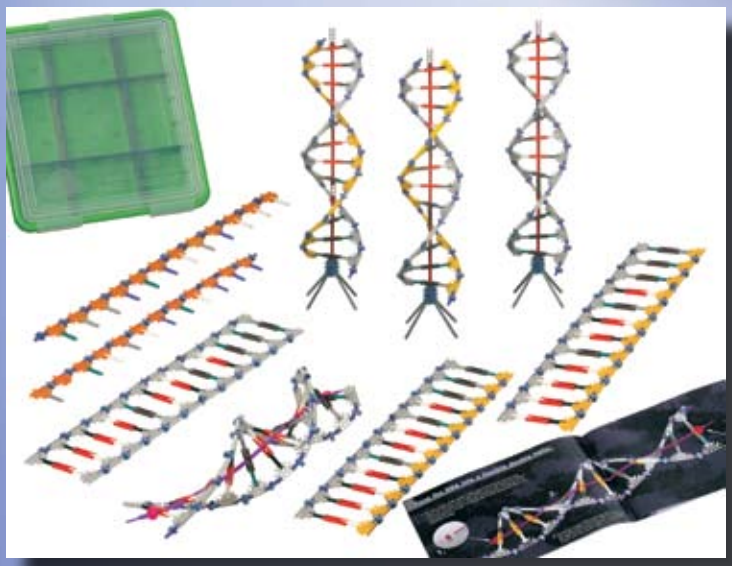
DNA Replication & Transcription Set

BONUS - Teachers guide on CD now included with every DNA set !



Grades 5 - 12

Build 7 DNA and mRNA molecules using the 521 K'NEX pieces and the 20 page full color building instructions booklet. This wonderfully flexible set allows students to build and learn about phosphate groups, deoxyribose and ribose sugars, hydrogen bonds, codons, nucleotides, and much more.

National Science Education Content Standards

Life Science - Content Standard C
As a result of their activities in grades 5 - 8, all students should develop Understanding of:
- Reproduction and heredity

Life Science - Content Standard C
As a result of their activities in grades 9 - 12, all students should develop understanding of:
- Molecular basis of heredity

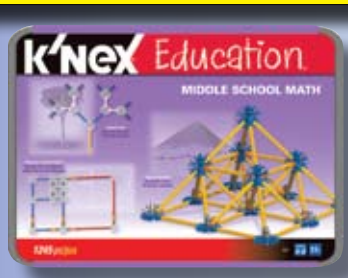
Set includes

- 521 K'NEX pieces and a 20 page full color building instruction booklet.
- Builds 7 curriculum related models, 4 at a time, thus allowing 4 groups of students to work simultaneously
- Pieces easily unsnap for replication and transcription activities.
- Models include:
  - Parent DNA molecule unwound
  - Parent DNA molecule as a flexible double helix
  - Parent DNA molecule on a stand
  - 2-unwound parent/daughter DNA molecules
  - 2-parent/daughter DNA molecules on stands
  - 2 - mRNA molecules transcribed from DNA molecules
- Packed in a strong, stackable storage case with moveable dividers and transparent lockable lid

KNX78780 Dna Single Set MSRP $71.99 ..... **$46.87**

Each DNA set now includes teacher guide on CD (19.99 value)

Middle School Math



Middle School Math, Algebra & Geometry

Explore complex Math & Geomentry concepts with the K'NEX Education "Middle School Math" set.
Explore complete Math & Geometry System
Includes 1,245 K'NEX pieces
Curriculum support Teacher's Guide
Includes 4 sets of building instructions
Supports 12 - 16 students
Ages 11 & up
KNX79025 MSRP $228.99 ..... **$137.50**

To view NCTM standards for this set go to www.acsupplyco.com

K'NEX Education

Elementary Math & Geometry

NCTM Curriculum Standards for grades K-4
- Geometry and Spatial Sense
- Number Sense and Numeration
- Mathematics as problem solving
- Measurement
- Mathematics as Reasoning

Elementary Math & Geometry

- 131 K'NEX parts and instructions to build 144 models
- Students can construct squares, rectangles, trapezoids, rhombi, prisms, quadrilaterals, plus symmetry and fraction models
- 12 challenges included to fine tune understanding of shape characteristics and attributes
- Set supports 34 students working as a team
- Comes packaged in a strong, plastic storage case with dividers and locking lid

KNX78720 MSRP $48.99..... **$33.99**

Intermediate Math Set

New
Released

Intermediate Math Set

The K'NEX Intermediate Math Set is an excellent tool for building fundamental quantitative skills through active, constructive learning. The curriculum, in the form of a 36-page Color Educator Guide, 28 Color Overhead Transparencies and 28 B&W Reproducible Masters, focuses on fundamental math skills for grades 4-6.

