












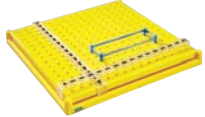


Glossary of Manipulatives

	<p>Algeblocks® This assortment of colored blocks provides students with a concrete way to represent constants and variables. Students can use Algeblocks to build representations of abstract algebraic expressions and equations. The blocks can be manipulated to perform various operations and solve problems.</p>
	<p>AngLegs® AngLegs enable students to study polygons, perimeter, area, angle measurement, side lengths, and more. The set includes 72 snap-together AngLegs pieces (12 each of six different lengths) and two snap-on View-Thru® protractors.</p>
	<p>Centimeter Cubes These plastic cubes are 1 cm on a side and come in 10 colors. They can be used to teach counting, patterning, and spatial reasoning. They are suitable for measuring area and volume and also may be used to generate data for the study of probability.</p>
	<p>Color Tiles These 1" square plastic tiles come in four different colors: red, blue, yellow, and green. They can be used to explore many mathematical concepts, including those associated with geometry, patterns, and number sense.</p>
	<p>Deluxe Rainbow Fraction® Circles This set consists of nine color-coded, $3\frac{1}{2}$" plastic circles representing a whole, halves, thirds, fourths, fifths, sixths, eighths, tenths, and twelfths. The circles enable students to explore fractions, fractional equivalences, the fractional components of circle graphs, and more.</p>
	<p>Deluxe Rainbow Fraction® Squares This set consists of nine color-coded, 10-cm plastic squares representing a whole, halves, thirds, fourths, fifths, sixths, eighths, tenths, and twelfths. The squares enable students to explore fractions, fractional equivalences, and more.</p>
	<p>Number Cubes The faces of the number cube are marked with the numerals 1 through 6. The cubes may be used in games and to generate random numbers.</p>

	<p>Pattern Blocks Pattern Blocks come in six different color-shape varieties: yellow hexagons, red trapezoids, orange squares, green triangles, blue parallelograms (rhombuses), and tan rhombuses. They can be used to teach concepts from all strands of mathematics; for example, algebraic concepts such as patterning and sorting, as well as geometry and measurement concepts such as transformations, symmetry, and area. The blocks can also be used to study number and fraction relationships.</p>
	<p>Polyhedral Dice Set This set consists of 4-, 6-, 8-, 10-, 12-, and 20-sided dice that may be used for a variety of probability activities. Dice may be used to generate data for number and operations activities as well as for data analysis.</p>
	<p>Rainbow Fraction® Circle Rings Each of these five plastic rings fits around the Deluxe Rainbow Fraction Circles, allowing the various sectors to be measured. This set consists of a Degree Measurement Ring, a Fraction Measurement Ring, a Decimal Measurement Ring, a Percent Measurement Ring, and a Time Measurement Ring.</p>
	<p>Relational GeoSolids® Relational GeoSolids is a set of 14 three-dimensional shapes that can be used to teach about prisms, pyramids, spheres, cylinders, cones, and hemispheres. GeoSolids facilitate classroom demonstrations and experimentation. The shapes can be filled with water, sand, rice, or other materials to give students a concrete framework for the study of volume.</p>
	<p>Spinners Spinners enable students to study probability and to generate numbers and data lists for number operations and data analysis.</p>
	<p>Two-Color Counters These versatile counters are thicker than most other counters and easy for students to manipulate. They can be used to teach number and operations concepts such as patterning, addition and subtraction, and multiplication and division. Counters also can be used to introduce students to basic ideas of probability.</p>
	<p>XY Coordinate Pegboard The XY Coordinate Pegboard can be used to graph coordinates in one, two, or four quadrants; to show translations of geometric figures; to display data in various forms; and to demonstrate numerous algebraic concepts and relationships.</p>

Index

Boldface page numbers indicate when a manipulative is used in the Try It! activity.

