Colorimeter vernier.com/col-bta
Go Direct Colorimeter 35
Conductivity probes
Conductivity Probe
vernier.com/con-bta
Go Direct Conductivity 19

Go Direct Platinum-Cell Conductivity
vernier.com/gdx-conpt
Constant current systems
Constant Current System
vernier.com/ccs-bta
Go Direct Constant Current System 35
Current sensors
Current Probe vernier.com/dcp-bta
Go Direct Current 43, 52
High Current Sensor
vernier.com/hcs-bta
Cuvette Rack vernier.com/cuv-rack
Cuvettes 72–73

D

Differential Voltage Probe
vernier.com/dvp-bta
Diffraction Apparatus 55
Digital microscopes
vernier.com/digital-microscopes
Drop counters
Drop Counter vernier.com/vdc-btd
Go Direct Drop Counter vernier.com/gdx-dc
Dual-Range Force Sensor vernier.com/dfs-bta
Dynamics system accessories 47
Dynamics systems 46–47

E

Earth Science with Vernier 32
EasyLink vernier.com/ez-link
EasyTemp vernier.com/ez-tmp
Eddy Current Brake 47
EKG electrodes 72
EKG sensors
EKG Sensor vernier.com/ekg-bta
Go Direct EKG 19
Electrochemistry Half-Cell Plate 2, 36
Electrochemistry Metals Kit 2, 36
Electrode amplifiers
Electrode Amplifier
vernier.com/ea-bta
Go Direct Electrode Amplifier
vernier.com/gdx-ea
Ion-Selective Electrode Amplifier
vernier.com/gdx-isea
Electrode Support vernier.com/esup
Electronic lab books (e-books) 17
Electrostatic High-Voltage Genecon
vernier.com/hvek-gen
Electrostatics kit 53

Elementary Science with Vernier 68
ELVIS protoboard adapters
vernier.com/protoboard-adapters
Emissions spectrometer 56
Energy sensors
Energy Sensor vernier.com/ves-bta
Go Direct Energy 26
Engineering Projects with NI LabVIEW™ and Vernier vernier.com/epv-e
Equipment return 77
Ethanol sensors
Ethanol Sensor vernier.com/eth-bta
Go Direct Ethanol Vapor
vernier.com/gdx-etoH
Exercise heart rate monitors
Exercise Heart Rate Monitor
vernier.com/ehr-bta
Go Wireless Exercise Heart Rate
vernier.com/gw-ehr
Exploring Earth and Space Science 66
Exploring Life Science 65
Exploring Motion and Force with Go Direct Sensor Cart 66
Exploring Physical Science 66
Extech® Digital Power Supply 53
Extra-Long Temperature Probe
vernier.com/tpl-bta

F

Fan carts
Cart Fan 3, 42, 47
Encoder Fan Cart vernier.com/cart-fec
Fan Cart vernier.com/cart-f
Flow Rate Sensor vernier.com/flo-bta
Flourescence Spectrometers
Go Direct Flourescence/UV-VIS
Spectrophotometer
vernier.com/gdx-spec-fuv
Go Direct SpectoVis Plus 21, 37
Food Chemistry Experiments 36
Force sensors
Dual-Range Force Sensor
vernier.com/dfs-bta
Force Plate vernier.com/fp-bta
Go Direct Force Plate 3, 49
Forensics Chemistry Experiments 36
Frequency Generator 54
Friction Pad 47

G

Gas chromatograph 36
Gas pressure sensors
 Gas Pressure Sensor vernier.com/gps-bta
 Go Direct Gas Pressure 19
 Go Direct Wide-Range Pressure
 vernier.com/gdx-wrp
 Pressure Sensor 400
 vernier.com/ps400-bta
Glass-Body pH Electrode BNC
 vernier.com/gph-bnc
Go Direct Bridge Competition Software 58
Go Direct Centripetal Force System 51
Go Direct Rotary Motion Package 50
Go Direct Sensor Cart Charge Station
 vernier.com/gdx-cart-crg
Go Direct Sensor Clamp 27
Go Direct Weather System 20, 25, 32
Go! Link 15
Grants 1
Graphical Analysis Pro app 8–9, 44
Green Diffraction Laser 55