Key Concepts
2-dimensional shapes and shared attributes
3-dimensional shapes
Lines and Line segments
Rays and angles
Congruence and similarity
Symmetry and position
Sequencing and patterning
Rounding and estimating
Comparing fractions
KNX79028A Intermediate Math Set MSRP $192.99 ..... **$114.67**

To view NCTM standards for this set go to www.acsupplyco.com

Simple Machines

Exploring Machines Grades 5 - 8

- Fully comprehensive simple machines set for middle school. Contains 1432 pieces and color coded building instructions to build 30 different models.
- You can build 4 of each model simultaneously.
- Models demonstrate 1st, 2nd, & 3rd class levers; fixed moveable, compound and block & tackle pulley systems; wheels and axles with the force applied to both the wheel and axle; inclined planes screws and wedges; spur, crown, sprocket, rack & pinion, transmission and differential gear systems.
- A teachers guide is included in the set. It contains both key facts and inquiry based lesson plans on each model. Plus, design briefs for students to create their own working models based on concepts being studied.

Models included

Levers - Balance, Tweezers, Stapler, Scissors, Rowboat, Piano, Hammer, Fishing Rod, Bottle Opener, Nutcracker
Inclined Planes - Dump truck, Spiral Staircase, Axe, Archimedes Screw
Pulleys - Tow truck, Block & Tackle, Crane, Elevator, Garage Door,
Gears - Egg beater, Transmission, Carousel, Crank Fan, Conveyer Belt, Chain Saw, Rack & Pinion
Wheels & axles - Wrench, Screwdriver, Sawmill, Paddle boat.

National Science Education Content Standards

Science as Inquiry Content Standard A

As a result of activities in grades 5 - 8, all students should develop:

- **Abilities necessary to do scientific inquiry**
- **Understandings about scientific inquiry**

Standards for Technological Literacy

Energy and Power Technologies

The role of troubleshooting, Research and Development, Invention and Innovation, and Experimentation in Problem Solving

Content Standard 10

In order to be able to comprehend other problem salving approaches, students in grades 6 - 8 should learn that:

- **Invention is the process of turning ideas and imagination into devices and systems**

KNX78600 Exploring Machines MSRP $207.99 ..... **$124.63**

Bonus

Build the Big Ball Factory with this set!

Simple Machines Deluxe Set (Extravaganza)

Build Bridges, machines & the Big Ball Factory with this great Bonus Set Get the Simple Machines Master Set plus instructions for the ultimate complex machine-the K'NEX Big Ball Factory. Use this 4 ft. tall Rube Goldberg building challenge to tie the unit together. Set balls in motion for travel through the various simple machines. Set includes 3100 K'NEX pieces (1700 additional pieces), building instructions for the Big Ball Factory and 52 simple machine models, teacher's guides, motor and storage tub. Supports 40+ students.

National Science Education Content Standards

Physical Science

- Motions & Forces
- Transfer of Energy

ITEA Standards for Technological Literacy

Assess the Impact of Products and Systems

- Use instruments to collect data
- Use collected data to find trends
- Identify Trends

KNX79520 Simple Machines Deluxe Set w/Bonus
MSRP $509.99 ..... **$284.40**

Intro to Simple Machines

Teachers guide on CD now included in every intro set! including: 78610, 78620, 78630, 78640, 78780 $19.95 value!

