

Physical Sciences

Fisher Science Education
2023 Product Catalog

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Helpful Icons



New product



Must be shipped by truck for regulatory reasons



Meets Americans with Disabilities Act requirements



Protects against splashes from hazardous chemicals or potentially infectious materials



Applicable for remote learning



Defined as a medical device by the FDA

Guarantee

If you're not 100% satisfied with your purchase, contact our customer service team within 30 days of your invoice date and we'll either exchange, repair, or replace the product, or give you a credit for the full purchase price. Call us toll-free for a return authorization number.

Special order items, furniture, and closeouts cannot be exchanged or credited.

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Website: fisheredu.com

Address: Fisher Science Education
4500 Turnberry Drive
Hanover Park, IL 60133

For international orders, see page 96.

Products featured in this catalog may have limited availability and extended lead times. Prices are subject to change.

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Physical Sciences

Preparing today's students to be the innovators of tomorrow isn't always easy, but finding the right teaching tools can be. From basic lab supplies to state-of-the-art classroom technology, the Fisher Science Education team has everything you need to create a 21st century STEM learning environment. Visit fisheredu.com to get started.

Want to customize aspects of your curriculum?

Explore custom kits to meet the unique demands of your classroom. Visit fisheredu.com/customkitting to learn more.

Concerned about shipping and handling fees?

We offer \$12 flat-rate shipping on most orders and our hazardous material fee is just \$15 — the lowest in the country.

Looking for Something Else?

Check out our other 2023 catalogs:

- Chemicals
- Equipment and furniture
- Lab supplies and consumables
- Life sciences
- Safety
- STEM



Origins of papermaking date back to first-century China, where linen rags were reduced to a pulp with a mortar and pestle. This technique was the standard through the 18th century up until the Industrial Revolution.

Visit fisheredu.com/headlinediscoveries for more articles and information for your classroom.

Chemistry

General Chemistry8

Electrochemistry 15

Advanced Placement Chemistry25

Earth & Space

Geology27

Geography 34

Meteorology 35

Astronomy 38

Environmental Science

Agricultural Science47

Ecology & Pollution49

Water Testing 53

Alternative Energy 60

Physics

Force & Mechanics 63

Aerodynamics & Flight 69

Volume & Density72

Heat & Thermodynamics73

Waves, Sound, & Light74

Electricity & Magnetism 84

Visit fisheredu.com to view our full offering of products.

Repetition

Pipetting is a repetitive activity, so reducing the number of individual and repeated movements can help reduce the risk of injury.

- For aliquoting, use a multi-channel or electronic pipette with mixing functions
- When using 384-well microplates, opt for a 16-channel or 384-well format pipette
- For processing more than five microplates per day, choose electronic pipettes with multi-dispensing functions
- Consider using an automated liquid handling device or reagent dispenser if your workload is 10 to 50 microplates per day
- For varying formats, replace single pipettes with multi-channel pipettes that have adjustable tip spacing

Thermo Scientific ClipTip Pipetting Systems

ClipTip Pipettes are used exclusively with ClipTip Pipette Tips to create an ergonomic liquid handling system. ClipTip technology provides:

- Extremely low tip attachment and ejection forces
- Comfortable use with low required force
- Complete tip seal on every channel
- Reproducible results between assays and users

F1-ClipTip Manual Pipettes

Designed to optimize user comfort, safety, and pipetting consistency, F1 ClipTip Manual Pipettes are available in multiple styles and capabilities. Choose fixed- or variable-volume single-channel pipettes with capacities from 10 to 1,000 μL . Choose eight- or twelve-channel manual multichannel pipettes with a variety of ranges between 1 and 300 μL .

Adjustable comfort

120° adjustable finger rest.

Silent, effortless volume adjustment

The ergonomic locking volume adjustment knob enables effortless and precise adjustment.

Industry-leading lifetime warranty

With convenient online registration at thermofisher.com/pipettewarranty.

ClipTip technology

A secure seal on every channel with low attachment and ejection forces.



E1-ClipTip Electronic and Equalizer Pipettors

Switching from manual to electronic pipettes or automated dispensers can improve user comfort and reduce repetition and risk of injury.

Find E1 ClipTip Pipettes with volume ranges from 0.5 to 1,250 μL and with 8, 12, or 16 channels. Find E1 ClipTip Equalizer Pipettes with adjustable tip spacing with 6, 8, or 12 channels. Adjustable tip spacing lets you transfer samples between virtually any tube, rack, microplate, or horizontal gel box format.

Pipetting Doesn't Have to Be a Pain

Pipetting can be a more comfortable and safe experience with the combined ergonomic elements

of Thermo Scientific E1-ClipTip Electronic Pipettes, featuring:

- Interlocking ClipTip tip attachment
- Index finger pipetting action and electronic tip ejection
- Adjustable finger rests for left- and right-handed users
- Rotating display to help you maintain a neutral pipetting position in any environment
- Multi-dispensing functionality to reduce repetitive movements

Contact your local Fisher Scientific sales representative to try one of our ergonomic liquid handling options or sign up for a Pipetting Techniques or Ergonomics seminar.

Learn more about Thermo Scientific liquid handling solutions at fishersci.com/handleanything or fishersci.ca/handleanything.



Advanced Exploration Kits

Observe and explore energy transfer, basic mechanics concepts, and features of a pendulum in motion.



Description	Cat. No.	Price
United Scientific™ Advanced Thermostat Kit	S83793	\$273.00
United Scientific Inclined Plane and Lever Kit	S83789	\$61.50
United Scientific Pendulum Investigation Kit	S83796	\$62.00



Experiments for Young Scientists

Help your students discover circuitry, magnetism, fundamental physics concepts, and more with a variety of immersing kits.



Description	Cat. No.	Price
Supertek™ Science Cube Kit – Telegraph	S89512	\$23.50
Supertek Science Cube Kit – Simple Circuit	S89513	\$23.50
Supertek Science Cube Kit – Conduction Experiments	S89514	\$23.50
Supertek Science Cube Kit – E-Cube 4-in-1 Kit	S89515	\$69.00
Supertek Science Cube Kit – Component Kit	S89516	\$23.50
Supertek Science Cube Kit – Magnetic Fun	S89517	\$51.50
Supertek Science Cube Kit – ABC's of Physics	S89518	\$79.50
Supertek Science Cube Kit – Discovering Optics	S89519	\$34.50



Botanical Investigations

Conduct soil tests to measure nutrient levels and determine physical and chemical properties.



Description	Cat. No.	Price
LaMotte™ Garden Guide Soil Test Kit	S89510	\$84.50
LaMotte Topsoil Tour, Digital Version	S89508	\$103.00
LaMotte Refill for Topsoil Tour	S89509	\$99.00



Hands-On Investigations

Explore ocean acidification and its effect on marine life with three different activities.



Description	Cat. No.	Price
Innovating Science™ Ocean Acidification Educational Kit	S802492	\$34.75



Engage Your Students Wherever They Are

Keep your students safe and engaged with a selection of remote learning tools and materials.

You'll find:

- Products for real-time instruction
- Activities for independent learning
- Physical distancing aids
- And more

Visit fisheredu.com/remoteteaching to learn more.

Need Help Choosing Supplies?

Use this curated list of products to restock your chemistry classroom, and visit fisheredu.com to find even more science education products.



Description	Cat. No.	Quantity
Chemicals		
Fisher Science Education™ Hydrochloric Acid, 12M, ACS	S25838	2.5 L
Fisher Science Education Hydrogen Peroxide, 30% Solution	S25360	500 mL
Fisher Science Education Sulfuric Acid, Concentrated, Reagent Grade	S25894	2.5 L
Equipment		
Fisher Science Education Portable Balances	S94792C	Each
OHAUS™ Scout™ SKX Portable Balances	S14531	Each
OHAUS™ Triple Beam Balances	S40020	Each
Glassware		
DWK Life Sciences Kimble™ ValueWare™ Filtering Flasks, 125 mL	S00144	12/Pack
Corning™ PYREX™ VISTA™ Educational-Grade Cylinders, 100 mL	S95186C	12/Case
Eisco™ Glass Burette with PTFE Key Stopcock, 50 mL	S27992	Each
DWK Life Sciences Kimble™ ValueWare™ Class A Volumetric Flasks, 500 mL	S00126	6/Pack
Fisherbrand™ Reusable Glass Media Bottles with Cap	S35832	10/Case
United Scientific™ Glass Beaker Set, Borosilicate	S00613	Each
Plasticware		
United Scientific Supplies Plastic Graduated Cylinder Kit, 10 mL, 25 mL, 50 mL, 100 mL, 250 mL, 500 mL, 1000 mL	S01973	Each
Eisco Class B Acrylic Burette, 50 mL	S95180A	Each
Fisher Science Education Polypropylene Beaker Set, 50 mL, 100 mL, 250 mL, 500 mL, 1000 mL	S400563B	Pack
Labware		
Eisco Chemistry Lab Starter Set	S23713	Each
Eisco Double Burette Clamp	S07858	Each
GSC Go Science Crazy Double Burette Clamp	S13739	Each
Pipets		
Edvotek™ Variable Micropipets, 0.5 to 10 µL	S90243B	Each
Thermo Scientific™ Disposable Transfer Pipets	S304673	500/Pack
Fisherbrand™ Elite Pipette Kit, Four Pipettes and Stand	S35876	Each
Tubing		
Cloth-Covered Burner Tubing, 3 ft.	S491411	Each
Supertek Scientific Rubber Tubing, 12 ft.	S09607	Each
Fisherbrand Pressure/Vacuum Tubing, 12 ft.	S50454	Each
Personal Protective Equipment (PPE)		
Kimberly-Clark Professional™ Kimtech™ Purple Nitrile™ Gloves, Medium	S78944	100/Pack
Fisher Scientific PVC Aprons, Medium	S47382A	Each
Visorgogs™ Goggles	S47619S	Each
Cleaning Supplies		
Fisherbrand™ Sparkleen™ 1 Detergent, Powder, 3.25 lb.	S701101	Each
Innovating Science™ Laboratory Cleaner	S20715	Each

Chemistry

General Chemistry

Co-lab-orate

An innovative digital lab notebook that enables students to work together no matter the distance.

Co-lab-orate is an innovative digital lab notebook that allows teachers to easily assign lab reports to their classes. The notebook lets students work individually or together to complete hands-on activities that are easy to access and grade.

Co-lab-orate is packed with features that make teaching and learning easy and collaborative!

- Enable students to work together, whether they are 6 feet or 6 streets apart
- Create new labs or import PDFs of labs you already have
- Easily deliver assignments to all students and classes
- Import photos and create and edit graphs, tables, and equations
- Access, complete, or grade hands-on lab activities using a mobile device, tablet, or laptop
- Communicate with other students and teachers through comments, or work independently
- Integrates with Google Classroom



Cat. No.	Price
S75250	\$158.00/Ea

Ideal Gas Law Kit

Explore the gas laws through the reaction of sodium bicarbonate and hydrochloric acid. Students will perform the reaction and use the ideal gas law to calculate the amount of carbon dioxide produced, then use stoichiometry to determine their percent yield.

- Contains enough materials for 15 groups of students
- Teacher's manual and student study guide copymasters are included
- Aligned to the Next Generation Science Standards (NGSS)
- Disciplinary core ideas: PS1.A, PS1.B
- Performance expectations: MS-PS1-2, MS-PS1-4
- Cross cutting concepts: patterns, cause and effect engineering practices, analyzing and interpreting data, developing and using models



Cat. No.	Price
S18901	\$49.75/Ea

Equilibrium and Le Chatelier's Principle

Students will investigate Equilibrium and Le Chatelier's Principle through four different experiments.

- Students will apply various stresses to different chemical systems at equilibrium, then use their understanding of Le Chatelier's principle to explain their results
- Kit contains enough material for 15 groups
- Teacher's guide and student study guide copymasters are included



Cat. No.	Price
S280000	\$29.75/Ea

Stoichiometry of Copper and Silver Nitrate

Introduce students to stoichiometry and mole ratios with the reaction of copper and silver nitrate!

- Students will watch as beautiful silver crystals are formed on the copper wire, then determine the moles of silver formed and moles of copper reacted to calculate the mole ratio
- Using this data, they will write the balanced chemical equation for the reaction, and determine the limiting reactant and their percent yield
- Kit contains enough materials for 15 groups of students
- Teacher's manual and student study guide copymasters are included



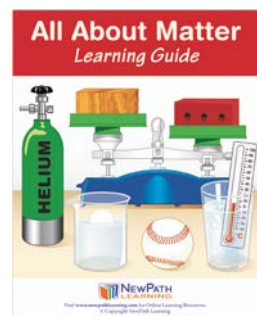
Cat. No.	Price
S280001	\$72.00/Ea

All About Matter Learning Guide

Use engaging graphics and inquiry-based activities to enhance student comprehension of standards-based concepts of Matter and its Properties.

Topics covered:

- What is Matter?
- Describing Matter/Properties of Matter
- Physical Properties of Matter
- Measuring Matter
- States of Matter
- Changes to Matter (Gas, Liquid, Solid)
- Mixtures and Solutions
- Chemical Change



Cat. No.	Description	Price
S13897	Learning Guide	\$116.00/Ea
S13535S	Elementary Matter Guide	\$13.00/Ea

Curriculum Learning Modules

Provides a complete set of visual, digital and hands-on resources designed to support teacher instruction and provide students with the skills to master key concepts.

Used in combination or individually, your students will gain thorough comprehension from an engaging blend of technology-based instruction, interactive print resources, game-based learning and a hands-on lab investigation.

- **Osmosis and Diffusion Curriculum Learning Module (S14113)** includes detailed, standards-based coverage of: Cell Membrane and Transport; Active and Passive Transport; Osmosis in Plant and Animal Cells; Diffusion and Osmosis.
- **Elements and the Periodic Table Curriculum Learning Module (S14137)** includes detailed, standards-based coverage of: Atomic Structure; Metals, Metalloids and Non-Metals; The Periodic Table; and Element Identification.
- **Chemical Reactions Curriculum Learning Module (S14138)** includes detailed, standards-based coverage of: Changes of Matter; Chemical Reactions; Formulas and Equations; Balancing Equations; and Exothermic/Endothermic Reactions.

Each module includes:

- 1 flip chart set with 10 double-sided, laminated charts including a graphic overview and “write-on/wipe-off” activities
- 1 student learning guide featuring self-directed readings, illustrated explanations, assessment questions and a lab investigation
- 1 vocabulary review card set
- 1 curriculum mastery game (4 players)
- 1 interactive multimedia lesson containing animated tutorials, interactive activities, visual resources, illustrated narrated glossary, virtual labs, and assessments

Additional, individual components are available separately:

Osmosis and Diffusion

- Hands-on cell membrane investigation
- Flip chart set (S05004)
- Student learning guide
- Interactive multimedia lesson

Elements and the Periodic Table

- Flip chart set (S04888)
- Student learning guide
- Interactive multimedia lesson

Chemical Reactions

- Flip chart set (S04886)
- Student learning guide (S04919)
- Interactive multimedia lesson



Cat. No.	Description	Price
S14113	Osmosis and Diffusion Curriculum Learning Module	\$111.00/Ea
S14137	Elements and the Periodic Table Curriculum Learning Module	\$106.00/Ea
S14138	Chemical Reactions Curriculum Learning Module	\$102.00/Ea

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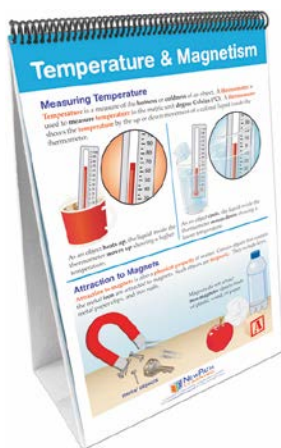


Physical Sciences Flip Chart and Multimedia Lessons

These multimedia kits can help students master key physical sciences concepts.

Flip Chart Sets Feature:

- Graphical instruction and write-on/wipe-off activities
- Flip chart set features 10 laminated, double-sided charts
- Side 1 features a graphic overview of the topic while Side 2 provides corresponding write-on/wipe-off activities for review and reinforcement
- Includes a teacher's guide with copymaster activities and review questions
- Spiral-bound and mounted on a sturdy easel for years of use, the flip chart sets are ideal for small group instruction, learning centers, independent use or classroom reference



Flip Chart Sets with Multimedia Lessons Also Include:

- One year access to a corresponding online multimedia lesson for a teacher and all their students that can be accessed anywhere, anytime, on any device – including Chromebooks, tablets, computers and mobile devices.
- Each lesson features animated, narrated tutorials; interactive exercises and activities; virtual lab investigations; illustrated, narrated glossary; visual resource library; and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH), the lessons are perfect for individual student instruction on any computer as well as classroom presentation on any interactive whiteboard

Flip Chart Set Details:

- **All About Matter Flip Chart, Grades 3 - 5 (S13535)** covers What is Matter?, Properties of Matter, Physical Properties, Measuring Mass & Volume, Density & Buoyancy, Temperature & Magnetism, States of Matter, Changes in Matter, Mixtures & Solutions, Vocabulary
- **Atoms & Chemical Bonding Flip Chart with Online Multimedia Lesson (S81127)** covers: Models of the Atom; Atomic Configuration & Bonding; Chemical Bonding; Ionic Bonding; Ionic Compounds; Covalent Bonding; Covalent Compounds; Naming Compounds; and Metallic Bonding
- **Elements & the Periodic Table Flip Chart with Online Multimedia Lesson (S81128)** covers: Introduction to Elements; Atomic Structure; Metals; Metalloids, Nonmetals; The Periodic Table; Groups on the Periodic Table; and Identifying Elements
- **Chemical Reactions Flip Chart with Online Multimedia Lesson (S81129)** covers: Changes of Matter; Chemical Reactions; Formulas & Equations; Balancing Equations; Types of Chemical Reactions; Energy in Chemical Reactions; Exothermic & Endothermic Reactions; and Chemical Reaction Rates & Catalysts

Cat. No.	Description	Contains	Grades	Price
S13535	All About Matter	Flip Chart only	3 to 5	\$52.00/Ea
S81127	Atoms & Chemical Bonding	Flip Chart with Online Multimedia Lesson	6 to 10	\$64.25/Ea
S81128	Elements & the Periodic Table	Flip Chart with Online Multimedia Lesson	6 to 10	\$64.25/Ea
S81129	Chemical Reactions	Flip Chart with Online Multimedia Lesson	6 to 10	\$64.25/Ea

Ion-Exchange Chromatography Kit

Learn the principles of ion-exchange chromatography.

Most biological molecules have a net charge within a pH range of 2 to 10. When the pH is altered, the net charge on molecules can change drastically.

- Learn the principles of ion-exchange chromatography by separating two charged molecules using a two-step salt gradient
- Proteins are absorbed onto a charged solid support ion-exchange column and subsequently separated during elution under conditions that influence their net charge



Cat. No.	Price
S94617	\$163.00/Ea

Paper Chromatography Kit

Investigate the oldest documented technique used to separate chemical substances.

- Perform paper chromatography on three individual dyes and a mixture of dyes. Determine if all three dyes are in the mixture.
- See why different substances move at different rates within the chromatography system



Cat. No.	Price
S96896*	\$45.25/Ea

Thin Layer Chromatography Kit

See that commercial food colors contain more than meet the eye.

- Perform a highly effective separation procedure on four food colors
- Determine if there is more in each color than visual appearance would suggest



Cat. No.	Price
S96897***	\$98.00/Ea



Kemtec™ Chemistry Kit: Characteristics of Matter

Explore various physical and chemical properties of matter.

- Students can observe chemical properties of five solutions by observing their reactions with other solutions, then determine names of two unknown solutions
- Ten experiments help students to explore various characteristics of matter: color, odor, solubility, shape, size, texture, density, alkalinity, acidity, states of matter, boiling point and melting point (graphing of melting and boiling points)
- Grades 5-9
- Class size: 24 students

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S06736	\$231.00/Ea

Small Group Learning: Introduction To Chemical Equations

Students will perform a series of experiments highlighting the differences in chemical reactions, and use what they learn to write balanced chemical reaction equations.



Chemical reactions take place all around us. Being able to identify reactions and communicate what is happening is vital to the scientific community.

- The kit introduces two common types of chemical reactions; single replacement and double replacement.
- Contains enough materials for 5 groups
- Teacher's manual and student study guide copymasters are included
- Aligned to the Next Generation Science Standards (NGSS)
- Disciplinary core ideas: PS1.A; PS1.B
- Performance expectations: MS-PS1-2; MS-PS1-5; HS-PS1-1; HS-PS1-7
- Cross cutting concepts: patterns; energy and matter
- Engineering practices: developing and using models; analyzing and interpreting data

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Cat. No.	Price
S40726***	\$39.25/Ea

Periodic Table – Nonmetals, Metals, and Metalloids

Students will learn about three different categories of elements – metals, nonmetals, and metalloids. They will examine the physical properties of several elements, test the chemical reactivity of each element, and classify each of the tested elements as either metal, nonmetal, or metalloid.



During the nineteenth century Russian chemist Dmitri Mendeleev began constructing a table of the elements. The work of Mendeleev allows us to understand that the periodic table of the elements is an organized classification of chemical elements based on certain properties of each element in relation to other elements.

- Kit contains enough material for 15 groups
- Teacher's manual and student study guide copymasters are included
- Aligned to the Next Generation Science Standards (NGSS)
- Disciplinary core ideas: PS1.A; PS1.B
- Performance expectations: MS-PS1-2; HS-PS1-1; HS-PS1-2
- Cross cutting concepts: patterns
- Engineering practices: analyzing and interpreting data; developing and using models

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Cat. No.	Price
S40759	\$51.75/Ea

Polyurethane Foam Chemical Kit

Excellent demonstration of thermoplastic polymers.

Produce polyurethane foam with the condensation reaction of a polyisocyanurate and a hydroxyl-containing material (i.e., a polyol derived from propylene oxide).

- Mix two viscous liquids to initiate a reaction
- Lightweight foam expands to 30 times the original volume of the liquids
- After about 10 minutes, the foam hardens

Notes: Perform in a fume hood and wear chemical splash goggles, apron and gloves as the chemical components are eye and skin irritants.



Cat. No.	Price
S73009	\$65.50/Ea



Chromatographic Paper

No. 1 paper can be used for one- and two-dimensional work.

- Smooth surface
- Thickness: 0.07 in. (0.18 mm)
- Medium flowrate
- Good resolution
- Suitable for general analytical separations



Cat. No.	Dimensions (W x L)	Format	Quantity	Price
S47086	18.1 x 22.4 in. (46 x 57 cm)	Sheet	100/Pack	\$492.00/Pk
S47087A	1.5 in x 300 ft. (3.81 cm x 91.44 m)	Roll	11/Case	\$103.00/Cs
S47087	0.78 in. x 328 ft. (2.0 cm x 100 m)	Roll	Each	\$57.50/Ea

Eisco™ Mole Set

Helps students develop greater understanding of mole, mass, molar mass, and properties of each element when they compare these four specimens side by side.

- Contains four element specimens: copper, iron, zinc, and aluminum
- Each sample contains one mole, 6.02×10^{23} atoms of the element

Dimensions:

- Copper: 45 x 12.7 x 12.7 mm
- Iron: 46 x 12.6 x 12.6 mm
- Zinc: 61 x 12.6 x 12.6 mm
- Aluminum: 65 x 12.6 x 12.6 mm



Cat. No.	Price
S23760	\$26.25/Ea

Science Cube Kit – Molecular Model Set

Do you want to see what water looks like? How about carbon dioxide? The Molecular Model Set is an excellent way to visualize organic and inorganic compounds, and gain a better understanding of the actual structure of complex molecules.

- Perfect for group experiments
- Perfect for homeschooling
- Save space when storing in reusable plastic snap box
- Ages 10+

Includes:

- 1 reusable plastic snap box
- 35 colored balls
- Connectors in various lengths
- 1 exploration guide



Cat. No.	Price
S89520	\$26.50/Ea

Eisco™ Molecular Model Set

Introductory kit.

- Includes 60 atoms and 66 bonds



Cat. No.	Price
S13020	\$36.00/Ea

Eisco™ Student Basic Organic Chemistry Molecular Model Sets

Lets students visualize three-dimensional molecule structures and understand molecular formulas.

Hard plastic pails of different colors represent atoms; each has holes at correct angles to be connected with flexible plastic "bonds." Medium links represent single covalent bonds while long links can be used for double and triple covalent bonds.

- 12 gray metal (2 holes)
- 10 gray metal (3 holes)
- 10 gray metal (6 holes)
- 42 red oxygen (2 holes)
- 12 red oxygen (4 holes)
- 18 red oxygen (1 holes)
- 12 yellow sulfur (4 holes)
- 15 blue nitrogen (3 holes)
- 45 black carbon (4 holes)
- 12 purple phosphorus (4 holes)
- Six purple phosphorus (3 holes)
- 36 white hydrogen (1 hole)
- 170 medium gray links
- 100 long gray links



Cat. No.	Price
S96541	\$138.00/Ea

Inorganic/Organic Student Set

Teaching tool designed for school, college or self study (private) chemistry courses.

- Model for organic structures and inorganic molecules with empirical formula representations, such as carbon dioxide, ammonia, sulphuric acid, calcium hydroxide, metal salts, copper sulphate, alkanes, alcohols, glucose and benzene
- Used to represent any element having one sp^3 , one dsp^3 and one d^2sp^3 , in addition to existing element hybridizations done by three brown atoms
- Molecular model is easily assembled and reassembled
- Links are provided to make single, double, and triple bonds for OPEN, and short links for CLOSED models



Cat. No.	Price
S07017	\$39.00/Ea

Eisco™ Basic Organic Chemistry Molecular Model Set

Let students visualize three-dimensional molecule structures and understand molecular formulas.



- Hard plastic balls of different colors represent atoms
- Each has holes at correct angles to be connected with flexible plastic “bonds”
- Medium links represent single covalent bonds while long links can be used for double and triple covalent bonds

54-Piece Set (S96538) contains:

- 14 white hydrogen (1 hole)
- 6 black carbon (4 holes)
- 2 blue nitrogen (4 holes)
- 6 red oxygen (2 holes)
- 2 green halogen (1 hole)
- 20 gray links (28 mm)
- 4 gray links (43 mm)

114-Piece Set (S96539) contains:

- 12 black carbon (4 holes)
- 20 white hydrogen (1 hole)
- 6 red oxygen (2 holes)
- 4 blue nitrogen (4 holes)
- 4 green halogen (1 hole)
- 2 yellow sulphur (6 holes; 1 hole)
- 1 purple phosphorus (4 holes)
- 1 gray metal (1 hole)
- 26 gray links (28 mm)
- 12 gray links (43 mm)
- 26 white links (28 mm)
- Assembly tool

Cat. No.	Description	Price
S96538	54 pieces	\$43.25/Ea
S96539	114 pieces	\$58.00/Ea

Eisco™ Student Organic and Inorganic Chemistry Molecular Model Sets

Lets students visualize three-dimensional molecule structures and understand molecular formulas.

Hard plastic balls of different colors represent atoms; each has holes at correct angles to be connected with flexible plastic “bonds.” Medium links represent single covalent bonds while long links can be used for double and triple covalent bonds.

Includes:

- Six black carbon (4 holes)
- 14 white hydrogen (1 hole)
- Two blue nitrogen (4 holes)
- One blue nitrogen (5 holes)
- Six red oxygen (2 holes)
- Three yellow sulfur (one each: 2 holes, 4 holes, and 6 holes)
- One purple phosphorus (5 holes)
- Six green halogen (1 hole)
- Three gray metal (1 hole)
- Three gray metal (2 holes)
- Two gray metal (3 holes)
- One gray metal (4 holes)
- One brown sp3 (4 holes)
- One brown dsp3 (5 holes)
- One brown d2sp3 (6 holes)
- 28 mm gray links (20)
- 43 mm gray links (10)
- 28 mm purple links (5)
- Instruction manual

Cat. No.	Price
S96540	\$64.75/Ea

Chemistry and Physics Helpers

Inexpensive, yet invaluable information.

These handy laminated sheets are filled with useful technical information. The Chemistry Helper highlights the mole concept, consistency in significant figures, circle formulas, electron placement notations, a solubility chart, and the periodic table.

Cat. No.	Price
S24678	\$4.05/Ea

fisherbrand Periodic Table of the Elements

Personal-sized periodic table of the elements for the entire class.

- Quality print on standard white paper
- Each sheet is 8.5 x 11 in.
- 25 sheets per package

Cat. No.	Color	Price
S30781	Black, White, Blue	\$26.00/Ea
S30782	Black, White	\$20.00/Ea

Eisco™ Giant Periodic Table

Periodic table includes elements Nihonium, Moscovium, Tennessine, and Oganesson.

- This table shows the interval atomic mass for select elements.
- Symbol text is 1.125 in. high; text for names and molar masses is 0.375 in. high. Maximum useful viewing distance to read masses is 25 ft.
- Made of tri-fold corrugated plastic board
- Measures 8 x 4 ft.
- All elements are in bold, black lettering
- Includes grommets for easy hanging

Cat. No.	Price
S71879	\$261.00/Ea

Periodic Table Posters

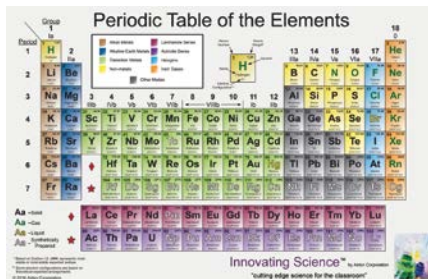
Color printing helps students distinguish between metals, non-metals, and noble gas families as well as allowing them to differentiate types of metals, solids, liquids, and gases from synthetic elements.

Laminated Periodic Table (S99036A)

- Distinguish between metals, nonmetals and noble gas families
- Differentiate types of metals, solids, liquids and gases from synthetic elements
- Lists name, symbol, atomic number, weight, mass and electron configuration

Periodic Table Poster (S37730)

- Made from premium matte 100 lb. paper
- Includes name, symbol, atomic number, weight, mass, electron configuration of elements



Vinyl Periodic Table Poster (S20643)

- Includes name, symbol, atomic number, weight, mass, electron configuration

Large Periodic Table Poster (S41150)

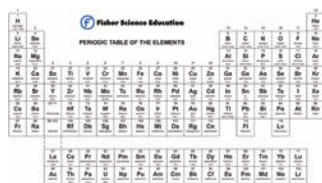
- Color printing helps your students distinguish between metals, non-metals, and noble gas families as well as allowing them to differentiate types of metals, solids, liquids and gases from synthetic elements
- Name, symbol, atomic number, weight, mass, electron configuration are included
- The periodic table poster is made of a durable, light weight, waterproof vinyl with grommets for hanging

Cat. No.	Description	Dimensions	Price
S99036A	Laminated Periodic Table	11 x 17 in. (27.9 x 43.2 cm)	\$13.00/Ea
S37730	Periodic Table Poster	21 x 34 in. (53.3 x 86.3 cm)	\$11.00/Ea
S20643	Vinyl Periodic Table Poster	35 x 45 in. (88.9 x 114.3 cm)	\$81.00/Ea
S41150	Large Periodic Table Poster	4 x 8 ft. (1.21 x 2.43 m)	\$209.00/Ea

Fisher Science Education™ Periodic Table of Elements Poster

Offers a large format and easy-to-use display.

- Printed on 10 mil indoor/outdoor poster stock material
- Corner grommets for easy display
- Large 48 x 84 in. display



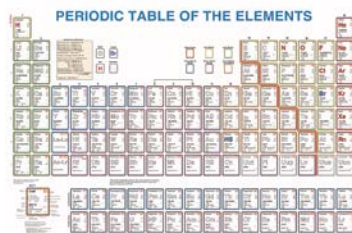
Cat. No.	Price
S07899	\$288.00/Ea

Advanced Periodic Table of the Elements

Presents far more information than the typical periodic table.

- Identifies elements as noble gases, nonmetals, and various metals classes
- Indication of physical state at atmospheric pressure and temperature by the color of the element symbol
- Separate presentation of important physical constants
- Table indicates the color various elements give off when heated in the flame of a Bunsen burner
- Each element displays IUPAC name, symbol, atomic weight, oxidation states, density, boiling and melting points, number of naturally occurring radioactive isotopes, and pertinent information for the most abundant radioactive isotope

Chart measures 58 x 42 in. (147 x 107 cm); available with or without spring-activated roller. Notebook-sized charts are 11 x 8.5 in. (28 x 21.6 cm).



Cat. No.	Description	Price
S45525	Periodic Table Chart without Roller	\$212.00/Ea
S45525A	Advanced Periodic Table Chart with Roller	\$230.00/Ea
S45525B	Advanced Periodic Table Notebook	\$84.75/Ea

Periodic Table Pen

This pen holds a double-sided Periodic Table. The back side is a handy miniature reference chart.