H

Hand dynamometers
 Go Direct Hand Dynamometer 20
 Hand Dynamometer
 vernier.com/hd-bta
Heart rate monitors
 Exercise Heart Rate Monitor
 vernier.com/ehr-bta
 Go Wireless Exercise Heart Rate
 vernier.com/gw-ehr
 Go Wireless Heart Rate
 vernier.com/gw-hr
 Hand-Grip Heart Rate Monitor
 vernier.com/hgh-bta
High Current Sensor vernier.com/hcs-bta
High-Voltage Electrostatics Kit
 vernier.com/hvek-crg
Human Physiology Experiments: Volume 1 20
Human Physiology Experiments: Volume 2 20

I

Independence of Motion Accessory 50
Instrumental Analysis app 11
Instrumentation Amplifier
 vernier.com/ina-bta
Interfaces for LabQuest sensors
 Arduino Interface Shield
 vernier.com/bt-ard
 EasyLink vernier.com/ez-link
 Go! Link 15
 LabQuest 3 12
 LabQuest Mini 15
International sales 77

Investigating Biology through Inquiry

vernier.com/bio-i

Investigating Chemistry through Inquiry

vernier.com/chem-i

Investigating Environmental Science through Inquiry 27

Investigating Force vernier.com/elb-for-e

Investigating Gas Pressure vernier.com/elb-gp-e

Investigating Light vernier.com/elb-lc-e

Investigating Magnetism vernier.com/elb-3mg-e

Investigating Motion vernier.com/elb-md-e

Investigating Solar Energy 69

Investigating Temperature vernier.com/elb-temp

Investigating Voltage vernier.com/elb-volt-e

Investigating Wind Energy 69

Ion-Selective Electrodes (ISE)

vernier.com/ise

ISE standards 72

J

JavaScript™ vernier.com/javascript

K

KidWind Challenges

vernier.com/kidwind-challenges

KidWind products 26

L

LabQuest 3 12–14, 20, 27

LabQuest accessories 14, 73

LabQuest Mini 15

LabQuest Viewer 14

LabVIEW vernier.com/labview

Light sensors

 Go Direct Light and Color 5, 31, 41, 55, 63

 Light Sensor 55

M

Magnetic field sensors

 Go Direct 3-Axis Magnetic Field 30, 43, 52, 63

 Magnetic Field Sensor

vernier.com/mg-bta

Materials Testing: Beams to Bridges with

 Go Direct VSMT vernier.com/gdxvsmt-bb-e

Melt stations

 Go Direct Melt Station vernier.com/gdx-mlt

 Melt Station vernier.com/mlt-bta

Microscopes (Digital)

vernier.com/digital-microscopes

Microphone sensors

 Go Direct Sound 54

 Microphone 54

Middle School Explorations:

