

## Kindergarten

OBJECTIVE	SUGGESTED MANIPULATIVES
Numbers and Objects to 5	<u>How Many Legs game mats</u> , linking cubes, counting cubes, 2-color counters, 5 frame, 10 frames, base 10 blocks, dry-erase boards
Subitizing	Linking cubes, counting cubes, 2-color counters, 10 frames, base 10 blocks, dry-erase boards
Numbers and Objects to 10	<u>How Many Legs game mats</u> , linking cubes, counting cubes, 2-color counters, 10 frames, base 10 blocks, dry-erase boards
Exploring Shapes	Small ball, foam shapes, 3D shapes
Greater Than, Less Than, Equal To	<u>Tug Boat game mats</u> , <u>More Less Parachute game mat</u> , linking cubes, counting cubes, game mats, dry erase materials
Understanding Addition and Subtraction within 5	<u>Push Box game mats</u> , <u>Bird Expression game mats</u> , linking cubes, counting cubes, something to count (cubes, counters, etc.)
Composing Shapes	Centimeter graph paper, foam shapes, tangrams
Understanding Addition and Subtraction within 10	<u>Push Box game mats</u> , <u>Bird Expression game mats</u> , linking cubes, counting cubes
Making 10 and Number Pairs	<u>Bouncing Shoes game mats</u> , linking cubes, counting cubes, 2-color counters, 10 frames, Rekenrek or beaded number bands, dry-erase boards
Numbers and Objects to 20	<u>How Many Legs game mats</u> , base 10 blocks, linking cubes, 10 frames
Comparing Numbers	<u>More Less Parachute game mat</u> , linking cubes, number lines
Counting to 100 (K)	Hundreds chart
Foundations of Place Value (K)	Base 10 blocks, ten frames
Measurable Attributes	Dry erase boards, different sized rectangles, linking cubes
Addition and Subtraction Facts within 5	Linking cubes, counting cubes, 2-color counters, 10 frames, base 10 blocks, dry-erase boards
Sorting and Classifying	Dry-erase board, linking cubes, something to count (toothpicks, blocks, counters, etc.)
Analyzing Shapes	Toothpicks, foam shapes, dry-erase materials, popsicle sticks
Position	Foam shapes, dry-erase materials, a stuffed animal

## Grade 1

OBJECTIVE	SUGGESTED MANIPULATIVES
Addition and Subtraction Within 10	<u>Push Box game mats</u> , <u>Pie Monster game mats</u> , linking cubes, counting cubes, 2-color counters, 10 frames
Measurement Concepts	Ruler, something to count (cubes, counters, etc., Rekenrek)
Number Pairs and Making 10	<u>Tug Boat game mats</u> , <u>Bouncing Shoes game mats</u> , linking cubes, 2-color counters, 10 frames, base 10 blocks, dry-erase boards
Addition and Subtraction with Unknowns	<u>Pie Monster game mats</u> , <u>Push Box game mats</u> , <u>Missing Addend game mats</u> , linking cubes, base 10 blocks, 10 frames
Addition, Subtraction and Equations	<u>Bird Expression game mats</u> , something to count (cubes, counters, 10 frames, number line, etc.)
Composite Shapes	Inch or centimeter graph paper, square tiles
Counting to 120	Hundreds chart, Number chart 1-120 (similar to a 100 chart), Rekenrek
Counting by Tens	Base 10 blocks, hundreds chart, number line, 10 frames, Rekenrek
Counting with Groups	Base 10 blocks, hundreds chart, number line, 10 frames, Rekenrek
Place Value Concepts	Base 10 blocks, 10 frames, Rekenrek, number line
Comparing Two-Digit Numbers	Number lines, base 10 blocks, linking cubes, graph paper
Adding and Subtracting by Tens	Base 10 blocks, number lines, dry-erase boards
Equal Shares and Partitioning	<u>Pie Monster game mats</u> , 2-color counters, fraction tiles, dry-erase boards, linking cubes
Shape Differences	Toothpicks, foam shapes, linking cubes, square counters
Addition and Subtraction Within 20	Base 10 blocks, linking cubes, 2-color counters, 10 frames, something to count
Using Place Value to Add	Graph paper, dry erase board, base 10 blocks, 100 chart
Organizing Data	Dry-erase board, linking cubes, something to count (toothpicks, blocks, counters, etc.)
Telling Time	Judy® clock, dry-erase board