Intro to Levers and Pulleys Grades 3 - 5

- Build 9 different real-world models one at a time.
- Set includes building instructions for each model with real-life photo and key facts.
- Models demonstrate 1st, 2nd, and 3rd class levers, along with fixed, movable, and combination pulley.
- 161 pieces support three students working in a team;
- Comes packed in a strong plastic storage case with moveable dividers and lockable lid

KNX78610 MSRP $53.99 ..... **$33.99**

Intro to Wheels, Axles and Inclined Planes Grades 3 - 5

- Build 7 different real-world models one at a time.
- Set includes building instructions for each model with real-life photo and key facts.
- Models demonstrate how a wheel turns an axle, how an axle turns a wheel, inclined plane, screw, and wedge.
- 194 pieces support 3 students working in a team;
- Comes packed in a strong plastic storage case with moveable dividers and lockable lid Grades **3 - 5.**

KNX78620 MSRP $53.99 ..... **$33.99**

Intro To Gears Grades 3 - 5

- Builds 7 different real-world models.
- Set includes building instructions for each model with real-life photo and key facts.
- Models demonstrate 2 spur gear examples, 2 crown gear examples and 2 sprocket gear examples.
- 182 pieces support 2 - 3 students working in a team, **Grades 3 - 5**
- Comes packaged in strong plastic storage case with dividers

KNX78630 single pk $53.99 ..... **$33.99**

Bridge Building

Real Bridge Building *Grades 5 - 8*

- Define characteristics and the differences between the 7 bridge types ... why build a suspension bridge instead of an arch bridge?
- Investigate how different bridge types hold their loads.
- Evaluate the strength and stability of each bridge type through experimentation
- Determine and calculate costs involved with building a bridge.
- Solve various bridge design challenges based on the key fact background data provided

Set includes

- 2282 pieces to build seven 5'-6' long replicas of real world bridges one per bridge type 2 at a time
- Builds two models at a time. Support 8 - 12 students from grades 5 and up
- Reusable materials - eliminates need for expensive consumables such as balsawood
- Teachers guide included focus on design briefs and exploration of tension, compression and stress aspects of structures
- Two building instruction booklets plus a FREE CD Rom to print off additional instructions as required. Models include replicas of the Fourth of Fifth Cantilever Bridge (Scotland), Tower Bascale Bridge (London), Golden Gate Suspension Bridge (San Francisco), Chesapeake Bay Beam Bridge (Virginia Beach), Columbia River - Astoria Truss Bridge (Oregon), Sydney Harbor Arch Bridge (Australia), and the Dames Point Cable-Stayed Bridge (Jack sonville).
- Build seven 5' long replicas of Real World Bridges. One per bridge type, 2 at a time.

National Science Education Content Standards
Science and Technology Standard E
As a result of their activities in grades 5 - 8, all students should develop:
- **Abilities of technological design**
- **Understanding about Science and Technology**

Standards for Technological Literacy
The Attributes of Design Content Standard B
In order to comprehend the attributes of design, students in grades 6 - 8 should learn that:
- **Design is a creative planning process that leads to useful products and systems**

KNX78680 Real Bridge Building MSRP $299.99 ..... **$179.99**

Intro to Structures Bridges

- Build 13 different bridge models, one at a time.
- Set includes building instructions with real - life photo and key facts
- Models demonstrate 7 Key bridge types: beam, truss, arch, cantilever, suspension, cable-stayed, and moveable/bascule.
- 207 pieces support 3 students working in a team: **Grades 3 - 6**.
- Comes packaged in a strong plastic storage case with dividers.

Benchmarks for Science Literacy
AAAs - Project 2061
3b - Design and Systems
By the end of 5th grade students will know that there is no perfect design. Designs that are best in one respect (safety or ease of use) may be inferior in other ways (cost or appearance). Usually some features must be sacrificed to get others

KNX78640 MSRP $53.99 ..... **$33.99**
BONUS - Teachers guide on CD now included in every Intro to Bridges Set!

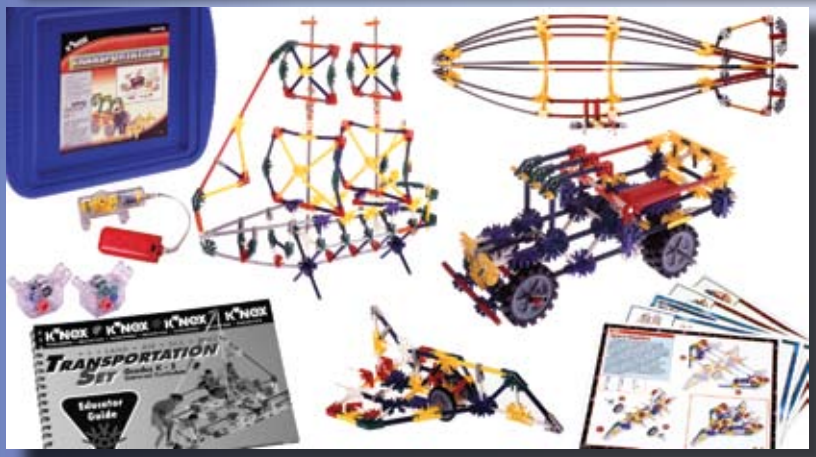
K - 8 Construction

K - 8 General Construction

- 1475 K'NEX parts and 2 instruction books to build 80 models, many motorized.
- 1 spring motor and 1 power pack motor provided.
- Supports 12 students through multiple grades and project opportunities.
- Packed in a strong storage tray with dividers and lid.