- Convenient reference guide at your fingertips
- Pen holds a double-sided Periodic Table

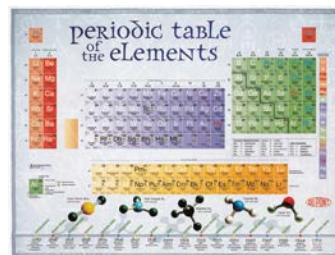


Cat. No.	Price
S05880	\$7.40/Ea

Colorful Periodic Chart

Shows essential element information clearly and colorfully.

- Different colors highlight group similarities and reinforce different electron configurations
- Contains the element symbol, atomic number, element name, atomic mass and radioactivity



Cat. No.	Height (Metric)	Width (Metric)	Product Type	Price
S63056	21.6 cm	27.9 cm	Periodic Chart Pad (x100 sheets)	\$25.00/Ea
S63055	96.5 cm	127 cm	Periodic Chart Laminated Poster	\$30.25/Ea

United Scientific™ Chemistry Hardware Assortment, Deluxe

A comprehensive package of the most commonly-used chemistry lab glassware, plasticware, porcelain, and hardware.

Includes:

- Beaker, glass, 100 mL (1)
- Beaker, glass, 250 mL (1)
- Beaker, glass, 400 mL (1)
- Beaker, glass, 1,000 mL (1)
- Bottle, wash, 125 mL, plastic (1)
- Clamp, Burette (1)
- Clamp, Mohr's pinchcock (1)
- Crucible with cover, 10 mL (1)
- Cylinder, graduated, glass, 10 mL (1)
- Cylinder, graduated, glass, 50 mL (1)
- Cylinder, graduated, plastic (PP), 100 mL (1)
- Evaporating dish, porcelain, 35 mL (1)
- Filter paper, 9 cm dia., 100/pk (1)
- Flask, boiling, 100 mL (1)
- Flask, boiling, 250 mL (1)
- Flask, Erlenmeyer, glass, 250 mL (1)
- Flask, Erlenmeyer, glass, 500 mL (1)
- Flask, volumetric, w/stopper, 250 mL (1)
- Laboratory apron (1)
- Mortar & pestle, 90 mm (1)
- Rubber stopper, #1 solid (6)
- Rubber stopper, #1 one-hole (1)
- Rubber stopper, #2, solid (1)
- Rubber stopper, #2, one-hole (1)
- Rubber stopper, #2, two-hole (1)
- Rubber stopper, #6, solid (3)
- Rubber stopper, #6, one-hole (3)
- Rubber stopper, #6, two-hole (3)
- Spatula, stainless steel (1)
- Test tube, glass, 16 x 150 mm (6)
- Test tube brush (1)
- Test tube clamp (1)
- Test tube rack, 2-tier, wooden (1)
- Tongs, crucible (1)
- Triangle, clay pipe (1)
- Tripod stand, 6 in. (1)
- Stirring rod, glass, 12/pk (1)
- Support stand, with 18 in. rod (1)



- Support ring, 3 in. OD with clamp (3)
- Test paper, litmus, blue (1)
- Test paper, litmus, red (1)
- Test paper, cobalt chloride (1)
- Tubing, glass, assorted, one pound (1)
- Wire gauze, 5 in. square (1)

WARRANTY: 1 year

Cat. No.	Price
S23933	\$206.00/Ea

Electrochemistry

OHAUS™ Aquasearcher™ Multi-Parameter Analyzer

Easy-to-use and accurate, capable of measuring up to seven parameters including pH, ORP, conductivity, TDS, salinity, resistivity, and temperature.

- Easy to use and accurate, capable of measuring up to seven parameters including pH, ORP, conductivity, TDS, salinity, resistivity, and temperature
- Features two independent measuring channels that can work simultaneously
- Equipped with a large 6.5 in. LCD display and a touch keypad
- Features a 1,000 item memory for measurements and calibration trail
- Provides connectivity and data output capabilities with RS232 and USB interface
- i-Steward monitors the condition of electrodes to ensure repeatable and consistent measurement accuracy
- Intuitive user interface makes changing the parameters, executing setup, and performing calibration as simple as using a smartphone
- Choose between just the AB33M1 meter with electrode holder (S05299) and a full kit (S05298) including AB33M1 meter, ST310 electrode, STCON3 probe, electrode holder, 4 pH buffer mini kits (50 mL), standard conductivity solution kits (1413 $\mu\text{S}/\text{cm}$, 50 mL)



Cat. No.	Description	Includes	Price
S05298	Aquasearcher™ Multi-Parameter Analyzer AB33M1	AB33M1 Meter, ST310 Electrode, STCON3 Probe, Electrode Holder, 4 pH Buffer Mini Kits (50 mL), Standard Conductivity Solution Kits (1413 $\mu\text{S}/\text{cm}$, 50 mL)	\$1,080.00/Ea
S05299	Aquasearcher™ Multi-Parameter Analyzer AB33M1	AB33M1 Meter, Electrode Holder	\$925.00/Ea

OHAUS™ Aquasearcher™ pH Meters

Advanced, research-grade benchtop pH meters with electrode, offering accurate, repeatable results.

Aquasearcher™ pH Meter AB41PH (S05294, S05295)

- An advanced, research-grade benchtop pH meter with electrode, offering accurate, repeatable results with selectable resolution and an intelligent i-Steward system
- Equipped with a large 6.5 in. LCD display and a touch keypad
- Features a 1,000 item memory and password management for GLP documentation
- Provides connectivity and data output capabilities with RS232 and USB interface
- i-Steward ensures repeatable and consistent measurement accuracy
- Intuitive user interface makes changing the parameters, executing setup, and performing calibration as simple as using a smartphone
- Choose between just the AB41PH meter with electrode holder (S05295) and a full kit (S05294) including AB41PH meter, ST410 electrode, STTEMP probe, electrode holder, AS20 magnetic stirrer, and 4 pH buffer mini kits (50 mL)

NEW



Aquasearcher™ pH Meter AB33PH (S05296, S05297)

- A highly reliable and user-friendly pH benchtop meter with electrode (ST310) for standard laboratory applications
- Designed to measure pH and oxidation-reduction potential with temperature measurements
- Equipped with a large 6.5 in. LCD display and a touch keypad
- Features a 1,000 item memory for pH measurements and calibration trail
- Provides connectivity and data output capabilities with RS232 and USB interface
- i-Steward monitors the condition of electrodes to ensure repeatable and consistent measurement accuracy
- Intuitive user interface makes changing the parameters, executing setup, and performing calibration as simple as using a smartphone
- Auto endpoint mode and auto buffer recognition makes calibration easy
- Choose between just the AB33PH meter with electrode holder (S05297) and a full kit (S05296) including AB33PH meter, ST310 electrode, electrode holder, 4 pH buffer mini kits (50 mL)

Aquasearcher™ pH Meter AB23PH (S05302, S05303)

- A simple to use benchtop meter for measuring pH and oxidation-reduction potential (ORP)
- An intuitive design and auto-buffer recognition make measuring pH straightforward and easy
- Equipped with a large 5 in. LCD display and six instructional menu buttons
- Auto buffer recognition and 3-point calibration capability ensures a reliable calibration result
- Features a 99 item memory for measurements and last calibration
- Choose between just the AB23PH meter with electrode holder (S05303) and a full kit (S05302) including AB23PH meter, ST320 pH electrode, and four pH Buffer Mini Kits (50 mL)

Cat. No.	Description	Includes	Price
S05294	Aquasearcher™ pH Meter AB41PH	AB41PH Meter, ST410 Electrode, STTEMP Probe, Electrode Holder, AS20 Magnetic Stirrer, 4 pH Buffer Mini Kits (50 mL)	\$1,255.00/Ea
S05295	Aquasearcher™ pH Meter AB41PH	AB41PH Meter, Electrode Holder	\$1,105.00/Ea
S05296	Aquasearcher™ pH Meter AB33PH	AB33PH Meter, ST310 Electrode, Electrode Holder, 4 pH Buffer Mini Kits (50 mL)	\$735.00/Ea
S05297	Aquasearcher™ pH Meter AB33PH	AB33PH Meter, Electrode Holder	\$650.00/Ea
S05302	Aquasearcher™ pH Meter AB23PH	AB23PH Meter, Electrode Holder, ST320 pH Electrode, 4 pH Buffer Mini Kits (50 mL)	\$520.00/Ea
S05303	Aquasearcher™ pH Meter AB23PH	AB23PH Meter, Electrode Holder	\$456.00/Ea

OHAUS™ Starter™ pH Meter

Affordable benchtop pH meter that clearly displays information with five distinctly marked keys, allowing users to operate with minimal training.



Starter™ pH Meter ST2200 (S05306, S05307)

- An affordable benchtop pH Meter that clearly displays information with five distinctly marked keys, allowing users to operate with minimal training
- Equipped with a large 3.5 in. LCD display
- Features a 99 item memory for measurements and last calibration
- Features auto-buffer recognition and auto-endpoint modes that make measurement and calibration simple
- Choose between just the ST2200 meter with electrode holder (S05307) and a full kit (S05306) including ST2200 meter, electrode holder, ST320 electrode, 4 pH buffer mini kits (50 mL)

Cat. No.	Description	Includes	Price
S05306	Starter™ pH Meter ST2200	ST2200 Meter, Electrode Holder, ST320 Electrode, 4 pH Buffer Mini Kits (50 mL)	\$422.00/Ea
S05307	Starter™ pH Meter ST2200	ST2200 Meter, Electrode Holder	\$392.00/Ea

OHAUS™ Aquasearcher™ Conductivity Meters

Highly reliable benchtop meters designed to measure conductivity, total dissolved solids (TDS), and more.



Aquasearcher™ Conductivity Meter AB33EC (S05300, S05301)

- A highly reliable benchtop meter designed to measure conductivity, total dissolved solids (TDS), salinity, and resistivity with temperature measurements
- Selectable reading reference temperatures of 20 or 25°C with linear curve options and automatic temperature compensation
- Features auto-stop, auto temperature compensation, adjustable TDS factor, and 2- or 4- cell conductivity probe compatibility
- Equipped with a large 6.5 in. LCD display and a touch keypad
- Features a 1,000 item memory for measurements and calibration trail
- Provides connectivity and data output capabilities with RS232 and USB interface
- i-Steward monitors the condition of electrodes to ensure repeatable and consistent measurement accuracy
- Intuitive user interface makes changing the parameters, executing setup, and performing calibration as simple as using a smartphone
- Choose between just the AB33EC meter with electrode holder (S05301) and a full kit (S05300) including AB33EC meter, STCON7 probe, and 4 conductivity standard kits (84 $\mu\text{S}/\text{cm}$, 50 mL)

Aquasearcher™ Conductivity Meter AB23EC (S05304, S05305)

- A simple to use benchtop meter designed to easily measure conductivity, total dissolved solids (TDS), and salinity
- Equipped with a large 5 in. LCD display and six instructional menu buttons
- Features a 99 item memory for measurements and last calibration
- Choose between just the AB23EC meter with electrode holder (S05305) and a full kit (S05304) including AB23EC meter, electrode holder, STCON3 probe, and four conductivity standard kits (1413 $\mu\text{S}/\text{cm}$, 50 mL)

Cat. No.	Description	Includes	Price
S05300	Aquasearcher™ Conductivity Meter AB33EC	AB33EC Meter, Electrode Holder, STCON7 Probe, 4 Conductivity Standard Kits (84 $\mu\text{S}/\text{cm}$, 50 mL)	\$740.00/Ea
S05301	Aquasearcher™ Conductivity Meter AB33EC	AB33EC Meter, Electrode Holder	\$595.00/Ea
S05304	Aquasearcher™ Conductivity Meter AB23EC	AB23EC Meter, Electrode Holder, STCON3 Probe, 4 Conductivity Standard Kits (1413 $\mu\text{S}/\text{cm}$, 50 mL)	\$610.00/Ea
S05305	Aquasearcher™ Conductivity Meter AB23EC	AB23EC Meter, Electrode Holder	\$477.00/Ea

fisherbrand
**FE150
 Benchtop
 pH Meter
 3-in-1 S
 with 3-in-1
 Single
 Junction
 Gel pH/ATC Electrode,
 and Stand**



Designed for convenient routine pH measurement. User-friendly features include an attachable electrode stand, efficient sample reading and recording, and flexible display options.

The essential functions needed for routine measurements

- Simultaneously displays both pH and temperature or mV-temperature
- One to five point pH calibration
- Automatic buffer recognition with selection of two pH buffer sets
- pH slope and offset display
- One point mV calibration
- One point ATC temperature probe calibration
- Automatic or manual temperature compensation
- Ready icon to indicate measurement stability
- Electrode condition icon to indicate status
- 100 data set storage with non-volatile memory

Cat. No.	Price
S35925	\$580.00/Ea

fisherbrand
**FE150
 Benchtop
 pH Meter
 Bio Set
 with
 Double
 Junction
 Gel pH Electrode, ATC
 Probe, and Stand**



Designed for convenient routine pH measurement. User-friendly features include an attachable electrode stand, efficient sample reading and recording, and flexible display options.

The essential functions needed for routine measurements

- Simultaneously displays both pH and temperature or mV-temperature
- One to five point pH calibration
- Automatic buffer recognition with selection of two pH buffer sets
- pH slope and offset display
- One point mV calibration
- One point ATC temperature probe calibration
- Automatic or manual temperature compensation
- Ready icon to indicate measurement stability
- Electrode condition icon to indicate status
- 100 data set storage with non-volatile memory

Cat. No.	Price
S35924	\$546.00/Ea

fisherbrand
**FE150
 Benchtop
 pH Meter
 Education
 Set**



Measures the acidity or alkalinity of a sample to a high degree of accuracy. Its intuitive, simple operation, easy-to-use interface and high accuracy measurements ensure maximum productivity in your classroom or lab.

Comes complete with pH meter, single junction gel pH electrode (S35931), ATC probe (S35934), and stand.

Cat. No.	Price
S35923	\$533.00/Ea

fisherbrand **pH Pen**
pH measurement is easier than ever with this economical pocket-size tester designed for on-the-go pH measurements.

Accurate and easy to use, these testers are ideal for quick pH measurements in hydroponic gardening, aquaculture, agriculture, pools, simple lab work and other water/wastewater applications.

- $\pm 0.1\%$ accuracy across full pH range
- Auto-buffer recognition and auto-calibration functions – quick, easy calibrations at the press of a button
- Long-lasting sensor – large volume of polymer gel reference gives longer sensor lifespan, while single Kynar™ reference junction prevents clogging
- Automatic temperature compensation and up to three calibration points for broadened accuracy throughout the pH range



Cat. No.	Price
S35927	\$64.00/Ea

OHAUS™ Starter pH Pen Meters

Convenient pH testing that offer a convenient way to measure pH, or the relative acidity or alkalinity of a sample at a given temperature. The pH pen meters can be completely operated with just one hand, freeing up your other hand to handle samples.

- Fast, straightforward results
- Durable IP67 waterproof design
- Equipped with wrist strap for security
- Automatic shutdown after six minutes of non-use
- Requires four AG13 1.5V micro alkaline batteries
- Size/weight: 185 x 45 x 38 mm, 110 g
- Includes buffer powder pack (ST20)

Cat. No.	Accuracy (pH)	Range (pH)	Resolution (pH)	Price
S05084	±0.1	0 to 14	0.1	\$88.00/Ea
S05085	±0.01	0 to 14	0.01	\$146.00/Ea



Thermo Scientific™ Orion Star™ A121 pH Portable Meter

Portable, waterproof meter provides simple operation and accurate readings every time.

Thermo Scientific Orion Star A121 pH Portable Meters combine simplicity with accuracy. A large LCD displays pH or mV readings along with temperature. Icons provide quick updates on battery life, electrode status and calibration information. Simple button layout and onscreen messages help with calibration and setup menu choices.

- Large, informative screen clearly shows the main information, including pH or mV reading, temperature in °C or °F, meter mode, calibration information and battery life
- Don't miss a reading - Auto-Read measurement mode locks in the stable reading on your screen and ready indicator alerts when readings are stable
- Up to 3 point pH calibration
- Automatic recognition of U.S.A./NIST and DIN buffers
- Easily recall calibration slope data for procedure checks
- Non-volatile memory holds up to 50 data points
- Four AA batteries (included) provide over 2000 hours of operation or purchase the universal power adapter (sold separately) to run meter on AC power
- Perfectly portable, waterproof and protected to take anywhere with a IP67-rated housing
- 3 year meter replacement warranty

Specifications

- Accuracy (mV): ±0.2 mV or ±0.05% of reading whichever is greater
- Accuracy (pH): ±0.01pH
- Battery life: 2000 hours
- Inputs: BNC (pH), 8-pin Mini-DIN (temperature)
- Probe type: ±pH electrode, ATC probe, ORP electrode - purchase separately
- Range (mV): 1600.0mV
- Range (pH): -2.00 to 16.00pH
- Relative humidity range: 5 to 85 %, non-condensing
- Resolution (mV): 0.1mV
- Resolution (pH): 0.1, 0.01pH
- Temperature (metric) operating: 5 to 45°C
- Temperature range: -5° to +105°C
- Calibration points (pH): 1 to 3



Meter Kit (S04968) Includes: Star A121 pH meter with batteries (S04953), gel-filled epoxy pH/ATC triode with 1.5 m cable (13-642-250), pH buffer 60mL kit (09-357-72), rinse solution pouches (13-641-273), Star A Series portable meter hard carrying case (13-645-596), Star A Series portable meter protective armor (13-645-599)

CERTIFICATION: IP-67, CE, TV, FCC Class A limits

WARRANTY: Three-year meter replacement warranty

Cat. No.	Type	Price
S04968	Meter Kit	\$1,139.00/Ea
S04953	Meter Only	\$684.00/Ea

Ohaus Starter Pen Meters

Convenient, Accurate Results in Seconds

- Portable and compact
- Single-hand operation
- Durable IP67 waterproof design
- Include wrist strap for security
- Auto shutdown after four minutes of non-use
- Require four AG13 1.5 V microalkaline batteries (included)
- Size/weight: 185 × 45 × 38 mm; 110 g



ST20

Model	Range	Resolution	Temp. Display	Cat. No.	Price
pH Pen Meters					
ST10	0.0 to 14.0 pH	0.1 pH	No	S05084	\$88.00/Ea
ST20	0.00 to 14.00 pH	0.01 pH	Yes	S05085	\$146.00/Ea
ORP Pen Meters					
ST10R	-1000 to 1000 mV	1 mV	No	S05086	\$155.00/Ea
ST20R	-1000 to 1000 mV	1 mV	Yes	S05087	\$206.00/Ea
Conductivity Pen Meters					
ST10C-A	0.0 to 199.9 µS/cm	0.1 µS/cm	No	S05088	\$100.00/Ea
ST10C-C	0.00 to 19.99 mS/cm	10 µS/cm	No	S05090	\$100.00/Ea
ST20C-A	0.0 to 199.9 µS/cm	0.1 µS/cm	Yes	S05091	\$150.00/Ea
Salinity Pen Meters					
ST20S	0.0 to 80.0 ppt	+/- 1.5% FS	Yes	S05095	\$150.00/Ea
TDS Pen Meters					
ST20T-A	0.0 to 100.0 mg/L	0.1 mg/L	Yes	S05098	\$139.00/Ea

Choose from five models in a variety of calibrations.



S05084

S05087

S05088

S05091

S05086

S05095

S05098

OHAUS™ Starter Water Analysis Portable pH Meters

LCD meters combine portability with precise pH measurement.

- Auto buffer recognition stores calibration data to avoid errors
- Automatic/manual temperature compensation for accurate readings
- ORP or temperature electrode connectivity for additional functionality
- IP54 protection shields water/dust damage
- Size: 90 x 150 x 35 mm
- Weight: 0.18 kg



Cat. No.	Model	Resolution	Price
S05080	ST300	0.01pH; 1mV; 0.1°C	\$525.00/Ea
S05079	ST300-B	0.01pH; 1mV; 0.1°C	\$393.00/Ea

OHAUS™ Starter™ pH Electrode

Features a durable shaft built to withstand daily use. Includes a temperature sensor, which powers automatic temperature compensation and ensures accurate measurements.

- Designed for accurate and precise measurement
- Can be used with both bench and portable meters
- Temperature sensor features automatic temperature compensation



Cat. No.	Junction	Material	pH Range	Price
S05308	Open	Glass	0 to 14	\$296.00/Ea
S05309	Fiber Pin	Plastic	0 to 14	\$162.00/Ea
S05310	Ceramic	Glass	0 to 14	\$223.00/Ea
S05311	Ceramic	Glass	2 to 13	\$347.00/Ea

OHAUS™ Starter™ Conductivity Electrode

Features a glass shaft built to withstand daily use. Includes a temperature sensor, which powers automatic temperature compensation for accurate measurements.

- Designed for accurate and precise measurement
- Can be used with both bench and portable meters
- Temperature sensor features automatic temperature compensation



Cat. No.	Measurement Ranges	Price
S05312	50 to 2000 µS/cm	\$217.00/Ea
S05313	0.055 to 300 µS/cm	\$297.00/Ea

OHAUS™ Starter™ Conductivity Electrode STCON8 with Flow Chamber

NEW

Features a glass shaft built to withstand daily use. Includes a temperature sensor, which powers automatic temperature compensation for accurate measurements. Flow chamber produces accurate measurements.

- Designed for accurate and precise measurement
- Can be used with both bench and portable meters
- Flow chamber optimizes the sample flow volume and creates mixing patterns that produce accurate and stable measurements



Cat. No.	Price
S05314	\$476.00/Ea

Stem Investigations: Create Your Own Power Kit

Teaches students to set up electrochemical cells utilizing different combinations of materials for the anode and the cathode of the cell.

- The voltaic cell is an electrochemical cell that produces electrical energy an oxidation-reduction chemical reaction
- In this activity students will set up electrochemical cells, with each group using a different combination of materials for the anode and the cathode of the cell
- Students will also compare two different styles of cell, one using a salt bridge and one using a semi-permeable membrane
- After determining the voltage output of their unique cells, and comparing their values to the rest of the class, students will be challenged to design an electrochemical cell capable of running a small motor
- Kit contains enough materials for 15 groups
- Teacher's manual and student study guide copy masters are included



Cat. No.	Price
S27135**	\$462.00/Ea

Electrolysis of Aqueous Solution In Electrochemical Cells Kit

Learn about electrolysis with this hands-on kit.

- accommodates up to 15 lab groups
- Complete kit provides everything needed such as syringes, vials, tubing, comboplates, electrodes, acids, solutions and more



Cat. No.	Price
S95333*	\$338.00/Ea



Conductivity Testers

Demonstrates the effects of liquid conductivity.

- Consists of a molded socket mounted on a PVC base with binding posts for quick electrical connection
- Two electrodes are internally connected to the lamp circuit
- Fits a clear tumbler which is the reservoir for the solution
- Size 4 x 4 x 5 in., weight 5 lb.



Cat. No.	Price
S43475A	\$22.25/Ea

RCI Conductivity Indicators

Ideal for comparing various solutions across a wide range of conductivity levels.

- Simply immerse the probes in the solution and record the display lamp lit
- The higher the numbered display lamp lit, the greater the solution conductivity
- Unique, multiple lamp conductivity display determines the relative conductivity of solutions



Cat. No.	Model	Price
S63198	RCI-JR (10-level RCI Junior)	\$79.20/Ea

Insta-Chek™ Wide-Range Paper Dispenser

Single color match for each pH value.

- 14 distinct colors match the 14 pH values for accurate readings
- Includes color chart
- Dispenser contains 50 ft. x 0.5 in. roll (15.2m x 1.27 cm)



Cat. No.	Type	Price
S60149*	Paper Dispenser	\$19.50/Ea
S60149A*	pH Test Strip Refill	\$21.00/Ea

pH Buffer Pack

Includes:

- pH Buffer 4
- pH Buffer 7
- pH Buffer 10
- Electrode Storage Solution



Cat. No.	Quantity	Price
S02641	4 x 500 mL bottles	\$65.75/Pk

fisherbrand Plastic pH Test Strips

Offer excellent color separation in the pH range; 100 pH test strips/vial.

- Packaged in a flip-top, spill-proof vial
- Colorimetric chart is located on the vial label
- Plastic pH test strip construction
- Ideal for lab, field or classroom use
- Instant dip and read result



Cat. No.	pH Range	Price
S04677	0 to 6	\$24.75/Ea
S04674	0 to 14	\$24.75/Ea
S04673	5 to 9	\$24.75/Ea
S04675	5.5 to 8	\$24.75/Ea
S04676	6.5 to 13	\$24.75/Ea

fisherbrand pH Paper Strips

An easy choice for classroom experiments or demonstrations.

- Packaged in a flip-top, spill-proof vial
- Colorimetric chart is located on the vial label
- Plastic pH test strip construction
- Ideal for lab, field or classroom use
- Instant dip and read result



Ordering Information:

- Box of 10 vials, 100 low-cost paper strips per vial

Cat. No.	Type	pH Range	Price
S22511	pH Test Paper	0 to 3	\$21.00/Cs
S22508	pH Test Paper	0 to 14	\$21.00/Cs
S22509	pH Test Paper	3 to 5.5	\$21.00/Cs
S22510	pH Test Paper	6 to 8	\$21.00/Cs
S22512	pH Test Paper	8 to 9.5	\$21.00/Cs
S22513	pH Test Paper	10 to 12	\$21.00/Cs
S22515	pH Test Paper Set	0 to 14	\$21.00/Cs

Log in to your account on fisheredu.com to see your discounts.

fisherbrand pH Paper Rolls

General purpose pH papers in efficient 15' rolls.

- Convenient dispenser allows you to select the right amount of pH paper for each application
- Easy-to-use—dip paper in solution to be tested and match to color chart immediately
- Highly accurate and well suited for most applications
- Each SKU is packed in box of five clear plastic dispensers
- Cat. No. S22507 is a pH paper testing set that includes shrink wrapped pack of seven dispensers (one of each SKU)
- Store at room temperature. Keep out of direct sunlight.



Ordering Information:

- 15 ft. roll provides about 100 tests

Cat. No.	Type	pH Range	Price
S22500	pH Test Paper	0 to 3	\$33.00/Cs
S22507	pH Test Paper Set	0 to 14	\$40.25/PK
S22506	pH Test Paper	1 to 12	\$33.00/PK
S22501	pH Test Paper	3 to 5.5	\$33.00/Cs
S22502	pH Test Paper	6 to 8	\$33.00/Cs
S22503	pH Test Paper	8 to 9.5	\$33.00/Cs

fisherbrand Economical Plastic pH Strips

Offer excellent color separation in the pH range; 50 pH test strips/pack.

- Packaged in a zip lock pack
- Colorimetric chart is located on the vial label
- Plastic pH test strip construction
- Ideal for lab, field or classroom use
- Instant dip and read result



DISCLAIMERS:

This product is not intended to diagnose, treat, cure or prevent any disease or condition. Please contact a medical doctor to diagnose and treat any medical condition.

Cat. No.	pH Range	Price
S21140	0 to 14	\$17.50/PK

fisherbrand Test Paper

Use these test papers for a variety of applications.

PTC Taste Test Paper

- PTC (phenylthiocarbamide) taste test paper test for the genetically-controlled ability to taste this substance
- This will allow for the development of a Pedigree for an individual
- PTC can taste bland, bitter or even vile depending upon how sensitive your taste buds are to this chemical
- The bitter taste detected by some individuals, and its intensity, depends upon a homozygous dominant or heterozygous condition in the individuals tested
- PTC taste test paper is perfectly safe to use – Phenylthiocarbamide (PTC) is present at only 3-5 micrograms per strip. At this level, the compound is negligible and harmless



Cobalt Chloride Test Paper

- Detects the presence of moisture
- This test paper is useful in difficult to reach places and recesses
- Cobalt chloride test paper is responsive to 50% relative humidity and above, and any direct measure of an aqueous solution

Phenolphthalein Test Paper

- Phenolphthalein test paper is sensitive to Ammonia Vapors, and thus is used to detect Ammonia leaks, for example, in refrigerators or air conditioners
- Phenolphthalein detects Ammonia in solution from 3–5ppm
- The test strip will turn a pinkish color if Ammonia is detected

Cat. No.	Description	For Use With	Price
S60100	Cobalt Chloride Test Paper	For all laboratory moisture tests	\$31.50/PK
S67170	Litmus Blue Test Strip	For all laboratory moisture tests	\$17.25/PK
S67171	Litmus Red Test Strip	For all laboratory moisture tests	\$17.25/PK
S60124	Methyl Violet Test Strip	For all laboratory moisture tests	\$31.50/PK
S60126	Moisture Detection Test Strip	Quickly detect Ammonia in solution from 3 to 5ppm.	\$31.50/PK
S60125	Lead Acetate Test Paper	Quickly detect Hydrogen Sulfide in water in concentrations as low as 5ppm.	\$56.50/PK
S67172	Litmus Neutral Test Strip	Foolproof pH test to determine if a solution is acidic or alkaline.	\$17.25/PK
S60130	PTC Taste Test Paper	Genetics taste test strips	\$31.50/PK

pH Test Papers, Wide-Range

Select the pH range you need, quickly and inexpensively.

- Type A indicates pH 2, 4, 6, 8 and 10
- Type B indicates pH 1, 3, 5, 7, 9 and 11



Cat. No.	pH Range	Type	Quantity	Price
S60144	1 to 11	Hydrion™ D/R AB Dispenser	Each	\$14.00/Ea
S60152	1 to 11	Type B pH Paper	10/Pk	\$27.00/Pk
S60146	1 to 11	Type A Refill	5/Pk	\$38.75/Pk
S60148	1 to 11	Refill Roll	5/Pk	\$38.75/Pk
S60150	2 to 10	Type A Vial	10/Pk	\$27.00/Pk

Eisco™ Litmus Test Papers

- 100 Strips/Vial, 12 Vials/Pk
- **Blue pH paper (S80845)** indicates presence of an acid; pH range 4.0-6.8
- **Red pH paper (S80846)** indicates presence of a base; pH range 6.8-8.1
- **Neutral paper (S80849)** tests for acidity, neutrality or alkalinity; turns red in presence of acid (pH7)



Cat. No.	Description	Price
S80845	Blue Litmus pH Test Paper: Acid Indicator	\$16.50/Ea
S80846	Red Litmus pH Test Paper: Base Indicator	\$17.00/Pk
S80849	Neutral Litmus Test Paper	\$21.00/Ea

United Scientific™ Litmus Paper

Available as Litmus paper and Litmus Granular in bottles.

- 100 strips each in matching color plastic vials
- Individual strips are approximately 2 in. long and 0.25 in. wide



Cat. No.	Type	Quantity	Price
S99399	Red Litmus Paper	100 Strips/Vial	\$3.75/Ea
S99400	Blue Litmus Paper	100 Strips/Vial	\$3.75/Ea
S99401	Neutral Litmus Paper	100 Strips/Vial	\$3.75/Ea

United Scientific™ pH Paper

Determine the pH of wide range of solutions!

- pH range: 1-14
- Each vial includes 5 packs of 20 strips



Cat. No.	Price
S99398	\$3.60/Ea

United Scientific™ Hoffman Electrolysis Apparatus

For qualitative and quantitative study of electrolytic decomposition of electrolytes, such as water and hydrochloric acid.

- Tubes are 2 in. (50 mm) each
- Dimensions: 24 x 12 x 6 in. (61 x 31 x 15 cm)

INCLUDES: Support stand, burette clamp, extension clamp, bosshead clamp, pair of platinum electrodes, pair of carbon electrodes, activity guide



Cat. No.	Description	Price
S07009	Hoffman Electrolysis Apparatus	\$200.00/Ea
S07010	Replacement Platinum Electrodes	\$48.00/Pk

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Advanced Placement Chemistry

AP Chemistry Kits: Complete Set of 22

Be prepared for the entire school year with this complete set of all 22 AP Chemistry lab activities.

- Thermochemistry & Hess Law
- Activity Series
- Mole Ratio Reactants
- Le Chatelier's Principle
- Ester Formation
- Acid-Base
- Reaction Kinetics
- Dissociation of Weak Acids
- Qualitative Analysis
- Beer-Lambert Law
- Stoichiometry
- Equilibrium Constant
- Oxidation-Reduction
- Freezing Point Depression
- Vapor Pressure
- Electrochemical Cells
- Thin-Layer Chromatography
- Molecular Mass of a Liquid
- Thermochromism
- Water Hardness
- Synthesis of Aspirin
- Grignard Method



Cat. No.	Price
S90748***	\$948.00/Ea

AP Chemistry Kits: The Electrochemical Series

Discover electrode potential.

- The electrochemical series is built up by arranging various redox equilibria in order of their standard electrode potentials
- When a strip of metal is placed in water, the metal has a tendency to go into solution as ions with a simultaneous buildup of electrons on the metal strip
- The process produces an electrical potential difference between the metal and solution



Cat. No.	Price
S96899	\$92.00/Ea

AP Chemistry Kits: Electrochemical Cells

Electrolysis of water produces hydrogen and oxygen.