Chemical Reactions 65

Middle School Science with Vernier 65

Mini GC vernier.com/gdx-gc

Mirror Set vernier.com/m-oek

Moment of Inertia Kit 51

Motion detectors

 CBR 2 vernier.com/cbr2

 Go Direct Motion 31, 43, 48, 63

 Go! Motion vernier.com/go-mot

 Motion Detector vernier.com/md-btd

Motion Encoder

 Cart and Receiver 47

 Dynamics cart and track systems 46–47

 Fan Cart vernier.com/cart-fec

Motor Accessory Kit 51

MyDAQ Adapter vernier.com/bt-mdaq

N

Nitrate ion-selective electrodes

 Go Direct Nitrate ISE

vernier.com/gdx-no3

 Nitrate ISE vernier.com/no3-bta

Nuclear Radiation with Vernier 56

O

O₂ gas sensors

 Go Direct O₂ Gas 18

 O₂ Gas Sensor vernier.com/o2-bta

OHAUS® balances vernier.com/ohaus

OpenSciEd™ 64

Optical DO probes

 Go Direct Optical Dissolved Oxygen 19, 24

Optical fibers 73

Optics accessories 55

Organic Chemistry with Vernier

vernier.com/chem-o

ORP sensors

 Go Direct ORP 35

 ORP Sensor vernier.com/orp-bta

P

Packages vernier.com/packages

 Elementary packages 68–69

 Middle school packages 64–66

 High school packages 20, 21, 27, 32, 37, 45, 60

PAR Sensors

 Go Direct PAR 20

 PAR Sensor vernier.com/par-bta

pH Buffer Capsules 72

pH sensors

 Glass-Body pH Electrode BNC

vernier.com/gph-bnc

 Go Direct Glass-Body pH

vernier.com/gdx-gph

 Go Direct pH 19, 31, 34, 41, 63

 Go Direct Tris-Compatible Flat pH 25

 pH Sensor vernier.com/ph-bta

 Tris-Compatible Flat pH Sensor

vernier.com/fph-bta

pH Storage Solution 72

Photogates

 Go Direct Photogate 43, 48

 Photogate vernier.com/vpg-btd

Physical Science with Vernier 41

Physics Explorations and Projects 45

Physics with Vernier 45

Physics with Video Analysis vernier.com/pva-e

Picket Fence 48

Platinum-Cell Conductivity Probe

vernier.com/conpt-bta

PLTW 58

Polarimeters (Chemical)

 Go Direct Polarimeter vernier.com/gdx-pol

Polarizer/Analyzer Set vernier.com/pak-oek

Potassium ion-selective electrodes

 Go Direct Potassium ISE

vernier.com/gdx-k

 Potassium ISE vernier.com/k-bta

Power Amplifier 52, 54

Power Amplifier Accessory Speaker 54

Precision Volume Dispenser 36

Pressure sensors

 Gas Pressure Sensor vernier.com/gps-bta

 Go Direct Gas Pressure 19, 35, 63

 Go Direct Wide-Range Pressure

vernier.com/gdx-wrp

 Pressure Sensor 400

vernier.com/ps400-bta

Primary Productivity Kit vernier.com/ppk

Professional development

vernier.com/training

Projectile launchers

 Go Direct Projectile Launcher 50

 Projectile Launcher vernier.com/vpl

Prop 65 (California) 78–79

Protoboard adapters

vernier.com/protoboard-adapters

Pyranometers

 Go Direct Pyranometer

vernier.com/gdx-pyr

 Pyranometer vernier.com/pyr-bta

Python® 59, 61

Q

Qubit Systems sensors vernier.com/qubit

R

Radiation monitors

 Go Direct Radiation Monitor 56

 Vernier Radiation Monitor 56

Raspberry Pi® 59

Reflex Hammer Accessory Kit

vernier.com/rfx-acc

Relative Humidity Sensor vernier.com/rh-bta

Renewable energy products

vernier.com/renewable-energy

Renewable Energy with Vernier 26

Resonance Apparatus 54
 Respiration monitors
 Go Direct Respiration Belt
 vernier.com/gdx-rb
 Respiration Monitor Belt vernier.com/rmb
 Returns 77
 Rotary motion sensors
 Go Direct Rotary Motion 50
 Rotary Motion Sensor vernier.com/rmv-btd
 Rotary Motion Motor Kit vernier.com/mk-rmv
 Rotational Motion Accessory Kit 50

S

Salinity sensors
 Go Direct Salinity 3, 25
 Salinity Sensor vernier.com/sal-bta
 Scratch vernier.com/scratch
Sensor Cart Physics 45
 Sensor carts 40, 48
 Software
 Go Direct Bridge Building Competition
 Software 58
 Graphical Analysis Pro app 8–9, 44
 Instrumental Analysis app 11
 LabQuest App 13
 LabQuest Viewer 14
 Logger Pro 3 vernier.com/lp
 Spectral Analysis app 11, 37, 56
 Texas Instruments software
 vernier.com/ti-software
 Thermal Analysis Plus app
 vernier.com/thermal-analysis
 Video Analysis app 10, 44
 Software license policy 77
 Soil moisture sensors
 Go Direct Soil Moisture 3, 20, 24
 Soil Moisture Sensor vernier.com/sms-bta
 Solar Energy Exploration Kit 26, 64
Solar Energy Explorations 64
 Solar Thermal Explorations Kit vernier.com/stxk
 Sound level sensors
 Go Direct Sound 54
 Sound Level Sensor 54
 Spectral Analysis app 11, 37, 56
 Spectrometers/Spectrophotometers
 Go Direct Emissions Spectrometer 56
 Go Direct Fluorescence/UV-VIS
 Spectrophotometer
 vernier.com/gdx-spec-fuv
 Go Direct SpectroVis Plus 21, 37
 Go Direct UV-VIS Spectrophotometer
 vernier.com/gdx-spec-uv
 Go Direct Visible Spectrophotometer
 vernier.com/gdx-spec-vis
 Vernier Flash Photolysis Spectrometer
 vernier.com/vsp-fp