KNX79818 MSRP $259.99 **155.99**

Transportation Set



Transportation set

The Transportation set is an excellent set to introduce kids to the K'NEX spatial building system. It is perfect for initial building experiences in a small group or after-school setting. Build 44 models of varying complexity from activity cards with background information about the vehicles' origin, purpose and function.
Teacher's Guide Included!
Educators guide is divided into four sections - one each for land, air, sea and space travel. This allows each to function as a stand-alone unit or to be plugged into a corresponding topic or unit.

- 800 K'NEX pieces with 44 activity cards and a 60 page Teachers Guide
- Perfect topic for Grades 1 - 4. Models included: land, sea, air and space
- Supports 16 Students working in Teams

KNX79212 MSRP $206.99 ..... **$123.99**

Engineering Marvels: Buildings, Structures and Machines

Engineering Marvels

- Systems and Order within Systems
- The Technological Design Process and Problem Solving Identifying and Using Patterns as Recurring Elements
- Careers in Technology and Engineering
- Science and Technology Concepts that could Solve Practical Problems
- Motion and Energy Transfer in Physical Systems
- Processes of Inventions and Innovations
- Modeling, Testing, Evaluating, and Modifying
- Construction Technologies

- Build nine real world models that demonstrate Science, Technology, Engineering, Mathematics, (STEM) and History concepts.
- Build eight of the models two at a time.
- Set includes 1221 Rods, Connectors, and New! K'NEX Bricks to support 6 – 8 students working in teams of 3 – 4.
- Models include: Eiffel Tower, Seattle Space Needle, Flying Buttress System, Windmill, Crane, Big Ben, Arc de Triomphe, the CN Tower and the first iron bridge.
- Comprehensive, interdisciplinary Teacher's Guide including student readers and career explorations.
- Comes packaged in a strong storage case with movable dividers and transparent snap-on lid.

KNX78480 MSRP $239.99 ..... **$129.99**

Renewable Energy

New

Renewable Energy

- An outstanding series of STEM investigations for secondary school students.
- Students generate electricity to operate models as they experiment with renewable energy systems.
- Students will compare and contrast the power and efficiency that can be realized from wind, solar, and water powered machines.
- Three groups of students will work simultaneously on projects of real-world significance as they learn about issues and concepts that will impact our future.
- Set includes 550 K'NEX pieces and color-coded building instructions to build 9 curriculum related models. Builds 3 models at a time.
- One 1.38v - 500mA solar panel, 3 motors and power cords, and 1 capacitor for energy storage included.
- Comprehensive teacher's guide with inquiry-based lesson plans and background information is included.

- Renewable Energy Key Concepts
- Solar, Wind and Hydropower
- Energy Storage
- Electrical Energy Generation
- Hydroelectric Energy Generation
- Energy Efficient Technologies
- Green Energy/Clean Energy
- Force, Motion, Work and Power
- Reducing Greenhouse Gas Emissions
- Energy: Radiant, Mechanical, Electrical
- Reducing Dependence on Foreign Energy
- Conservation of Energy
- Kinetic and Potential Energy
- Innovation and Invention
- Mechanical and Electrical Systems
- Newton's Laws

KNX78976 MSRP $249.99 ..... **$139.99**

Forces, Energy & Motion

Forces, Energy & Motion

- 442 K'NEX Rods and Connectors plus 2 battery motors, 2 flywheels motors, and 4 transparent spring motors included.
- Instructions to build 11 models; 4 of most can be built simultaneously (2 of each battery and flywheel racers) using color coded building instruction books (4 sets)
- Use Comprehensive teachers guide with 7 inquiry based lesson plans to investigate the principles of potential and kinetic energy.
- Supports 12 – 16 students working in teams of 2 – 3