The tendency of oxidation-reduction reactions is to proceed to an equilibrium state. In electrochemical cells, these reactions provide another way for us to express the driving force in chemical reactions.

When reagents that accept or donate electrons are arranged so that the electrons can enter or leave the reaction through a metallic conductor, an electrochemical cell is established. A half-cell contains a metal in contact with a solution of its salt. Each metal will develop a different electrical potential based on its electron configuration.

The standard reduction potential listed in various references is the voltage that a half-cell develops when combined with a hydrogen half-cell. First, construct a simple chemical battery and determine from the standard reduction potentials what the output of the battery will be (if a voltmeter is available the actual and theoretical voltages can be compared). Second, construct an electrolysis cell

and demonstrate how hydrogen and oxygen can be produced from the electrolysis of water.

- Electrolysis cell is the reverse of a battery where a voltage higher than the reversible electromotive force of the cell is applied to the electrodes
- In a cell containing water and an electrolyte, the oxidation reaction occurring at the anode produces oxygen gas while the reduction occurring at the cathode produces hydrogen gas
- By the addition of a pH indicator, the oxidation-reduction reactions can be monitored visually
- Gases produced are collected in inverted test tubes and the volumes of hydrogen and oxygen are compared



Cat. No.	Price
S90741*	\$54.00/Ea



Kemtec™ AP Chemistry Kits: All 16 Chemistry Series Kits

Order all 16 Kemtec AP Chemistry Kits at once.

Both series kits include a balance. And all kits are designed to exceed 2013 AP Next Generation National Standards.

The Basic AP Chemistry Series Kit (S07345) includes:

- Statistics: Precision & Accuracy (no glassware S07328)
- Spectrophotometric Analysis of Copper: Beer's Law (S07330)
- Synthesis and Gravimetric Analysis of Cobalt Oxalate Hydrate (S07331)
- Acid-Base Titrations: An Inquiry Investigation (S07332)
- Separating Substances by Absorption Chromatography (S07333)
- Stoichiometry: Reactions with Copper Compounds (S07334)
- Stoichiometry: Mole Ratio of an Unknown (S07335)
- Determining Molar Mass by Colligative Properties (S07336)
- Determining Molar Mass Using the Ideal Gas Equation (S07337)
- Reaction Rate and Order (S07338)
- Determining Molar Enthalpy Using Hess's Law (S07339)
- Le Chatelier's Principle Featuring Ag+ reaction! (S07340)



- Identifying Weak Acids by pKa (S07341)
- Preparing Buffer Solutions and Determining Their Properties (S07342)
- Determining the Equilibrium Constant (and Temperature's Effect) with Beer's Law (S07343)
- Micro-Scale Electrochemical Cells – Voltaic and Electrolytic (S07344)

The Enhanced AP Chemistry Series Kit (S07346) includes:

- Statistics: Precision & Accuracy (with glassware S07329)
- Spectrophotometric Analysis of Copper: Beer's Law (S07330)
- Synthesis and Gravimetric Analysis of Cobalt Oxalate Hydrate (S07331)
- Acid-Base Titrations: An Inquiry Investigation (S07332)
- Separating Substances by Absorption Chromatography (S07333)
- Stoichiometry: Reactions with Copper Compounds (S07334)
- Stoichiometry: Mole Ratio of an Unknown (S07335)
- Determining Molar Mass by Colligative Properties (S07336)
- Determining Molar Mass Using the Ideal Gas Equation (S07337)
- Reaction Rate and Order (S07338)
- Determining Molar Enthalpy Using Hess's Law (S07339)
- Le Chatelier's Principle Featuring Ag+ reaction! (S07340)

- Identifying Weak Acids by pKa (S07341)
- Preparing Buffer Solutions and Determining Their Properties (S07342)
- Determining the Equilibrium Constant (and Temperature's Effect) with Beer's Law (S07343)
- Micro-Scale Electrochemical Cells – Voltaic and Electrolytic (S07344)

Kits are compatible with optional data collection and simulations using TI-Nspire handhelds and software. Free activities can be found at fisheredu.com/TI.

Cat. No.	Product Type	Includes	Price
S07345	Basic AP Chemistry Series Kit	Basic modules shown above	\$3,066.00/Ea
S07346	Enhanced AP Chemistry Series Kit	Enhanced modules shown above including glassware. Compatible with optional data collection and simulations using TI-Nspire handhelds and software.	\$3,142.00/Ea

AP Chemistry Kits: Le Chatelier's Principle

In this experiment, see Le Chatelier's Principle by observing physical changes to solutions as systems are stressed.

Le Chatelier's Principle is a qualitative rule that allows the prediction of the effect of temperature, pressure and concentration changes on chemical reactions. The principle states: a chemical system

at equilibrium when stressed by external forces will adjust in such a way as to minimize that stress.



Cat. No.	Price
S90729	\$42.75/Ea

AP Chemistry Kits: Activity Series

In this experiment, empirically determine an activity series for a group of metals and a group of nonmetals.

An activity series of metals is a table of metals arranged in order of their decreasing chemical activity, or the ease at which the metal will give up one or more electrons to form positive ions. This table is similar to the electrochemical series of elements. For example, if you take the group of metals magnesium, mercury and nickel, magnesium is the most reactive and mercury the least.



Cat. No.	Price
S90727*	\$68.00/Ea

AP Chemistry Kits: Reaction Kinetics

In this experiment, the time it takes for a reaction to occur is monitored by observing a color change.

Determine the rate law by varying the concentration of reactants. Determine the activation energy by varying temperature. The data should be graphed and analyzed during the lab so additional measurements can be made if necessary.



In a chemical reaction, reactants are converted to product at a given rate. This rate can be changed by alternating either the temperature of the reaction, the form of the reactants, the concentration of reactants or products, or by adding a catalyst.

Cat. No.	Price
S90732	\$49.25/Ea



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Earth & Space

Geology

United Scientific™ Fault Model

NEW

A set of six 3D manipulatives for demonstrating normal faulting, reverse (thrust) faulting and horizontal faulting.



- Includes access code to download interactive teacher and student guides, videos, geoinformation data sets, and other resource information
- Demonstrate various faults
- Foam manipulatives

Cat. No.	Price
S89561***	\$155.00/Ea

Eisco™ Fact and Fault Model

Useful for illustrating important folds and faults found in Earth's crust. Students can understand fold planes, the effect of tectonic stress, and structural elements of a fault.

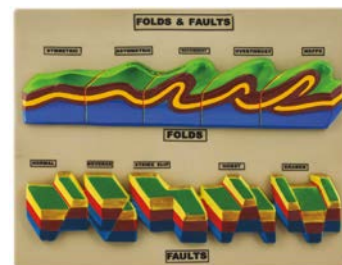


- Perfect for classroom and laboratory study
- Set includes 5 pieces
- Includes identification key
- Approximate weight: 6.5 lb.

Cat. No.	Price
S27469	\$340.00/Ea

Eisco™ Fold and Fault Model

Illustrates important folds and faults found in Earth's crust. Model provides a visual/tactile view of symmetric, asymmetric, recumbent, over thrust, and neppe folds. Normal, reverse, strike slip, horst and graben faults are also represented.



- Perfect for classroom and laboratory study
- Displays the age of different earth bedding and stratification
- Folds: symmetric, asymmetric, recumbent, over thrust, and neppe
- Faults: normal, reverse, strike slip, horst, and graben
- Identifications labeled on model base
- Approximate weight: 1.5 lb.

Cat. No.	Price
S27470	\$287.00/Ea



Eisco™ Premium Horizontal Strata Model



Demonstrates underlying strata and typical phenomenon of water erosion features in Arizona, Utah, the Grand Canyon, and the Grand Staircase. Includes a numbered key card to help students identify 27 distinct geological landscapes.

- Displays the typical phenomenon of water erosion features
- Designed for educational use
- Includes a numbered key card
- Created from PVC, mounted on a sturdy wooden base
- Hand painted
- Identify the following features: Mountains, Pink Cliffs, Painted Dessert, North Rim, Grand Canyon, Cape Royal, South Rim, Bryce Canyon, Kaibab Plateau, Colorado River, Kaiparowits Formation, Wahweap Sandstone, Tropic Formation, Dakota Sandstone, Carmel Formation, Kaibab Formation, Sevier Fault, White Cliffs, Badlands, Hoodoo Fields, Tapeats Sandstone, Bright Angel Shale, Muave Limestone, Supai Group, Hermit Shale, Coconino Sandstone, and Toroweap Formation

Cat. No.	Price
S27471	\$287.00/Ea

United Scientific™ Tectonics Model Set



Demonstrates plate tectonic principles, plate boundary interactions, and the geometry/relative motions of faulting of geological layers.

- Contains a Fault 3D Model Set (5 manipulatives) and a Tectonics Sand Layer Model
- Fault Model Set demonstrates normal faulting (extension), reverse faulting (compression), and horizontal slip faulting (shear)
- Tectonics Sand Layer Model explores orogeny of the Appalachian mountains, including coal formation in the sedimentary Appalachian basin and its coal seam
- Construct a sand layer model system mimicking a subduction zone of oceanic crust (Juan de Fuca plate)
- Simulate the creation of the San Andreas fault
- Includes three hands-on, geoinformation activities for students to work on using metadata (Map the Continental Shelf, Tectonic Plate Movement, Earthquake Prediction)
- Access code is provided to download interactive teacher and student guides, geoinformation data sets, and other resource information

Cat. No.	Product Type	Price
S27858	Tectonics Model Set	\$267.00/Ea

Landform 3D Models

Investigate geographical and geological features.



- Eight 3D landform models showing the mountains, lakes, rivers, deserts, glaciers, coastlines, canyons and cultural point
- Includes lesson plan
- Finished size 35 x 35 in.

Cat. No.	Price
S81674	\$315.00/Ea

Eisco™ Fractures, Faults and Dislocations Model



Excellent way to illustrate various structures related to fault planes and fractures.

- Shows cross section of five different structural features
- Made of colored, unbreakable material
- Mounted on base

Cat. No.	Price
S05844	\$232.00/Ea

Custom-Built Kits for Your Classroom



The Fisher Science Education team is proud to bring you the convenience of custom educational kits for elementary- to college-level instruction.

Visit fisheredu.com/customkitting to learn more.



Diversified Spaces™ Augmented Reality Sandbox

Allows users to create topography models by shaping real sand, which is then augmented in real time by an elevation color map, topographic contour lines, and simulated water and lava.



This amazing sandbox uses 3D visualization applications and a hands-on exhibit combining a real sandbox, virtual topography and water created using a closed loop of a Microsoft Kinect 3D camera, powerful simulation and visualization software, and a data projector. The system teaches geographic, geologic, and hydro-logic concepts such as how to read a topography map, the meaning of contour lines, watersheds, catchment areas, levees, and much more.

- Dimensions (W x D x H): 48 x 30 x 36 in.
 - Made in the U.S.A.
 - Comes complete with the box, camera, projector, wire management, and laptop loaded with visualization software
 - Solid oak and oak veneer construction with heavy duty locking casters
 - SEFA compliant and MAS Certified Green—Finished with a durable UV earth-friendly finish
 - Includes detailed instructions for calibrating the software and running the program
 - Features a shelf for laptop with wire management system
 - Kit includes Microsoft Kinect 3D camera, powerful simulation and visualization software, and a data projector
- Note:** Sand not included (we recommend 250 lbs. of Sandastik™ sparkling white play sand)
- WARRANTY:** Limited lifetime

Cat. No.	Price
S37563	\$14,047.00/Ea

United Scientific™ Rock and Mineral Collection

Students can study 20 types of rocks and minerals.

United Scientific Rock and Mineral Collection has 20 Types of Specimens, (10 Rocks Specimens of Igneous, Sedimentary and Metamorphic Rocks Types and 10 Minerals Specimens).

- **Rock Specimens include:** Basalt, Granite, Pumic, Gniess, Marble, Quartzite, Serpentine, Bituminous Coal, Limestone, Sandstone
- **Mineral Specimens include** Agate, Calcite, Dolomite, Feldspar, Graphite, Gypsum, Magnetite, Pyrophyllite, Quartz, Tourmaline
- Average size: 2 x 3 x 1.5 cm



Cat. No.	Price
S89547***	\$22.25/Ea

United Scientific™ Rock Collection

Contains 20 Types of Basic Rocks Specimens of Igneous, Sedimentary, and Metamorphic Rocks Types.

- **Rock Specimens include:** Basalt, Gabbro, Granite, Obsidian, Pegmatite, Pumice, Anthracite, Gneiss, Marble, Quartzite, Serpentine, Slate, Chalk Lumps, Conglomerate, Diatomite, Flint, Lime Stone, Rock Salt, Sand Stone and Shale
- Average sizes are 2 x 3 x 1.5 cm



Cat. No.	Price
S89548***	\$22.25/Ea

United Scientific™ Mineral Set

Contains 20 Types of Basic Minerals Specimens.

- **Mineral Specimens include:** Agate, Amethyst, Barytes, Calcite, China Clay, Dolomite, Feldspar, Fire Clay, Fullers Earth, Graphite, Gypsum, Jasper, Magnetite, Mica, Pyrolusite, Pyrophyllite, Quartz, Soap Stone, Sulphur, Tourmaline
- Average sizes are 2 x 3 x 1.5 cm



Cat. No.	Price
S89549***	\$22.25/Ea

Learn Your Minerals Kit

Follow step-by-step instructions to easily learn the properties of minerals.

- Specimens clearly illustrate the properties of hardness, cleavage, fracture, tenacity, and streak

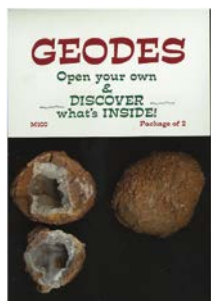


Cat. No.	Price
S67607	\$65.80/Ea

Open Your Own Geode

Open geodes in the classroom.

- Amaze students when you open geodes and see the magnificent crystals inside
- Specimen size: 1 to 1.5 in. (2.54 to 3.81 cm)



Cat. No.	Price
S79092	\$3.20/Pk

Classroom Rock and Mineral Collection

50 rock and mineral specimens.

Samples have been carefully selected to support studies of:

- Rock-forming minerals
- Igneous, metamorphic, and sedimentary comparison



- Ores of common metals
- Sources of uranium
- Hardness scale
- Approximate specimen dimensions: 1 x 1 in.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S84011	\$49.75/Pk

Washington School Rock and Mineral Collection

40 large, carefully cut, and selected specimens.

- 20 rock-forming, ore-forming, and useful minerals
- 20 igneous, sedimentary, and metamorphic rocks
- Numbered and keyed to an identification list printed on the inside cover of the compartmented storage box
- See S45011 to order a separate matching set of smaller, unmarked specimens
- Approximate size: 1.5 x 2 in.



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S45010A	\$47.50/Ea

Rock, Mineral and Fossil Collections Set

Dig into some serious fun with these fascinating collection kits.

Each collection features a selection of hand-picked specimens chosen for color, texture and beauty. Also contains a four-color identification chart, self-adhesive labels, handy storage tray and an information-packed guide.

Individual kits can be found at fisheredu.com.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Product Type	For Use With (Equipment)	Includes	Price
S96075	Mineral Collection Set	Students 8+ yrs	9 Fossils, 12 igneous rocks, 12 metamorphic rocks, 12 minerals, 12 sedimentary rocks	\$115.00/Ea

Introductory Rock Collection

Fifteen specimens that help students compare the three different types of rocks.

- Igneous, metamorphic, and sedimentary rocks are all represented in this classroom collection
- Coded by number in a compartmented container
- Approximate rock size: 1.5 x 1.5 in.



Cat. No.	Price
S45059	\$27.00/Ea

Introductory Earth Science Rock and Mineral Collection

Designed to match most introductory-level textbooks.

This all-in-one collection covers a broad range of demonstration needs! The 75 specimens for observation, comparison, and testing include 13 igneous rocks; 14 sedimentary rocks; 9 metamorphic rocks; 17 rock-forming minerals; 9 samples from the hardness scale (diamond omitted); and 13 examples of important physical properties (specific gravity, tenacity, cleavage, fracture, luster, streak, refraction, magnetism, and acid test).



Cat. No.	Price
S45051	\$106.00/Ea

Rock Specimens for Hands-On Learning

To teach your students about rocks, minerals, and geology, you need the right tools. Choose from a full selection of individual rock specimens and rock collections for your classroom.



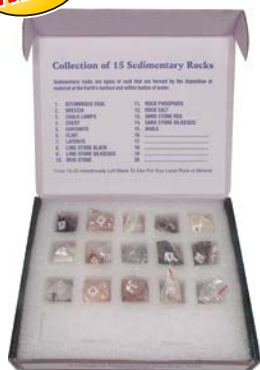
Featured Eisco™ Rock Specimens and Kits

Description	Quantity	Cat. No.
Apatite Specimen, 3 cm	Each	S39309
Biotite Mica Mineral Specimen, 2 to 3 cm	12/Pack	S24682
Calcite Specimen, 2 to 3 cm	Each	S24683
Carbonaceous Shale Specimen, 2 to 3 cm	Each	S24742
Conglomerate Specimen, 2 to 3 cm	Each	S24722
Granite Specimen, 2 to 3 cm	10/Pack	S26609
Halite Mineral Specimen, 2 to 3 cm	12/Pack	S24692
Hornblende Specimen, 2 to 3 cm	Each	S24695
Limestone Specimen, 2 to 3 cm	12/Pack	S24727
Olivine Specimen, 2 to 3 cm	Each	S24706
Pegmatite Igneous Rock Specimen	12/Pack	S27612
Pyrite Mineral Specimen, 2 to 3 cm	Each	S24708
Sandstone Specimen, 2 to 3 cm	12/Pack	S24739
Physical Properties of Minerals Kit	Each	S24661
Introduction to Minerals Kit	Each	S24662
Basic Rocks and Minerals Kit	Each	S24663

Most rock specimens are available as both single samples and packs of 10 or 12. Other sample types are available.

Visit fisheredu.com or contact your Fisher Science Education sales representative to access our full selection of products.

United Scientific™ Sedimentary Rock Set



Explores the deposition of materials on the Earth's surface and within bodies of water.

- The set includes: bituminous coal, breccia, chalk lumps, chert, diatomite, flint, laterite, lime stone black, lime stone siliceous, mud stone, rock phosphate, rock salt, sand stone red, sand stone siliceous, shale
- Average sizes are 2 x 3 x 1.5 cm

Cat. No.	Price
S89551***	\$22.25/Ea

Eisco™ Sedimentary Rocks Kit



For use in identification of depositional history of sedimentary rocks based on their grain size and composition.

- Contains 12 specimens and specimen key
- Classroom tool for sedimentary rock classification and identification
- Numbered and stored in sturdy, sectioned container for easy access and safety
- Average specimen size: 2-3 cm
- Size and shape of grains can be used to identify what kind of environment would have formed particular rock

Cat. No.	Price
S24665	\$27.75/Ea

Sedimentary Rock Collection



Fifteen specimens that help students learn the three categories of sedimentary rocks.

Displays sedimentary rocks of all three categories:

- Clastic—accumulation of solid particles
- Chemical—from evaporation of water
- Organic—modified skeletons of plants and animals

Kit details:

- Store in a sturdy compartmented box
- Labeled in both English and Spanish

Cat. No.	Price
S45022A	\$27.00/Pk

Learn Your Fossils Kit

Learn about and classify fossils that are hundreds of millions of years old.

- Step-by-step instructions



Cat. No.	Price
S67608	\$46.25/Ea

Introductory Fossil Collection

20 fossils offer broad array of geological time.

With some samples more than 400 million years old, this collection is displayed in a durable, compartmented box.

- Illustrated key gives pertinent facts about each fossil including its geological time
- 20 selected fossils including foraminifer, horn coral, snails, trilobite, shark's tooth, bryozoan, brachiopod, cephalopod, clams, and oyster



Cat. No.	Price
S45057	\$29.25/Pk

United Scientific™ Metamorphic Rock Set



Learn about the transformation of existing rock types due to extreme heat and pressure.

- Set includes anthracite, biotite schist, gneiss, marble black, marble green, marble pink, marble white, mica schist, phyllite, quartzite gray, quartzite green, quartzite white, serpentine, slate, tiger eye
- Average sizes are 2 x 3 x 1.5 cm

Cat. No.	Price
S89550***	\$22.25/Ea

Mineral Hammer-Pick

Trim small samples from large rocks.

- Single-piece construction of forged steel
- Nylon-cushioned handle
- Combination flat and pick head
- Best for igneous and metamorphic rocks



Cat. No.	Price
S45044	\$39.25/Ea



United Scientific™ Mineral Activity Kit

A complete solution for young geologists.

This activity kit contains 20 types of minerals specimens that students can investigate the Mohs hardness scale, streak test, magnetism and acid resistance test.

- The minerals specimens include talc, gypsum, calcite, fluorite, apatite, orthoclase, quartz, topaz, corundum, magnet
- Accessory tools: knife, iron nail, magnet, streak plate, glass plate, copper plate, iron plate, garnet board, hand lens, acid drop bottle (acid not included)
- Instruction manual included
- Average sizes are 2 x 3 x 1.5 cm



Cat. No.	Price
S89553***	\$83.00/Ea

Rock and Mineral Test Kit

Identify rock and mineral characteristics.

Includes:

- Black and white ceramic streak plates
- Glass plate
- Nail
- Penny
- Magnet
- Dropping bottle
- Magnifying lens
- Mohs Hardness Scale chart



Cat. No.	Price
S44872	\$17.25/Ea

United Scientific™ Mineral Test Kit

For rock, mineral, and fossil identification.

- Includes: hardness scale, dropper bottle, hand lens, glass streak plate, black streak plate, white streak plate, ceramic bar magnet, nail and penny



Cat. No.	Price
S81054***	\$8.80/Ea

United Scientific™ Streak Plates

Designed for hardness testing of rocks and minerals.

- Available in black porcelain, white porcelain, or glass
- Size: 1 x 2 in. Glass plates also available in 1 x 1 in.
- Quantity: 10/pack. White porcelain also available in 12/pack.



Cat. No.	Description	Quantity	Price
S81059	Black, 1 x 2 in.	10/Pk	\$5.75/Pk
S81053	White, 1 x 2 in	10/Pk	\$5.75/Pk
S81055	White, 1 x 2 in	12/Pk	\$6.75/Ea
S67817	Glass, 1 x 1 in.	10/Pk	\$13.25/Pk
S67818	Glass, 1 x 2 in.	10/Pk	\$21.50/Pk

Geology-Paleontology Specimen Cabinet and Trays

Provides an excellent way to store your geology and paleontology collection. Trays (sold separately) have reinforced channel slides with smooth double-thick edges.

Geology-Paleontology Specimen Cabinet (S51071MF)

- Double-wall, heavy duty steel construction can store heavy specimens
- Elastomeric seal eliminates seepage of dust and foreign matter
- Powder paint finish will not off gas
- Reinforced to allow double stacking of cabinets
- Features two heavy-gauge bar handles and large label holder
- Lift-off door makes it easy to transfer specimens
- Door can be locked with a paracentric lock
- Holds a maximum of 16 trays (sold separately)
- Dimensions (H x W x D): 36.88 x 29 x 31.94 in.
- Gray finish
- Shipped completely assembled

Cabinet Tray (S51071A)

- For use with Geology-Paleontology Specimen Cabinet above
- Provides an excellent way to store geology and paleontology collection
- With reinforced channel slides and smooth double-thick edges



Cat. No.	Description	Price
S51071MF	Geology-Paleontology Specimen Cabinet (without trays)	\$1,796.00/Ea
S51071A	Tray for S51071MF above	\$211.00/Ea



Microslide™ – Rocks and Rock Forming Minerals

Microslide strip consists of images photographed through a microscope. Arrows and call outs help the student locate features. This Microslide is accompanied by a detailed lesson plan to stimulate, inform, and question students.

Image titles on Microslide:

- Sedimentary - red sandstone (50x)
- Sedimentary - shell limestone (50x)
- Igneous - basalt (50x x.n. 50x)
- Igneous - granite - ordinary light (50x x.n. 50x)
- Igneous - proxenite (50x)
- Metamorphic - mica schist (15x)
- Metamorphic - mica schist - x.n. (50x)
- Metamorphic - dolomitic marble - x.n. (50x)

Includes:

- Lesson plan with Pocket to store Microslide
- Reproducible worksheet with a purchase of 15



Cat. No.	Price
S816742	\$11.50/Ea

Geography

United Scientific™ Inflatable Geopolitical Globe

Highlights country capitals, important cities, time zones, international boundaries and geographic features.

- Inflatable world globe
- The globe is 10 in. tall and 12 in. wide when inflated



Cat. No.	Price
S89563***	\$21.00/Ea

Inflatable Globe

Make a game of geography.

- For ages 5 to 13
- Kids can toss this globe and identify continents, countries, capitals, and oceans
- The globe can also be hung up as a display



Cat. No.	Price
S98487	\$10.25/Ea

Atlantis Globe

Mountains rise from its surface, continental slopes descend to its ocean floor.

- Gyromatic mounting with numbered full-meridian swings up or down to bring any area into closer view
- Raised and depressed relief globe vividly reveals suboceanic mountains, trenches, and fracture zones
- Natural colors illustrate mountains, deserts, forests, and grasslands
- Snow and ice are also depicted
- Globe diameter: 12 in.



Cat. No.	Price
S45159	\$106.00/Ea

Traveler Political Globe

Scratch-resistant world globe with mountain ranges around the globe rendered in raised relief and crisp, bright colors used to denote each country. This globe is a great tool for helping children of all ages learn world geography.

- 12 in. diameter; 16-in. height
- Blue oceans with brightly-colored land formations
- Scratch-resistant black acrylic base
- Semi-meridian in a smoky-gray finish
- Raised relief surface clearly denotes mountain ranges



Cat. No.	Price
S04401	\$54.25/Ea

Explorer Political Globe

Experience 3D mountains in raised relief and political regions in vivid, contrasting colors.

- Ideal for the study of geography, history, science and other subjects
- Dimensions: 12 dia. x 16 in. H

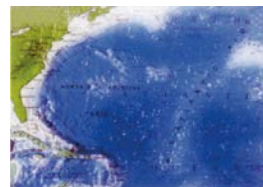
Cat. No.	Price
S45160	\$62.75/Ea



Ocean Floor Raised Relief Map

Relief map of North Atlantic Ocean showing typical portion of ocean floor.

- Easy to identify all the major ocean features
- Complete with lesson plan



Cat. No.	Price
S81667	\$279.00/Ea



Write-On Dry Erase Globe

Helps students learn and memorize geographic locations. Globe can be written on with a dry-erase marker.

- Made from dry-erase material
- Set in sturdy plastic base
- Continents outlined
- Latitude and longitude lines shown
- Can be cleaned with soft cloth

⚠️ ALERTS: Not a toy. Product intended for ages 13 and up.



Cat. No.	Price
S28100	\$59.25/Ea

Contour Map Making Kit

Learn how to read and make contour maps.

Easy to use



Cat. No.	Quantity	Price
S53005	Each	\$27.00/Ea
S53005B	15	\$221.00/Ea

Eisco™ Plotting Compass with Glass Face

This plotting compass with glass face features a dial marked with principal points and features a glass face and aluminum case. It is a great option for students and is economically priced.

- Aluminum case with glass face
- Dial marked with principal points
- High accuracy and sturdy build



Cat. No.	Diameter (Metric) Inner	Price
S27744	100 mm	\$5.20/Ea

United Scientific™ Liquid-Filled Compass

Durable liquid-filled compass housed in a black rotatable bezel.

- Durable, liquid-filled clear magnetic compass
- Housed in a black plastic rotatable bezel with an outside diameter of 45 mm
- Outer diameter of clear compass is 35 mm
- Graduated in 5° increments
- Includes a lanyard



Cat. No.	Price
S43686	\$2.55/Ea

Eisco™ Plotting Compass

Dial marked with principal compass points.

- Glass face
- Aluminum case
- Diameter: 0.6 in. (1.3 cm)
- Pack of 10



Cat. No.	Price
S95977	\$8.70/Pk

Orienteering Compass

Basic, accurate compass to get started with map and compass work.

- Graduated in 2° increments and features four scales
- Black bezel with easy-to-read print
- Has liquid-filled capsule, declination correction scale, luminous points, and 4X magnifier in base
- Acrylic base offers scales in inches, centimeters, 1:25,000, and 1:50,000



Cat. No.	Price
S96996	\$7.20/Ea

Meteorology

United Scientific™ Mini Weather Station

Introduce basic weather concepts with this versatile apparatus.

- Measure temperature (in Fahrenheit and Celsius) and wind speed, then reference the screen-printed chart to easily calculate wind chill
- The device freely rotates to indicate wind direction, and its removable rain gauge allows for the quick assessment of rainfall
- The product is designed to mount on posts



Cat. No.	Price
S111030	\$11.25/Ea

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Eisco™ 3 in 1 Weather Station

Measures temperature in Celsius, air pressure, and air moisture levels.

- Acts as a thermometer, barometer, and hygrometer
- Economically priced
- 5.12 in. diameter



Cat. No.	Price
S27651	\$57.00/Ea

fisherbrand Traceable™ Digital Barometer

A great way to teach students how to monitor barometric pressure, temperature, relative humidity, barometric pressure trend and time-of-day.

- A four-line LCD continuously and simultaneously shows barometric pressure, temperature, relative humidity, barometric pressure trend, and time
- Altitude adjustment: -100 to 2,500 meters
- MIN/MAX readings for barometric pressure, temperature and relative humidity are stored every hour for the last 24 hours, and are available for recall at the touch of a button
- Barometric pressure trend shows the current and past 1/3/6/12 and 24 hour readings in bar chart format
- The unit can be connected to a computer using the accessory Computer Data Acquisition System software (sold separately, cat. no. 14-650-118) to permanently capture the readings



Specifications

- Barometric pressure range: 500 to 1030mbar
- Barometric pressure resolution: 1mbar
- Barometric pressure accuracy: ±4mbar
- Temperature range: 0° to 55°C (32° to 131°F)
- Temperature resolution: 0.1°
- Temperature accuracy: ±0.4°C
- Relative humidity range: 5 to 95%
- Relative humidity resolution: 1% RH
- Relative humidity accuracy: ±3% RH between 5 to 75%, otherwise ±5% RH
- Dimensions: 4 x 3 x 1 in. (10 x 7.6 x 2.5 cm)
- Weight: 7 oz. (198 g)

CERTIFICATION: An individually-numbered NIST Traceable Certificate is provided which assures accuracy from an ISO/IEC 17025:2005 calibration laboratory accredited by A2LA.

Cat. No.	Price
S25098	\$192.00/Ea

fisherbrand Traceable™ Hand-Held Digital Barometer

A Barometer, altimeter, thermometer, stopwatch and time of day clock all in one.

- Rugged shock-resistant case, compact size, and lightweight
- Bar-chart format displays altitude or barometric pressure trends from previous 2, 4, 6, 8, 10, and 12 hours
- Clock displays the time of day in 12- or 24-hour format and shows date and month

Specifications:

- Barometer range: 15.90 to 31.01 in. Hg and from 400 to 1,070 mbar; accuracy: ±0.2363 in. Hg (±8 mbar)
- Altimeter range: -1,640 to +22,965 ft. (-500 to +7,000 m)
- Thermometer range: -40.0° to +70.0°C (-40.0° to +158.0°F); accuracy: ±1°C
- Stopwatch Range: 1 second to 99 hours, 59 minutes, 59 seconds; accuracy is 0.01%
- Dimensions (L x W x D): 4 x 2.5 x 0.75 in. (10.2 x 6.35 x 1.9 cm)

CERTIFICATION: Individually serial-numbered Traceable Certificate is provided from an ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST.

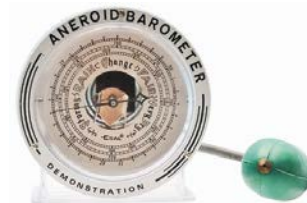
Cat. No.	Price
S11150	\$277.00/Ea



Eisco™ Aneroid Teaching Barometer

A high quality teaching barometer to demonstrate operation. The exposed aneroid shows the change in barometric pressure when the attached bulb is pumped.

- 13 cm dial numbered in inches and millibars
- Includes a barometer with pump
- Range: 28 to 31 Hg (960 to 1060mbar)



Cat. No.	Price
S23654	\$27.50/Ea

Eisco™ Small Anemometer

Simple device for elementary students to determine wind speed. It is simple for students to understand and use.

- Made of corrosive-resistant materials for prolonged outdoor use
- Cups are each mounted on horizontal arms which extends from the axis of rotation
- Includes one red cup and three blue cups
- Red cup is for determining the number of rotations
- Dimensions (L x W x H): 20 x 20 x 7.1 cm (7.9 x 7.9 x 2.8 in.)
- Weight: 0.3 kg (0.6 lb.)



