

Math Virtual Manipulatives, Tools & Resources

6th-8th Grade Math

Frequently Used Manipulatives



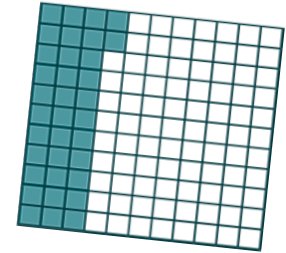
[Unifix Cubes](#)



[Pattern Blocks](#)



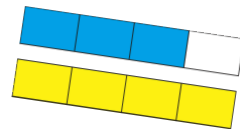
[Cuisenaire Rods](#)



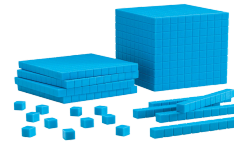
[FDP 100s Grid](#)



[Square Tiles](#)



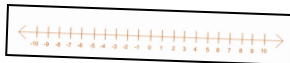
[Bar Models/Strip Diagrams](#)



[Base 10 Blocks](#)



[Geoboard](#)



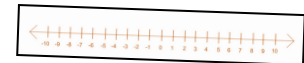
[Number Line - Whole Number Intervals](#)



[Algebra Tiles](#)



[Integer Chips](#)



[Number Line - Rational Number Intervals](#)

Additional Manipulatives, Tools, and Resources

Strand/Unit	Could Be Used For:	Manipulatives, Tools, & Resources
Numbers and Operations	Whole Number Operations	Virtual Manipulatives: Whole # Multiplication - Array Model Whole # Multiplication - Area Model Interactive Activities: Factors of Numbers Game
	Prime Factorization	Virtual Manipulatives: Factor Trees Prime Factor Tiles Models/Exploration: Visualizing Prime Factorization
	Integers	Virtual Manipulatives: Integer Chips - No Numbers Integer Chips - With Numbers Rekenrek Models/Exploration: Locating and Comparing Integers on a # Line Visualizing Absolute Value Modeling Integer Addition/Subtraction with Chips Exploring Integers with Temperature Integer Addition on Number Line

		Subtracting Integers on Number Line Modeling Integer Multiplication - # Line Directed Number Patterns Interactive Activities: Digital "Walk it Out"
	Rational Number Operations	Virtual Manipulatives: Number Bonds with Integers and Decimals Fraction, Decimal, and Percent Strips Models/Exploration: Multiplying Fractions with an Area Model Multiplying Fractions with Overlays Dividing Fractions by a Whole # with Arrays Modeling Dividing Fractions Identifying Common Denominators - Visual Converting between Improper and Proper Fractions
	Ordering Numbers	Virtual Manipulatives: Double Number Line Interactive Activities: Locating and Ordering Rational Numbers on a # Line Ordering Irrational Numbers on a # Line Ordering Real Numbers on a # Line Ordering Rational and Irrational #s Locating Numbers on a Number Line Order Scientific Notation

	Real Numbers	Virtual Manipulatives: Interactive Place Value Models/Exploration: Visualizing Perfect vs. Non Perfect Squares Building Perfect Squares Visualizing Square Roots Interactive Activities: Classifying Real Numbers - Venn Diagram Classifying Real Numbers - All that Apply
Fraction, Decimal, Percent Conversions	Fractions, Decimals, and Percents	Virtual Manipulatives: FDP Strips Fractions and Percents Scale Fraction and Ratio Shading Models/Exploration: Interactive 10x10 Grid with FDP Equivalent Fractions on a Number Line Visual Percents Interactive FDP Interactive Activities: Interactive Fill in Blank FDP

Multiple Representations	Graphing Coordinate Pairs	Virtual Manipulatives: XY Geoboard Interactive Activities: Locate Points in the Coordinate Plane Plot Points in the Coordinate Plane Write Coordinates Given a Point Virtual Battleship
	Linear Relationships	Models/Exploration: Input Output Table Function Machine Interactive $y=mx+b$ on a Coordinate Plane Graphing Lines in $y=mx+b$ Finding Slope from a Line Building Slope with Right Triangles Building Rate of Change Exploring Rate of Change and Initial Value Solving Systems Graphically Interactive Activities: Open Middle - Graphing Linear Relationships
	Proportional Relationships	Models/Exploration: Unit Rate Explore Proportional Relationships in Tables and Graphs Connecting Direct Variation to Slope Direct Variation Exploration