National Science Education Content Standards

Physical Science

- Motion and Forces
- Transfer of Energy

Standards for Technological Literacy

Assess the impact of products and systems

- Use instruments to collect data
- Use collected data to find trends
- Identify trends

KNX78790 MSRP $191.99 ..... **$114.99**

Energy, Motion & Aeronautics

New

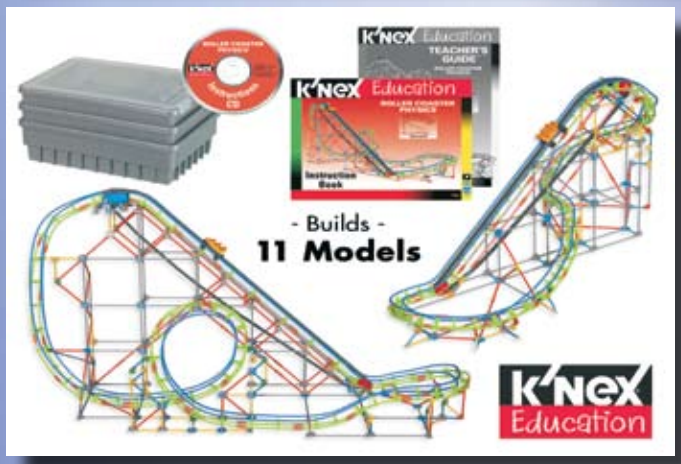
Energy, Motion & Aeronautics grades 6 - 8

1430 pcs builds 9 models 3 at a time • Supports up to three groups of 2 - 3 students working in teams.
This exciting set helps students learn about real-world concepts and principles in the continually expanding field of engineering. Developed in partnership with the NASTAR (National AeroSpace Training and Research) Center, the realistic and fun models allow three groups of students to simultaneously explore Newton's Laws, mechanical systems, projectile motion, airplane flight surfaces, aeronautic and aerospace training devices, parachute technology, optical illusions, and much more. The comprehensive teacher's guide includes lesson plans, background information, teacher notes and reproducible worksheets. Aligned to state and national standards.

Newton's Laws • The Design Process/Engineering Design • Data collection, graphing and analysis
Forces, Energy and Motion • Testing, Evaluating and Modifying • Systems and Organization
Models and Prototypes • Ratios and Proportions • Measurement • Problem Solving and Experimentation

KNX79621 MSRP $249.99 ..... **$149.99**

Roller Coaster & Amusement Park



Roller Coaster Physics

- 2037 K'NEX pieces to build 11 different classic roller coaster designs Including: Large roller coaster with clothoid loop, Half pipes (with loops) Inclined planes (with curves and loops) Ball Ramps.
- Build 2 large model simultaneously.
- Compatible with data logging sensors from Vernier, Pasco, Texas Instruments.
- A 59 page teachers guide includes 11 lesson plans; formative rubrics, correlation with National and Math Standards.
- Supports 8 students in grades 10 - 12
- All stored in 3 large silver storage trays, with movable dividers and snap-on lids

MODELS INCLUDED

- *Large Roller Coaster with Clothoid Loop
- 2 Half-Pipe systems
- 2 Inclined Planes
- Inclined Plane with Circular Loop
- *Roller Coaster without Loop
- Half - Pipe System with Loop
- Inclined Plane with Curve
- Inclined Plane with Clothoid Loop

***Denotes motorized model**

National Science Education Standards (NSES)
Physical Science Grades 9 - 12: Motion and forces; Conservation of energy and increase in disorder.

International Technology Education Association (ITEA).
Standards for Technological Literacy core concepts of technology Grades 9 - 12: Systems: Processes; Requirements

Key Concepts

- Projectile Motion
- Centripetal Force and Acceleration
- Conservation of Energy
- Experimental Design

KNX78880 MSRP $384.99 ..... **$212.99**

Amusement Park Experience

- A 2264 piece set to build (2) swing rides, (4) ferris wheels, a pirate ship, or (4) boom rides.
- Build at least 1 roller coaster and 1 other model at a time. 2 motors included.
- Build clothoid loops, circular loops, inclined planes, ball ramps, half pipes and cam operated carousels.
- Compatible with datalogging sensors from Vernier, Pasco, Texas Instruments.
- 78 - page Inquiry based teachers guide included.
- Supports 8 students in grades 6 - 9

MODELS INCLUDED

- *Large, Looped Roller Coaster
- *Carousel
- *Boom Ride
- Inclined Plane Systems
- Pirate Ship Rides
- Inclined Plane with Circular Loop
- Gravity-Fed Double Hill Systems
- *Scrambler Ride
- *Ferris Ride
- *Swing Ride
- Half Pipe

*** Denotes motorized option for model**

National Science Education Standards (NSES)
Physical Science Grades 5 - 8: Motion and forces; Transfer of energy.