Cat. No.	Price
S23653	\$19.25/Ea

SP Bel-Art™ Durac™ Compact Sling Psychrometer



Measures relative humidity with a weather bureau-type wet and dry bulb.

- Organic liquid-filled thermometers with white back glass are mounted in a pocket-sized self contained plastic case designed with a built-in slide rule
- The slide rule converts wet and dry bulb readings to relative humidity, eliminating the need to use calculating tables

Cat. No.	Price
S02692	\$94.50/Ea

United Scientific™ Sling Psychrometer

Use this simple apparatus to measure relative humidity.

Includes two plastic-backed Celsius thermometers, one for dry bulb measurements and the other for wet bulb measurements. The thermometers mount on a wooden handle so they can be spun to obtain temperature readings. Includes an activity guide with relative humidity calculation table. Requires assembly.



Cat. No.	Quantity	Price
S23981	1/Ea	\$6.20/Ea
S23982	15/Pk	\$82.00/Pk

Eisco™ Universal Laboratory Hydrometer



Measures specific gravity within the range of 0.700 to 2.000 with 0.01 graduations and a dual scale for light or heavy liquids.

- Universal laboratory hydrometer
- Includes hard plastic case
- Measures specific gravity range 0.700 to 2.000
- Dual scale for light and heavy liquids
- Graduations: 0.01

Cat. No.	Price
S80850	\$10.50/Ea

Exploring Meteorology

This experiment provides students with the experience of being a meteorologist.

- Studies of pressure changes and creating a barometer
- Studies of wind speed and creating an anemometer
- Learn the skills to confidently read a weather map
- Includes a demonstration of how clouds form by allowing the instructor to form a vapor cloud
- Experiment includes material for 15 groups of 2 to perform the tasks
- Demonstration portion has enough material to perform the demonstration 5 times
- Aligned to the Next Generation Science Standards (NGSS)*
- Disciplinary core ideas: ESS2.C; ESS2.D
- Performance expectations: MS- ESS2-5
- Cross cutting concepts: Cause and effect
- Engineering practices: planning and carrying out investigations



DISCLAIMERS: Next Generation Science Standards is a registered trademark of Achieve. Neither Achieve nor the lead states and partners that developed the Next Generation Science Standards was involved in the production of, and does not endorse, this product.

Cat. No.	Price
S40768	\$64.75/Ea

Earth's Atmosphere and Weather Flip Chart with Online Multimedia Lesson



This multimedia kit can help students master key earth science concepts.

- Provides graphical instruction and write-on/wipe-off activities with one-year online access to a corresponding multimedia lesson featuring in-depth, interactive coverage of the concept
- The multimedia lesson can be accessed by a teacher and ALL of your students anywhere, anytime, on any device – including Chromebooks, tablets, computers and mobile devices.
- Flip chart set features 10 laminated, double-sided charts
- Side 1 features a graphic overview of the topic while Side 2 provides corresponding write-on/wipe-off activities for review and reinforcement
- Includes a teacher guide with copymaster activities and review questions
- Spiral-bound and mounted on a sturdy easel for years of use, the flip chart sets are ideal for small group instruction, learning centers, independent use or classroom reference
- Also included is one year access to a corresponding online multimedia lesson for a teacher and all their students
- Each lesson features animated, narrated tutorials; interactive exercises and activities; virtual lab investigations; illustrated, narrated glossary; visual resource library; and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH), the lessons are perfect for individual student instruction on any computer as well as classroom presentation on any interactive whiteboard

Covers: Our Atmosphere; Layers of the Atmosphere; Clouds; Precipitation; Weather; Weather Patterns – Air Masses; Weather Patterns – Fronts; Severe Weather; and Predicting Weather

Cat. No.	Price
S81122	\$58.25/Ea

Weather Board

Provides all the tools your class will need to discuss today's date, temperature and weather.

- Students can use the vinyl cling-on pieces to build sentences, and colorful dinosaurs to describe the weather
- Write-on, wipe-off surfaces are provided for writing in numbers, and graphing weather conditions over the course of a month
- Two eyelets for easy hanging
- Activity guide included provides ideas for language, math, and science activities
- L x W: 26 x 20 in. (66 x 51 cm)



Cat. No.	Price
S93832	\$44.00/Ea

Fisher Science Education™ Environmental Extremes Plant Growth Kit

Simulate conditions of acid rain, saline soils, drought and erosion in classroom.

A complete introductory unit on environmental studies. Plan to spend four to six weeks.

- Six experimental protocols introduce students to scientific method using a plant science model
- Applicable to any biology or environmental science course
- Students design their own experiments after becoming familiar with the experimental model, protocols, data collection, and data analysis processes
- Most kit components are reusable for many years
- Complete instructor's manual with reproducible student protocols
- For grades 6 to 12
- Class size: 24 students

Note: Acids are not included

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S02640	\$934.00/Ea

Astronomy

Microslide™ – Introduction to Space

Microslide strip consists of images photographed through a microscope. Arrows and call outs help the student locate important features. This Microslide is accompanied by a detailed lesson plan to stimulate, inform, and question students.

Image titles on Microslide:

- The Moon
- The Sun
- Planets
- Meteoroids
- Comets
- Neighboring stars
- Our galaxy
- Other galaxies
- Lesson plan with pocket to store Microslide
- Reproducible worksheet with a purchase of 15

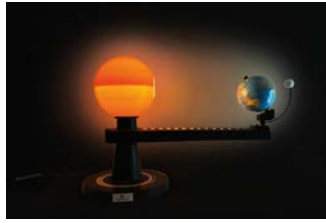


Cat. No.	Price
S816727	\$11.50/Ea

Sun, Moon, and Earth Orbiter Models

Understand the sun, moon, Earth and their relationships as they revolve around one another on these models.

- The sun, moon, and Earth manually revolve around one another on these gear-driven models.
- The Earth and moon are shown in true scale.
- The scale of the model is 1 inch equals 2,000 miles. Please note that if the sun were to be shown at the same scale, it would be approximately 36 feet in diameter.



- A detailed, 11-page instruction manual is included.

Dimensions:

- 15 in. long arm
- Sun: 6 in. diameter
- Earth: 4 in. diameter
- Moon: 1 in. diameter

Cat. No.	Description	Power	Price
S816744	Basic Orbiter Model	n/a	\$279.00/Ea
S816745	Illuminated Orbiter Model: Plug-in	Plugs into standard wall outlet	\$317.00/Ea
S816746	Illuminated Orbiter Model: Battery Operated	4 AAA batteries	\$317.00/Ea

Celestial Globes

Create your own planetarium and study the stars. This globe is removable from the cradle and makes it easy to demonstrate Earth's apparent relationship to the stars, planets, and galaxies.

A perfect medium to introduce star activities to students, these unique 12 in. celestial globes have a 3.3 in. Earth globe inside. The sun may be set by adjusting the sun knob located near the North Pole. The globe can be set to reflect constellation position according to time and place to show the actual positions of the stars. The outer surface can be marked on and cleaned. This hands-on globe experience makes it more practical and fun to examine the universe.

- Globe-in-globe configuration
- Markable outer surface
- Easily washable
- Milky Way is depicted in white
- Stars are depicted in yellow
- Comes with 19-page activity book and 8-page study guide

Celestial Globe with Meridian Ring (S816747) additional features:

- Globe may be removed from cradle for closer view
- The meridian may be tilted to adjust the globe for latitude, while the horizon ring indicates the actual horizon in relation to the point of observation on Earth
- Mounted in full horizon and meridian base for stability

Cat. No.	Description	Price
S816747	Celestial Globe with Meridian Ring	\$269.00/Ea
S816748	Basic Celestial Globe	\$269.00/Ea



Eisco™ Sun, Earth & Moon Orbital Model

Multiple moving axes on this gear driven model demonstrate daylight, night, seasons, and phases of the moon.

- Mechanical gear-driven model
- Multiple moving axes to demonstrate daylight, night, seasons and phases of the moon
- 12V light bulb inside sun demonstrates sunlight on moon and earth
- Base labeled with the months of the year and seasons for each hemisphere
- Requires 2 AA batteries, not included



Cat. No.	Price
S12895	\$206.00/Ea

United Scientific™ Celestial Star Globe

A demonstration device that shows the apparent positions of the stars visible from Earth.

The three dimensional representation allows the relative angular positions of the constellations to be visualized and permits students to estimate which stars will be visible from different places on Earth for any rotational position of the planet.

- Consists of two concentric spheres mounted on a common axle and supported on a frame with a base
- The inner sphere (1 in the above illustration) is 4 in. in diameter and represents the Earth. The continents are marked on it in their correct relative positions.
- The outer sphere (2) is transparent. It is 12.5 in. in diameter and has the constellations and their stars marked on it. Yellow shading indicates the Milky Way, the plane of our galaxy.
- The axle (3) that carries both spheres allows them to be rotated independently
- An angle scale is marked on the frame (4) that supports the axle. The angles are marked every degree and extend from zero at the equator to 87° in both directions.
- The frame is fixed to a round base (5) so that the axle is held at an angle of 23.5° to the vertical, representing the inclination of the Earth's spin axis to the axis of its orbit around the sun



Cat. No.	Price
S89562***	\$99.00/Ea



Our Solar System and Sun-Earth-Moon Flip Charts with Online Multimedia Lesson

This multimedia kit can help students master key earth science concepts.

- Provides graphical instruction and write-on/wipe-off activities with one-year online access to a corresponding multimedia lesson featuring in-depth, interactive coverage of the concept
- The multimedia lesson can be accessed by a teacher and ALL of your students anywhere, anytime, on any device – including Chromebooks, tablets, computers and mobile devices.
- Flip chart set features 10 laminated, double-sided charts
- Side 1 features a graphic overview of the topic while Side 2 provides corresponding write-on/wipe-off activities for review and reinforcement
- Includes a teacher's guide with copymaster activities and review questions
- Spiral-bound and mounted on a sturdy easel for years of use, the flip chart sets are ideal for small group instruction, learning centers, independent use or classroom reference



- Also included is one year access to a corresponding online multimedia lesson for a teacher and all their students
- Each lesson features animated, narrated tutorials; interactive exercises and activities; virtual lab investigations; illustrated, narrated glossary; visual resource library; and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH), the lessons are perfect for individual student instruction on any computer as well as classroom presentation on any interactive whiteboard

Our Solar System Flip Chart with Online Multimedia Lesson (S81124) covers: Formation of Our Solar System; Geocentric and Heliocentric Systems; Parts of Our Solar System; The Sun; Measuring Distances in Space; The Inner Planets; The Outer Planets; Comets; Asteroids and Meteors, and Pluto and the Kuiper Belt

Sun-Earth-Moon Flip Chart with Online Multimedia Lesson (S81125) covers: How the Earth Moves; Earth's Hemispheres; Seasons on Earth; Gravity and Motion; Earth's Moon; Phases of the Moon; Eclipses; Tides; and Missions to the Moon

Cat. No.	Description	Grades	Price
S81124	Our Solar System Flip Chart with Online Multimedia Lesson	6 to 10	\$64.25/Ea
S81125	Sun-Earth-Moon Flip Chart with Online Multimedia Lesson	6 to 10	\$58.25/Ea

Eisco™ Celestial Star Globe

This model illustrates the Earth's rotation on its axis, and its revolution.

The globe shows the Milky Way, major stars in 3D, and constellations.

- Overall model height: 17.5 in. (445 mm)
- Detailed Earth globe is fitted inside the large star globe



Cat. No.	Price
S12896	\$108.00/Ea

StarSense Explorer™ Smartphone App-Enabled Telescopes

StarSense Explorer™ Smartphone App-Enabled Telescopes are compatible with most modern smartphones.

Celestron has reinvented the manual telescope with StarSense Explorer™- the first telescope that uses your smartphone to analyze the night sky and calculate its position in real time. StarSense Explorer is ideal for beginners thanks to the app's user-friendly interface and detailed tutorials. It's like having your own personal tour guide of the night sky.

Dock, Launch, Explore

Leave complicated star charts, imprecise planetarium apps, and computerized mounts behind. With StarSense Explorer, locating objects has never been easier, faster, or more accurate. Within minutes of setting up the telescope, you'll be navigating the sky with confidence. Simply place your phone in the unique StarSense dock and launch the StarSense Explorer app. After aligning your phone to the telescope's optics (a quick, 2-minute procedure), StarSense Explorer generates a list of celestial objects currently visible. Make your selection and arrows appear onscreen, guiding you as you to move the telescope. When the object is ready to view, the bullseye turns green.

Smartphone Compatibility

StarSense Explorer™ works with most modern smartphones, including iPhone 6 and up and most devices running Android 7.1.2 or later manufactured since 2016. Compatibility will show when on home screen when app is launched.

Patent-Pending StarSense Sky Recognition Technology

StarSense Explorer™ uses patent-pending technology and your smartphone to determine exactly where the telescope is pointed in the night sky. A Lost in Space Algorithm (LISA), like the ones satellites use in orbit to correctly reorient themselves, helps the app match star patterns it detects overhead to its internal database. While other astronomy apps may claim that they can help you find objects, they rely exclusively on the phone's gyros and accelerometers, which aren't as accurate as LISA technology. No other app can accurately tell you when your target is visible in the eyepiece.

Dazzling Views with High Quality Optics

You can expect sharp, bright views through this 80 mm refractor. Fully-coated glass optics provide increased light transmission, enhancing details in celestial objects. The telescope also includes a 90-degree erect image diagonal, so you can use it during the day to view birds, wildlife, landscapes, and more.

Perfect for the City or Dark Sky Sites

Even if you live in a light-polluted city location, StarSense Explorer™ is advanced enough to be able to pick out Jupiter, Saturn, Venus, the Orion Nebula, double stars, and a few more of the most famous celestial objects. But if you can take the telescope to an even slightly darker location, more objects will become visible. The entire telescope kit weighs just 9.2 pounds, so it's perfectly portable and easy to bring on your next camping trip, or to a remote observing site.

Everything You Need to Observe Immediately

When you unbox your new StarSense Explorer™ LT, you'll find:

- 80 mm refractor optical tube
- StarSense dock for your smartphone
- Low powered (25 mm) and high powered (10 mm) eyepiece
- 2x Barlow lens to double the power of each eyepiece
- 90-degree erect image diagonal
- StarPointer red dot finderscope, perfect for using the telescope during the day or without the StarSense Explorer app
- Altazimuth mount with slow motion control rod
- Full-height tripod with an accessory tray to keep you organized



Cat. No.	Optical Design	Model	Price
S81338***	Refractor	LT 80AZ	\$244.00/Ea
S81340***	Refractor	DX 102AZ	\$506.00/Ea
S81341***	Newtonian Reflector	DX 130AZ	\$511.00/Ea
S81339***	Newtonian Reflector	LT 114AZ	\$250.00/Ea



PowerSeeker Telescopes

A great way to open up the wonders of the universe to the aspiring astronomer.

- Aperture: 127 mm (5 in.)
- Focal Length: 1,000 mm
- Eyepieces: 20 mm (50X), 4 mm (250X)
- Coatings: Aluminum



Cat. No.	Model	Price
S98227C	PowerSeeker 127EQ	\$234.00/Ea

Cometron 114AZ Telescope

This telescope is designed for viewing all types of celestial objects, and is ideal for even beginner stargazers. Features a parabolic mirror to capture the sharpest views of even dim comets.

- Quality optical design--parabolic mirror provides sharp image and eliminates spherical aberration
- Fast focal ratio offers a wide field of view, perfect for observing comets, star clusters, galaxies and more
- No-tool setup means you are up and observing in no time
- Lightweight and portable, a great grab-and-go telescope
- Large aperture collects more light and provides more detail

WARRANTY: 2 Year Limited warranty



Cat. No.	Price
S72020	\$250.00/Ea

Travel Scope Portable Telescope

Telescopes and tripods that fit inside a custom backpack for easy traveling and storage.

- All coated-glass optical elements for clear, crisp images
- Erect image diagonal so that your views are correctly oriented
- Smooth functioning altazimuth mount with easy pointing to located objects



- Preassembled aluminum full-size photographic tripod ensures a stable platform
- Quick and easy no-tool setup

Cat. No.	Model	Price
S01919	Travel Scope 70	\$115.00/Ea

National Park Foundation Telescope

Designed with travelers in mind, yet offer high-quality optical power.

TravelScope™ 60

- Designed with traveling in mind - offers high-quality performance at an exceptional value
- This refractor telescope is perfect for terrestrial and celestial viewing on the go
- Can view the planets, moon, star clusters and brighter deep sky objects like the Orion Nebula and Andromeda Galaxy at night
- Erect image star diagonal makes the optical tube ideal for using as a spotting scope during the day
- Adjustable tripod legs allow you to customize the telescope's height, or place it on raised surfaces like a picnic table



Cat. No.	Model	Price
S81328	Travel Scope™ 60 Telescope	\$93.00/Ea

HookUpz 2.0 Universal Smartphone Optics Digiscoping Adapter

Connect a smartphone to a variety of different optics and then use built-in camera apps to take pictures and record video through the eyes of the optics.

- Connect smartphone to binoculars, spotting scopes, telescopes, microscopes (including slit lamps), monocular, endoscopes, borescopes, and more
- Adjustable to fit most popular smartphones up to 3.75 in. wide, including Apple (iPhone), Samsung (Galaxy/Note), LG, and more
- Compatible with multi-camera smartphones
- Only compatible with optic eyepieces that have an outer housing diameter that range between 25 and 58 mm and a depth of at least 14 mm (0.6 in.), not compatible with tablets or riflescopes
- Glow-in-the-dark rubber pieces increase visibility in low light
- Clamping mechanism features a self-centering, dual-spring, quick-release clamp and an optic cam-lock for a tight grip on the eyepiece to prevent sagging and slippage issues
- Horizontal and vertical adjustments are compact and ergonomic
- Horizontal phone alignment uses a variable pitch screw for fine control adjustments but can also be moved quickly between an iPhone (corner camera) and Android (center camera) positions
- Vertical alignment is controlled on the top for a compact design that should not interfere with any side buttons on a phone
- Comes included with a protective EVA zippered storage case along with an optional lens spacer for added eye relief



WARRANTY: Limited lifetime warranty

Cat. No.	Price
S81148	\$71.50/Ea

MonoPix Smartphone Digiscoping Adapter Bundle

Equipped with a retrofitted 8 x 42 mm waterproof monocular.

- Take pictures and record video using the built-in camera application on a smartphone through the lenses of the monocular
- Adjustable to fit most popular smartphones up to 3.75 in. wide, including Apple (iPhone), Samsung (Galaxy/Note), HTC, LG, and more
- Compatible with multi-camera smartphones
- In most instances, there is no need to remove the phone case. However, some larger, thicker phone cases may need to be removed.
- Digiscoping adapter is not compatible with other binoculars, spotting scopes, riflescopes, microscopes, telescopes or tablets on the market
- Included monocular is tripod mountable and comes included with a soft pouch, wrist strap, lens covers and a microfiber cleaning cloth
- Monocular contains an 8X power magnification and a 42 mm objective lens
- Lenses are fully multi-coated to ensure extremely sharp and ultra-precise image quality
- Digiscoping adapter set is great for bird watching, hunting, sight-seeing, surveillance, sporting events, concerts, and other outdoor adventures

WARRANTY: Limited lifetime warranty

Cat. No.	Price
S81150	\$120.00/Ea

SkyMaster 12X 60 mm Binocular

Features multi-coated optics and high index BaK-4 prisms for adequate light transmission, increased contrast and resolution.

- 12X magnification porro prism binocular
- Large 60 mm objective lens offers maximum image brightness in low-light conditions
- Multi-Coated optics for sharp, clear views
- Suitable for terrestrial or astronomical viewing
- Protective rubber covering for ultra-firm grip
- Large center focus knob for easy focusing
- Tripod adaptable
- Long eye relief ideal for eyeglass wearers



Specifications:

- Exit pupil: 5 mm
- Eye relief: 17 mm
- Close focus: 18 m (59 ft.)
- IPD max: 56 mm
- IPD min: 72 mm
- Twilight factor: 27
- Relative brightness: 25
- Prisms: BaK-4

WARRANTY: Limited lifetime warranty

Cat. No.	Price
S14066	\$102.00/Ea

UpClose G2 Binoculars

High-quality binoculars at an affordable price.

Features:

- Multi-coated optics increase light transmission, resulting in brighter and sharper images with high contrast levels
- Stylish rubber-covered aluminum body protects from rough handling
- Ergonomic thumb indents and finger ridges for extra non-slip comfort and ease of use
- Water resistant
- Soft carrying case
- Binocular straps



Ideal For:

- Bird watching
- Sporting events
- Nature and wildlife
- Hunting
- Travel and adventures
- Concerts and live events
- Boating

WARRANTY: Limited lifetime

Cat. No.	Optical Design	Magnification	Price
S28084	Porro Prism	10x	\$51.50/Ea

Hawk Binoculars for Kids

Great for students to use for exploring during outdoor field trips.

- Ultra-deluxe 30 mm pair of field binoculars for students
- Durable, lightweight, easy for students to hold on their own
- For outdoor events, sports, bird watching, camping, and more



Cat. No.	Price
S38810	\$20.50/Ea

Kids 7-in-1 Spy Gadget

Pocket sized and can be carried anywhere!

- 8x magnification telescope
- 9x magnifier
- 30x magnification microscope
- Pocket sized: Small and portable for use anywhere
- Wrist strap for easy carrying
- CPSIA and ASTM F963-tested
- Age-rated 8+



Cat. No.	Price
S81335***	\$18.50/Ea



Kids 50 Mm Newtonian Telescope

NEW

This great beginners' scope, with a unique STEM learning element—the side panel detaches so young scientists can explore the telescope's inner workings. It's great for the classroom and young amateur astronomers alike.



- When kids can understand how a telescope works, exploring the sky becomes that much more enjoyable. Simply remove the side panel and you'll be able to show off the telescope's mirrors and demonstrate how they capture light to produce an image in the eyepiece.
- When night falls, enjoy an evening of stargazing with this fully functional telescope. Explore the Moon, stars, planets.
- This Newtonian Reflector telescope comes with an easy to assemble tripod, which you can place on a table. You can also thread the optical tube directly onto a photographic tripod or monopod.
- With your purchase, you'll receive a free download of printable educational material about Sir Isaac Newton, the scientist who invented the Newtonian telescope, and an explanation of how light travels through the optical path. PLUS, enjoy a free Starry Night Special edition software download to teach your little one about the Universe (details on download code insert card included with your telescope).
- 50 mm Newtonian Reflector teaching telescope is great for astronomical viewing, and also includes a removable panel to show the telescope's inner workings
- Kids will learn about how light travels through a Newtonian telescope and the life of the telescope's designer, Sir Isaac Newton
- Easy assemble tripod included for stable viewing and easy transport
- FREE Starry Night software to teach your little one about the universe

Cat. No.	Price
S24644***	\$28.50/Ea

MiniMight 6X 18 mm Pocket Monocular with Carabiner Clip

A compact and portable monocular that comes included with an carabiner clip, soft pouch and a lens cloth.



- Comes with a carabiner clip to attach to gear or clothing
- Features fully-coated optics for a crystal clear, precise image
- Field of view is 426 feet at 1,000 yards
- Comes with a soft pouch, carabiner clip and a lens cloth
- Backed by a no fault, no hassle warranty

Cat. No.	Price
S81151	\$22.50/Ea

NexYZ 3-Axis Universal Smartphone Adapter

Connects a smartphone to a telescope, spotting scope, binocular, monocular, and microscope, to capture images and video through the eyepiece.

Features:

- Works with a wide range of mobile phone models including all the latest devices from Samsung, Google, and Apple
- Features three directional knobs that perfectly align the phone camera with the eyepiece in seconds
- Stands up to rigorous field use thanks to its robust, durable construction with a metal frame and polymer body
- Fits any eyepiece from 35 mm to 60 mm in diameter including telescopes with 1.25 in. and 2 in. eyepieces, spotting scopes, monoculars, and binoculars
- Attaches to microscopes with the addition of the included adapter ring, taking the usable diameter down to 25 mm, the size of a standard microscope eyepiece
- Strong spring and a threaded twist lock provide a two-level strong and secure grip on the optical instrument's eyepiece to image with confidence
- Phone platform is fully adjustable to fit any device, typically with the case on
- Larger devices like the iPhone 8 Plus and latest Samsung Galaxy devices work as well
- Secure platform stands up to the weight of heavier devices
- Spring-loaded clamps make it easy to quickly remove one device and replace it with another
- Switch image from portrait to landscape by turning the padded eyepiece clamp and readjusting the X, Y, and Z axis

Easy as X-Y-Z

- Three-axis adjustment gives users the power to place a phone on the platform, center it over the eyepiece with the X and Y knobs, and move up or down over the eyepiece until entire field of view is in the shot
- Adjustment is precise, quick and easy
- Switching phones, eyepieces, or optical instruments, only necessitates slight adjustments to re-center the camera over the new eyepiece

WARRANTY: 2-Year Warranty

Cat. No.	Price
S72453	\$80.00/Ea

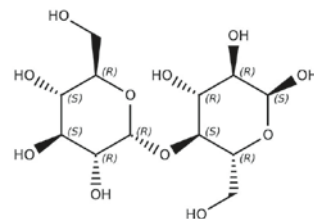
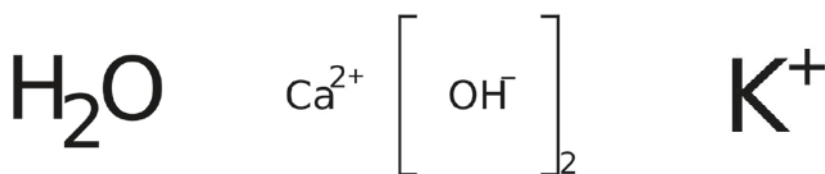


Smartphone and microscope not included



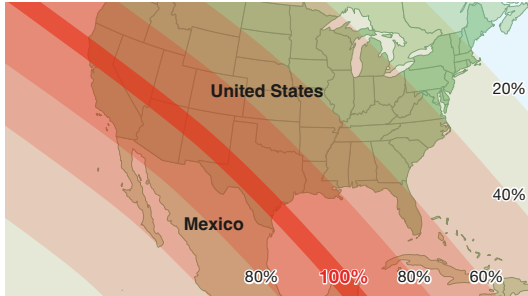
Chemicals for Environmental Science

Use this curated list of products to restock your environmental science classroom, and visit fisheredu.com to find even more science education products.

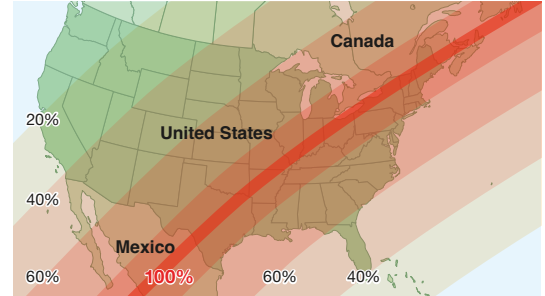


Description	Quantity	Cat. No.
Fisher Science Education™ Calcium Sulfate, Dihydrate	100 g	S25230
Fisher Science Education Sodium Phosphate Solution, 0.1M	500 mL	S25889
Fisher Science Education Sodium Nitrate	500 g	S25558A
Fisher Science Education Bromothymol Blue Solution, 0.04%	10 mL	S25207
Fisher Science Education Sodium Hydroxide Solution, 0.2M	500 mL	S25880
Fisher Science Education Vinegar	500 mL	S25623
Fisher Science Education Sodium Bicarbonate	500 g	S25533
Fisher Science Education Hydrochloric Acid Solution, 0.25M	500 mL	S25855
Fisher Science Education Sodium Thiosulfate Solution, 0.1M	500 mL	S25893
AquaPhoenix Scientific™ Starch Indicator Solution, 1.0% w/v	500 mL	S88794
Fisher Science Education Sulfamic Acid	50 g	S25792
Fisher Science Education Manganese(II) Sulfate	500 g	S25422
Lugol's Dilute Solution, 2%	500 mL	S25945
Fisher Science Education Lime Water, 14%	500 mL	S25386
Fisher Science Education Water, Type II Deionized	4 L	S25293
Fisher Science Education Crystal Violet Solution, 1%	100 mL	S25275
Fisher Science Education Potassium Iodide Solution, 0.1M	500 mL	S25864
Fisher Science Education Sulfuric Acid Solution, 0.05M	500 mL	S25895
Fisher Science Education Bromocresol Green Solution, 0.4% w/v	100 mL	S25846
Fisher Science Education Ethylenediamine Tetraacetic Acid	100 g	S25311B
Fisher Science Education EDTA, Disodium Salt	100 g	S25687A

An **eclipse** is a great learning opportunity for planetary science, physics, and related subjects. An annular solar eclipse on October 14, 2023 and a total solar eclipse on April 8, 2024 will be visible over much of the U.S. The Fisher Science Education channel has tools and products to help you and your students understand and experience eclipse events fully and safely.



Path of the **Annular Solar Eclipse on October 14, 2023**. Percentages on the map indicate approximate amount of partial eclipse that will be seen.



Path of the **Total Solar Eclipse on April 8, 2024**. Percentages on the map indicate approximate amount of partial eclipse that will be seen.

Description	Cat. No.	Price
Sunspotter Telescope	S01384	\$287.00
Celestron™ Eclipsmart™ Travel Scope 50 Telescope, Includes Tripod, Eyepiece, and Nylon Backpack	S24545	\$140.00
Celestron Eclipsmart Solar Binoculars, Includes Strap and Carrying Case	S24544	\$57.25
Celestron Eclipsmart Solar Shades, Adjustable, 50/Pack	S24538	\$2.00
AquaPhoenix Scientific™ Eclipse Shades, Grades K to 5, Each	S394011XM	\$2.75
United Scientific™ Earth, Sun, and Moon Planetarium, Grades 6 to 14	S111028	\$73.00
Eisco™ Solar System Model	S05842	\$131.00
Eisco Sun, Earth, and Moon Orbital Model, Battery-Operated	S12895	\$206.00
Supertek™ Scientific Solar System Model	S81696	\$114.00

For more information about eclipses and safe viewing, visit solarsystem.nasa.gov/eclipses

Environmental Science

Agricultural Science

Garden Guide Kit

Convenient kit for classroom soil testing and garden analysis.

Measures nitrogen, phosphorus, potassium and soil pH.

- New hinged carrying case with foam liner hold all components securely
- Includes the *LaMotte Soil Handbook, Garden Guide Manual*, instructions, and free downloadable resource, *A Study of Soil Science* handbook
- Grades 5+



Cat. No.	Product Type	Price
S85039	Garden Guide Kit	\$70.50/Ea
S85039R	Reagent Refill	\$55.00/Ea

Classroom Aquaponics

Engages students in ecology, biology, earth systems, math, history and literature, while pairing fish and plants in one integrated system.

- Educator can instruct on growing vegetables sustainably, germination rates, fish anatomy and nitrogen cycle
- All acrylic construction is safer than glass for classroom use
- Aquarium covers keep fish from jumping out and reduce evaporation



Cat. No.	Price
S12802	\$634.00/Ea

Teaching Case, Soil Analysis, VISOCOLOR™

Can be used to reliably identify important soil parameters without prior knowledge of chemistry.

- Identify the concentrations of the following substances in the soil: nitrate, nitrite, ammonium, phosphate and potassium
- Determine soil structure, acidity (pH value), density and humidity
- ID cards can be used to make colour comparisons to a high level of accuracy
- Can be used in the classroom
- Thorough introduction in English, French, Spanish and German



Cat. No.	Price
S20744	\$1,501.00/Ea

Soil NPK Test Kit

Unit dose tablet test for soil macronutrients.

- Simple diagrammed instructions and laminated color chart
- 50 tests each for nitrogen, phosphorus and potassium in soil
- Originally developed for the GLOBE program
- Test results for available nutrients listed as low, medium, and high, with approximations for lb/acre.



Cat. No.	Price
S65951	\$44.00/Ea

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Nitty-Gritty Soil Test Kit

Investigate the basics of soil science and healthy plant requirements for proper soil texture, ideal levels of soil pH, and nutrients.

- Learn to properly care for plants and perform pH, nitrate, phosphate and potassium soil tests using nonhazardous TesTabs™ methods
- Ideal demos for elementary students



Cat. No.	Price
S65404	\$42.00/Ea

Soil Macronutrients Test Kit

Make detailed evaluations of soil composition.

- Soil analysis outfit includes all of the materials needed for accurate and detailed soil evaluation
- Determines soil pH, nitrogen, phosphorus, potassium content and soil texture
- Each self-contained, individual module contains the necessary materials and equipment to conduct 50 tests
- All components are contained in a specially designed, rugged carrying case
- Includes the *LaMotte Soil Handbook* and downloadable free resource, *A Study of Soil Science*

Octa Slide Comparator

- Test Factor: pH (40 tests)
- Range: 3.8-9.6



Color Chart

- Test Factor: Nitrogen / Phosphorus (50 tests ea.)
- Range: 10-150 lb/acre / 10-200 lb/acre

Turbidity Column

- Test Factor: Potassium (30 tests)
- Range: 100-400 lb./acre

Cat. No.	Price
S17704	\$591.00/Ea

Small Group Learning: Soil Analysis



Soil composition has been a keystone experiment in earth science classrooms for many years. Our soil analysis kit will teach students the skills needed to properly conduct soil composition tests as well as allow them to collect and evaluate local soil samples.