Spectrum Tube Power Supply 56
 Spectrum Tubes 56
 Spirometer accessories 73
 Spirometers
 Go Direct Spirometer vernier.com/gdx-spr
 Spirometer vernier.com/spr-bta
 Stainless Steel Temperature Probe
 vernier.com/tmp-bta
 Static Genecon vernier.com/hvek-gen
 Stir Station vernier.com/stir
 Structures and Material Tester 58
 Surface Temperature Sensors
 Go Direct Surface Temperature 58
 Surface Temperature Sensor
 vernier.com/sts-bta

T

Technical support 77
 Temperature probes
 EasyTemp vernier.com/ez-temp
 Extra-Long Temperature Probe
 vernier.com/tpl-bta
 Go!Temp vernier.com/go-temp
 Go Direct Surface Temperature 25, 32
 Go Direct Temperature 19, 30, 34, 40, 62
 Go Direct Thermocouple
 vernier.com/gdx-tc
 Go Direct Wide-Range Temperature
 vernier.com/gdx-wrt
 Stainless Steel Temperature Probe
 vernier.com/tmp-bta
 Surface Temperature Sensor
 vernier.com/sts-bta
 Thermocouple vernier.com/tca-bta
 Wide-Range Temperature Probe
 vernier.com/wrt-bta
 Texas Instruments products 60–61
 Thermal Analysis Plus app
 vernier.com/thermal-analysis
 Thermocouples
 Go Direct Thermocouple
 vernier.com/gdx-tc
 Thermocouple vernier.com/tca-bta
 TI Bluetooth® Adapter 60
 Time of Flight Pad 50
 Track/optics bench 55
 Transilluminator vernier.com/blue-view
 Tris-Compatible pH sensors
 Go Direct Tris-Compatible Flat pH 25
 Tris-Compatible Flat pH Sensor
 vernier.com/fph-bta
 Truss Tester Accessory 58
 Turbidity Sensor vernier.com/trb-bta

U

Ultra Pulley Attachment 48
 Ultraviolet light sensors
 Go Direct Light and Color 21, 31, 41, 55, 63
 UVA Sensor vernier.com/uva-bta
 UVB Sensor vernier.com/uvb-bta
 USB cables 73
 USB digital microscopes
 vernier.com/digital-microscopes
 UV/VIS spectrophotometers
 Go Direct Fluorescence/UV-VIS
 Spectrophotometer
 vernier.com/gdx-spec-fuv
 Go Direct UV-VIS Spectrophotometer
 vernier.com/gdx-spec-uv
 Spectrophotometer
 vernier.com/gdx-spec-uv

V

Vernier Arduino Interface Shield
 vernier.com/bt-ard
*Vernier Coding Activities with Arduino: Analog
 Sensors* vernier.com/vca-as-e
*Vernier Chemistry Investigations for Use with
 AP* Chemistry* vernier.com/apchem
 Vernier Circuit Board 2 53
 Optional Breadboard Kit
 vernier.com/vcb2-obbk
 Vernier Connections 4–5
 Vernier dynamics cart and track systems
 46–47
 Vernier Emission Fiber 73
 Vernier Energy Sensor vernier.com/ves-bta
 Vernier Flash Photolysis Spectrometer
 vernier.com/vsp-fp
 Vernier Radiation Monitor 56
 Vernier Resistor Board vernier.com/ves-rb
 Vernier Spectrometer Optical Fiber 73
 Vernier Variable Load vernier.com/ves-vl
*Vernier Video Analysis: Conservation Laws and
 Forces* 10, 44
Vernier Video Analysis: Motion and Sports 10, 44
 Video Analysis app 10, 44
 Voltage probes
 30-Volt Voltage Probe vernier.com/30v-bta
 Differential Voltage Probe
 vernier.com/dvp-bta
 Go Direct Voltage 43, 52, 63
 Instrumentation Amplifier
 vernier.com/ina-bta
 Voltage Probe vernier.com/vp-bta
 VPython 59