International Technology Education Association (ITEA).
Standards for Technological Literacy: the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving - grades 6 - 8: troubleshooting; invention and innovation; and experimentation

Key Concepts

- Speed, Distance, Time
- Mass, Motion, Energy Loss
- Rotational Motion
- Slope and Displacement
- Mathematics and the Amusement Park
- Period of a pendulum

KNX78890 MSRP $384.99 ..... **$212.99**

Accessories

Education Motor Pack

- Motorize your K'NEX models to make them more realistic with these 2 battery powered motors.
  Each motor requires 2 AA batteries (not included)
- Turn Concept models into "Technology at Work"
- Build, Investigate, and experiment with motorized models that have constant speeds and continuous operation.
- Build two models of the same device with different gearing systems and operate them side by side to observe the effects of the gearing variations, increased speed and increased force!

KNX78910 DC Motor Twin pk $33.99..... **$20.99**
EVEAA4 Eveready Energizer AA Alkaline batteries MSRP $5.89 .... **$3.49**

Ages 3 - 7

Kid K'NEX Classroom Collection

- 267 big, soft, chunky Kid K'NEX pieces including 12 eyes, 6 feet and 6 wings/ears, rods and connectors.
- Strengthens kinesthetic skills, perception, and fine motor skills
- Supports 12-16 students; ages 3 - 7 years old
- 8 two-sides full-color pattern cards included

KNX78690A MSRP $124.99 ..... **$74.00**

Kid K'NEX Transportation

- 149 Kid K'NEX pieces including 24 wheels 10 of which are "supersized" and 6 are truck wheels.
- 6 two sided full color building cards
- Build all 6 models from building cards simultaneously
- Set comes packed in a large storage tub with lockable lid
- Developmentally appropriate for Foundation Stage (3 - 7 yrs)

KNX78830 MSRP $126.99 ..... **$75.99**

Young Elementary

Discovery Building Set

- 256 K'NEX pieces to build 20+ models, a great introductory set for spatial, 3-D building
- Ideal 2-3 student group set; grades 1 and higher
- Comes packaged in a strong, stackable storage solution with dividers
- Perfect addition to existing K'NEX sets for use as a central class resource for group projects.

KNX78650 MSRP $55.99 ..... **$32.99**

K'NEX Education

Kid K'NEX Group Set

- 126 big, soft, chunky K'NEX rods, connectors, eyes and ears
- 4 two-sided full color pattern cards included
- Supports 6 - 10 students; ages 3 - 7 years
- Packed in a strong sturdy storage tub

KNX78750 MSRP $74.99 ..... **$44.00**

Kid K'NEX Creatures

- 245 big, soft, chunky Kid K'NEX pieces including 14 eyes 11 dorsal fins and 4 bird feet
- 7 two sided full color building cards
- Build any 8 of 13 different models from building cards simultaneously
- Ideal for 12 children for Science, Nature or Creature curriculum; ages 3 - 7 years old
- Set comes packed in a large yellow storage tray with dividers and lock on transparent lid.
- Developmentally appropriate for Foundation Stage (3 - 7 yrs)

KNX78820 MSRP $125.99 ..... **$75.99**

NCTM Curriculum Standards for grades K-4

- Geometry and Spatial Sense
- Number Sense and Numeration
- Mathematics as problem solving
- Measurement
- Mathematics as Reasoning

Elementary Math & Geometry

- 131 K'NEX parts and instructions to build 144 models
- Students can construct squares, rectangles, trapezoids, rhombi, prisms, quadrilaterals, plus symmetry and fraction models
- 12 challenges included to fine tune understanding of shape characteristics and attributes
- Set supports 3-4 students working as a team
- Comes packaged in a strong, plastic storage case with dividers and locking lid
- Teacher's guide sold separately

KNX78720 MSRP $48.99..... **$33.99**

BONUS - Teachers guide on CD now included in every Elementary Math & Geometry set!