- Using local soil samples helps students build a stronger connection to their local environment while building on a knowledge base that can be applied to any other environment
- Kit contains enough material for 5 groups
- Teacher's manual and student study guide copymasters are included
- Aligned to the Next Generation Science Standards (NGSS)
- Disciplinary core ideas: ESS2.A
- Performance expectations: MS-ESS2-1
- Cross cutting concepts: stability and change
- Engineering practices: developing and using models

Note: This learning activity requires a fume hood (sold separately)

Cat. No.	Price
S40743***	\$145.00/Ea

Soil Sampling Tube

Easy-to-use, easy-to-clean,
galvanized-steel sampling tube.

- Collects soil samples from a depth of up to 12 in. (30.5 cm)
- Cutaway viewing window for inspection of soil stratification 9.75 in. (25 cm)
- Soil core (D x L): 1 x 11.75 in. (2.5 x 30 cm)



Cat. No.	Price
S45110	\$43.75/Ea

Green Chemistry: Detergents and the Environment

Understand the consequences of
cultural nutrient overloading on
the aquatic environment.

- Recognize that there may be environmentally-friendly alternatives in consumer chemical goods
- Demonstrate and monitor the effects of two detergent builders on natural water samples
- Visually quantify differences between phosphate and nonphosphate detergent builders on aquatic organisms



Cat. No.	Price
S96401*	\$47.75/Ea

Environmental Chemistry: Nitrates, Phosphates, and Eutrophication

Understand the role of
nitrates and phosphates in the process of eutrophication.

After completing this lab, students should understand the difference between point source and nonpoint source pollution, and understand the role of nitrates and phosphates in the process of eutrophication.

Observe and examine the effects of nitrates, the effects of phosphates and the effects of a combination of nitrates and phosphates in miniature "ponds."



Cat. No.	Price
S96399*	\$33.00/Ea

Acid Rain and Environment: Acidity and Plant Grow Kit

In this activity,
students will examine
detrimental effects of acidic conditions on plants.

- Plants will be grown under normal soil conditions, mildly acidic soil conditions, and very acidic soil conditions
- Students will determine if acidity has any impact on the growth of the plant
- Kit contains enough materials for 15 groups



Cat. No.	Price
S05883	\$33.00/Ea

Eisco™ Ganong's Potometer with Glass Stopcock

Students will learn how to
measure the rate of water
uptake of a leafy shoot during
transpiration or photosynthesis.

- For demonstration of transpiration rates and rates of water absorption by a cut shoot under various external conditions
- Made from high-quality borosilicate glass
- Mounted on wooden base by clips
- Base, approximately 12.25 in. wide
- Height to top of reservoir is approximately 6.5 in.
- Reservoir Diameter is approximately 0.75 in.
- Capillary bore diameter is 1 mm
- Instruction manual included

WARRANTY: 1-year limited manufacturer warranty



Cat. No.	Price
S29355	\$32.75/Ea



Eisco™ H Type Potometer

Suitable for individual student use to measure the uptake of water by a leafy shoot during conditions that cause transpiration or photosynthesis.

- H Type potometer for measuring rate of water uptake by a leafy shoot
- Cut shoot is attached to the side arm with tubing and the wide glass tube acts as the reservoir
- Made from high-quality borosilicate glass
- Reservoir tube measures 6 in. long, 3 in. wide with side arm
- Capillary tube measures 7 in.
- Great for individual student use

WARRANTY: 1-year limited manufacturer warranty



Cat. No.	Price
S29356	\$16.75/Ea

Brassica Quick Plant™ Seeds

Quick-growing seeds encourage hands-on classroom activities.

- Vial contains 200 seeds



Cat. No.	Price
S05697	\$60.50/Ea

Compact Indoor Garden

Ideal for classrooms on a budget where space is limited and/or mobility is not an issue.

- Complete, programmable, indoor growing unit provides flexibility
- Sturdy, easy-to-assemble frames constructed of 1 in. (2.5 cm) square aluminum
- Lightweight, 48 in. (123 cm) fluorescent fixtures on easy-to-adjust slide rods
- 40w Sylvania™ Gro-Lux™ wide-spectrum bulbs for optimum plant growth
- Removable plant trays constructed of rigid heavy duty plastic
- 24-hour programmable timers control “day” length
- Plastic moisture grids provide water for plants on weekends
- Humidity tent provides a moist and warm growing environment



Cat. No.	Price
S28280	\$398.00/Ea

Ecology & Pollution

What Are Ecosystems Flip Chart, Grades 3 – 5

Graphically introduce, practice and review key-standards-based concepts.

Includes:

- 10 laminated, double-sided flip charts with “Write-On/Wipe-Off” exercises
- Mounted on 12 x 18 in. easel
- Teacher’s guide with copymasters of review exercises



Cat. No.	Price
S13531	\$59.50/Ea

Ocean Acidification Educational Kit

Provides three different activities that allow students to investigate the cause of ocean acidification, and the effects it can have on the ecosystem and marine life.

- Changes to the carbon cycle and climate due to human activities have had detrimental effects on the environment
- One example of this is known as ocean acidification, which is the changing of the ocean’s chemistry due to increased carbon dioxide in the atmosphere and ocean

Features:

- In this activity, students will learn about the carbon cycle and how it relates to ocean acidification
- Through three different activities, students will investigate the cause of ocean acidification, and the effects it can have on the ecosystem and marine life
- Kit contains enough materials for 15 groups of students
- Teacher’s manual and student study guide copymasters are included

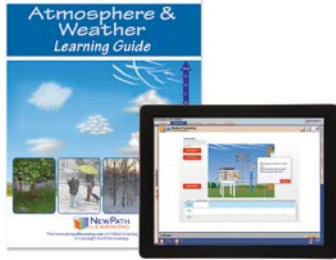


Cat. No.	Price
S802492	\$34.75/Ea

Atmosphere and Weather Student Learning Guide with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.



- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students
- Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH), the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard

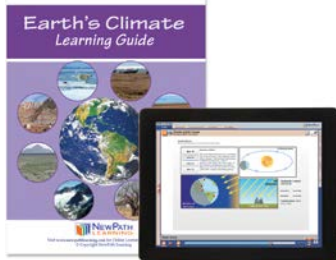
Covers: Our Atmosphere, Layers of the Atmosphere, Clouds, Precipitation, Weather, Weather Patterns, Air Masses, Weather Patterns, Fronts, Severe Weather, and Predicting Weather

Cat. No.	Price
S436028	\$16.00/Ea

Climate Student Learning Guide with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.



- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students
- Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH), the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard

Covers: Climate and Its Causes, Seasons, Climate Zones and Biomes, The Tropical Zone, The Temperate Zone, The Polar Zone, Climate Change, Global Warming, and Ozone Depletion

Cat. No.	Price
S436029	\$16.00/Ea

Microslide™ – Ecology Under Microscope



Microslide strip consists of images photographed through a microscope. Arrows and call outs help the student locate features. This Microslide is accompanied by a detailed lesson plan designed to stimulate, inform, and question students.



Image titles on Microslide:

- Algae/diatom(200x)/pediastrium (200x)
- Protozoa/blepharisma (200x)/suctorian (200x)
- Starfish embryos (200x)
- Arthropods cyclops (10x)
- Nematodes (40x)
- Virus on *E. coli* (60,000x)
- Fungi (200x)
- Bacteria (400x)

Includes:

- Lesson plan with pocket to store Microslide
- Reproducible worksheet with a purchase of 15

Cat. No.	Price
S816723	\$11.50/Ea

Stream Table



Demonstrates stream erosion and deposition of soils either in the classroom, or outside.



- Includes a plastic tray, drain trough, tray support, and siphon tube
- Students will learn the impact water has on the development of land formation
- Allows students create their own landforms while simulating water streams
- Used in the classroom, at home or outdoors
- Sand not included
- For grades 3 to 12 and ages 8 to 18 years
- Dimensions of this table are: 14 x 46 x 2.5 in. deep
- Activity guide included

Cat. No.	Price
S81790	\$133.00/Ea

Deluxe Stream Table with Pump

With an integrated design, setup is a breeze — simply add water, turn on the pump and teach.

Stream tables are an essential part of the earth sciences class for the study of erosion, sediment deposition and the behavior of rivers and lakes. Use them to unfold these processes inside the classroom at an accelerated rate — easier than observing a real river over the course of decades.

Features:

- Rugged plastic construction
- Features five water jets
- One water jet yields one piddly stream, while many jets form tributaries that form rivers
- Integrated reservoir with sediment trap prevents particulates from clogging the pump
- Clear acrylic sides allow views of sediment layers
- Integrated prop holds the table at several angles
- Removable dam creates a lake to illustrate how sediments form deltas
- Fully watertight
- Folds for storage



Cat. No.	Price
S06669	\$640.00/Ea

United Scientific™ Water Cycle Model

Students can demonstrate how water moves through various stages on the earth's surface. An activity guide is included.

- Students will explore: how water evaporates when heated, condenses on cold surfaces, and precipitates back into water
- An incandescent lamp (user-provided) simulates the sun, supplying heat to evaporate water in the reservoir below
- Ice cubes are used to cool the water vapor, causing water droplets to form on the cloud
- The water falls onto the mountains, then flows back down to the reservoir
- An activity guide is included



Cat. No.	Price
S89540***	\$97.00/Ea

United Scientific™ Water Cycle Activity Kit

NEW

Students can learn how water moves through various stages on the earth's surface. An activity guide is included.

- Students will explore the different processes of the water cycle.
- An incandescent lamp (user-provided) simulates the sun, supplying heat to evaporate water in the reservoir below
- Ice cubes are used to cool the water vapor, causing water droplets to form on the cloud
- The water falls onto the mountains, then flows back down to the reservoir
- Activity guide included
- Ten 8.5 x 11 in. full color study cards will enhance the students understanding by showing real life landscapes from the water cycle



Cat. No.	Price
S89541***	\$118.00/Ea

Kemtec™ Environmental Extremes Kit Plus

Introduces students to environmental studies through the creation of their own soil erosion model.

- Simulate the conditions of acid rain, saline soils, drought, and erosion
- Uses plant growth models and soil erosion models
- Includes extended erosion activities featuring cost analysis
- Introduce students to scientific process through nine detailed experiments
- Students design their own experiments once familiar with experimental protocols, data collection, and data analysis
- Ideal for biology, agriculture, or general science courses
- Includes pH meters and digital scales
- Acids are not included



Cat. No.	Price
S30829	\$973.00/Ea



Water Cycle Model

This 3D model will show upper level of an underground surface in which soil or rock is permanently saturated with water.

- 3D Water Cycle Model
- The water table separates the underground water zone from the capillary fringe or zone of aeration



Cat. No.	Price
S81680	\$64.50/Ea

Water Cycle 3D Model Kit

Assemble and use 3D models to visualize and investigate key science structures.

- Gain a critical understanding of complex structures and processes through the assembly of 3-dimensional models
- Kit includes enough materials for students to assemble up to 10 paper models by working either independently or cooperatively in small groups
- Also includes comprehensive Teacher Resource Guide outlining opportunities for your students to engage, explore, explain, extend, and evaluate their understanding of key scientific concepts
- Satisfies NGSS Standards which encourage students to develop and use models to represent structures, systems, and processes, then provide explanations, make predictions or investigate solutions
- Perfect for use in the classroom, lab or at home



Cat. No.	Price
S81486	\$39.75/Ea

Water Treatment and Filtration

Develop a knowledge of the processes performed at a water treatment plant and understand the reasons for each.

- Use "polluted" water to perform several small-scale procedures that occur in a water treatment plant
- Examine the changes in the water after each treatment step is performed
- Observe physical characteristics of water, such as clarity, color, odor, and how each is affected from the beginning of the treatment process until the end



Cat. No.	Price
S97623*	\$82.00/Ea

Water Pollution Kit

For detecting water pollution in aquatic environments.

Water Pollution 1 Kit

- Examines water quality in suspected or known polluted aquatic environments
- Contains individual test modules for 11 key test factors: dissolved oxygen, chlorine, pH, nitrate-nitrogen, phosphate, ammonia-nitrogen and temperature
- With complete instructions and reagents to perform 50 tests for each factor



Ordering Information: Grades 5+

Includes: A field tote and free downloadable handbooks and teacher resources

Cat. No.	Price
S04351	\$540.00/Ea

Fisher Science Education™ Environmental Engineering Oil Spill Management Kit

Hands-on oil spill awareness and cleanup kit designed for grades 7 to 12.

Students simulate deep-ocean and beach crude oil spills as they engage in the work of an environmental engineering team. Students will use models to learn the physical and chemical properties of oil and experience how scientists respond to oil spill disasters.

- Teaches environmental impact, basic oil biology, micelle structures, and chemistry concepts such as hydrophobic and hydrophilic interactions
- Students simulate basic oil containment and removal techniques using their own oil spill models
- Includes a quantitative analysis of absorbent materials, hands on skimming and dispersant activities, and an experimental introduction to concept of bioremediation
- Students work as team to research and systematically design oil spill solution, use iterative cycle to improve their solutions, and learn to argue their points of view
- Great for applying knowledge and teaching higher order thinking skills including creative thinking, reasoning, decision making and problem solving
- Plan to spend several weeks on unit
- Class size: 24 students



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S02643	\$978.00/Ea



Kemtec™ Oil Spill Junior Kit

Teaches young students about basic oil containment and removal techniques.

- Students can experience how engineers and scientists approach oil spill disasters
- Explore the physical and chemical properties of oil
- Use models to simulate basic oil containment and removal techniques
- Learn to measure data and compare results
- Enhances understanding of scientific process, establishes problem solving skills, and explores inquiry based learning
- Includes multiple sets of worksheets for differentiated K-1, 2-3 and 4-5 learning levels
- The perfect hands on activity to pair with your favorite elementary level oil spill book
- Supports Next Generation Science Standards K-2-ETS1-2, Engineering Design & 3-5-ETS1, Engineering Design and Structure and Properties of Matter, 2-PS1-1 & 2-PS1-2



Cat. No.	Price
S30831	\$201.00/Ea

Water Testing

Digital Tapwater Tour Kit

A classroom investigation of how and why the characteristics of tap water can vary and affect every day activities.



- The instructor manual includes background information, set up, and shopping list
- Student Manual including test procedures, data sheets and puzzles
- Students work in groups and individually
- Works on computers or tablets
- Great for inclusion classrooms
- Refill includes reagents and sample bags for 50 students

Cat. No.	Description	Includes	Price
S72761	Digital Tapwater Tour Kit	Instructor Manual, Student Manual, TesTab™ reagents and sample bags for 50 students	\$91.00/Ea
S72762	Refill for Digital Tapwater Tour Kit	TesTab™ reagents and sample bags for 50 students	\$77.00/Ea

United Scientific™ Water Sampler



Students learn how to capture water samples from specific depths.

- Capture water samples from specific depths with the United Scientific Water Sampler. A unique design allows for hassle-free sample collection: when the desired depth is reached, students simply jerk the attached line to close the apparatus.
- Includes PVC collection tube, rubber seals and quick-release pin, Styrofoam winding float with 20 m line
- Made from impact-resistant PVC, with soft rubber seals that hold up to 1.5 liters of liquid
- Unit is 30 cm long, 10 cm in diameter and weighs 2 pounds
- Activity guide included



Cat. No.	Price
S89538***	\$101.00/Ea

AP™ Water Quality Assessment Package

Explores the Water Quality Index.

Combine with the Water Quality Educator (S66223) and AP Environmental Science Water Quality Assessment Curriculum Module (S04349) to teach STEM-based skills that will satisfy Section VI (water pollution) of the AP Environment Topics Outline.



Cat. No.	Price
S04350	\$658.00/Ea

Water Quality Testing I: Chromogenic Analysis of Water Bacteria Contaminants



Students will test for coliforms in simulated contaminated water, and can test water samples from the environment.

Safe drinking water is vitally important to health. Both pathogenic and harmless bacteria can be found in the guts of mammals and birds. Presence of coliforms in water is an indicator of fecal contamination.

- Testing for coliforms, including *E. coli*, using color and fluorescent reagents
- Extension activity includes Gram Stain test that can be performed on the collected samples
- Test duration: complete in 30 minutes and grow overnight

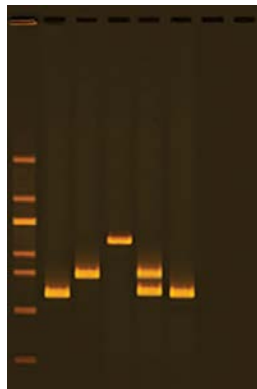
Cat. No.	Price
S68636	\$147.00/Ea



Water Quality Testing III: Multiplexed PCR for Testing Water Bacteria

Students will investigate the presence of contaminants in a water sample.

- Drinking water is routinely tested for contamination. If a screening tests positive, more sophisticated tests are required to determine whether harmful microbes are present.
- Students use PCR in multiplex format
- Single PCR test detects presence of three separate, classroom-safe organisms
- Analyzed on agarose gels



Experiment times:

- Setup: 60 minutes
- PCR: 120 minutes or overnight
- Electrophoresis: 45 minutes

Cat. No.	Price
S95132	\$153.00/Ea

Water Quality Educator and Monitoring Outfit

Ideal for long-term water-quality monitoring.

- Tests for seven basic water-quality test factors
- Prepares students for field tests or classroom work
- Set up a water-quality monitoring program, procure measurements, and interpret results
- A Soft-sided tote made of durable fabric, solid rubber bottom ready for field work; handy side pockets hold thermometer, pens, writing tablets, and other tools



Includes:

- *The Monitor's Handbook* (71 pages)
- 100 tests for pH
- 50 tests for the following five factors: nitrate-nitrogen, phosphate, dissolved oxygen, total alkalinity, turbidity, unlimited temperature tests, aquatic macroinvertebrate bioassessment
- Lesson plans for grades 5 to 8 and 9 to 12

Cat. No.	Type	Includes	Price
S66223	Water Quality Educator and Monitoring Outfit	pH, nitrate-nitrogen, phosphate, dissolved oxygen, alkalinity, total, turbidity, temperature test factor, <i>The Monitor's Handbook</i> , 100 tests for pH, unlimited temperature tests, aquatic macro invertebrate bioassessment	\$521.00/Ea

Earth Force™ Low-Cost Water Monitoring Kit



Learn the basics of water quality monitoring and testing.

- Analyze sample water for pH, dissolved oxygen, biochemical oxygen demand, temperature, turbidity, nitrate, phosphate and coliform bacteria
- Each nonhazardous, TesTabs™ reagent tests 10 water samples (three samples for coliform)

Cat. No.	Price
S65401	\$53.50/Ea

Earth Force™ Low-Cost Estuary Monitoring Kit



Simple, nonhazardous methods to test saline and brackish waters found in estuaries.

- Test water samples for coliform bacteria, salinity, dissolved oxygen, nitrate, pH, phosphate, temperature and turbidity
- Supplied with all TesTabs™ reagents and components to test 10 water samples (two samples for coliform)

Cat. No.	Price
S65403	\$64.50/Ea

Fresh Water Test Kit

Teaches sampling techniques, careful measurement and data recording.



- Combines limnology with a water testing kit
- Tests for dissolved oxygen, carbon dioxide, nitrates, phosphates, silica, pH, calcium, magnesium and total hardness
- Soft-side tote is made of durable fabric and a solid plastic bottom ready for field work
- Handy side pockets hold thermometers, pens, writing tablets, and other tools

Ordering Information: Grades 5+

Includes:

- Six individual cases that house components needed for various chemical tests
- Sampling bottles
- Free downloadable handbooks and teacher resources
- Analysis report forms
- 50 tests per factor, except nitrate (40) and pH (100)

Cat. No.	Type	Price
S45078	Fresh Water Test Kit	\$637.00/Ea

AM-12 TesTabs™ Water Investigation

Test water quality as a complete experiment or in addition to other water studies.

- Measures water quality with 12 TesTabs reagents
- Uses easy-to-perform, nonhazardous TesTabs
- Flashcards inform about each test factor, describe the chemical reaction and explain the chemical influence on the environment
- To use: fill tube with water, add necessary tablets, shake tube until each tablet fully dissolves and compare resulting color to the color chart



Cat. No.	Price
S66982	\$333.00/Ea

Lead Screening Test Kit

An affordable, safe, and reliable screening test to identify lead in drinking water. Ideal for classroom studies.

In 10 minutes students can detect lead levels above 15 ppb—the EPA action level. Just immerse a strip in a water sample and read after a 10 minute waiting period.

- The kit includes 10 test packs with one diagrammed instruction
- Each test comes in a sealed pouch with a test vial and dropper
- Simple test protocol: immerse, wait 10 minutes, and read
- Easy analysis—1 Line or 2 Line result indicates result
- Detects Lead to EPA action level of 15 parts per billion (ppb)



Cat. No.	Price
S29054	\$120.00/Pk

Urban Water Quality Test Kit

Introduces water chemistry concepts in urban areas.

- Introduces water chemistry concepts in areas where the lifestyle does not often include involvement in outdoor activities, or contact with nature
- Helps urban students understand that environmental issues are a part of their world, and issues involving water chemistry are all around them
- Employs methods suitable for testing drinking water, runoff and street puddles
- Tests for chlorine, copper, iron, hardness, nitrate, pH, phosphates, dissolved oxygen, coliform and temperature using nonhazardous TesTabs™



Cat. No.	Price
S66226	\$71.00/Ea

Vernier Science Education™ Colorimeter

For Beer's law experiments to determine concentration of unknown solutions, or studying changes in concentration vs. time.

- 4-wavelength colorimeter measures amount of light transmitted through sample at user-selectable wavelength in order to determine concentration of solution
- Features automatic sensor identification and one-step calibration
- Transfer function: $V_{out} = 0.035 \times (\%T) + 0$
- Power up time: 700ms (maximum)



Cat. No.	Price
S16008ND	\$136.00/Ea

SMART 3™ Colorimeter Water Quality Analyzer

Multitest colorimeter measures numerous water quality parameters with laboratory accuracy and convenience of a portable, hand-held system.

Captures up to 500 date- and time-stamped data points with the datalogger, then download via USB connection.

- Compact unit with large, backlit display
- More than 80 pre-programmed tests
- Automatic wavelength selection
- Menu-driven operation
- Accepts COD vials and cuvetts
- Waterproof to IP67
- Seven languages — user selectable
- USB port and cable for downloading results and charging
- Multiple LED optical system
- Option of entering up to 25 additional calibrations for analysis with custom reagent systems

CERTIFICATION: CE marked



Cat. No.	Price
S66155A	\$1,379.00/Ea

SMART Spectro™ Spectrophotometer and SMART 3™ Colorimeter Reagent Systems

For water analysis in the field or in the lab.



- High-quality reagents manufactured from ACS raw materials for high reproducibility
- All systems are designed to overcome test interferences for fast and dependable results

Cat. No.	Type	Range	Test Method	Price
S72372	Aluminum	0 to 0.3ppm	Eriochrome Cyanine R	\$112.00/Ea
S72361	Chromium, Hexavalent	0 to 1ppm	Diphenylcarbohydrazide	\$50.00/Ea
S72359	Ammonia Nitrogen	0 to 4ppm	Nesslerization	\$64.25/Ea
S72360	Bromine, Low Range	0 to 9ppm	DPD Tablets	\$81.00/Ea
S72364	Nitrate Nitrogen	0 to 3ppm	Cadmium Reduction	\$70.25/Ea

Wide Range pH Test Kit

This kit tests for pH using the Octa-Slide 2 Comparator with two color bars. Covers a wide pH range from 3.0 - 10.5 pH.



Simply fill the tube to the mark with sample water, add several drops of indicator, and compare the resulting color against the permanent color standards.

- Range: 3.0 to 10.5
- Sensitivity: 0.5

Cat. No.	Price
S96703	\$54.75/Ea

Turbidity Test Kit

This visual comparison test kit is designed for use in shallow waters where Secchi disc depth reading is not feasible.



- Readings are made by using a standard turbidity reagent to match the turbidity of a water sample
- Measurements are expressed in Jackson Turbidity Units (JTU)
- Reads from 0-200 JTU in 5 JTU steps

Cat. No.	Type	Price
S65414	Turbidity Test Kit	\$99.00/Ea

Turbidity Meter Kits, 2020T Tungsten Version

New Ratiometric design allows for easy and accurate testing.



- Multi-detector optical configuration assures long-term stability, and minimizes stray light and color interference
- Ideally suited for low-level drinking water applications, mid-range industrial applications, and high-range environmental applications
- Seven user-selected languages – English, Spanish, French, Japanese, Chinese, Italian, and Portuguese
- Advanced calibration algorithms
- Easy menu-driven operation and large LCD display
- 500 point data log; stored results can be viewed directly on instrument

Cat. No.	Price
S72723	\$1,399.00/Ea

Turbidity Tube

Measures the cloudiness of a fluid.

- Fill the tube with water, and drain it slowly by limiting flow with the pinch clamp on the hose
- Stop draining once the black and white Secchi disk on the bottom of the tube becomes visible
- Take note of the water level using the centimeter graduations on the tube



Cat. No.	Price
S38986	\$37.50/Ea

Eisco™ Transparent Turbidity Tube

Determines transparency of water in lakes, streams, and oceans.

- Contains clear tube with small Secchi disc of alternating black and white quadrant
- Provides quick and easy way to probe turbidity, which is measure of clarity of water, which is in turn is related to amount of sediments or pollutants in water



Cat. No.	Price
S12998	\$78.00/Ea

Test Tubes, Turbidity

Replacement test tubes for use in LaMotte Turbidity Meters.

- Sample vial for turbidity measurements, 10 mL line



Cat. No.	Quantity	Price
S72729	6/Set	\$47.25/Ea

Dissolved Oxygen Kit

Learn how to conduct oxygen-level tests for plants and animals.

- Direct-reading titrator test measures levels of oxygen
- Indicates whether a body of water can sustain healthy aquatic plants and animals
- Low oxygen levels signal contamination from organic wastes
- Measures 0 to 10ppm in 0.2ppm increments
- Azide modification of Winkler method



Dissolved Oxygen Kit includes:

- 30mL manganous sulfate solution
- 30mL alkaline potassium iodide azide
- 30mL sulfuric acid
- 60mL 0.025N sodium thiosulfate
- 30mL starch indicator solution
- Direct reading titrator
- Glass test tube with cap 5-10-12.9-15-20-25mL
- 60mL Water sampling glass bottle

Dissolved Oxygen Kit Reagent Refill includes:

- Five reagents; makes 50 tests at 10ppm

Cat. No.	Description	Price
S94979	Dissolved Oxygen Kit	\$74.50/Ea
S81623	Dissolved Oxygen/BOD Testab™ Module	\$50.75/Ea
S45088R	Dissolved Oxygen Kit Reagent Refill, 5 Reagents	\$46.50/Ea

Nitrate-Nitrogen Kit

Colorimetric test system.

- Range: 0 to 15ppm
- Sensitivity: 1.0ppm
- Number of Tests: 50



Cat. No.	Type	Price
S65410	Nitrate Nitrogen Tablet Test Kit	\$75.00/Ea
S65411	Reagent Refill Test Kit	\$33.50/Ea

10 mL Square Test Tube

For use with LaMotte™ water quality monitoring kits.

- 10 mL square test tube with cap



Cat. No.	Description	Price
S72378	10 mL; with cap	\$4.40/Ea

COD Multi-Range Reagent Systems Vials

An easy and precise way to measure critical COD levels.

- Range: 0 to 15,000ppm (high)
- Mercury-free



Cat. No.	Price
S43593	\$82.00/Ea

Direct Reading Titrator

Replacement for glass direct reading titrators.

- Chemically-resistant plastic
- One piece plunger
- Special precision tip
- Range: 0 to 200



Cat. No.	Price
S72342	\$9.25/Ea

Insta-Test™ Single and Multi-Factor Test Strips

For water quality testing.

- No reagents or field kits required for most strips
- Chemically treated pads on plastic strips produce color change
- Pop-top vials have molded desiccant liner and hinged snap cap to protect from moisture
- As little as 10-second development time



Test strips for testing water: wastewater, industrial water boiling and cooling, drinking water, laundry and sanitation

Cat. No.	Type	Parameter Specifications	Quantity	Price
S72329	Single Factor Test Strip	Chlorine - total, low range	25 Strips/Vial	\$9.35/Ea
S72315	Single Factor Test Strip	Chlorine - free, high range	50 Strips/Vial	\$26.75/Ea
S72330	Single Factor Test Strip	Copper	25 Strips/Vial	\$13.00/Ea

Test Strips

For chlorine, iodine, and QAC testing.

Test chlorine from 10 to 200ppm, iodine from 12 to 100ppm, and quaternary ammonium compounds from 50 to 400ppm, or from 200 to 1,500ppm

- Chemically-treated paper strips produce color changes in as little as 5 seconds
- Simply dip strip into the sample
- Compare strip color to the color chart located on plastic vial
- Plastic, waterproof vials are labeled with test instructions
- Desiccant cap



Test drinking water, industrial water for boiling and cooling, laundry / sanitation water and wastewater

Cat. No.	Type	Includes	Quantity	Price
S72324	High Range QAC Test Paper	Color chart, plastic vial	Each	\$10.75/Ea
S72405	Iodine Test Strip	Color chart, plastic vial	200 Pack	\$8.80/Pk
S72406	QAC Test Strip	Color chart, plastic waterproof opaque vial, desiccant cap	100 Pack	\$8.45/Pk
S72417	Chlorine Test Paper	Color chart, plastic vial	200 Pack	\$8.75/Pk
S72338	QAC Test Strip	Color chart, plastic waterproof opaque vial, desiccant cap	100 Strips	\$8.80/Ea

Dual Range QAC Test Strips

Provides all testing needs on one strip.

Whether checking the concentration of a quaternary ammonium compound solution or checking to ensure complete removal, the Dual Range QAC test strip is ideal. Chemically treated test strips change color to indicate sanitizer level. Strips and color chart are packaged in a waterproof plastic vial.



Cat. No.	Price
S43599	\$11.25/Ea

Eisco™ Cobalt Chloride Paper Test Strips

For detecting the presence of moisture in a given area.

- Detects the presence of moisture when exposed to humidity of 50% or greater
- Strip will turn from blue to light pink/white color in the presence of humidity
- Great for detecting moisture in hard to reach places
- 100 Strips/Vial, 12 Vials/Pack



Cat. No.	Price
S80840	\$26.00/Ea

Eisco™ Secchi Disk Including Rope

Used to determine transparency of water in lakes, streams, and oceans.

- A 9-inch disc of alternating black and white quadrants
- Provides quick and easy way to probe turbidity, which is measure of clarity of water
- Turbidity is in turn related to amount of sediments or pollutants in water



Cat. No.	Price
S13019	\$42.00/Ea

Turbidity Tubes

Determine the degree of visibility when a Secchi disk can't be used.

- Clear polycarbonate tubes with a centimeter scale on one side and a Secchi disk design on the bottom
- Secchi design (4.5 cm dia.) is screwed onto a stopper that removes for cleaning
- Drain with the drain hose and attached finger crimp
- In two lengths for different turbidity requirements
- Longer length meets requirements of The GLOBE Program™



Cat. No.	Description	Price
S90543B	Length: 60 cm	\$49.25/Ea

Windup Meter Tapes

Durable tapes won't tear, break, rust or stretch.

- High-quality fiberglass in an ABS plastic windup case
- Calibrated on one side in centimeters and on the other in inches
- Great for outdoor activities, track and field, rough terrain, mud and water



Cat. No.	Includes	Length (English)	Length (Metric)	Price
S94310	ABS Plastic windup case	98.4 ft.	300 cm	\$19.00/Ea
S94311	ABS Plastic windup case, handle	164 ft.	50 m	\$30.75/Ea

Kick-Net

Strong net designed for rapid bioassessments.

- Use this net for performing USEPA Rapid Bioassessment Protocols for benthic macroinvertebrates
- 1 x 1m², 500 µm, tan net
- Hemmed sides hold poles
- Reinforced bottom seam helps anchoring



Cat. No.	Description	Price
S85005P	Kick-net with poles	\$135.00/Ea

Student Screen Sieves Set

Separate soil ranging in size from pebbles to silt.

- Load samples into top sieve, cover and shake vigorously
- Set of four sieves separates the sample based on particle size



Cat. No.	Price
S53020A	\$53.00/Ea

Eisco™ 8 Piece Plastic Sieve/Strainer

Six plastic sieves with stainless steel mesh, cover and bottom collector.

- Each sieve has a plastic frame having an individual size one each (mesh no. 5, 10, 35, 60, 120, 230)
- Complete with plastic lid and bottom collector
- Stackable - diameter of sieves are 6.75 in.
- Total height of stacked sieves approximately 15 in.