## Grade 2

OBJECTIVE	SUGGESTED MANIPULATIVES
Skip Counting	Hundred chart, number lines
Addition and Subtraction Situations	<a href="#">Push Box game mats</a> , <a href="#">Pie Monster game mats</a> , linking cubes, dry-erase materials
The Number Line	Number lines
Addition and Subtraction Situations within 100	<a href="#">Mice Island game mats</a> , <a href="#">Critter Addition game mats</a> , <a href="#">Missing Addend game mats</a> , base 10 blocks, graph paper, dry-erase materials,
Operations on the Number Line	Number lines, counting cubes, counters
Measurement	Rulers, graph paper, counting cubes, counters, dry-erase boards
Addition and Subtraction with Measurement	Rulers, string, linking cubes, dry-erase materials
Place Value to 1,000	Dry-erase materials
Represent Numbers to 1,000	Base 10 blocks, dry erase materials
Counting to 1,000	Hundreds chart, number lines, dry-erase materials
Comparing Three-Digit Numbers	Base 10 blocks, linking cubes, number lines, hundreds chart
Two Step Situations	<a href="#">Push Box game mats</a> , <a href="#">Pie Monster game mats</a> , something to count (cubes, tiles, counters, etc.), graph paper, dry-erase materials
Adding and Subtracting Tens and Hundreds	Place value blocks, graph paper
Place Value Bundles - Ten and Hundred	<a href="#">Building Blocks game mat</a> , place value blocks, graph paper
Using Place Value to Add and Subtract	Place value blocks, graph paper
Even and Odd Numbers	<a href="#">Tug Boat game mats</a> , <a href="#">Bouncing Shoes game mats</a> , <a href="#">Fruit Monster game mats</a> , counting cubes or counters, dry-erase materials

*Grade 3 objectives continued on the next page*

## Grade 2 continued

OBJECTIVE	SUGGESTED MANIPULATIVES
Intro to Arrays	Linking cubes, counting cubes, graph paper, square tiles, dry-erase materials
Shapes	Foam shapes, toothpicks, linking cubes, square counters, dry-erase materials
Partitioning into Equal Shares	<u><a href="#">Pie Monster game mats</a></u> , fraction tiles, graph paper, dry-erase materials
Money	Play money, dry-erase materials
Time	Judy® clock
Model Addition and Subtraction within 1000	Base 10 blocks, graph paper, dry-erase materials
Creating Graphs	Linking cubes, graph paper
Intro to Line Plots	Number lines, dry-erase materials
Addition and Subtraction within 100	Base 10 blocks, graph paper, dry-erase materials

## Grade 3

OBJECTIVE	SUGGESTED MANIPULATIVES
<b>Multiplication Concepts</b>	<u>How Many Legs game mats</u> , graph paper, dry erase materials, square tiles, counters, linking cubes, number line
<b>Division Concepts</b>	Linking cubes, counting cubes, dry-erase materials, number lines
<b>Multiplication and Division Relationships</b>	<u>Fruit Monster game mats</u> , linking cubes, counting cubes, dry-erase materials, number lines
<b>Rounding Three-Digit Numbers</b>	Number lines, base 10 blocks,
<b>Place Value Bundles</b>	<u>Building Blocks game mat</u> , place value blocks, dry-erase materials, place value chart
<b>Addition and Subtraction with Regrouping</b>	Base 10 blocks, graph paper, dry-erase materials, place value chart
<b>Multiplication and Area</b>	Graph paper, square tiles
<b>Properties of Multiplication</b>	Linking cubes, graph paper, base 10 blocks, dry-erase materials
<b>Multiplication Facts and Strategies</b>	<u>How Many Legs game mats</u> , linking cubes, something to count, counting cubes, dry-erase materials, number lines
<b>Division Facts and Strategies</b>	Linking cubes, something to count, counting cubes, dry-erase materials, number lines
<b>Fraction Concepts</b>	Fraction tiles, fraction circles, dry-erase materials, number lines
<b>Fractions on the Number Line</b>	<u>Fractions on the Number Line game mat</u> , fraction tiles, fraction circles, dry-erase materials, number lines
<b>Fraction Equivalence and Ordering</b>	Fraction tiles, fraction circles, dry-erase materials, number lines
<b>Number Patterns</b>	Hundreds chart, linking cubes, dry-erase materials, multiplication chart
<b>Mass and Volume</b>	Volume cubes, linking cubes, dry-erase materials