W

Warranty information 77
 Water Depth Sampler vernier.com/wds
 Water quality bottles vernier.com/wq-bot
Water Quality with Vernier 27
 Weather sensor 20, 25, 32
 Weather stations vernier.com/weather
 Web VPython 59
 Wide-Range Pressure Sensors
 vernier.com/gdx-wrpl
 Wide-range temperature probes
 Go Direct Wide-Range Temperature 36
 Wide-Range Temperature Probe
 vernier.com/wrt-bta
 Wind Energy Exploration Packages 64
Wind Energy Explorations 64

* AP and Advanced Placement Program are registered trademarks of the College Entrance Examination Board, which was not involved in the production of and does not endorse this product.

Satisfaction Guarantee

Vernier has been selling science education software and data-collection hardware since 1981. We pride ourselves on the quality and affordability of our products and our service to our customers. If at any time you are unhappy with any of our products or service, please get in touch.

Vernier Science Education

13979 SW Millikan Way
Beaverton, OR 97005-2886
vernier.com • info@vernier.com
Toll Free: 888-VERNIER (888-837-6437)
Fax: 503-277-2440

Product Usage

Vernier products are designed for educational use. Our products are not designed nor are they recommended for any industrial, medical, or commercial process, such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind. We design our products with the specifications and features that educators and students need to be successful. In our effort to keep our products affordable and easy to use, we may not meet the specifications or include the features that an industrial scientist or medical professional might want.

Equipment Return

Any product that does not meet your needs may be returned within 30 days for a full refund. Equipment returned after 30 days may be subject to a restocking fee.

A Return Merchandise Authorization, available from Vernier, is required for any product return. Equipment returned for exchange or credit must be in new condition and in its original packaging.

Prices and Shipping

Prices are effective January 1, 2025 and supersede previously published prices. Prices are in US dollars and are FOB shipping point. Shipping charges may vary, depending on method of shipment. Increased shipping charges for heavier or bulkier items may apply due to weight or dimensions. Applicable sales tax may be charged. Prices are for US educational institutions only and are subject to change without notice.

International Sales

All Vernier orders for use outside of the US and Canada are handled by our worldwide network of Vernier dealers. Contact us for more information.

Sales of Vernier products in Canada are handled by

Vernier Canada

7030 Woodbine Ave. Suite 500
Markham, Ontario L3R 6G2
Canada
verniercanada.ca • info@verniercanada.ca
Phone: (800) 376-4210 • Local: (705) 915-3656

Preview Policy

Most Vernier products are available for a 30-day preview (or longer, if requested) to US educational institutions.

Warranties

Most Vernier-branded products carry a 5-year limited warranty. Product-specific details can be found under the Support tab on each product's web page. During the warranty period, Vernier will repair or replace the item if there is a defect in materials or workmanship. Outside the warranty, Vernier will attempt to repair most products. The Vernier warranty covers products when used by educational institutions only. Products manufactured by anyone other than Vernier are subject to the conditions of the warranty supplied by the manufacturer.

Additional exclusions and limitations can be found at vernier.com/warranty

Privacy Policy

Vernier Science Education does not sell, lease, or loan our mailing list or portions thereof to anyone at any time. We do not store credit card information on our online store or in our accounting system. For more information on our privacy policy, see vernier.com/legal

If you wish to be removed from our mailing list, simply write to us at updates@vernier.com, and we will remove you immediately.

Software Licenses

Vernier Graphical Analysis, Vernier Spectral Analysis, and Vernier Instrumental Analysis are available as free downloads from our website, distributed as a progressive web app, or distributed through the appropriate web store. Vernier Graphical Analysis Pro is available as a subscription service. Vernier Video Analysis is available as a subscription service and is distributed as a progressive web app. Apps for iOS, iPadOS, Android, and ChromeOS are distributed through their respective stores. Terms and licensing are thus determined entirely by these stores.