Cat. No.	Price
S12897	\$173.00/Ea

Eisco™ Bottom Sampling Net

Designed specially for collecting animals and vegetation from trees, or pond and stream bottoms.

- Sturdy metal edge net designed for sampling from trees and bottoms of ponds/streams
- Strong cloth backed with metal wire mesh
- Top ring has flattened outer edge to facilitate bottom sampling
- Net collapses completely for carrying and storage
- Net is 10 in. in diameter and is 27.5 in. deep



WARRANTY: 1-year limited manufacturer warranty

Cat. No.	Price
S29534	\$37.00/Ea

Eisco™ Plankton Net with Collection Vial

Features a collection bag made of strong bolting netting cloth suspended by muslin reinforcement and mounted on a wire ring.

- 35 in. deep plankton net
- 12 in. diameter metal ring
- Made of strong muslin netting cloth
- 3 braided leads provide maximum strength during collection
- Strong cloth pocket holds collection vial
- Includes durable plastic collection vial
- Collection vial is 2 in. deep with a 1.5 in. opening



WARRANTY: 1-year limited manufacturer warranty

Cat. No.	Price
S29535	\$38.00/Ea

D-Net with Expandable Pole

Bag attached to metal frame with clamp rings.

- 12 in. (30.5 cm) rim dip net
- Rim fitted with heavy canvas bag, approximately 6.5 in. deep (16.5 cm)
- The bag bottom is made of approximately 500 µm nylon mesh
- Canvas skirt extends 3 in. (7.6 cm) below bag bottom to protect mesh
- Aluminum pole extends from 52 to 84 in. (137.2 to 213.3 cm)



Cat. No.	Product Type	Price
S85027	D-net with Expandable Pole	\$108.00/Ea
S85027B	Replacement Bag	\$23.75/Ea



FISHER SCIENCE EDUCATION
MAKING SCIENCE MATTER

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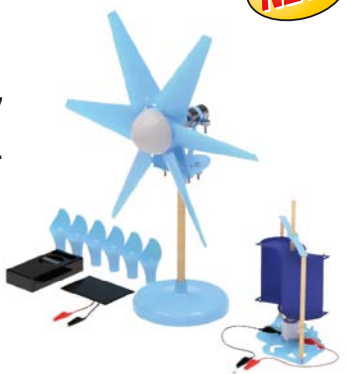
Alternative Energy

Alternative Energy Education Kit

A comprehensive educational set for exploring alternative energy that combines horizontal, hydro, and vertical turbines.

- The Alternative Energy education set is the most comprehensive of all our Energy Educational offerings. It combines all our turbines: the Horizontal Turbine, Hydro Turbine, and Vertical Turbine.
- Level up your package to gain extra labs to use with your turbines

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Description	Includes	Price
S4131910	Level 1	1 Solar Panel 7.2V 200mA, 1 Multimeter, 1 Level 1 Vertical Turbine Kit, 1 Level 1 Horizontal Turbine Kit, 6 Hydro Paddles	\$106.00/Ea
S4131912	Level 3	1 Solar Panel 7.2V 200mA, 1 Multimeter, 1 Level 3 Vertical Turbine Kit, 1 Level 3 Horizontal Turbine Kit, 1 Level 1 Hydro Turbine Kit	\$212.00/Ea

Renewable Energy Kit

Demonstrate the workings of a complete clean energy system on a miniature scale.

- Combines electronics, chemistry, and physics with multiple experiments
- Modular experiment set encourages users to learn the system step-by-step or configure the system in different ways



Renewable Energy Education CD

- Renewable Energy Science Education Manual:** introduces renewable energy in seven chapters—Global Warming and Climate Change, Solar Technologies, Wind Technologies, Electrolyzers, Fuel Cells, Hydrogen Storage, and Basic Electronics
- Experiment Manual:** more than 20 experiments for middle to high school level sciences in several sections—Solar Energy, Wind Energy, Energy from Hydrogen (Fuel Cell), and “Ultra Cool” experiments
- Flash Animations:** describe and show how a fuel cell works, different types of fuel cells, electrolysis, and various applications for fuel cells
- Assembly guides**
- Technical support with videos**

Cat. No.	Price
S98609	\$453.00/Ea

50 Watt Wind and Solar Hybrid System

A complete hybrid wind and solar system kit that is great for a STEM lab classroom, camp, or scout project.

- Get started with solar and wind energy in one complete kit
- This kit includes a 50 watt solar panel and a 50 watt DIY Wind Turbine Kit
- The system voltage is 12V DC with the solar panel having an average output of 1.2 amps and the wind turbine having a typical output of 1 to 2 amps



Contents:

- 1 pre-assembled motor (24V)
- 1 motor housing
- 1 housing cap
- 5 50 watt blades
- 1 blade hub
- 1 long tower (14 in.)
- 1 short tower
- 1 base
- 1 weighted insert
- 1 back fin
- 1 fin rod
- 10 nuts 8-32 x 3/4 in.
- 10 screw 8-32
- 1 solar panel (50 watt/12 V)
- 1 battery (12 V)
- 1 inverter (12V DC-110 AC)

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S81193	\$904.00/Ea

Low-Cost Solar Energy Project Kit

Discover how to convert solar energy into electrical energy.

Ideal for basic solar energy demonstrations.



Cat. No.	Price
S63319	\$13.25/Ea

Eisco™ Solar Furnace

Showcases the transfer of energy between solar radiation and thermal energy. The Eisco Solar Furnace is ideal for physics classroom demonstrations. Light from the Sun's rays are reflected off of a 30 cm (11.8 in.) diameter parabolic reflector and are focused onto a black colored copper cup.

- Ideal for classroom demonstrations on solar energy
- 11.8 in. parabolic mirror to focus the light rays
- Sun's rays effectively heat the copper cup at end of column



Cat. No.	Price
S12958	\$68.00/Ea

United Scientific™ Basic Solar Kit

A convenient introduction to the conversion of solar light energy into electrical energy.

- Convenient kit provides everything needed to convert solar-generated electrical energy into light, sound, or motion
- Observe the correlation between angle of incidence and energy output



Cat. No.	Price
S27844	\$10.50/Ea

Eisco™ Solar Cell Unit

Capture the sun's energy with this solar cell and transfer the electricity to the Mini Motor (not included) which generates enough power to operate a small propeller.

- Single, small sized solar cell unit
- Unit has two 4 mm plug terminals
- Easily connects using standard 4 mm banana plug connection leads
- Capture the sun's energy with the solar cell
- Connect to mini motor (not included) and generate enough power to operate a small propeller
- Great tool for science projects, as well as energy conversion and electrical circuit demonstrations

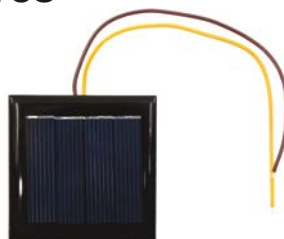


Cat. No.	Price
S80857	\$32.00/Ea

Eisco™ Polycrystalline Solar Cell with Wires

Polycrystalline solar cell includes yellow and red leads, and is ideal for use with other 1.5 V devices including buzzers, motors, lightbulbs, and much more.

- Includes yellow and red leads (approximately 5.5 in. each)
- Excellent for use in a wide variety of science fair projects and classroom demonstrations



Cat. No.	Price
S26590	\$13.75/Ea

Solar Panel with Alligator Clips

Each panel comes with alligator clips to easily hook up and power anything.

- Typical applications include solar model cars, solar model boats, solar toys, solar scientific kits, solar experimental kits, and solar construction kits
- Panels can be connected in series or parallel to increase voltage or current output
- 20 in. insulated alligator clip lead (1 red, 1 black)
- Solar cell type: polycrystalline



Cat. No.	Price
S81194	\$23.50/Ea

Vernier Science Education™ KidWind 2V/400mA Solar Panel

For classroom experiments and basic applications that require more power.

- Includes external screw terminals and attached clip cord for easy handling
 - Dimensions: 6.2 x 12 cm
 - Recommended for college, high school, and middle school science
- Activities performed:**
- Build solar fan
 - Compare efficiency over time without changing the angle of the panel
 - Compare temperature and rate for temperature increase, depending on time of day and ambient air temperature



Concepts:

- Understanding clean energy, and discovering and discussing solar power as an energy source
- Differences between power and energy
- Learning weather and climate
- Exploring circuits, electricity, and magnetism
- Designing controlled experiments
- Analyzing data

WARRANTY: 5-year limited warranty

Cat. No.	Price
S04828ND	\$25.25/Ea

Need help choosing supplies?

Use this curated list of products to restock your physics classroom, and visit fisheredu.com to find even more science education products.



Description	Cat. No.	Quantity
Weight and Density		
Fisher Science Education™ Portable Balances, Capacity: 300 g	S94792C	Each
OHAUS™ Triple Beam Balances, Capacity: 0.61 kg (1.34 lb.)	S40020	Each
Fisher Science Education Analytical Balance with Draftshield, Capacity: 220 g	S72473	Each
Eisco™ Premium Brass Slotted Mass Set	S41488	Each
United Scientific Supplies Properties of Materials Classroom Set	S27839	Each
Eisco Equal Mass Metal Cylinders Set	S07850	Each
United Scientific Supplies Fractional Brass Masses	S40200	Each
Electricity		
Vernier KidWind simpleGEN Easy-to-build AC Generator Kit	S04824ND	Each
Eisco Deluxe Battery Eliminator	S96208	Each
Variable Voltage Power Supply Kit	S46113	Each
Fisher Science Education D-Cell Alkaline Batteries for Science Kits	S05148	8/Pack
Innovating Science™ Stem Investigations: Create Your Own Power Kit	S27135	Each
Heavy-Duty 6V Batteries	S43408	Each
Kemtec™ Series and Parallel Circuits Kit	S27538	Each
Eisco Physics Kit: Electricity System 1	S13471	Each
Magnetics		
United Scientific Supplies Alnico Bar Magnets	S13055	Each
Fisher Science Education Ring Magnet	S04585	Each
Eisco Junior Science Magnet Kit	S13479	Each
Eisco Magnetic Field Demonstrator	S23754	2/Pack
Light		
United Scientific Supplies Prism and Lens Sets	S90324	Each
United Scientific Supplies Whiteboard Optics Set	S05907	Each
Eisco Optics Lens and Mirror Set	S24875	Each
Sound		
Eisco 8 Piece Tuning Fork Sets with Case	S27731	Each
Aqua Phoenix™ Sound and Music Kit	S02092	Each
Mechanics		
Eisco Garage Physics Catapult Kit	S24329	Each
United Scientific Supplies Mini Projectile Launcher	S27831	Each

Solar Car

A great STEM product for K-12 classrooms, camps, or at-home learning about the power of solar energy.

- Made with 3D printed materials and manufactured in the United States, this STEM product will teach your young learner the power of solar energy
- No soldering or batteries are required

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S4131924	\$26.50/Ea

H-Racer 2.0

Combination of hydrogen with oxygen generates a DC current to power an electric motor.

- Unique miniature fuel-cell car and solar hydrogen refueling station
- Refueling station creates hydrogen by electrolysis using water
- Fill the hydrogen fuel tank and the car runs on its own fuel-cell system with the simple flip of a switch
- H-Racer 2.0 features IR, remote-controlled steering
- Grades 3+



Cat. No.	Price
S98604	\$275.00/Ea

Fuel Cell Car Science Kit

Combines cutting-edge science, education, and fun for all.

- Uses a reversible PEM fuel cell that combines electrolysis and power conversion into one device
- Oxygen and hydrogen gases are formed in two transparent water containers
- Steers independently of the user once in operation
- Runs past obstacles; if the car hits a barrier, it automatically reverses 90°
- Grades: 6+



Renewable Energy Education CD

- Renewable Energy Science Education Manual:** Introduces renewable energy in seven chapters—Global Warming and Climate Change, Solar Technologies, Wind Technologies, Electrolyzers, Fuel Cells, Hydrogen Storage, and Basic Electronics
- Experiment manual:** More than 20 experiments for middle to high school level sciences in several sections—Solar Energy, Wind Energy, Energy from Hydrogen (Fuel Cell), and “Ultra Cool” experiments
- Flash animations:** describe and show how a fuel cell works, different types of fuel cells, electrolysis, and various applications for fuel cells
- Assembly guides**
- Technical support with videos**

Cat. No.	Price
S98606	\$166.00/Ea

Physics

Force & Mechanics

Science Cube Kit – ABCs of Physics

Ever wonder how a clock works? Or how a roller coaster stays on its track? Explore all of this in this kit. Make your own timer as you discover how a pendulum clock works. Find out what $F=ma$ means as you learn about force, motion, and just how that roller coaster stays grounded.

- Perfect for group experiments
- Perfect for homeschooling
- Save space when storing in reusable plastic snap box
- Ages 7+

Includes:

- 1 reusable plastic snap box
- 1 stop watch
- 1 tape measure
- 1 single pulley
- 1 double pulley
- 1 table clamp pulley
- 1 spring scale
- 1 wooden ball
- 1 steel ball, 3/4 in.
- 1 steel ball, 1 in.
- 1 Hall's carriage
- 1 weight set
- 1 string
- 1 exploration guide

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



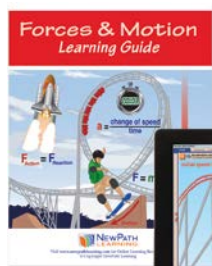
Cat. No.	Price
S89518	\$79.50/Ea

Forces and Motion Student Learning Guide with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.

- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard.



Covers: Motion: Speed and Velocity, Acceleration, Momentum, Force, Friction, Gravity, Newton's First Law of Motion, Newton's Second Law of Motion, and Newton's Third Law of Motion

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S436038	\$16.00/Ea

Work Power and Simple Machines Student Learning Guide with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.

- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard



Covers: What is Work?, Power Measuring, Work and Power, Machines and Work, Mechanical Advantage and Efficiency, Simple Machines, Simple Machines in the Body, and Compound Machines

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S436039	\$16.00/Ea

Physical Science Student Learning Guides with Online Lessons (Set of 10)

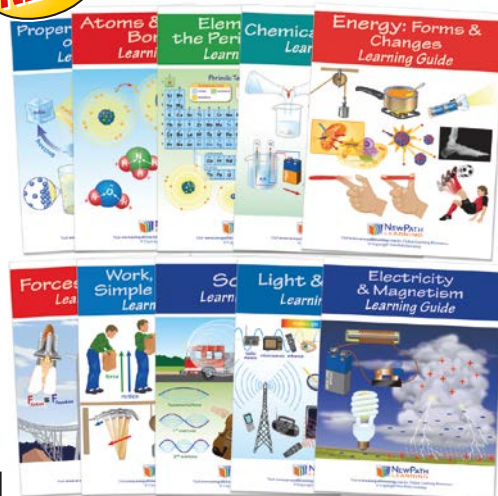


An ideal blended learning solution for use in the classroom or for remote learning/home study.

- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Each student learning guide also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard

Covers: Matter, Atoms and Chemical Bonding, Elements and the Periodic Table, Chemical Reactions, Energy, Work, Power and Simple Machines, Forces and Motion, Electricity and Magnetism, Sound and Light, and Optics

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S436043	\$106.00/Ea

Simple Machines Set

Build all five simple machines at the same time.

Construct, examine and explain simple machines to develop a deeper understanding of how they make work easier.

- Build a lever, pulley, inclined plane, wheel and axle, and wedge
- Explore effort, force, load, motion and distance by modifying with rubber bands
- Pieces assemble easily, separate for storage

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S95876	\$61.50/Ea

Eisco™ Newton's Second Law of Motion Apparatus

Demonstrate Newton's Second Law of Motion with a device that can be mounted to a support stand or a table clamp.

- The apparatus is made of solid metal and designed to last many years in the classroom
- Base is painted blue and is 10 in. x 2.5 in.
- Spring-driven and offers two tensions
- Includes 7.5 in. x 0.50 in. diameter rod to be able to mount on a table clamp or fixed to a support stand
- Complete with two steel balls



Cat. No.	Price
S12939	\$43.50/Ea

Newtonian Collision Ball Apparatus

Classic physics apparatus demonstrates conservation of energy.

Visual demonstration helps students understand properties such as collisions between equal mass bodies, exchange velocities, kinetic energy, and momentum.

- Apparatus comes fully assembled
- Durable, walnut-stained wood frame
- Five nickel-plated, 1 in. diameter (2.5 cm) steel balls
- Dimensions (L x W x H): 9.25 x 7.25 x 8.75 in. (23.1 x 18.1 x 21.9 cm)



Cat. No.	Price
S40976	\$56.25/Ea

New York Demonstration Balance

A great classroom apparatus to help students understand the principles of torque and its properties. This balance helps demonstrate the relationship between length of the lever arm, moment of force, and amount of force.

- Demonstration kit
- Includes everything needed
- Teachers' instructions included

⚠️ ALERTS: Not a toy. Product intended for ages 13 and up.



Cat. No.	Price
S13617	\$51.50/Ea

Eisco™ Rolling Friction Cars

Students can manipulate four cars to explore the force of friction.

- Each car's wheels are made of different material (wood, fabric, soft rubber, soft silicone), and each have different friction coefficients
- By setting cars in motion at the same speeds, students can qualitatively demonstrate frictional properties of rolling without slipping



Cat. No.	Price
S12997	\$53.00/Ea

Eisco™ Adjustable Clamp Pulley

To demonstrate a wide variety of mechanics principles.

- Sturdy metal construction
- Metal sheave can be adjusted from flush with tabletop to 13 cm above it
- Pulley can be rotated to 360° to suit any experimental setup



Cat. No.	Price
S23660	\$26.00/Ea

Eisco™ Economy Force Table, 40 cm Diameter

Economical force table designed to help demonstrate Newton's first law, and the vector nature of forces and equilibrium.

- Heavy cast base with leveling screws
- 40 cm (diameter) durable polymer tabletop carries angle scale with 0.5° divisions, marked every 10° in both rotation directions
- Includes four pulleys and four sets of chrome plated slotted weights (250 g each set)
- Comprehensive teacher's guide is included containing background info, setup instructions, & student activities
- Assembled size: (W x H) 14 x 17 in.



Cat. No.	Price
S96528	\$288.00/Ea

United Scientific™ Economy Force Table

This force table takes what was once only able to be used in front of the class as a demo, and puts it in the students' hands.

Explore Newton's laws of motion and demonstrate the equilibrium of forces with this economic tool. The lightweight design and suction cup feet enable placement on horizontal or vertical surfaces, including whiteboards. Included clamps securely hold spring scales in place while allowing for easy adjustments along the 360° protractor.

Contents:

- 360° protractor with suction cup feet
- 4 spring scales, 500 g
- 4 clamps
- Centering ring

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S83790***	\$37.00/Ea

Eisco™ Hall's Car Pair

Essential items for dynamics experiments.

Use in conjunction with an inclined plane, pulley and weights to study the relationship between work and energy.

- Low-friction wheels
- Oil-free sleeve bearings that never need adjustment
- Durable plastic molded body has a deep well for weights and low profile

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S96317	\$28.75/Pr

Eisco™ Plastic Dynamic Cart Set

Excellent upgrade from the traditional wooden or metallic carts.

Pair of single-piece, virtually unbreakable ABS carts can be used for a variety of precision experiments.

- The body is mounted on a set of three low-friction nylon wheels to produce straight-line travel over long distances
- Lockable spring-load punch has two levels of compression, activated by a trigger knob on top of the cart
- The cushioned cart surface supports the addition of more masses to increase the effective weight of cart
- Carts are stackable to create a single cart of two or three times the basic cart mass
- Velcro™ rear pads enable study of inelastic collisions

Cat. No.	Price
S05833	\$117.00/Ea



Eisco™ Wood Dynamics Carts

Ideal for demonstrating Newton's laws of motion.

- Carts are made with low-friction ball-bearing wheels
- The top surface can be loaded with additional masses
- One cart in each set is equipped with an "exploder piston," activated by a trigger on top that can be preset to three positions
- Spring-steel hoop bumpers can be used for collision and energy experiments

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Weight (English)	Weight (Metric)	Price
S96175	4.6 lb.	2.09 kg	\$71.75/Ea
S96176	5.7 lb.	2.6 kg	\$157.00/Ea

Vernier Science Education™ Dynamics Cart and Track System with Motion Encoder



A revolutionary way for physics students to study dynamics. The Motion Encoder adds an optical position sensing system to record cart motion, and eliminates the need for a motion detector for cart-on-track activities.

- Resolution: 1 mm, maximum useful data rate: 30 Hz

WARRANTY: 5-year limited warranty

Cat. No.	Price
S16275ND	\$547.00/Ea

Eisco™ Hand Held Centripetal Force Kit

Provides necessary tools to discover properties of rotational dynamics.

- The rubber stopper swings around on the end of a string counter balanced by weights
- Allows students to see how mass and radius affect centripetal acceleration and rotational velocity



Cat. No.	Price
S13002	\$9.15/Ea

United Scientific™ Centripetal Force Kit

Help students to investigate the force on an object in circular motion.

Through a series of simple demonstrations, students will better understand the relationship between the radius of the circular motion, the velocity of the moving object, and the external force required to maintain the motion.

Contents:

- Rubber stopper attached to cord approximately 1 m in length
- Plastic tube with beveled ends
- Hanging mass set: 12 aluminum weights - 9 x 20 g, 1 x 10 g, 2 x 5 g



- One 50 g aluminum hanger
- Paperclip (position marker)
- Activity guide included

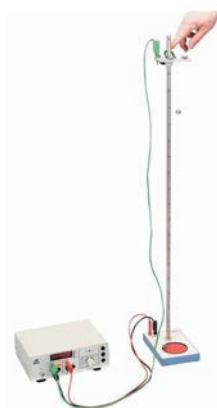
⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S89542***	\$24.50/Ea

Free Fall Apparatus

This dependably accurate item is easy to set up and use.

- A micro-magnet holds ball in start position
- Three contact pins ensure that the start position can be reproduced, and act as contacts of a switch that opens when the ball is released, triggering the timing measurement
- When the ball strikes the contact plate, the timer stops
- Drop height can be adjusted to a fraction of a millimeter
- Measurement is read off a scale on the column



Specifications

- Height scale: 20 to 960 mm
- Scale divisions: 10 mm
- Scale precision: 0.2 mm
- Includes: three steel balls, 16 mm dia.
- Dimensions: 7.875 x 5.125 x 39.375 in. (20 x 13 x 100 cm)
- Weight: 3.5 lb. (1.6 kg)

Cat. No.	Price
S96479	\$691.00/Ea

Eisco™ Hooke's Law Apparatus

Used to teach Hooke's Law in the classroom.

- A 15 cm mirror scale is marked in millimeters and mounted on a sturdy 30 cm support rod and wooden base
- Mirror adjusts to prevent parallax error
- A hook attached to the rod supports a coiled spring with mass hanger and indicator



Cat. No.	Price
S96529	\$28.75/Ea

Eisco™ Helical Spring Set

Demonstrates the extension of a spring in relation to the force applied to it.

- A helical spring has rings at both ends
- Three masses included: 1.1 lb. (500 g), 4.4 lb. (2,000 g) and approximately 0.52 lb. (237 g)
- All masses have double hooks



Cat. No.	Price
S96185	\$49.00/Ea



Eisco™ Visual Scientifics Physical Science System Base and Pendulum



A system that allows students to use all technologies available to learn physics through technology, engineering and real-world applications.

Base (S06893)

A large, robust base with precise magnetic and threaded mounting locations helps students set up experiments easily and quickly with reproducible results.

- Large, magnetic base for sturdily attaching experiments
- High-contrast color grid for easy data collection with video analysis systems
- Each junction in the grid accepts threaded rods for accurate mounting
- Dimensions: 25 x 16 x 2.5 in. (63.5 x 40.6 x 6.35cm)
- Accepts any probeware system

Ballistic Pendulum (S06895)

A great demonstration or experiment as students try to derive the velocity of a ball leaving the launcher. Students can calculate velocity and test their calculations using this system with separate video or probeware system.

- Main Lab: find the velocity
- Extension One: photogate verification of muzzle velocity
- Extension Two: damped simple harmonic motion
- Covers 10 Next Generation Science Standards Concepts
- Covers 17 Common Core Standards
- 27 pages total
- Student workbook is a guide for students to fill out as they work through the main lab and lab extensions
- General Theory Section lays out the theory and mathematics behind the lesson plan
- Experimental Teaching Guide helps teachers prepare lesson plans and lead inquiry or step-based activities
- All labs and extensions include recommendations for video analysis setups
- For use with Physical Science System Base (S06893)

S06895 Includes:

- Spring-loaded launcher, rigid-arm pendulum with barrel, measuring board, ball, small metal rod with handle, extensive instructions to assist with lesson planning, student activities and experimental procedures

Requires: Safety glasses (not included)

- Go to fisheredu.com for additional Visual Scientifics products

Cat. No.	Description	Price
S06893	Physical Science System Base	\$202.00/Ea
S06895	Ballistic Pendulum	\$79.00/Ea

Creation Zone 50 Model Building Set



Set contains 417 pieces to build over 50 unique models.

- Build 50 different models including a dragon, swing ride, robot and more
- Comes in a blue plastic storage tub that holds all K'NEX parts, or partially and fully built models
- Set comes with an easy-to-follow instruction manual. Ideal for kids 5 and up
- STEAMagination - It's the connection of STEAM (science, technology, engineering, arts, and math) with a student's curiosity and creativity. It powers the fun of each K'NEX set
- K'NEX supports the developmental growth of hand-eye coordination, fine motor skills, problem-solving skills, and spatial awareness

Cat. No.	Price
S80753	\$32.00/Ea

Bridge Building Class Pack

Challenge students' mathematical skills with this analytical exercise in creativity.



- Supports a wide variety of curricula including geometry, physics, technology, mathematics and general science
- Build the strongest bridge with the smallest amount of materials
- Bridge efficiency is judged as the ratio of the weight held by the bridge to the weight of the bridge

Cat. No.	Product Type	Price
S41893B*	Balsa Bridge Building Kit	\$130.00/Ea

Kemtec™ Boomilever Test Kit

Includes everything required to test boomilevers for competition, except for the ballast (sand).



- Kit includes a test stand that can fit on any table or lab bench with a lip, a loading block, a boomilever scale, a ballast scale, a scoring sheet, chain, S-hook, bucket, beaker with handle, and plastic tarp
- Meets National Standards for Grades 6-12

Cat. No.	Description	Price
S27541	Boomilever Test Kit	\$394.00/Ea
S27542	Boomilever Test Kit Refill Pack	\$459.00/Ea

Aerodynamics & Flight

Altimeter

A sophisticated and lightweight electronic payload that accurately measures your model rocket altitudes.



- Fully assembled
- A must-have for all rocketeers!
- Includes a 4 digit LCD readout that displays in English or metric units
- Accurately measures model rocket launch altitudes from 0 - 9,999 feet (0 - 3,000 m) and can store up to 10 consecutive flights
- Includes replaceable alkaline battery



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S68261	\$46.75/Cs

Bottle Rocket Launcher

Students can observe the effects of varying moments of inertia.

Pressurize a plastic soda bottle with an ordinary bicycle pump (not included). Vary the amount of pressure and/or water fuel to see whose rocket will go the highest. Experiment with different fin styles to observe how changes in design affect flight paths.



- Solid aluminum construction
- Simple triggering mechanism
- Mounting stakes

Cat. No.	Price
S41988	\$42.75/Ea

Eisco™ Bottle Rocket Launching Platform

Introduces rocket science and concepts involving Newton's laws to students.

- Uses water and pressurized air as fuel
- Bottle rocket launcher attached to sturdy base
- Can launch 2 L plastic soda bottles over 30.4m (100 ft.) in the air
- Using water as liquid fuel, pressurize bottle with bicycle pump (Schafer-type connection, pump not included)
- Bottle is remotely launched from safe distance using corded release mechanism



Applications: Outdoor science toy

Cat. No.	Price
S12993	\$70.00/Ea

Single Stage Engines

For use with model rockets.

- These engines have been proven consistent and reliable in more than 300,000,000 launches
- Refer to the recommended engines listed with your rocket for compatibility
- Quantity: 24/Pk



Cat. No.	For Use With	Price
S41867A	Engines B6-4	\$108.00/Pk
S41871A	Engines A8-3	\$98.00/Pk

Viking™ Rocket

A versatile high flier.

- Customize your rocket with up to 48 different fin configurations
- Easy to assemble
- Ideal for aerodynamic experiments and comparisons
- Quantity: 12/Pk



Cat. No.	Includes	Price
S41995PK	Molded nose cone, a single piece body tube, card stock fins and self-stick decals	\$92.00/Pk

Altitrak and Mini Altitrak

Measure the maximum altitude of your rocket.

Altitrak (S41861)

- Gathers experiment performance and altitude data
- Track rocket in flight with easy-to-use sights
- Follow rocket to its apogee, then lock trigger to the reading
- Instantly and accurately determine peak altitude
- Displays altitude in meters and elevation angle in degrees



Mini Altitrak (S68263)

- Uses a gravity protractor to present the angle from your body to the apogee of your rocket flight
- With the distance from the launchpad to your body, use simple geometry to calculate the height of your rocket flight, then challenge your students to engineer solutions to optimize their rocket's altitude
- Quantity: 3/Pk

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Description	Price
S41861	Altitrak	\$43.50/Ea
S68263	Mini Altitrak	\$12.75/Pk

Star Hopper

No glue required for this easy-to-build, no paint, retro-style kit.

- Launch to 400 feet and recover with the 24-in. streamer
- Great for small fields

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S68265	\$16.00/Cs

Phantom

Present the inner workings of a rocket and to help explain how rockets work.

- Made with clear plastic parts
- Only requires 15 minutes and glue to assemble
- Phantom will become your go-to rocket for classroom rocket experiments, demonstrations and displays.
- For display only. Not a flying model.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S68264	\$23.50/Cs

Green Eggs Rocket

Test payload theories while creating an “egg-static” rocket launching experience.

- Egg-lofting rocket designed for C11 and D12 engines
- Carrying a regular size raw egg as a payload comes very close to exceeding max lift capability of most C6 engines used in other egg loft kits
- Use a C11 and you get a safe stable flight and a recovery suited for small sized flying fields

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



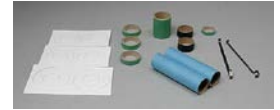
NEW

Cat. No.	Price
S68270	\$25.50/Cs

Regular Engine Mount Kit

Engine mount kit.

- Regular engine mounts
- Easy to assemble with complete instructions
- This engine mount kit fits BT-50, 55, 56 and 60 body tubes
- Also can be used to make a conversion mount for lightweight D-powered rockets



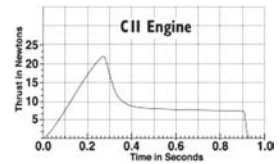
Cat. No.	Price
S13195	\$11.00/Ea

C11-3 Engines

A single stage engine designed for model rocket flight.

- This engine is a 24 mm diameter engine designed for rockets with a maximum lift weight of less than 6 ounces
- Each package includes 2 engines, 2 starters and 4 starter plugs

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682707	\$10.75/Cs

C11-3 Engines Bulk Pack

Convenient and include everything your students need to prepare their rockets for launching.

- Engine bulk packs come with all the rocket engine supplies you need to launch 12 rockets.
- Included are 12 rocket engines, 20 model rocket starters, 16 reusable starter plugs and 144 squares of recovery wadding.
- Use the C11-3 engine to launch these rockets: Green Eggs, Eggs caliber, Big Daddy and Odyssey.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682708	\$60.75/Cs

YOUR STEM PROGRAM
MAKE IT AMAZING!

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REMOTE LEARNING
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B6-6 Engines

An upper stage engine designed for model rocket flight. This engine can also be used as a single stage engine in lightweight rockets. Each package includes 3 engines, 4 starters and 4 plugs.

- The Estes B6-6 engine is an upper stage engine designed for model rocket flight.
- This engine can also be used as a single stage engine in lightweight rockets.
- Each package includes 3 engines, 4 starters and 4 plugs.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682703	\$12.75/Cs

STARTECH Starters

Starters have a pyrogen-like tip, making it a more capable and reliable starter for the new age of rocketry.

- The new StarTech starters stay true to the design of the original, with one key addition.
- The small nichrome wire, the one that heats the propellant at launch, has been dipped in a specially crafted chemical compound that reacts with the heat of the wire to create a large burst of heat and pressure that ensures ignition.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682704	\$7.40/Cs

1/2A3-4T Engines

A single stage model rocket engine with a short delay ejection charge for use in small, lightweight model rockets. This engine is 13 mm in diameter and intended for launching model rockets weighing less than 2 ounces, including the engine. Each package includes 4 engines, 4 starters and 4 mini starter plugs.