- Algeblocks®
 - integers
 - add, **31**
 - divide, 54, **55**
 - multiply, **47**
 - subtract, **39**
 - linear equations
 - one-step, variables on both sides, **73**
 - two-step, variables on both sides, **77**
- Algebra Tiles™
 - linear equations, one-step, variables on both sides, 72
- AngLegs®
 - scale, factors of 2 and 3, 82, **83**
 - triangles, construct, **87**
- Area
 - of a circle, 94–97
 - of irregular figures, 98–101
 - of polygons, 102–105
- Base Ten Blocks
 - mixed numbers, decimals, percents greater than 110%, equivalency of, 60
- Centimeter Cubes
 - area of a circle, 94
 - fractions, decimals, and percentages, convert, 64
 - integers
 - add, 26
 - divide, 50
 - multiply, 42, 46
 - subtract, 34
 - population sampling, **109**
 - probability
 - and fairness, 124
 - finding, without replacement, **129**
- Color Tiles
 - fractions, decimals, and percentages, convert, **65**
 - probability
 - compound events, making an organized list, 136
 - modeling, relationships between events, **121**
 - subtract integers, 34
- Common Core State Standards
 - 7.RP Ratios and Proportional Relationships, 6–23
 - 7.RP.2a, 8–11, 12–15
 - 7.RP.2b, 16–19, 20–23
 - 7.RP.2c, 20–23
 - 7.RP.2d, 16–19
 - 7.NS The Number System, 24–57
 - 7.NS.1b, 26–29, 30–33
 - 7.NS.1c, 34–37, 38–41
 - 7.NS.2a, 42–45, 46–49
 - 7.NS.2b, 50–53, 54–57
 - 7.NS.3, 50–53
 - 7.EE Expressions and Equations, 58–79
 - 7.EE.3, 60–63, 64–67, 68–71
 - 7.EE.4a, 72–75, 76–79
 - 7.G Geometry, 80–105
 - 7.G.1, 82–85
 - 7.G.2, 86–89
 - 7.G.4, 90–93, 94–97
 - 7.G.6, 98–101, 102–105
 - 7.SP Statistics and Probability, 106–143
 - 7.SP.1, 108–111
 - 7.SP.2, 108–111
 - 7.SP.5, 112–115, 116–119
 - 7.SP.6, 116–119, 124–127, 128–131, 132–135, 136–139
 - 7.SP.7a, 116–119, 120–123
 - 7.SP.7b, 124–127
 - 7.SP.8a, 120–123, 128–131, 132–135, 136–139, 140–143
 - 7.SP.8b, 128–131, 132–135, 136–139, 140–143
- Compass
 - probability, modeling, **113**
- Coordinate pairs
 - proportional relationships, 8–11, 16–23
- Deluxe Rainbow Fraction® Circles
 - area of a circle, **95**
 - circumference and pi, 90
 - fraction, decimal, and percentage combinations that equal 1, **69**
 - probability, modeling, **113**
 - ratios, equivalent, 12
- Deluxe Rainbow Fraction® Squares
 - mixed numbers, decimals, percents greater than 110%, equivalency of, 60, **61**
 - ratios, equivalent, **13**
- Dice, Polyhedral
 - integers, subtract, 38
 - probability
 - theoretical and experimental, 116, 132, **133**
 - modeling, relationships between events, 120
 - compound events; make an organized list, **137**
- Expressions and equations, 58–79
 - fractions, decimals, and percentages
 - convert, 64–67
 - combinations that equal 1, 68–71
 - linear equations
 - one-step, variables on both sides, 72–75
 - two-step, variables on both sides, 76–79
 - mixed numbers, decimals, percents greater than 110%, equivalency of, 60–63
- Fraction Tower® Equivalency Cubes
 - fractions, decimals, and percentages
 - convert, 64
 - combinations that equal 1, 68
 - mixed numbers, decimals, percents greater than 110%, equivalency of, 60
 - proportionality, constant, 16
 - ratios, equivalent, 12
- Geoboard
 - scale, factors of 2 and 3, 82
- Geometry, 80–105
 - area
 - of a circle, 94–97
 - of irregular figures, 98–101
 - of polygons, 102–105
 - circle, circumference and pi, 90–93
 - scale, factors of 2 and 3, 82–85
 - triangles, construct, 86–89
- Graphing
 - straight-line, for proportional relationships, 8–11, 16–23
- Integers
 - add, 26–33
 - divide, 50–57
 - multiply, 42–49
 - subtract, 34–41
- Number Cubes
 - probability, compound events, making a tree diagram, 140

- Number system, 24–57
 - integers
 - add, 26–33
 - divide, 50–57
 - multiply, 42–49
 - subtract, 34–41
- Pattern Blocks
 - area
 - of irregular figures, 98
 - of polygons, 102, **103**
- Protractor
 - triangles, construct, 86
- Rainbow Fraction® Circle Rings
 - circumference and pi, 90
 - fraction, decimal, and percentage combinations that equal 1, **69**
 - probability, modeling, **113**
 - ratios, equivalent, 12
- Ratios and proportional relationships, 6–23
 - equations of proportional relationships, 20–23
 - proportionality, constant, 16–19
 - ratios, equivalent, 12–15
 - on straight-line graphs, 8–11
- Relational GeoSolids®
 - area of a circle, 94
 - circumference and pi, 90, **91**
- Spinner
 - circumference and pi, 90
 - probability
 - compound events
 - making an organized list, 136
 - making a tree diagram, 140, **141**
 - fairness, **125**
 - modeling, relationships
 - between events, 120
 - theoretical and experimental, **117**
- Statistics and probability, 106–143
 - compound events
 - making an organized list, 136–139
 - making a tree diagram, 140–143
 - population sampling, drawing inferences, 108–111
 - probability
 - fairness, 124–127
 - finding without replacement, 128–131
 - modeling, expressed as fractions, 112–115
 - modeling, relationships
 - between events, 120–123
 - theoretical and experimental, 116–119, 132–135
- Two-Color Counters
 - integers
 - add, **27**, 30
 - divide, 50, **51**
 - multiply, 42, **43**
 - subtract, **35**
 - circumference and pi, 90
 - probability, compound events, make an organized list, **137**
- XY Coordinate Pegboard
 - area of irregular figures, 98, **99**
 - equations of proportional relationships, 20, **21**
 - linear equations, two-step, variables on both sides, 76
 - proportional relationships, 8, **9**
 - proportionality, constant, **17**
 - scale, factors of 2 and 3, 82