*Grade 3 objectives continued on the next page*

## Grade 3 continued

OBJECTIVE	SUGGESTED MANIPULATIVES
Solve Two-Step Problems	Pie Monster game mats, <u>How Many Legs game mats</u> , something to count (cubes, tiles, counters, etc.), graph paper, dry-erase materials
Area and Perimeter	Graph paper, square tiles, multiplication chart
Time to the Minute	Judy® clock
Intervals of Time	Judy® clock, number line
Scale and Measurement in Graphing	Linking cubes, graph paper, dry-erase materials
Line Plots	Number lines, dry-erase materials, linking cubes
Shape Attributes	Foam shapes, scratch paper, graph paper

## Grade 4

OBJECTIVE	SUGGESTED MANIPULATIVES
Place Value	Base 10 blocks, place value chart, number line
Rounding Whole Numbers	Base 10 blocks, place value chart, number line
Comparing Whole Numbers	Base 10 blocks, linking cubes, number line
Addition and Subtraction Algorithm	Base 10 blocks, number line, graph paper, dry-erase materials
Multi-Step Addition and Subtraction Problems	Ruler, string, beakers, dry-erase materials
Multiplicative Comparison	Square tiles, graph paper, dry-erase materials
Factors and Multiples	Square tiles, graph paper, dry-erase materials
Patterns	Square tiles, graph paper, number lines, dry-erase materials
Multi-Step Problems Using 4 Operations	<u>How Many Legs game mats</u> (for Leg Drape game), graph paper, square tiles, dry-erase materials
Applying Area and Perimeter	Graph paper, square tiles, multiplication chart, dry-erase materials
Mixed Numbers	Fraction tiles, fraction circles, dry-erase materials, number lines
Fraction Equivalence	Fraction tiles, fraction circles, dry-erase materials, number lines
Addition and Subtraction with Fractions	<u>Pie Monster game mats</u> , fraction tiles, fraction circles, dry-erase materials, number lines
Fraction Multiplication	Fraction tiles, fraction circles, dry-erase materials, number lines
Decimal Fractions	Blank 100 grid, number lines, base 10 blocks, decimal manipulatives
Comparing Decimals	Number lines, base 10 blocks or decimal manipulatives
Lines and Angles	Dot paper, graph paper, protractors, scratch paper
Lines of Symmetry	Dot paper, graph paper, scratch paper, ruler or straight edge

*Grade 4 objectives continued on the next page*

## Grade 4 continued

OBJECTIVE	SUGGESTED MANIPULATIVES
Classifying Shapes	Foam shapes, scratch paper, graph paper
Measurement and Conversions	Liquid measuring tools, pan balance, ruler, dry-erase materials
Multi-Digit Multiplication	Graph paper, dry erase materials, square tiles, base 10 blocks, multiplication chart
Multi-Digit Division	Linking cubes, counting cubes, base 10 blocks, dry-erase materials, multiplication chart
Line Plots and Range	Number lines, dry-erase materials, linking cubes



## Grade 5

OBJECTIVE	SUGGESTED MANIPULATIVES
Decimal Place Value	Decimal tiles, place value charts, base 10 blocks
Comparing with Decimals	Decimal tiles, place value charts, base 10 blocks, number lines
Using Parentheses	Graph paper, dry erase materials, algebra tiles, square tiles
Rounding Decimals	Decimal tiles, place value charts, base 10 blocks, number lines
Patterns and Relationships	Dry erase materials, square tiles, graph paper
Multiplication Algorithm	Graph paper, dry erase materials, square tiles, base 10 blocks
Division Algorithm Strategies	Linking cubes, counting cubes, base 10 blocks, dry-erase materials,
Addition and Subtraction with Decimals	Place value chart, graph paper, base 10 blocks, number lines
Multiplying Decimals	Base 10 blocks, graph paper, dry-erase materials
Dividing Decimals	Base 10 blocks, graph paper, dry-erase materials
Common Denominators and Equivalent Fractions	<a href="#"><u>Pie Monster game mats</u></a> , fraction tiles, number line
Adding and Subtracting Fractions with Unlike Denominators	<a href="#"><u>Fraction Robot game mats</u></a> , fraction tiles, blank 100 grid, dry-erase materials
Multiplying Fractions	Graph paper, fraction tiles
Dividing Fractions	Counters, dry-erase materials
Volume	Volume blocks, linking cubes, graph paper
Converting Measurements	Linking cubes, liquid measuring tools, pan balance, ruler, Judy® clock, dry-erase materials
The Coordinate Plane	Graph paper, dry-erase coordinate plane, popsicle sticks
Line Plot Decimals and Mode	Dry-erase materials, number lines, graph paper
Shapes and Properties	Toothpicks, foam shapes