- The Estes 1/2A3-4T is a single stage model rocket engine with a short delay ejection charge for use in small, lightweight model rockets.
- This engine is 13 mm in diameter and intended for launching model rockets weighing less than 2 ounces, including the engine.
- Each package includes 4 engines, 4 starters and 4 mini starter plugs.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682705	\$12.25/Cs

B6-0 Engines

A booster stage engine designed for model rocket flight and has to be used with a standard engine. This engine is for flights in rockets weighing less than 4 ounces, including the engines. Each package includes 3 engines, 4 starters and 4 plugs.

- The Estes B6-0 engine is a booster stage engine designed for model rocket flight and has to be used with a standard engine.
- This engine is for flights in rockets weighing less than 4 ounces, including the engines.
- Each package includes 3 engines, 4 starters and 4 plugs.

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S682706	\$12.75/Cs

Eisco™ Spring-Loaded Projectile Launcher

Launch a projectile at any angle from -15° to $+90^\circ$ straight up.

- Solidly built to withstand the rigors of a hands-on lab, and precision machined for reproducible results
- Clamps to any tabletop, compatible with an electronic timer
- Angle adjusts with launcher mount, then locks into place with auxiliary brace
- Combination of launcher mount and brace means maximum flexibility plus great rigidity
- Measure your angle to within 0.5° accuracy with plumb bob
- Range is up to 10 ft. (3 m) and is infinitely adjustable



Cat. No.	Price
S96174	\$161.00/Ea

Projectile Launcher

Alter the mass of projectiles and observe the effect on their trajectories. Features a built-in clamp to fasten the device securely to tabletops.

- Students can alter the mass of the ball and observe the effect on the ball's trajectory
- The launcher features a spring loaded trigger and easy to use release mechanism that can be adjusted for tension
- A protractor and plumb bob are fixed to the face of the apparatus for determining the angle of inclination
- The built-in clamp is used to secure the apparatus to a tabletop
- Four holes spaced 5 cm apart are located at the top and bottom edge and are used for attaching a photogate (not included)
- The kit also includes three 25 mm balls, each with a different mass: aluminum, lead, and steel



Cat. No.	Price
S13995	\$113.00/Ea

Vernier Science Education™ Projectile Launcher, Software Compatible

Ideal for investigating important concepts in two-dimensional kinematics.



- Launch steel balls at angles between 0 and 70 degrees and over distances up to 2.5 m
- The solid, heavy base provides an easy-to-use and reliable setup
- A unique pneumatic launching system provides excellent repeatability and allows you to set the launch speed
- Built-in photogates and angle markings provide easy and accurate measurement of the ball's launch velocity, allowing for precise quantitative analysis of projectile motion—Simply plug the device into a compatible data-collection interface

Specifications:

- Launch angle: 0 to 70 degrees
- Launch speed: 0–6 m/s
- Launch height: 146 mm
- Maximum launch distance: 2.5 m
- Internal photogate interval: 50 mm
- Steel ball diameter: 17.46 mm
- Steel ball mass: 21.8 g

Data Collection Interface and Software Compatibility

Data collection with the projectile launcher is possible with the following combinations of interfaces and software.

- **Logger Pro 3:** Use version 3.8.5 or newer with LabQuest™ 2, original LabQuest™, LabQuest™Mini, and LabPro™
- **LabQuest App:** Use LabQuest 2 or original LabQuest with version 1.6 or newer when LabQuest is used as a standalone device
- **DataQuest™ Software for TI-Nspire™:** Use this application with TI-Nspire Technology and the TI-Nspire Lab Cradle
- **EasyData App:** Use this app with a TI-83 Plus or TI-84 graphing calculator and LabPro or CBL 2™
- **LabVIEW™** National Instruments LabVIEW software is a graphical programming language and used with SensorDAQ. Contact Vernier for more information concerning compatibility

Cat. No.	Price
S15975ND	\$477.00/Ea

Volume & Density

Eudiometers

Measures change in volume of gas mixture following a physical or chemical change.

- Capacity: 50 to 100 mL
- Subdivisions at 0.1 to 0.2 mL



Cat. No.	Capacity (Metric)	Price
S32353	50 mL with subdivisions at 0.1 mL	\$63.25/Ea

United Scientific™ Equal Volume Cylinders



Ideal for specific gravity, density, volume and calorimetry experiments.

- Available as individual and set of cylinders
- Made of aluminum, brass, copper, steel, PVC and wood

Cat. No.	Product Type	Material	Price
S07034	Cylinder Set	Aluminum, Copper, Steel, Brass	\$21.00/Ea
S07021	Cylinder	Aluminum	\$4.25/Ea
S07023	Cylinder	Brass	\$4.95/Ea
S07024	Cylinder	Copper	\$6.50/Ea
S07025	Cylinder	PVC	\$4.05/Ea
S07022	Cylinder	Steel	\$4.25/Ea
S07026	Cylinder	Wood	\$3.65/Ea

Eisco™ Square Density Blocks

Perfect for students studying mass, volume, and density.

- Density Block set consists of 9 blocks 1 in. square blocks
- Materials included brass, iron, copper, aluminum, hardwood, softwood, nylon, PVC and acrylic
- Supplied in 5.75 in. x 5.75 in. x 1.25 in. wooden box with hinges and clasp



Cat. No.	Price
S12916	\$76.00/Ea

Eisco™ Metal Density Cubes Without Hook

Designed for density exploration and experiments.

- Solid cubes, 20 mm each size
- Stamped with element
- Quantity: 6/Pk



Cat. No.	Material	Price
S24860	Brass, Lead, Zinc, Copper, Aluminum, Iron	\$29.75/Ea

Eisco™ Density Identification Cylinder

Helps students to identify and figure out mass, volume and density.

- 12 density cylinders
- Wooden holder to keep all cylinders together and organized
- This set contains different metal, plastic, and wooden materials



Cat. No.	Price
S12924	\$54.50/Ea

United Scientific™ Density Cube Sets

Demonstrate a variety of densities with equal sized cubes.

- Each set includes one cube of each material for density studies
- Each cube in the set has equal dimensions



Cat. No.	Description	Includes	Price
S23978	Plastic storage box	One each of acrylic, oak, pine, poplar, steel, aluminum, copper, brass, nylon, PVC, lignum vitae, and polypropylene cubes; Plastic storage box	\$41.50/Ea
S23979	Wooden storage box	One each of acrylic, oak, pine, poplar, steel, aluminum, copper, brass, nylon, and PVC cubes packaged in wooden storage box and a reference table	\$37.00/Ea

United Scientific™ Density Kit

This kit is ideal for teaching students how to make measurements in the metric system.

- Apply measurements to determine density using the formula $\text{Density} = \text{Mass} / \text{Volume}$
- Includes metric ruler, aluminum bar (76 x 25 x 6 mm), aluminum cube (13 mm), steel sphere (13 mm) and glass sphere (13 mm)



Cat. No.	Price
S81069	\$11.50/Ea

Density Rod

To compare the density of different materials.

- Available in square wood block
- Measure mass using scale, volume using graduated cylinder, and density



Cat. No.	Includes	Price
S13642	Set of 12 Aluminum	\$29.50/Ea

Density Cube Set

Demonstrates density experiment in a dozen ways.

- 12-cube set for density experiments
- Lignum Vitae (ironwood), one of the heaviest and hardest woods, sinks in water, but because it is wood, your students may expect it to float
- Polypropylene floats in water, but because it is dense plastic, your students may expect it to sink
- 12 one-inch cubes, with instructions and storage case



Cat. No.	Price
S96830	\$36.50/Pk

Eisco™ Specific Gravity Metal Cylinder Set

A set of four different metal cylinders.

- Made of aluminum, zinc, copper, and steel
- L x diameter: 38 x 10 mm
- Supplied in plastic box



Cat. No.	Price
S12803	\$18.50/Ea

Eisco™ Specific Gravity Cubes

Investigate a range of specific gravities.

- 0.79 in. (20 mm) cubes with hooks
- Set includes brass, iron, aluminum and zinc cubes



Cat. No.	Price
S99390	\$18.25/Ea

Heat & Thermodynamics

Eisco™ Heat Transfer Kit

Introduces concepts of thermal energy and heat transfer to students.

- Features an aluminum heat transfer bar to demonstrate the migration of thermal energy between two Styrofoam calorimeters



Cat. No.	Price
S12996	\$35.25/Ea

Energy Transfer Demonstration

Investigate the transfer of heat between hot and cold liquids. Students can observe heat being transferred through an aluminum bar between two calorimeters by measuring the temperatures over time in each.



- The heat will flow through a heavy aluminum bar dipping into each of the two liquids
- The liquids will be contained in insulated containers, calorimeters, so that temperature changes you observe will be almost entirely due to heat moving through the aluminum bar
- The cup on the right will contain water and the cup on the left can contain a variety of liquids including salt water and alcohol
- The kit includes two insulated cups, two thermometers, an aluminum heat transfer bar, and instructions

Cat. No.	Price
S13993	\$49.75/Ea

Heat Transfer Kit

Observe and measure the transfer of heat between two water samples of different temperatures.



- Includes two insulated containers with slotted lids, a U-shaped aluminum transfer bar and two thermometers
- Grades 6 to 12

Cat. No.	Description	Price
S53012	Heat Transfer Kit	\$29.50/Ea

Five Metal Heat Conductometer

This tool is perfect for classroom demonstrations of heat conduction principles. Contains one spoke each of aluminum, steel, brass, copper, and nickel extending from a central hub.



- Consists of five different metal spokes that extend from a center hub which is connected to a wooden handle
- When the hub is heated, students watch as wax falls from each spoke in the order of highest conductivity
- Wax and instructions included
- Metals include aluminum, steel, brass, copper, and nickel

⚠️ ALERTS: Intended for ages 13 and up.

Cat. No.	Price
S13644	\$14.25/Ea

Ice Melting Set

Two black blocks simply and quickly demonstrate differences in heat conductivity.



- One block is made from aluminum, which is an excellent conductor of heat
- The second block is made from plastic foam, which is a poor conductor of heat
- Place an ice cube on each block and watch as one quickly melts away
- The rim on each block prevents spillage

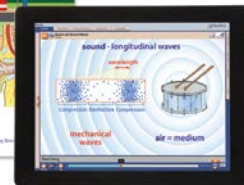
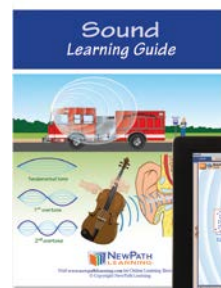
Cat. No.	Price
S68112	\$30.75/Ea

Waves, Sound, & Light

All About Sound Student Learning Guide with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.



- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard.

Covers: Introduction to Waves, Waves: Length and Frequency, Wave Interactions, Sound Waves, Aspects of Sound, Doppler Effect, Hearing Sound, Musical Sounds, and Applications of Sound Waves

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

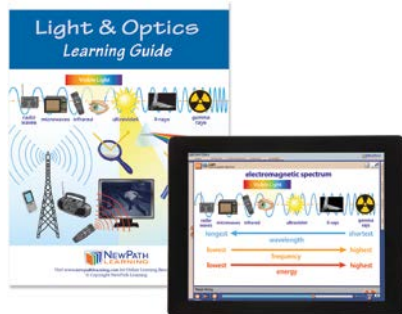
Cat. No.	Price
S436040	\$16.00/Ea

Light and Optics Student Learning Guide with Online Lesson

NEW

An ideal blended learning solution for use in the classroom or for remote learning/home study.

- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrated explanations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard.



Covers: Introduction to Light, The EM Spectrum, Transmission of Light, Light and Color, Interactions with Light, Reflections and Mirrors, Refraction and Lenses, Light and the Human Eye, and Light in Technology

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S436041	\$16.00/Ea

Kemtec™ Light and Sound Activity Stations

Activities help teach middle school students to explain phenomena they observe in terms of the properties of light and sound.

- Includes a wave simulator students can build, activities for modeling the reflection, refraction, and absorption of light, and activities for exploring the relationship between vibration and sound
- Students explore the electromagnetic spectrum, mirrors, prisms, lenses, and digital and analog signaling
- Includes extension activities for demonstrating proficiency
- Meets National Standards for grades 6 to 8



Cat. No.	Price
S27536	\$425.00/Ea

Science Cube Kit – Discovering Optics

NEW

No matter how complicated a camera, a telescope, or a microscope is, it consists of one or more of these basic elements: mirrors, lenses, and prisms. Explore the principles of reflection, refraction, and the physics of how light works, as you discover all about optics.

- Perfect for group experiments
- Perfect for homeschooling
- Save space when storing in reusable plastic snap box
- Ages 7+

Includes:

- 1 reusable plastic snap box
- 1 flexible mirror
- 1 cylindrical double concave lens
- 1 cylindrical double convex lens
- 1 small equilateral prism
- 1 small mirror
- 1 laser
- 4 cards
- 1 exploration guide

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S89519	\$34.50/Ea

Eisco™ Visual Scientifics Wave Demonstration Set

Introduces the concepts of standing waves, nodes, tension, and speed.

- Helps students understand various concepts like: effect of amplitude of pulse, length, tension and material of spring on speed of pulse
- Includes 10+ page instruction booklet covering approximately two to three hours of class/lab time material, 10+ Next Generation Science Standards concepts, and 10+ Common Core standards
- Every module includes comprehensive instructions to assist with lesson planning, student activities and experimental procedures
- All labs and extensions feature recommended video analysis, setups, and guides



Cat. No.	Price
S07814	\$49.50/Ea

United Scientific™ Wave Demonstrator Set



Includes two helical springs and a length of cotton string.

- Long, narrow spring measures 0.75 x 72 in., and can be extended to 5 m
- Larger spring measures 3 x 4 in. and can be extended many times its length without distortion

Cat. No.	Price
S06685	\$30.25/Ea

Eisco™ Wave Apparatus

Demonstrate both longitudinal and transverse wave motions.

- Consists of a number of eccentric discs supporting a series of metal rods revolving on a handle
- Transverse waves are obtained from the straight rods and longitudinal waves are obtained from the bent rods



Cat. No.	Price
S12967	\$103.00/Ea

Economy Chromatic Set of 13 Tuning Forks

These economy grade tuning forks illustrate the 12-tone “Well Tempered” musical scale, and are individually tested to assure that the proper pitch is achieved.

Includes 1 each of:

- Middle C; 261.53 Hz
- C#; 277.18 Hz
- D; 293.66 Hz
- D#; 311.13 Hz
- E; 329.63 Hz
- F; 349.28 Hz
- F#; 369.99 Hz
- G; 392 Hz
- G#; 415.3 Hz
- A; 440 Hz
- A#; 466.16 Hz
- B; 493.88 Hz
- C; 523.6 Hz
- Comes in an attractive and practical foam lined wooden storage case



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S81831	\$129.00/Ea

Superior Chromatic Set of 13 Tuning Forks



These tuning forks are tuned to Bach's well-tempered musical scale and are made of heavy gauge aluminum.

Includes 1 each of:

- 261.63 Hz 'Middle C'
- 277.18 Hz 'C Sharp'
- 293.7 Hz 'D'
- 311.13 Hz 'D Sharp'
- 329.63 Hz 'E'
- 349.23 Hz 'F'
- 369.99 Hz 'F#'
- 392 Hz 'G'
- 415.3 Hz 'G Sharp'
- 440 Hz 'A'
- 468.16 Hz 'A Sharp'
- 493.88 Hz 'B'
- 523.26 Hz 'C'
- Each tuning fork is calibrated to within ± 1 vibration per second
- Kit comes in an attractive and practical foam lined wooden storage case



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Price
S81832	\$190.00/Ea

Adjustable Tuning Fork



One tuning fork can teach so much and save space. Simply slide the weights on each prong of this tuning fork to deliver tones at in a range of specific frequencies.

Includes 1 each of:

- C: 128 Hz
- D: 144 Hz
- E: 160 Hz
- F: 170.7 Hz
- G: 192 Hz
- A: 213.3 Hz
- B: 240 Hz

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S81834	\$32.50/Ea

CAREER TECHNICAL EDUCATION
A HEAD START ON STEM CAREERS

Visit fisheredu.com/nursingcte for a full list of products to support your nursing, med tech and other CTE Programs.

Music Tuning Fork Set of 8 with Activator

This high-quality kit is tuned to correspond to a 'Tempered' C major scale and includes a rubber activator to avoid damaging the forks.

Includes 1 each of:

- 261.6 Hz, 'C'
- 293.7 Hz, 'D'
- 329.6 Hz, 'E'
- 349.2 Hz, 'F'
- 392 Hz, 'G'
- 440 Hz, 'A'
- 493.9 Hz, 'B'
- 523.2 Hz, 'C'
- Zippered canvas carrying case
- Rubber activator

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S81836	\$96.50/Ea

Aluminum Tuning Fork Set Of 8 with Mallet

These superior grade tuning forks range from 256 Hz to 513 Hz and are individually tested to assure that the proper pitch is achieved.

Includes 1 each of:

- 256 Hz, 'C'
- 288 Hz, 'D'
- 320 Hz, 'E'
- 341.3 Hz, 'F'
- 384 Hz, 'G'
- 426.6 Hz, 'A'
- 480 Hz, 'B'
- 512 Hz, 'C'
- Includes a rubber tipped mallet to serve as an actuator
- Attractive Styrofoam and foam rubber lined wooden storage box

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S81837	\$63.25/Ea

Aluminum Tuning Forks Set of 13 with Mallet

Tuning forks range from 100 Hz to 4096 Hz. These superior grade tuning forks are individually tested to assure that the proper pitch is achieved.

Includes 1 each of:

- 100 Hz
- 128 Hz, 'C'
- 256 Hz, 'C'
- 288 Hz, 'D'
- 320 Hz, 'E'
- 341.3 Hz, 'F'
- 384 Hz, 'G'
- 426.6 Hz, 'A'
- 480 Hz, 'B'
- 512 Hz, 'C'
- 1024 Hz, 'C'
- 2048 Hz, 'C'
- 4096 Hz, 'C'

• Includes a rubber tipped mallet to serve as an actuator
 • Attractive Styrofoam and foam rubber lined wooden storage box
⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Price
S81838	\$100.00/Ea

Aluminum Superior Grade Tuning Forks

Individually tested for accuracy.

- Non-magnetic, corrosion-resistant aluminum alloy construction for light weight and durability
- Delivers clear tone, longer sound, and accurate tuning
- Each tuning fork is stamped with frequency and tone

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



NEW

Cat. No.	Frequency	Price
S81839	100 Hz, low frequency	\$11.50/Ea
S81840	128 Hz 'C'	\$11.50/Ea
S81841	256 Hz 'C'	\$11.50/Ea
S81842	288 Hz 'D'	\$11.50/Ea
S81843	320 Hz 'E'	\$11.50/Ea
S81844	341.3 Hz 'F'	\$11.50/Ea
S81845	384 Hz 'G'	\$11.50/Ea
S81846	426.7 Hz 'A'	\$11.50/Ea
S81847	480 Hz 'B'	\$11.50/Ea
S81848	512 Hz 'C'	\$11.50/Ea
S81849	1,024 Hz 'C'	\$11.50/Ea
S81850	2,048 Hz 'C'	\$11.50/Ea

Musical Superior Grade Tuning Forks



Superior performance and consistent frequency accuracy.

- Non-magnetic, corrosion-resistant aluminum alloy construction for light weight and durability
- Delivers clear tone, longer sound, and accurate tuning
- Each tuning fork is individually tested for accuracy and stamped with frequency and tone



⚠️ ALERTS: CHOKING HAZARD.
Small parts. **NOT** for children under 3 yrs.

Cat. No.	Frequency	Price
S81851	261.63 Hz 'C'	\$12.50/Ea
S81852	293.7 Hz 'D'	\$12.50/Ea
S81853	349.23 Hz 'F'	\$12.50/Ea
S81854	341.3 Hz 'F'	\$12.50/Ea
S81855	369 Hz 'F#'	\$12.50/Ea
S81856	392 Hz 'G'	\$12.50/Ea
S81857	440 Hz 'A'	\$12.50/Ea
S81858	493.9 Hz 'B'	\$12.50/Ea
S81859	523.3 Hz 'C'	\$12.50/Ea

Eisco™ Resonant Tuning Fork Set

Demonstrates acoustical resonance and sympathetic vibration.

- Generates 440 Hz vibrations
- Forks mounted on wooden resonance boxes



Cat. No.	Price
S96193	\$222.00/Ea

Eisco™ Tuning Forks, Set of Eight

Demonstrate eight different frequencies with one set.

- Forks vibrate with these frequencies: 256, 288, 320, 341.3, 384, 426.6, 480 and 512 Hz
- Mallets are made with one hard and one soft end
- Cushioned for safe storage



Cat. No.	Price
S96194	\$58.50/Ea

United Scientific™ Optics Set

Explore the world of light reflection and refraction.

Basic optics set can be used by itself or with the current optics experiments.

- Two acrylic lenses (one double convex and one double concave)
- Three mirrors (one convex, one concave and one plane)
- Comes in a wood storage box



Cat. No.	Price
S66968	\$45.00/Ea

Eisco™ Enhanced Optical Bench Set

For performing experiments in optics.

- Bench graduated on one side
- Includes halogen lamp



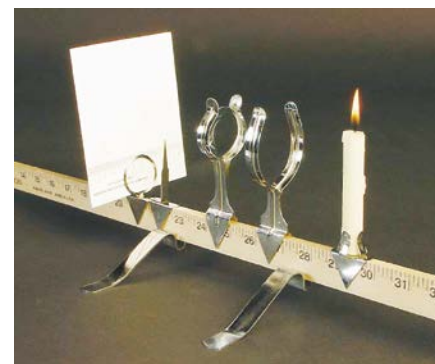
Cat. No.	Price
S13478	\$127.00/Ea

United Scientific™ Optical Bench Set With Meter Stick

Contains sufficient equipment for high school physics applications.

Contents:

- 1 meter stick
- 1 screen support
- 2 lens supports for 38 mm and 75 mm lenses / mirrors
- 5 board screens measuring 10 x 12.5 cm with a millimeter scale on both sides
- 1 marker and object
- 2 metal supports for meter stick
- 1 candle holder
- 1 paraffin candle



Cat. No.	Product Type	Price
S05912	Optical Bench Set	\$33.00/Ea

Eisco™ Light Box and Optical Set

For reflection, refraction and color mixing experiments.

Light Box

- Light source produces convergent, divergent or parallel beams
- One end of the box is constructed with adjustable cylindrical convex lens for parallel beams
- Other end has a triple aperture system for color mixing experiments (lateral apertures have an adjustable hinged mirror)
- All apertures designed with vertical channels to hold slit plates and color filters

Optical Set

- Two black plates supplied with three narrow slits at one end and one narrow slit at the other
- Third black plate provides four narrow slits at one end and one wide slit at the other
- Set of seven mounted color filters



Cat. No.	Price
S96022	\$139.00/Ea

Kemtec™ Light & Color Kit

Includes fourteen activities and four demonstrations to introduce students to the properties of light.



- Kit includes fourteen activities and four demonstrations
- Introduce properties of waves, properties of light, and the electromagnetic spectrum
- Includes reflection of light, pool reflections, reflection from plane mirrors, reflection from concave and convex mirrors, refraction through concave and convex lenses
- Students can use a prism to separate white light into the colors of the visible spectrum
- Teaches how reflection determines color, mixing primary colors of light, and mixing the primary colors of pigments
- Includes the materials needed for a station-based investigation: reproducible student data sheets, assessment questions, and answer keys
- Addresses national standards for grades 5-8

Cat. No.	Price
S30805	\$314.00/Ea

Eisco™ Newton's Color Disc

Rotating multicolored disc demonstrates that white light is composed of all the spectral colors.

- Multicolored disc is mounted on a driving wheel secured to a metal stand
- Hand crank drives the belt that rotates the color wheel
- Disc dia.: 7.1 in. (180 mm)



Cat. No.	Price
S99384	\$38.50/Ea

Diffraction Viewing Glasses

See the spectrum with these "specs."

- Cardboard glasses use a small, flexible, diffraction grating that breaks up light into the colors of the spectrum
- Great for classroom spectroscopy experiments and elementary physical science investigations
- Individually sold glasses have green frames; packs have assorted color frames



Cat. No.	Quantity	Price
S48814A	10 assorted color frames	\$14.00/Pk
S48814	1 green frame	\$1.00/Ea

Eisco™ Boxed Set of Prisms

Variety of shapes for different demonstrations.

- Set of six prisms
- Clear acrylic, all sides are polished



Cat. No.	Price
S96195	\$60.00/Ea

United Scientific™ Acrylic Prism

Provides excellent clarity for optics demonstrations.

- Right angle prisms manufactured from acrylic glass.
- Smooth, polished surfaces
- Available in a variety of sizes



Cat. No.	Description	Length	Thickness	Price
S14900***	Acrylic Prism	2.6 in. (67 mm)	47 mm	\$10.50/Ea
S14901***	Acrylic Prism	3 in. (75 mm)	25 mm	\$9.25/Ea

United Scientific™ Glass Equilateral Prism



This prism is of high quality and easy to use.

Equilateral prisms made from high quality glass sheet.

- Highly polished surfaces
- Easy to use



Cat. No.	Description	Length	Thickness	Price
S14902***	Glass Equilateral Prism	1 in. (25 mm)	25 mm	\$12.50/Ea
S14903***	Glass Equilateral Prism	3 in. (75 mm)	25 mm	\$15.50/Ea
S14904***	Glass Equilateral Prism	3.9 in. (100 mm)	25 mm	\$21.50/Ea
S14905***	Glass Equilateral Prism	5.9 in. (150 mm)	25 mm	\$28.50/Ea

United Scientific™ Prism and Lens Set

Teach a wide variety of optical principles.

Glass and acrylic sets each have seven components.

- Double convex lens
- Double concave lens (can be used together with double convex lens)
- Semicircular lens
- Trapezoidal prism
- Small right-angle prism
- Equilateral prism
- Large right-angle refraction prism



Specifications:

- Housed in a wooden case
- Shipping weight: 2 lb. (0.9 kg)
- Box dimensions: 9.25 x 8 x 2 in. (23.1 x 20 x 5 cm)

Cat. No.	Description	Price
S90324	Acrylic Prism and Lens Set	\$90.00/Ea

Eisco™ Universal Mirror

Helps students perform experiments using light rays with plane, concave, and convex mirrors.

- Made from stainless steel



Cat. No.	Price
S24359	\$6.60/Ea

United Scientific™ Double Convex Lens

High quality and safe for students.

- Made from plate glass
- Carefully ground and polished optical surfaces, and cleanly ground edges



Cat. No.	Price
S81063***	\$3.95/Ea

United Scientific™ Flexible Acrylic Mirrors



Flexible, double-sided, acrylic mirrors.

- Available in various sizes and assortments

Cat. No.	Dimensions	Quantity	Price
S07369	4 x 6 in.	3/Pk	\$22.75/Pk
S07370	8.5 x 11 in.	4/Pk	\$51.75/Pk
S07371	4 each of 6 x 7.5 in, 3 x 4 in, and 2 x 3 in.	12/Pk	\$33.50/Pk

Vernier Science Education™ Optics Expansion Kit

Add this kit to your Dynamics Cart and Track System 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.



- Combination LED point and luminous light source with power supply
- Three lenses integrated with holders (100, 200, and 150 mm focal length)
- Screen and holder
- Light sensor holder
- Aperture screen and holder
- Power supply
- The parts of the Optics Expansion Kit snap on to the track, so that the parts can be left in place while the track is moved. The three lenses are permanently mounted in three plastic supports. The light source is LED-based, so that it uses less energy and is cool to the touch. A rotating disc on the light source gives you the option of a radiant object, a point source, an L with 2 by 1 cm dimension, and parallel lines for resolution experiments. The power supply is the same as the LabQuest power supply. An additional aperture plate is included for experiments based on lens diameter and shape.

WARRANTY: 5-year limited warranty

Cat. No.	Price
S16054ND	\$216.00/Ea



United Scientific™ Laser Pointer with Holder



Students can securely hold a laser pointer at any angle, and the clip can hold the toggle button in the “on” position for extended demonstrations and experiments.

- The laser support rod is 8 in. long and has a vinyl coated clip to hold the laser pointer securely without scratching
- The heavy cast iron base is 4 x 6 in. with black enamel finish
- The 18 in. long zinc-plated steel rod has a diameter of 5/16 in.
- The swivel clamp gives you the freedom to adjust the angle of the laser pointer 360°
- The clamp is plated steel and accepts rods up to 3/4 in. diameter (19 mm)
- Length across clamps is 4.5 in.
- The red laser pointer operates on a push-button switch and is housed in a rubberized aluminum pen-style case
- The laser is Class 3R and is 6 in. long x 0.5 in. diameter
- Red laser pointer has a maximum output of 5 mW and a wavelength of 650 nm (± 10 nm)
- Range of beam is 100 meters
- Expected operating life is 1,000 hours
- Operates on two AAA batteries (which are included)

⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.



Cat. No.	Price
S89543	\$39.00/Ea

Laser Pointers

Designed for presentations and instructions.

- For indoor and outdoor use
- Batteries included: 2 AAA
- Laser class: IIIA
- Max. power output: 5 mW
- Dimensions (S14229): 0.43 x 5.3 in. (1.09 x 13.4 cm)
- Dimensions (S14230): 0.625 x 5.87 in. (1.5 x 14.9 cm)

WARRANTY: One year

Cat. No.	Description	Construction	Range	Price
S14229	Spectra Red Laser Pointer, 650 nm	Aircraft Aluminum, Black	Over 500 yards	\$22.50/Ea
S14230	Sotonic Green Laser Pointer, 532 nm	Brass, Matte Black	Over 1 mile	\$74.00/Ea



Eisco™ Quantitative Spectroscope

A quantitative spectroscope for measuring wavelength and color of light.

- Diffraction grating with series of parallel slits; 500 lines/mm separates white light into its spectrum
- Measures wavelengths from approximately 400 to 700 nm
- Accuracy of ± 5 nm for precise measurement
- Versatile for measuring spectras emitted from gas tubes, flame tests and basic astronomy applications

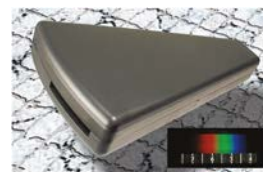


Cat. No.	Price
S07816	\$7.10/Ea

Quantitative Analysis Spectroscope

A highly accurate diffraction grating spectroscope.

- Housed in an unbreakable plastic case
- Wavelength range: 4,000 to 7,000 Å
- Accuracy: ± 50 Å
- Overall length: 7.88 in. (20 cm)
- Scale length: 1.5 in. (37 mm)



Cat. No.	Price
S42581A	\$9.90/Ea

Eisco™ Economy Spectroscope Tubes

Designed to let students look through a slit spectrum of light decomposed by an optical system. Students can quickly identify constituent wavelengths of visible light in many sources.

- Basic spectroscopes able to view variable light spectra
- Resulting spectra as viewed through the grating introduces students to many properties of visible light and optics
- Hold it up to different lights to observe which wavelengths are present
- Light enters through the slit and is split by the diffraction grating at the other end
- Perfect activity for students at school or kids at home
- An adjustable thin slit cap rotates to produce diffraction patterns in the desired direction
- 15/Pack



Cat. No.	Price
S14007	\$37.25/Pk

Mounted Spectroscope

Observe the visible line spectra of metals and gases, as well as the absorption spectra of solutions and gases.



- Replica diffraction grating instrument with a scale shows the approximate wavelengths in nanometers
- Identify elements when vaporized by heat
- Identify colored solutions which produce absorption spectra
- View prominent Fraunhofer lines
- One-piece aluminum casting serves as the body of the spectroscope
- Diffraction grating replica of 15,000 lines per inch
- Use any convenient light for illumination

Cat. No.	Price
S42550	\$582.00/Ea

United Scientific™ Spectrum Tubes

The classic demonstration of spectral lines.

Acquaint students with the spectra of common gases in their pure form while demonstrating concept of wavelength.



- 25 cm (10 in.) long
- Capillary portion about 4 in. (10 cm) long

Note: For intermittent use only; 30 seconds on requires 30 seconds off while in use.

Cat. No.	Product Type	Price
S06994	Hydrogen Spectrum Tube	\$31.75/Ea
S06995	Helium Spectrum Tube	\$31.75/Ea
S06996	Neon Spectrum Tube	\$31.75/Ea
S06997	Oxygen Spectrum Tube	\$31.75/Ea
S06998	Water vapor Spectrum Tube	\$31.75/Ea
S06999	Air Spectrum Tube	\$31.75/Ea
S07001	Chlorine Spectrum Tube	\$31.75/Ea
S07004	Xenon Spectrum Tube	\$31.75/Ea
S07003	Krypton Spectrum Tube	\$31.75/Ea
S07005	Deuterium Spectrum Tube	\$31.75/Ea

Eisco™ Spectrum Tubes



For demonstrating spectral lines of pure substances.

