Math Teachers Press, Inc.

NEW YORK STATE LEARNING STANDARDS FOR MATHEMATICS CORRELATED TO
MOVING WITH MATH® EXTENSIONS GRADE 3

		Student Book	Skill Builders
	PROBLEM SOLVING		
	Students will build new mathematical knowledge through problem solving.		
3.PS.1	Explore, examine, and make observations about a social problem or mathematical situation	24-26, 42, 43	10-5, 15-5, 15-6, 48-1, 49-1
3.PS.2	Understand that some ways of representing a problem are more helpful than others	24-26, 42, 43	10-5, 15-5, 15-6, 48-1, 49-1
3.PS.3	Interpret information correctly, identify the problem, and generate possible solutions	24-26, 42, 43	10-5, 15-5, 15-6, 48-1, 49-1
	Students will solve problems that arise in mathematics and in other contexts.		
3.PS.4	Act out or model with manipulatives activities involving mathematical content from literature	44	49-1
3.PS.5	Formulate problems and solutions from everyday situations	24-26	
3.PS.6	Translate from a picture/diagram to a numeric expression	1, 12	1-1
3.PS.7	Represent problem situations in oral, written, concrete, pictorial, and graphical forms	24-26	
3.PS.8	Select an appropriate representation of a problem	24-26	
	Students will apply and adapt a variety of appropriate strategies to solve problems.		
3.PS.9	Use trial and error to solve problems		
3.PS.10	Use process of elimination to solve problems		
3.PS.11	Make pictures/diagrams of problems		
3.PS.12	Use physical objects to model problems	Manipulatives used throughout.	
3.PS.13	Work in collaboration with others to solve problems	Cooperative groups (pp. 24-26)	

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3.PS.14	Make organized lists to solve numerical problems	44	49-1
3.PS.15	Make charts to solve numerical problems	T.G. pp. 5, 11, 38	
3.PS.16	Analyze problems by identifying relationships	T.G. p. 43	
3.PS.17	Analyze problems by identifying relevant versus irrelevant information	T.G. p. 25	
3.PS.18	Analyze problems by observing patterns	T.G. p. 46	
3.PS.19	State a problem in their own words	T.G. pp. 24, 25	
	Students will monitor and reflect on the process of mathematical problem solving.		
3.PS.20	Determine what information is needed to solve a problem	24-26	
3.PS.21	Discuss with peers to understand a problem situation	24-26	
3.PS.22	Discuss the efficiency of different representations of a problem	24-26	
3.PS.23	Verify results of a problem	24-26	
3.PS.24	Recognize invalid approaches	24-26	
3.PS.25	Determine whether a solution is reasonable in the context of the original problem	24-26	
	REASONING AND PROOF		
	Students will recognize reasoning and proof as fundamental aspects of mathematics.		
3.RP.1	Use representations to support mathematical ideas	Manipulatives used throughout.	
3.RP.2	Determine whether a mathematical statement is true or false and explain why	Journal Prompt (p. 29)	
	Students will make and investigate mathematical conjectures.		
3.RP.3	Investigate the use of knowledge guessing by generalizing mathematical ideas		
3.RP.4	Make conjectures from a variety of representations		
	Students will develop and evaluate mathematical arguments and proofs.		
3.RP.5	Justify general claims or conjectures, using manipulatives, models, and expressions	9-12 (one example)	

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3.RP.6	Develop and explain an argument using oral, written, concrete, pictorial, and/or graphical forms		Journal Prompt (p. 9)	
3.RP.7	Discuss, listen, and make comments that support or reject claims made by other students		Cooperative group activities throughout.	
	Students will select and use various types of reasoning and methods of proof.			
3.RP.8	Support an argument by trying many cases			
	COMMUNICATION			
	Students will organize and consolidate their mathematical thinking through communication.			
3.CM.1	Understand and explain how to organize their thought process		24-26	
3.CM.2	Verbally explain their rationale for strategy selection		24-26	
3.CM.3	provide reasoning both in written and verbal form		24-26	
	Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.			
3.CM.4	Organize and accurately label work			
3.CM.5	Share organized mathematical ideas through the manipulation of objects, drawings, pictures, charts, graphs, tables, diagrams, models, symbols, and expressions in written and verbal form		Manipulatives used throughout.	
3.CM.6	Answer clarifying questions from others		Scripted questions in lesson plans. Creating problems for a class file (T.G. p. 25)	
	Students will analyze and evaluate the mathematical thinking and strategies of others.			
3.CM.7	Listen for understanding of mathematical solutions shared by other students		Cooperative groups, scripted questions	
3.CM.8	Consider strategies used and solutions found in relation to their own work		T.G. p. 26	
	Students will use the language of mathematics to express mathematical ideas precisely.			