Other Software

Software from other companies, such as Texas Instruments, is licensed under separate agreements by their respective companies.

Trademarks

Vernier Science Education, LabQuest, SpectroVis, Vernier and caliper design, Go Direct, Go Wireless, Go!, Go! Link, Go!Temp, Go! Motion, LabQuest Viewer, Vernier Spectral Analysis, Vernier Video Analysis, Vernier Instrumental Analysis, Vernier EasyLink, Vernier EasyTemp, Vernier Graphical Analysis, Vernier Connections, and Vernier STEM Classroom are our registered trademarks. Vernier.com, BlueView, and Video Physics are our trademarks or trade dress.

Apple, the Apple logo, iPhone, iPad, iPadOS, and macOS are trademarks of Apple Inc., registered in the United States and other countries. App Store is a service mark of Apple Inc.

Arduino® and  are trademarks of Arduino SA.

CBR 2, TI Navigator, SmartView, and TI-Nspire are trademarks of Texas Instruments. National Instruments, NI, and LabVIEW are trademarks or trade names of National Instruments Corporation.

Raspberry Pi is a trademark of Raspberry Pi Trading.

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Vernier Science Education is under license.

All other marks not owned by us that appear herein are the property of their respective owners, who may or may not be affiliated with, connected to, or sponsored by us.

Technical Support

We are readily available to help you with individual questions about our software and hardware—simply email support@vernier.com, chat with us live on vernier.com, or call us at our toll-free number: 888-VERNIER (888-837-6437).

Our email newsletter makes it easy to access new ideas, learn about new products, and get inspired by fellow educators. Sign up at vernier.com/newsletter

Legal

Visit our Legal Center at vernier.com/legal to find our privacy statements, terms of use, and other information about our products and services.

How to Order



vernier.com/how-to-order



888-VERNIER
(888-837-6437)



orders@vernier.com

California Proposition 65 Warning

📌 PROP 65—For more information, go to [P65Warnings.ca.gov](https://www.p65warnings.ca.gov)

Vernier Products Affected	WARNING
BioChamber 2000	⚠️ WARNING: This product can expose you to chemicals, including bisphenol A (BPA), which are known to the State of California to cause cancer, and methyl isobutyl ketone (MIBK), which is known to the State of California to cause birth defects or other reproductive harm.
BioChamber 250	⚠️ WARNING: This product can expose you to chemicals, including methyl isobutyl ketone (MIBK), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Biology Go Direct® Standard Package	⚠️ WARNING: This product can expose you to chemicals, including bisphenol A (BPA), which are known to the State of California to cause cancer, and methyl isobutyl ketone (MIBK), which is known to the State of California to cause birth defects or other reproductive harm.
BlueView Transilluminator	⚠️ WARNING: This product can expose you to chemicals, including ethyl acrylate, which are known to the State of California to cause cancer.
Cart Guide	⚠️ WARNING: This product can expose you to chemicals, including bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Celestron® Digital Imager 5MP	⚠️ WARNING: Cancer and Reproductive Harm—P65Warnings.ca.gov
Celestron Digital Microscope Imager	⚠️ WARNING: Cancer and Reproductive Harm—P65Warnings.ca.gov
Electrochemistry Metals Kit	⚠️ WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer.
Electrostatics Kit	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Go Direct Melt Station	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Go Direct Rotary Motion Sensor	⚠️ WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Go! To Easy Adapter	⚠️ WARNING: This product can expose you to chemicals, including Di(2-ethylhexyl) phthalate (DEHP), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Hanging Mass Set 250 g	⚠️ WARNING: This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer.
Human Physiology Go Direct Standard Package	⚠️ WARNING: This product can expose you to chemicals, including methyl isobutyl ketone (MIBK), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
LabQuest® 3 Physics Standard Package	⚠️ WARNING: This product can expose you to chemicals, including antimony, which are known to the State of California to cause cancer
Light Sensor	⚠️ WARNING: This product can expose you to chemicals, including antimony, which are known to the State of California to cause cancer.
Melt Station	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
OHAUS Scout® 120 g	⚠️ WARNING: This product can expose you to chemicals, including Di(2-ethylhexyl) phthalate (DEHP), which are known to the State of California to cause cancer and birth defects or other reproductive harm.