- For power supplies holding 26 cm spectrum tubes
- Features large 10 cm capillary in center for greater viewing area
- For operation intervals of 30 seconds: 30 seconds on and 30 seconds off
- For intermittent use only, not to be used as lamp source

Cat. No.	Product Type	Price
S13009	Spectrum Tube, Nitrogen	\$28.75/Ea
S13010	Spectrum Tube, Argon	\$28.75/Ea
S13011	Spectrum Tube, Carbon Dioxide	\$28.75/Ea
S13012	Spectrum Tube, Hydrogen	\$28.75/Ea
S24910	Spectrum Tube, Iodine	\$28.75/Ea

Eisco™ Spectrum Tube Power Supply

The main use of this safe, economical and fun spectrum tube power supply is to provide a view of gas discharge spectral lines that can be viewed with something as simple as a diffraction grating, to as complicated as digital spectrometers.



- Black panel behind the tube eliminates distracting ambient light and protects tube from breakage
- Specially designed box holds tube firmly, preventing student from touching electrodes
- Suitable for 10.25 in. (26 cm) long spectrum tubes

Cat. No.	Price
S96205	\$329.00/Ea

Vernier Science Education™ Spectrum Tube Single Power Supply

Energizes a single tube to simply view gas discharge spectral lines with any Vernier spectrometer.



- Ultra-safe
- No exposed high voltage
- Energize one tube at a time
- Storage space for an additional six tubes
- Grades 9 and up
- Includes spectrum tube fiber optic holder
- Gas spectrum tubes sold separately

Cat. No.	Price
S16017ND	\$295.00/Ea

United Scientific™ Radiation Can Kit

Demonstrate how two identically-sized cans absorb and radiate energy differently.



- Includes two cans: one smooth metal can w/screw cap and one black metal can
- Thermal radiation emitted by the two cans cools or heats water at different rates

Cat. No.	Product Type	Price
S07397	Radiation Can Kit	\$68.75/Ea
S07396	Lamp Assembly	\$51.50/Ea

Professional Digital Geiger Counter with External Wand

Easy to use, handheld personal nuclear radiation detector. The external wand makes it easier to search materials and surfaces for radioactivity, while the LCD provides a current count, and radiation level readout.

- The GCA-07W Professional Digital Geiger Counter with External Wand is a handheld personal nuclear radiation detector with a proven track record for detecting nuclear radiation in hospitals, medical research, industrial settings, transport containers, topsoil, granite tabletops, scrap metal, oil fields, objects and interior spaces
- Detects Alpha, Beta, X-ray and Gamma radiation above 3 MeV, 50 KeV, and 7 KeV respectively
- Has the ability to detect a broad spectrum of nuclear radiation, including low energy background radiation and radiation emitted from Naturally Occurring Radioactive Materials (NORM)
- Easy to read LCD is a 2 line by 16 characters that provides a current count and radiation level readout. Simple front panel instrument controls make the Geiger counter easy to use. Toggle switches control all the front panel options.
- User can select a time period, type of measurements (Imperial or Metric). Measurements (counts per second) are converted into radiation levels (mR/hr or mSv/hr). Time selection switch allows Counts Per Second (CPS) or Counts Per Minute (CPM) mode.
- Factory calibrated using a NIST traceable source to insure measurements. NRC certification is available at additional cost from the manufacturer. The NRC certification certifies the Geiger counter has passed ANSI-STD N323A calibration using a NIST traceable source from an independent US licensed laboratory conforming to United States Nuclear Regulatory Commission NRC regulations 10-CFR-34 and 10-CFR-35 standards (available at additional costs through the manufacturer).
- Suitable for regulatory inspections. U.S.A. tech support. Assembled in the U.S.A.
- Options: jack for headphones or external speaker. External power supply included. 3.5 mm data port for Windows PC and microcontroller interface. The Windows PC program requires optional 3.5 mm to USB data cable. Secondary indicators: audio (clicks) and visual (LED) included.
- 9V battery (mobile operation) not included



Desktop Professional Geiger Counter Nuclear Radiation Detection Monitor with Digital Meter and External Wand Probe



Features LCD display, CPS/CPM Counting Modes, Random Number Generator, and Intuitive Panel Controls.

- The DTG-01 Professional Desktop Geiger Counter with External Wand is a tabletop nuclear radiation detector, perfect for laboratory settings. It has a proven track record for detecting nuclear radiation in hospitals, medical research, industrial settings, transport containers, topsoil, granite tabletops, scrap metal, oil fields, objects and interior spaces.
- The external wand makes it easier to search materials and surfaces for radioactivity

Counting Resolution and Range:

- 1 Count Per Minute (CPM) - 1,000 Counts Per Second (CPS)

Radiation Resolution and Range:

- 0.001 mR/hr resolution / 1,000 mR/hr Range (Imperial measurements); 0.01 uSv/hr resolution - 10 mSv/hr range (metric)
- Detector sensitivity: Alpha radiation above 3 MeV, Beta above 50 KeV, X-Rays and Gamma above 7 KeV. The external wand makes it easier to test and measure radioactivity in materials. Contains LND 712 Geiger Mueller (GM) tube detector, which is Ne + halogen filled; has a 0.38 in. effective diameter and a 1.5 to 2.0 mg/cm² mica end window.
- Has the ability to detect a broad spectrum of nuclear radiation, including low energy background radiation and radiation emitted from Naturally Occurring Radioactive Materials (NORM)
- The LCD is a 16 character by 2 line that provides an easy-to-read digital output. Switch selection allows DTG-01 Geiger counter to measure and convert radiation into in mR/hr or mSv/hr. Time selection switch allows Counts Per Second (CPS) or Counts Per Minute (CPM) mode.
- Factory calibration using NIST Traceable radiation source to insure an accurate meter measurement. NIST calibration performed by independent laboratory that conforms to NRC regulations 10-CFR-34, 10-CFR-35 are available at additional costs through the manufacturer.

Random Number Generator:

- Range selectable 1 to 2 and 1 to 128. TTL serial output.
- Other Features: serial data output jack: outputs serial data. Pulse outputs a TTL logic pulse for each radioactive particle detected. The serial output is the counts per second sent via USB cable (not included) to our Windows PC Geiger counter free graphing program for charting and recording the measured radiation over time. Secondary indicators; audio (clicks) and visual (LED) included. Also includes a headphone jack.

Cat. No.	Price
S81378	\$645.00/Ea

Cat. No.	Price
S81624	\$681.00/Ea

GCA-06W Professional Digital Geiger Counter Radiation Monitor with External Wand

Easy to use, handheld personal nuclear radiation detector. The external wand makes it easier to search materials and surfaces for radioactivity, while the LCD provides a current count, and radiation level readout.



- The GCA-06W Professional Digital Geiger Counter with External Wand is a handheld personal nuclear radiation detector with a proven track record for detecting nuclear radiation in hospitals, medical research, industrial settings, transport containers, topsoil, granite tabletops, scrap metal, oil fields, objects and interior spaces

Counting Resolution and Range:

- 1 Count Per Minute (CPM) - 1,000 Counts Per Second (CPS)

Radiation Resolution and Range:

- 0.001 mR/hr resolution / 1,000 mR/hr Range (Imperial measurements); 0.01 uSv/hr resolution - 10 mSv/hr range (Metric)
- Detector sensitivity: Alpha radiation above 3 MeV, Beta above 50 KeV, X-Rays and Gamma above 7 KeV. The external wand makes it easier to test and measure radioactivity in materials. Contains LND 712 Geiger Mueller (GM) tube detector, which is Ne + halogen filled; has a 0.38 in. effective diameter and a 1.5-2.0 mg/cm² mica end window.
- Has the ability to detect a broad spectrum of nuclear radiation, including low energy background radiation and radiation emitted from Naturally Occurring Radioactive Materials (NORM)
- Easy to read LCD is a 2 line by 16 characters that provides a current count and radiation level readout. Simple front panel instrument controls make the Geiger counter easy to use. Toggle switches control all the front panel options.
- User can select a time period, type of measurements (Imperial or metric). Measurements (counts per second) are converted into radiation levels (mR/hr or mSv/hr). Time selection switch allows Counts Per Second (CPS) or Counts Per Minute (CPM) mode.
- Factory calibrated using a NIST traceable source to insure measurements. NRC certification is available at additional cost from the manufacturer. The NRC certification certifies the Geiger Counter has passed ANSI-STD N323A calibration using a NIST traceable source from an independent US licensed laboratory conforming to United States Nuclear Regulatory Commission NRC regulations 10-CFR-34 and 10-CFR-35 standards (available at additional costs through the manufacturer).
- Suitable for regulatory inspections. U.S.A. tech support. Assembled in the U.S.A.
- Options: jack for headphones or external speaker. External power supply included. 3.5 mm data port for Windows PC and microcontroller interface. The Windows PC program requires optional 3.5 mm to USB data cable. Secondary indicators: audio (clicks) and visual (LED) included.
- 9V battery (mobile operation) not included.

Cat. No.	Price
S81625	\$614.00/Ea

Electricity & Magnetism

Science Cube Kits



These kits are perfect for group experiments or homeschooling. Students learn by using the included exploration guide. Save space by storing kit materials in the reusable plastic snap box. Ages 7+.

Telegraph Kit (S89512)

- Students experience a little bit of history, learn Morse Code, and even send a secret message to a friend
- Includes: 1 D-cell battery holder, 1 contact key, 2 light bulbs, 5 alligator connector cords, 1 buzzer

Simple Circuit Kit (S89513)

- Students create a simple circuit and learn about electricity, currents, voltages, series circuits, and much more
- Includes: 1 D-cell battery holder, 1 knife switch, 2 light bulb holders, 2 light bulbs, 5 alligator connector cords

Conduction Experiments Kit (S89514)

- Students make their own conduction experiment and explore which substances are conductors and which are insulators
- Includes: 2 D-cell battery holders, 1 light bulb, 1 light bulb holder, 4 alligator connector cords, 1 toothpick, 1 penny, 2 paper clips

Magnetic Fun Kit (S89517)

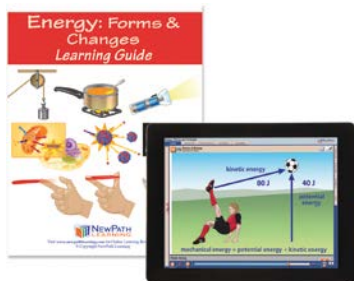
- Students make their own magnets and discover their properties, learn what poles are, make that magnet float, and then have fun discovering all there is to learn about magnetism
- Includes: 3 magnetic wands, 36 magnetic marbles, 3 magnetic rings, 1 floating magnet stand, 1 compass

Cat. No.	Description	Price
S89512	Science Cube Kit - Telegraph	\$23.50/Ea
S89513	Science Cube Kit - Simple Circuit	\$23.50/Ea
S89514	Science Cube Kit - Conduction Experiments	\$23.50/Ea
S89517	Science Cube Kit - Magnetic Fun	\$51.50/Ea

Energy Forms and Changes and Electricity and Magnetism Student Learning Guides with Online Lesson



An ideal blended learning solution for use in the classroom or for remote learning/home study.



- Colorfully-illustrated student learning guide provides 36 pages featuring self-directed readings, easy-to-follow illustrations, guiding questions, a lab investigation, key vocabulary review, and assessments
- Also includes one year access to a corresponding multimedia lesson for a teacher and all their students. Each lesson features animated narrated tutorials, interactive exercises and activities, virtual lab investigations, illustrated narrated glossary, visual resource library, and an inquiry-based student activity guide
- Developed under sponsorship of the National Institutes of Health (NIH) the lessons are perfect for individual student instruction on any computer or tablet as well as classroom presentation on any interactive whiteboard.

Energy Forms and Changes Learning Guide (S436037) covers:

Introduction to Energy, Potential Energy, Kinetic Energy, Forms of Energy, Energy Transformation, Conservation of Energy, Heat and Heat Technology, Nonrenewable Energy, and Renewable Energy

Electricity and Magnetism Learning Guide (S436042) covers:

Electricity, How Objects Become Charged, Electric Current, Electrical Resistance, Electric Power, Electric Circuits, Batteries, Electrical Safety and Magnetism

Cat. No.	Description	Price
S436037	Energy Forms and Changes	\$16.00/Ea
S436042	Electricity and Magnetism	\$16.00/Ea

Eisco™ Junior Science Magnet Kit

For science experiments.

Kit Components:

- 1 pc. each of square iron, aluminum, zinc and copper metal
- 1 horseshoe magnet with keeper (100 mm)
- 2 ceramic bar magnets (75 mm)
- 3 ceramic ring magnets (38 mm dia.) face polarised
- 2 plotting compasses, clear both sides (19 mm dia.)
- 1 pack iron filings



Cat. No.	Price
S13479	\$32.25/Ea

Vernier Science Education™ Circuit Board 2

A convenient platform for circuit labs, from basic series and parallel circuits to RLC circuits. Many components are provided for experimentation, and additional components can be added to expand the capability of this useful board.



- Size: 10 in. x 6.5 in. (25.5 cm x 16.5 cm)
- Mass: Approximately 0.44 kg
- Optional power sources: up to 4 AA batteries, not included; LabQuest Power Supply, not included (or other 5 VDC adapter with center-positive 1/8 inch connector); DC power supply such as Exttech Digital DC power supply Vernier Power Amplifier
- Maximum voltage: 10 V Resettable, fuse opens at 0.8 A, but 0.3 A or less is recommended
- All parts ROHS compliant

WARRANTY: 5-year limited warranty

Cat. No.	Price
S15955ND	\$156.00/Ea

Eisco™ Bar Magnet Set

Alnico bars with keepers.

- Each size sold as set of two magnets



Cat. No.	Size	Price
S95957	Large	\$17.75/Pk
S95956	Small	\$12.75/Pk

North/South Bar Magnets

Engraved with North and South markings.

- Two 2 in. long (5 cm) magnets



Cat. No.	Price
S79517	\$18.25/Pk

Eisco™ Ceramic Magnetic Disk

Economically priced and perfect for student use.

- Ceramic disc magnets

WARRANTY: 1-year limited manufacturer warranty



Cat. No.	Dimensions (L x W)	Price
S40914	20 x 4 mm	\$1.10/Ea
S40917	25 x 5 mm	\$1.05/Ea

Super Power Holding Magnets

Available in blocks or buttons.

- Blocks size (L x W x H): 2 x 1 x 0.5 in. (5 x 2.5 x 1.25 cm)
- Buttons are 1.13 in. diameter (2.8 cm)
- Box of 40



Cat. No.	Product Type	Price
S79508A	Block Magnet Display	\$62.75/Pk

Eisco™ Floating Ring Magnets

Demonstrate magnetic repulsion in a colorful and memorable way.

When stacked so they mutually repel, the rings appear to float on the support rod.



Cat. No.	Price
S95967	\$29.75/Ea

Ring Magnets

Study magnetic attraction and repulsion.

These magnets are used in conjunction with disk magnets (S52174) in collision and scattering experiments. Pack includes 16 magnets.



Cat. No.	Price
S52173	\$30.50/Ea

Eisco™ Horseshoe Magnets

Chrome steel, with keepers.

Dimensions are nominal.



Cat. No.	Height (English)	Length (English)	Weight (English)	Price
S95963	1.57 in.	8.6 in.	3.5 lb.	\$12.75/Ea

Eisco™ Bar Magnets

Perfect for classroom experiments.

- Red and blue magnets with stamped polarity measure 3.9 x 0.79 x 0.23 in. (10 x 2 x 0.6 cm) and are boxed
- Rectangular square-faced chrome steel magnets measure 5.9 x 0.4 x 0.4 in. (15 x 1 x 1 cm)
- Sold package of 2



⚠️ ALERTS: CHOKING HAZARD. Small parts. Not for children under 3 yrs.

Cat. No.	Color	Shape	Weight (English)	Price
S95966	Zinc-plated steel	Rectangular	0.95 lb.	\$24.00/Pk

Eisco™ Metal Magnetic Needle Stand

Study magnetism with this easy-to-use demonstration tool. It is perfect for positioning a magnetic needle to create a tool for demonstrating and studying magnetism.

- Includes base, non-magnetic pillar, and magnetic point
- 4.5 in. tall (from bottom of base to tip of magnetic point)
- 2 in. diameter base
- Spins easily

Note: The magnetic needle is not included (sold separately).



Cat. No.	Price
S12976	\$9.05/Ea

Eisco™ Magnetizer Box for Bar Magnets

User-friendly magnetizer box for bar magnets has the ability to re-magnetize old magnets and make them like new again.

- Re-magnetizes old magnets
- Blue box with yellow markings and red switches
- Works on 110/120 V, 60 Hz
- Dimensions: 5.88 x 3.5 x 3 in.

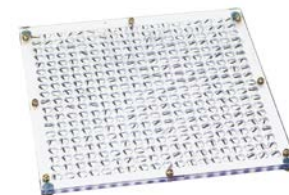


Cat. No.	Price
S80847	\$218.00/Ea

Eisco™ Magnetic Field Demonstration Plate

Tool used to view magnetic fields.

- Transparent plate having matrix of small circular chambers with iron rod to function as plotting compass
- Suitable for OHPs
- Dimensions: L x W x H: 11.8 x 10.2 x 1.9 in. (30 x 26 x 5 cm)
- Size: 9.8 x 9.8 in. (25 x 25 cm)



Cat. No.	Price
S07851	\$37.00/Ea

Eisco™ Dry Field Mapping Kit

Makes learning the concepts of electric fields easy. Students use the conductive paper that comes with the kit to draw any electrode configuration and then test it.

- Best experiment for visualizing the electric field
- Easy to find the electric field around any conducting shape
- Conductive paper allows probing of equipotential lines with multimeter (not included)
- Comes with instructions
- Multimeter and D-cell battery not included



Cat. No.	Price
S12984	\$173.00/Ea

Air Core Solenoid

Provides a useful magnetic field for many magnetism and electricity experiments.

- Investigate the mass of electron apparatus and experiments using the current balance (S94280)
- Constructed using four layers, approximately 710 turns, of #23 gauge (0.67 mm) polyurethane-enameled copper wire
- Coil is designed to carry 7-10A intermittently, and will sustain a current of 5A



To use:

- Connect a power supply that does not put out more than 5A to the solenoid
- Coil will generate a magnetic field when current passes through it
- Use a compass, iron rod, or iron filings to study the nature of the generated electric field

Cat. No.	Price
S94209	\$31.75/Ea

Eisco™ Electrostatic Friction Rod Kit

Use to study static electricity by creating charges with different materials.

- This electrostatic kit provides the necessary tools to free both positive and negative charges for exploration into electrostatic forces.
- Students can experiment with different combinations of cloth and rod materials to explore how each manufactures charge carriers.



Cat. No.	Price
S13000	\$24.25/Ea

Deluxe Van de Graaff Generator

Demonstrates electrostatic phenomena.

A first-rate apparatus for demonstrating static electricity.

- Generates potentials as high as 400,000 volts
 - Produces sparks as long as 15 in. (38 cm)
 - Belt current charges the dome at 10 μ A
 - Variable motor speed
 - Operates on 110VAC with grounded cord
 - Replacement belts are available
- Terminal:**
- Located on the 9.8 x 11.8 in. (25 x 30 cm) base
 - Grounded to safely produce sparks and discharge the dome



Aluminum Electrode:

- Highly polished and anodized
- 9.8 in. (25 cm) diameter
- Supported by a sturdy, insulated, polycarbonate column

Aluminum Sphere:

- 9.8 in. (25 cm) diameter
- Creates sparks of greater intensity
- Mounted on a Lucite™ rod with a metal base
- Overall height: 29.9 in. (76 cm)

Cat. No.	Product Type	Price
S43207	Van de Graaff Generator	\$918.00/Ea

United Scientific™ Digital Multimeter

This versatile digital multimeter offers tremendous value.

- This versatile multimeter includes AC voltage, DC voltage, DC current, continuity, resistance, transistor and battery test modes
- Features an easy-to-read 3.5 in. digital LCD display
- Supplied with two 24 in. 18 gauge test leads
- Requires one 9V battery (included)



Cat. No.	Price
S111002	\$10.25/Ea

United Scientific™ DC Ammeter, 0-1A/0-5A

Ammeter for use in electricity demonstrations.

- Mounted in a black plastic case
- Meters have a scale length of 75 mm
- $\pm 2.5\%$ accuracy and comes with 5-way binding post and external calibrating screw
- Meters are not protected against prolonged or significant overload
- Stackable for storage



Cat. No.	Price
S81078***	\$10.25/Ea

Eisco™ Ohm's Law Apparatus

Effectively demonstrates the interdependence of current, voltage, and resistance on Ohm's Law.

- Includes a DC Voltmeter, DC Current meter, and a built in low wattage rheostat
- DC Voltage is connected from outside at the appropriate sockets
- Measure the values of voltage (V), current (I), and connected external resistance (R) on the meters
- Can be verified using different set of voltage and resistance

Note: Comes with a European AC/DC power supply adapter (220V) that uses a Type C Europlug.



Cat. No.	Price
S80856	\$155.00/Ea

Eisco™ Deluxe Battery Eliminator

More convenient than keeping many kinds of batteries on hand.

- Regulated, multiple outputs: 1.5, 3, 4.5, 6, 9 and 12V AC/DC
- DC output only
- For maximum of 1 amp load, 120V, 60Hz input



Cat. No.	Price
S96208	\$151.00/Ea

Eisco™ Economy Electricity Kit

Ideal for introductory electronics.

- This kit is a basic assortment of circuit components
- Ideal for introductory electronics



Cat. No.	Price
S23691	\$50.75/Ea

Kemtec™ Series and Parallel Circuits Kit



Teaches students to build parallel and series circuits using electrical components.

- Students begin by following the flow of energy from a battery as it converts to chemical, electrical, light, sound, motion, and heat energy
- Students observe how energy flow differs when using batteries and loads in series and in parallel
- Allow for 5 hours of instruction and 5 hours of lab time
- Meets National Standards for Grades 3 to 6

Kit includes:

- Battery holders
- Motors
- Light bulbs
- Light bulb holders
- Alligator clip leads
- Buzzers
- Masking tape
- Propeller
- Optional D-cell batteries

Cat. No.	Includes	Price
S27538	No batteries	\$278.00/Ea
S27537	D-Cell Batteries	\$375.00/Ea

United Scientific™ Red Banana/Alligator Cord

For use with multiple electricity demonstrations.

- Flexible, 18 gauge (SWG) stranded wire cord with a stackable banana plug at one end and an alligator clip at the other end
- Alligator clip has a protective vinyl sheath
- 12 in., 24 in., or 36 in. lengths



Cat. No.	Length (English)	Price
S81062***	24 in.	\$2.60/Ea
S81071***	12 in.	\$3.60/Ea

United Scientific™ Student Electricity Assortment

Conveniently assembles materials for investigation of electricity concepts.



Cat. No.	Description	Price
S96416	Student electricity assortment	\$57.75/Ea



Diversified Spaces

Augmented Reality Sandbox 29

Eisco

Anemometer 37
 Barometer 36
 Battery Eliminator 88
 Bottle Rocket Launcher 69
 Celestial Star Globe 40
 Centripetal Force Kit 67
 Clamp Pulley 65
 Compass 35
 Density Block Sets 72
 Density Identification Cylinders 73
 Dynamic Cart Sets 66
 Force Table 66
 Friction Cars 65
 Hall's Car Pair 66
 Hooke's Law Apparatus 67
 Hydrometer 37
 Kits
 Dry Field Mapping 87
 Electricity 88
 Electrostatic Friction Rod 87
 Heat Transfer 73
 Magnet 85
 Light Box and Optical Set 79
 Litmus Test Papers 24
 Magnetic Field Demonstration Plate 86
 Magnetic Needle Stand 86
 Magnetizer Box 86
 Magnets 85–86
 Mirror, Universal 80
 Models
 Astronomy 39, 46
 Geology 27–28
 Molecular 12–13
 Mole Set 12
 Nets, Water Testing 59
 Newton's Color Disc 79
 Ohm's Law Apparatus 88
 Optical Bench Set 78
 Periodic Tables 13
 Physical Science System Base and Pendulum 68
 Potometers 48–49
 Prisms 79
 Projectile Launcher 71
 Rocks and Minerals 32
 Secchi Disk 58
 Second Law of Motion Apparatus 65
 Sieves 59
 Solar Cells 61

Solar Furnace 60
 Specific Gravity Sets 73
 Spectroscope and Tubes 81
 Spectrum Tubes 82
 Spring and Mass Set 67
 Test Strips 58
 Tuning Forks 78
 Turbidity Tubes 56
 Wave Apparatus 76
 Wave Demonstration Set 75
 Weather Station 36

Fisherbrand

Barometers, Digital 36
 Media Bottles 7
 Periodic Table 13
 pH Meters 18
 pH Paper 23
 Pipette Kit 7
 Pressure/Vacuum Tubing 7
 Sparkleen Detergent 7
 Test Strips 22–23

Fisher Science Education

Environmental Extremes Plant Growth Kit 38
 Oil Spill Management Kit 52
 Periodic Table 14

Kemtec

Boomilever Test Kit 68
 Chemistry Kits 11, 26
 Electricity Kit, Series and Parallel Circuits 88
 Environmental Extremes Kit 51
 Light and Sound Activity Stations 75
 Light & Color Kit 79
 Oil Spill Kit 53

Ohaus

Electrodes
 Conductivity 21
 pH 21
 Meters
 Conductivity 15, 17, 20
 ORP 15, 20
 pH 15–17, 19–21
 Salinity 15, 20
 TDS 15, 20
 Multi-Parameter Analyzer 15

Thermo Scientific

pH Meters 19

United Scientific

Ammeter 88
 Centripetal Force Kit 67
 Chemistry Hardware Assortment 15
 Compasses 35
 Density Sets 73
 Ecology and Environment Kits 51
 Electrical Cord, Banana/Alligator 88
 Electricity Assortment 88
 Electrolysis Apparatus 24
 Force Table 66
 Globes 34, 39
 Kits
 Inclined Plane and Lever 5
 Pendulum 5
 Thermostat 5
 Laser Pointer with Holder 81
 Lenses 80
 Litmus Paper 24
 Mineral Activity Kit 33
 Mineral Sets 29
 Mineral Test Kit 33
 Mirrors, Flexible 80
 Models
 Astronomy 46
 Geology 27–28
 Multimeter, Digital 87
 Optical Bench Set 78
 Optics Set 78
 pH Paper 24
 Prisms 79–80
 Radiation Can Kit 82
 Rocks and Minerals 29, 32
 Sling Psychrometer 37
 Solar Kit 61
 Spectrum Tubes 82
 Streak Plates 33
 Volume Cylinders 72
 Water Cycle Activity Kits 51
 Water Sampler 53
 Wave Demonstrator 76

Vernier Science Education

Circuit Boards 85
 Colorimeter 55
 Dynamics Cart and Track System 67
 Optics Expansion Kit 80
 Projectile Launcher 72
 Solar Panels 61
 Spectrum Tubes 82

Alphabetical Index

A		E		L	
Aerodynamics & Flight	69–72	Eclipse Viewers	46	Laser Pointers	81
Agricultural Science	47–49	Ecology	47, 49–52	Lead Screening	55
Alternative Energy	60–61, 63	Ecology and Environment Kits	51–52	Lenses	78–80
Alitraks	69	Electrical Cord, Banana/Alligator	88	Light and Sound Activity Kits	75
Ammeter	88	Electricity	61–62, 64, 84–85, 87–88	Light Box	79
Anemometer	37	Activity Kits	62, 84, 88	Light & Color Kit	79
Astronomy	38–44, 81	Electrochemistry	15–24	Litmus Paper	23–24
Augmented Reality Sandbox	29	Electrodes			
B		Conductivity	21	M	
Balances	7, 62, 65	pH	21	Magnetic Field Demonstration Plate	86
Barometers	36	Electrolysis	21, 24–25, 60, 63	Magnetic Needle Stand	86
Batteries	62	Energy	5, 60–61, 63–64, 73–74, 85, 88	Magnetism	5, 62, 85–86
Battery Eliminator	62, 88	Engines	69–71	Magnetizer Box	86
Binoculars	43, 46	Environmental Extremes	38, 51	Magnets	85–86
Boomilever	68	Environmental Science	38, 45–48	Mass Sets	62, 72–73
Bottle Rocket Launcher	69	Erosion	28, 38, 50–51	Mechanics	5, 63, 65
Bridge Building Kit	68	Estuary Monitoring	54	Meteorology	37
C		Eudiometers	72	Meters	16–17, 19, 21, 36, 88
Catapult	62	F		Conductivity	15, 17, 20
Celestial Star Globe	39–40	Fault Models	27–28	ORP	15, 20
Centripetal Force Kit	67	Folds and Faults	27	pH	15–17, 19–21
Chemistry	7–27	Force Table	66	Salinity	15, 20
Activity Kits	7–8, 10–13, 15, 25–27	Fossils	30, 32–33	TDS	15, 20
Environmental	48–49, 52, 55, 60	Friction Cars	65	Meter Tapes	58
Chromatographic Paper	10, 12	Furnace	60	Mineral Hammer	32
Circuits	5, 61–62, 84–85, 88	G		Minerals	29–31, 33–34
Clamp Pulley	65	Generator	62, 87	Mirrors	75, 78–80
Climate Change	50	Geodes	30	Models	
Collision Ball Apparatus	65	Geography	34–35	Astronomy	39
Color Disc	79	Geology	27–34	Geology	27–28
Colorimeter	55	Glassware	7, 15, 26	Molecular	12–13
Compasses	35, 84–85	Globes	34–35, 39–40	Mole Set	12
Conductivity Meters	17, 20	Gloves	11	Monoculars	44
Conductometer	74	H		Multimeter, Digital	87
Contour Map Making Kit	35	Hall's Car	66	Multi-Parameter Analyzer	15
Cylinders	7, 15, 62, 72–73	Hammer, Mineral	32	N	
D		Hardware, Chemistry	15	Nets, Water Testing	59
Density Sets	72–73	Heat & Thermodynamics	73–74	Newton's Color Disc	79
Digiscoping Adapter	42–43	Helical Springs	67, 76	Nitrates and Phosphates	48
Dry Field Mapping Kit	87	Hooke's Law	67	O	
Dynamic Carts	66–67	Horizontal Strata	28	Ocean Acidification Educational Kit	5
		Hydrochloric Acid	7, 45	Ohm's Law Apparatus	88
		Hydrogen Peroxide	7	Oil Spill Management	52–53
		Hydrometer	37	Optical Bench	78
				Optics	5, 41–44, 64, 75, 78–81
				Orienteering Compass	35

P

Parallel Circuits Kit.....	88
Pendulum.....	5, 63, 68
Pen Meters.....	19
Periodic Table.....	13–14
pH Meters.....	16–21
pH Paper.....	22–24
Physics.....	5, 13, 60, 62–63, 65, 67–68, 75, 78
Plant Growth Kit.....	38
Plasticware.....	15
Potometer.....	48–49
Power Supplies.....	62, 82
Prisms.....	75, 79–80
Projectile Launchers.....	62, 71–72
Pulleys.....	66

R

Radiation Can Kit.....	82
Renewable Energy.....	60–63, 85
Rocket Launcher.....	69
Rockets.....	69–71
Rocks and Minerals.....	29–33

S

Secchi Disk.....	58
Second Law of Motion Apparatus.....	65
Sedimentary Rocks.....	30, 32
Sieves.....	59
Simple Machines.....	64–65
Sling Psychrometer.....	37
Soil Analysis.....	5, 47–48
Soil Composition.....	47–48
Soil Macronutrients.....	47
Solar Cells.....	61
Solar Energy.....	60–61, 63
Solar Furnace.....	60
Solar Panels.....	61
Solar Shades.....	46
Specific Gravity Sets.....	73
Spectroscopes and Tubes.....	81–82
Spectrum Tubes.....	82
Spring and Mass Set.....	67
Starters.....	71
Streak Plates.....	33
Stream Tables.....	51
Sulfuric Acid.....	7

T

Tectonics.....	28
Telegraphs.....	5, 84
Telescopes.....	41–44, 46
Sunspotter.....	46
Test Kit.....	5, 33, 47, 54–57, 68
Test Strips.....	22–23, 57–58
Test Tubes.....	57
Thermometers.....	37
Titration.....	57
Topography.....	29
Tubes.....	57, 81–82
Tuning Forks.....	62, 76–78
Turbidity.....	47, 54, 56, 58
Turbidity Meters.....	56
Turbidity Tubes.....	56, 58

U

Urban Water Quality.....	55
--------------------------	----

V

Volume Cylinders.....	72
Volume & Density.....	72

W

Water Analysis.....	21, 56
Water Cycle.....	51
Water Hardness.....	25
Water Pollution.....	52–53
Water Quality Assessment.....	53
Watersheds.....	29
Water Testing.....	53–54
Water Treatment.....	52
Wave Apparatus.....	76
Wave Demonstration Set.....	75
Wave Demonstrator.....	76
Weather Station.....	36

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Printed and bound in the U.S.A. 22-746-1999
BN225347958-US

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22-746-1999 12/22 BN225347958-US