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3.CM.9	Increase their use of mathematical vocabulary and language when communicating with others		Glossary (Masters 15a, 15b)	
3.CM.10	Describe objects, relationships, solutions and rationale using appropriate vocabulary		Glossary (Masters 15a, 15b) Journal Prompts	
3.CM.11	Decode and comprehend mathematical visuals and symbols to construct meaning		1, 2 (examples of pictures used throughout)	
	CONNECTIONS			
	Students will recognize and use connections among mathematical ideas.			
3.CN.1	Recognize, understand, and make connections in their everyday experiences to mathematical ideas		24, 25, 63	10-5, 15-5, 15-6, 47-1
3.CN.2	Compare and contrast mathematical ideas		Journal Prompt (p. 42) T.G. p. 47	
3.CN.3	Connect and apply mathematical information to solve problems		3, 4, 9-12	
	Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.			
3.CN.4	Understand multiple representations and how they are related		Connections of manipulatives - pictures - symbols throughout.	
3.CN.5	Model situations with objects and representations and be able to make observations		Manipulatives used throughout.	
	Students will recognize and apply mathematics in contexts outside of mathematics.			
3.CN.6	Recognize the presence of mathematics in their daily lives		24, 25, 63	10-5, 15-5, 15-6, 47-1
3.CN.7	Apply mathematics to solve problems that develop outside of mathematics		64	35-2, 36-1, 37-1, 38-1
3.CN.8	Recognize and apply mathematics to other disciplines		64	35-2, 36-1, 37-11
	REPRESENTATION			

			Student Book	Skill Builders
	Students will create and use representations to organize, record, and communicate mathematical ideas.			
3.R.1	Use verbal and written language, physical models, drawing charts, graphs, tables, symbols, and equations as representations		Glossary (Masters 15a, 15b) Connections of models to pictures to symbols throughout.	
3.R.2	Share mental images of mathematical ideas and understandings		T.G. pp. 2, 3 (partial examples)	
3.R.3	Recognize and use external mathematical representations			
3.R.4	Use standard and nonstandard representations with accuracy and detail			
	Students will select, apply, and translate among mathematical representations to solve problems.			
3.R.5	Understand similarities and differences in representations		Journal Prompts (p. 9 - one example only)	
3.R.6	Connect mathematical representations with problem solving		T.G. p. 43 (one example only)	
3.R.7	Construct effective representations to solve problems		24, 25, 63	10-5, 15-5, 15-6, 47-1
	Students will use representations to model and interpret physical, social, and mathematical phenomena.			
3.R.8	Use mathematics to show and understand physical phenomena (e.g., estimate and represent the number of apples in a tree)		26	10-5, 15-5
3.R.9	Use mathematics to show and understand social phenomena (e.g., determine the number of busses required for a field trip)		26	10-5, 15-5
3.R.10	Use mathematics to show and understand mathematical phenomena (e.g., use a multiplication grid to solve odd and even number problems)		T.G. p. 5	
	NUMBER SENSE AND OPERATIONS			

		Student Book	Skill Builders
	Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.		
3.N.1	Skip count by 25's, 50's, 100's to 1,000		
3.N.2	Read and write whole numbers to 1000	1, 2, 7, 8	1-1 ,4-1, 6-1
3.N.3	Compare and order numbers to 1,000	3, 4	2-1, 2-2
3.N.4	Understand the place value structure of the base ten number system:		
	• 10 ones = 1 ten	1, 2, 8	1-1, 4-1, 6-1
	• 10 tens = 1 hundred	1, 2, 7, 8	1-1, 4-1, 6-1
	• 10 hundreds = 1 thousand	7, 8	4-1, 6-1
3.N.5	Use a variety of strategies to compose and decompose three-digit numbers	1, 2, 7, 8	1-1, 4-1, 6-1
3.N.6	Use and explain the commutative property of addition and multiplication	13, 32	9-1
3.N.7	Use 1 as the identity element for multiplication		
3.N.8	Use the zero property of multiplication		
3.N.9	Understand and use the associative property of addition	14	9-2
3.N.10	Develop an understanding of fractions as part of a whole unit and as parts of a collection	41, 47	30-1, 31-1
3.N.11	Use manipulatives, visual models, and illustrations to name and represent unit fractions (1/2, 1/3, 1/4, 1/5, 1/6, and 1/10) as part of a whole or a set of objects	T.G. p. 47	
3.N.12	Understand and recognize the meaning of numerator and denominator in the symbolic form of a fraction	47-49	30-1 ,31-1, 32-1
3.N.13	Recognize fractional numbers as equal parts of a whole	47-49	30-1, 31-1, 32-1
3.N.14	Explore equivalent fractions (1/2, 1/3, 1/4)	T.G. p. 49	
3.N.15	Compare and order unit fractions (1/2, 1/3, 1/4) and find their approximate locations on a number line	49	
3.N.16	Identify odd and even numbers	5	
3.N.17	Develop an understanding of the properties of odd/even numbers as a result of addition or subtraction		
	Students will understand meanings of operations and procedures, and how they relate to one another.		