P65Warnings.ca.gov

🚩 **PROP 65**—For more information, go to [P65Warnings.ca.gov](https://www.p65warnings.ca.gov)

Vernier Products Affected	WARNING
OHAUS Scout 220 g	⚠️ WARNING: This product can expose you to chemicals, including Di(2-ethylhexyl) phthalate (DEHP), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
OHAUS Scout 420 g	⚠️ WARNING: This product can expose you to chemicals, including Di(2-ethylhexyl) phthalate (DEHP), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Photogate Bar Tape Kit	⚠️ WARNING: This product can expose you to chemicals, including formaldehyde, which are known to the State of California to cause cancer.
Plastic Cuvettes (UV-VIS)	⚠️ WARNING: This product can expose you to chemicals, including Di(2-ethylhexyl) phthalate (DEHP), which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Power Amp Accessory Speaker	⚠️ WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Resistivity Rod Set	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Rotary Motion Motor Kit	⚠️ WARNING: This product can expose you to chemicals, including formaldehyde, which are known to the State of California to cause cancer.
Rotational Motion Accessory Kit	⚠️ WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.
Spectrum Tube Power Supply	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Spectrum Tubes (Air, Argon, Carbon Dioxide, Hydrogen, Helium, Neon, Nitrogen)	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Vernier Circuit Board 2	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Vernier Dynamics System Replacement Parts Kit	⚠️ WARNING: This product can expose you to chemicals, including nickel, which are known to the State of California to cause cancer.
Vernier Rotary Motion Sensor	⚠️ WARNING: This product can expose you to chemicals, including chromium, which are known to the State of California to cause cancer and birth defects or other reproductive harm.

Welcome to the Vernier STEM Classroom

Everything we do for high school science educators and their students can be found in the Vernier STEM Classroom.

The Vernier STEM Classroom® is an integrated approach to using the full catalog of Vernier hardware, software, content, assessment, professional development, and technical support to make a high-quality STEM education possible for all high school students. Enhancing the Vernier STEM Classroom is **Vernier Connections**®, (see page 4–5) a powerful web-based platform that combines our data-collection tools, lessons and experiments, and formative assessment to support educators in engaging all students with hands-on, culturally relevant science education.



What is the Vernier STEM Classroom[®]?



Hardware

Designed for education and built to last, **Vernier hardware is durable, dependable, and affordable.** Our comprehensive catalog of science education hardware includes **sensors, probes, interfaces, and lab equipment**—all of which are designed to help students engage with key STEM concepts.

Software

Our award-winning, easy-to-use software brings data collection, visualization, and analysis to students' fingertips. In the process, it helps boost engagement, increases understanding of complex STEM concepts, and brings science to life.

Content

Vernier offers **hundreds of educator-tested, ready-to-use experiments and investigations** that support implementation of Vernier technology. With Vernier Connections, we are building new investigations and **enhancing existing Vernier experiments to support three-dimensional learning.**

Assessment

Formative assessments in the Connections platform provides valuable information to **help educators monitor student learning and target lessons** to meet the needs of every student to help them succeed.

Professional Development

When it comes to professional development for science educators, **we offer a variety of in-person and online options. From subject-specific webinars to personalized training with our science education experts,** we help educators address their unique challenges and equip them with skills and resources to ensure success.

Technical Support

Our priority is to provide STEM educators with **unparalleled customer service, technical support, and resources so they are always supported when integrating our technology.** Our renowned technical support team includes former educators who draw from their classroom experience to answer educators' questions and find solutions.



Get the whole story at [vernier.science/the-vernier-stem-classroom](https://www.vernier.com/the-vernier-stem-classroom)



Vernier Science Education
13979 SW Millikan Way
Beaverton, OR 97005-2886

888-VERNIER
(888-837-6437)
fax 503-277-2440

vernier.com
info@vernier.com



Recipient not at your school?
Please send updates to
updates@vernier.com

Vernier Science Education is
dedicated to providing holistic,
high-quality, reliable solutions
for today's STEM classrooms.