	Scatterplots	Virtual Manipulatives: Data Grapher - Scatterplots Estimating Trendlines Models/Exploration: Making Predictions with Scatterplots Interactive Activities: Interactive Correlation and Trend Lines
Proportional Reasoning	Rates and Ratios	Virtual Manipulatives: Fraction Grid Interactive 100s Grid Models/Exploration: Adjustable Ratio Table Grid Equivalent Ratios from Graph
	Parts, Whole and Percents	Virtual Manipulatives: Adjustable Percent Bar Model Percents with Double Number Line Models/Exploration: Adjustable Percent Bar with Proportion and Table Finding Parts Given Whole and Percent Percent Increase & Decrease Bar Model Example Interactive Activities: Percent Change Interactive Bar Model

Probability	Independent and Dependent Events	Virtual Manipulatives: Spinner Marble Jar Dice Tangrams
	Theoretical and Experimental Probability	Models/Exploration: Adjustable Spinner for Theoretical/Experimental Probability
Expressions and Equations	Equations & Inequalities	Virtual Manipulatives: Equation Solver with Algebra Tiles Modeling and Solving Inequalities with Algebra Tiles Models/Exploration: Graphing Basic Inequalities
	Combining Like Terms	Virtual Manipulatives: Algebra Discs

Data and Graphing	Central Tendency	Models/Exploration: Mean and Median Outliers Effect on the Mean and Median Effect of Outlier on Box Plot and Dot Plot Central Tendency with Graphs
	Graphing	Virtual Manipulatives: Graphing Tool - Box Plot, Histogram, Stem and Leaf, and Scatterplot Graphing Tool - Bar Graph, Line Graph, Pictograph Graphing Tool - Dot Plot Graphing Tool - Circle Graph Circle Graph Generator Models/Exploration: Box Plot Exploration Interactive Dot and Box Plot Interactive Activities: Interactive Game with Bar Graphs and Box Plots
2D Geometry	Area of Parallelograms, Triangles, and Trapezoids	Interactive Models/Exploration: Area Tool
	Triangle Relationships	Models/Exploration: Lengths of Sides of a Triangle Triangle Angle Sum

	Circumference and Area of a Circle	Models/Exploration: Circle Tool Discovering the Formula for Area of a Circle Approximating Pi
	Composite Area Introduction	Virtual Manipulatives: Pentominoes Composite Figure Template
	Similar Figures	Models/Exploration: Scale Factor & Effects on Perimeter and Area Attributes of Similar Figures Exploring Scale Factor
	Angle Measures	Models/Exploration: Angle Measures - Discovery Tools
	Pythagorean Theorem	Interactive Models/Exploration: Pythagorean Theorem Tool Visualizing Pythagorean Theorem Interactive Pythagorean Theorem Discover the Pythagorean Theorem

	Transformations	Models/Exploration: Dilations & Algebraic Representation Dilations & Scale Factor Translations Rotations Reflections
3D Geometry	Surface Area	Virtual Manipulatives: Surface Area of Rectangular Prisms - Nets & 3D Surface Area of Rectangular Prisms in Augmented Reality Models/Exploration: Interactive Surface Area of Rectangular Prisms Unwrapping a Cylinder
	Volume	Virtual Manipulatives: Building a Rectangular Prism with Layers Volume of Rectangular Prisms - Nets & 3D 3D Solids Snap Cubes Models/Exploration: Volume of Cylinders Volume of Spheres Animation

Financial Literacy	Financial Literacy	Models/Exploration: Comparing Compound and Simple Interest Exploring Compound Interest Simple Interest Graphical Display Car Payment Calculator Budgeting Spreadsheet
Additional Manipulatives & Resources	Want More? Want to Explore? Go Here →	Glencoe Toy Theatre Didax Maths Bot Phet Simulations NCTM Illuminations Geogebra