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3.N.18	Use a variety of strategies to add and subtract 3-digit numbers (with and without regrouping)	15-19, 21-23	10-1 to 10-3, 12-1, 14-1, 15-1 to 15-4, 16-1, 17-1, 19-1
3.N.19	Develop fluency with single-digit multiplication facts	27-31, 33-38	20-1, 20-2, 21-1, 21-2, 22-1, 24-1
3.N.20	Use a variety of strategies to solve multiplication problems with factors up to 12 x 12	27-31, 33-38	20-1, 20-2, 21-1, 21-2, 22-1, 24-1
3.N.21	Use the area model, tables, patterns, arrays, and doubling to provide meaning for multiplication	28, 29, 31, 33, 36-38	21-1, 21-2, 22-1, 24-1
3.N.22	Demonstrate fluency and apply single-digit division facts	39-41, 44-46	25-1, 25-2, 26-1, 26-2
3.N.23	Use tables, patterns, halving, and manipulatives to provide meaning for division	39-41, 44-46	25-1, 25-2, 26-1, 26-2
3.N.24	Develop strategies for selecting the appropriate computational and operational method in problem solving situations	24-26	10-5, 15-5, 15-6
	Students will compute accurately and make reasonable estimates.		
3.N.25	Estimate numbers up to 500	9-12	7-1, 7-2, 8-1
3.N.26	Recognize real world situations in which an estimate (rounding) is more appropriate		
3.N.27	Check reasonableness of an answer by using estimation	20	
	ALGEBRA		
	Students will perform algebraic procedures accurately.		
3.A.1	Use the symbols <, >, = (with and without the use of a number line) to compare whole numbers and unit fractions (1/2, 1/3, 1/4, 1/5, 1/6, and 1/10)	3	2-1
	Students will recognize, use, and represent algebraically patterns, relations, and functions.		
3.A.2	Describe and extend numeric (+, -) and geometric patterns	5, 6	3-1
	GEOMETRY		

		Student Book	Skill Builders
	Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.		
3.G.1	Define and use correct terminology when referring to shapes (circle, triangle, square, rectangle, rhombus, trapezoid, and hexagon)	Glossary (Masters 15a, 15b)	
3.G.2	Identify congruent and similar figures	56	39-1
3.G.3	Name, describe, compare, and sort three-dimensional shapes: cube, cylinder, sphere, prism, and cone	57	40-1
3.G.4	Identify the faces on a three-dimensional shape as two-dimensional shapes		
	Students will apply transformations and symmetry to analyze problem solving situations.		
3.G.5	Identify and construct lines of symmetry	55	38-1
	MEASUREMENT		
	Students will determine what can be measured and how, using appropriate methods and formulas.		
3.M.1	Select tools and units (customary) appropriate for the length measured	59-61	43-1, 44-1, 45-1
3.M.2	Use a ruler/yardstick to measure to the nearest standard unit (whole and 1/2 inches, whole feet, and whole yards)	59-61	43-1, 44-1, 45-1
3.M.3	Measure objects, using ounces and pounds		44-2
3.M.4	Recognize capacity as an attribute that can be measured		44-2
3.M.5	Compare capacities (e.g., Which contains more? Which contains less?)		44-2
3.M.6	Measure capacity, using cups, pints, quarts, and gallons		44-2
	Students will use units to give meaning to measurements.		
3.N.7	Count and represent combined coins and dollars, using currency symbols ($0.00)	63	47-1
3.M.8	Relate unit fractions to the face of the clock:		
	• Whole - 60 minutes		
	• 1/2 = 30 minutes		
	• 1/4 = 15 minutes		

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	Students will develop strategies for estimating measurements.		
3.M.9	Tell time to the minute, using digital and analog clocks	58	41-1
3.M.10	Select and use standard (customary) and non-standard units to estimate measurements	59-61	42-2, 43-1, 45-1
	STATISTICS AND PROBABILITY		
	Students sill collect, organize, display, and analyze data.		
3.S.1	Formulate questions about themselves and their surroundings	64	
3.S.2	Collect data using observation and surveys, and record appropriately	64	
3.S.3	Construct a frequency table to represent a collection of data	T.G. p. 64	
3.S.4	Identify the parts of pictographs and bar graphs	64	50-1
3.S.5	Display data in pictographs and bar graphs	64	50-1
3.S.6	State the relationships between pictographs and bar graphs		
3.S.7	Read and interpret data in bar graphs and pictographs	64	50-1
	Students will make predictions that are based upon data analysis.		
3.S.8	Formulate conclusions and make predictions from graphs		50-1