## Grade 6

OBJECTIVE	SUGGESTED MANIPULATIVES
Negative Numbers	Two color counters, dry-erase materials, number lines
Coordinates and Distances	4-quadrant coordinate plane, xy coordinate pegboard
Proportional Reasoning	<u>Stretch-a-Block game mat</u> , dry-erase materials, counting cubes
Percents	Percent tiles, dry-erase materials, dice, spinners
Unit Rates, Tables, and Graphs (G6)	<u>Fruit Monster game mats</u> , graph paper, counting cubes, dry-erase materials
Fraction Division	Something to count (cubes, counters, etc.), dry-erase materials, fraction kits
Properties of Operations (G6)	Two color counters, algebra tiles, dry-erase materials
Division Algorithm	Linking cubes, counting cubes, base 10 blocks, dry-erase materials,
Modeling with Expressions (G6)	<u>Wall Factory game mat</u> , algebra tiles, dry-erase materials
Solving One-Step Equations (G6)	Algebra tiles, dry-erase materials
Linear Relationships (G6)	Algebra tiles, dry-erase materials
Exponents	Dry-erase materials, graph paper, square tiles
Decimal Addition and Subtraction	Place value chart, graph paper, base 10 blocks, number lines
Decimal Multiplication	Dry-erase materials, base 10 blocks, graph paper
Decimal Division	Dry-erase materials, base 10 blocks, graph paper
Area of Polygons	Graph paper, square tiles
Line Plot Intro and Histograms	Dry-erase materials, number lines, graph paper
Line Plots And Summary Statistics (G6)	Dry-erase materials, number lines, graph paper, linking cubes

## Grade 7

OBJECTIVE	SUGGESTED MANIPULATIVES
Addition and Subtraction with Negative Numbers	Two color counters, algebra tiles, dry-erase materials
Multiplication and Division with Negative Numbers	Two color counters, algebra tiles, dry-erase materials
Proportional Relationships	<u>Stretch-a-Block game mat</u> , dry-erase materials, counting cubes
Percents with Increases and Decreases	Percent tiles, dry-erase materials
Unit Rates, Tables, and Graphs (G7)	<u>Fruit Monster game mats</u> , dry-erase materials, ST Math game mats, counting cubes, coordinate plane, xy coordinate pegboard
Rational Concepts (G7)	Two color counters, algebra tiles, dry-erase materials
Adding and Subtracting Rational Numbers	Two color counters, algebra tiles, dry-erase materials
Multiplying and Dividing Rational Numbers	Two color counters, algebra tiles, dry-erase materials
Properties of Operations	Two color counters, algebra tiles, dry-erase materials
Modeling with Expressions	<u>Wall Factory game mat</u> , algebra tiles, two colored counters, dry-erase materials
Solving One-Step Equations (G7)	Algebra tiles, dry-erase materials
Solving Two-Step Equations (G7)	Algebra tiles, dry-erase materials
Linear Relationships	Algebra tiles, dry-erase materials
Multi-Step Percents	Percent tiles, dry-erase materials
Applying Rates and Ratios	Graph paper, counting cubes, dry-erase materials
Scale and Slope Graphs (G7)	4-quadrant coordinate plane, xy coordinate pegboard, algebra tiles, dry-erase materials
Polygon Angle Sums	Protractor, AngLegs®, dot paper, dry-erase materials
Probability	Dry-erase materials, colored counters, number cube
Line Plots and Summary Statistics (G7)	Graph paper, dry-erase materials