



# Math Teachers Press, Inc.

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CP 3/06

## NEW YORK STATE LEARNING STANDARDS FOR MATHEMATICS CORRELATED TO MOVING WITH MATH® FOUNDATIONS-BY-TOPIC GRADE 3

		B1 <i>Numeration, Addition &amp; Subtraction</i> Student Book Skill Builders (SB)	B2 <i>Multiplication &amp; Division Basic Facts</i> Student Book Skill Builders (SB)	B3 <i>Multiplication &amp; Division - Problem Solving</i> Student Book Skill Builders (SB)	B4 <i>Fractions, Decimals, Geometry, Measurement</i> Student Book Skill Builders (SB)
	<b>PROBLEM SOLVING</b>				
	<b>Students will build new mathematical knowledge through problem solving.</b>				
<b>3.PS.1</b>	Explore, examine, and make observations about a social problem or mathematical situation	8	36	68	4
<b>3.PS.2</b>	Understand that some ways of representing a problem are more helpful than others	73	37	57	61 (T.G.)
<b>3.PS.3</b>	Interpret information correctly, identify the problem, and generate possible solutions	4	34, 38	25	61
	<b>Students will solve problems that arise in mathematics and in other contexts.</b>				
<b>3.PS.4</b>	Act out or model with manipulatives activities involving mathematical content from literature	read to me activities throughout	read to me activities throughout	read to me activities throughout	read to me activities throughout
<b>3.PS.5</b>	Formulate problems and solutions from everyday situations	63	36	35	2
<b>3.PS.6</b>	Translate from a picture/diagram to a numeric expression	4	36	39	2

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<b>3.PS.7</b>	Represent problem situations in oral, written, concrete, pictorial, and graphical forms	4, 5	37	41	61
<b>3.PS.8</b>	Select an appropriate representation of a problem	13	35	51	3
	<b>Students will apply and adapt a variety of appropriate strategies to solve problems.</b>				
<b>3.PS.9</b>	Use trial and error to solve problems	77	69	25 SB: 26-12	75
<b>3.PS.10</b>	Use process of elimination to solve problems	8	32	51 SB: 26-12	48
<b>3.PS.11</b>	Make pictures/diagrams of problems	32	3, 36	10	70
<b>3.PS.12</b>	Use physical objects to model problems	31, 45	2	3	9
<b>3.PS.13</b>	Work in collaboration with others to solve problems	throughout	throughout	throughout	throughout
<b>3.PS.14</b>	Make organized lists to solve numerical problems	58 (T.G.)	7	15	76
<b>3.PS.15</b>	Make charts to solve numerical problems	26	58	14	61 (T.G.)
<b>3.PS.16</b>	Analyze problems by identifying relationships	38,	2	2	61
<b>3.PS.17</b>	Analyze problems by identifying relevant versus irrelevant information	54	34, 38	25	5 (T.G.)
<b>3.PS.18</b>	Analyze problems by observing patterns	44	52	11	5
<b>3.PS.19</b>	State a problem in their own words	27	34 (T.G.)	10 (T.G.)	17 (T.G.)
	<b>Students will monitor and reflect on the process of mathematical problem solving.</b>				
<b>3.PS.20</b>	Determine what information is needed to solve a problem	54	33	10	17

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<b>3.PS.21</b>	Discuss with peers to understand a problem situation	11 (T.G.)	76 (T.G.)	25 (T.G.)	5 (T.G.)
<b>3.PS.22</b>	Discuss the efficiency of different representations of a problem	33 (T.G.)	46	22 (T.G.)	11 (T.G.)
<b>3.PS.23</b>	Verify results of a problem	49	72	34	17
<b>3.PS.24</b>	Recognize invalid approaches	49 (T.G.)	14 (T.G.)	29	17
<b>3.PS.25</b>	Determine whether a solution is reasonable in the context of the original problem	63	72	23	59
	<b>REASONING AND PROOF</b>				
	<b>Students will recognize reasoning and proof as fundamental aspects of mathematics.</b>				
<b>3.RP.1</b>	Use representations to support mathematical ideas	27	9	22	58 (T.G.)
<b>3.RP.2</b>	Determine whether a mathematical statement is true or false and explain why			23	39
	<b>Students will make and investigate mathematical conjectures.</b>				
<b>3.RP.3</b>	Investigate the use of knowledge guessing by generalizing mathematical ideas	28	54	23	48
<b>3.RP.4</b>	Make conjectures from a variety of representations	27	10	30 (T.G.)	73
	<b>Students will develop and evaluate mathematical arguments and proofs.</b>				
<b>3.RP.5</b>	Justify general claims or conjectures, using manipulatives, models, and expressions	28	10	6	70

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<b>3.RP.6</b>	Develop and explain an argument using oral, written, concrete, pictorial, and/or graphical forms	9	4	6	17
<b>3.RP.7</b>	Discuss, listen, and make comments that support or reject claims made by other students	class discussions throughout	class discussions throughout	class discussions throughout	class discussions throughout
	<b>Students will select and use various types of reasoning and methods of proof.</b>				
<b>3.RP.8</b>	Support an argument by trying many cases	27	18	30	74
	<b>COMMUNICATION</b>				
	<b>Students will organize and consolidate their mathematical thinking through communication.</b>				
<b>3.CM.1</b>	Understand and explain how to organize their thought process	sum it ups throughout	sum it ups throughout	sum it ups throughout	sum it ups throughout
<b>3.CM.2</b>	Verbally explain their rationale for strategy selection	65 (T.G.)	14 (T.G.)	57	61 (T.G.)
<b>3.CM.3</b>	provide reasoning both in written and verbal form	throughout	throughout	throughout	throughout
	<b>Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.</b>				
<b>3.CM.4</b>	Organize and accurately label work	throughout	throughout	throughout	throughout
<b>3.CM.5</b>	Share organized mathematical ideas through the manipulation of objects, drawings, pictures, charts, graphs, tables, diagrams, models, symbols, and expressions in written and verbal form	throughout	throughout	throughout	throughout

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<b>3.CM.6</b>	Answer clarifying questions from others	54 (T.G.)	76 (T.G.)	62 (T.G.)	19 (T.G.)
	<b>Students will analyze and evaluate the mathematical thinking and strategies of others.</b>				
<b>3.CM.7</b>	Listen for understanding of mathematical solutions shared by other students	54 (T.G.)	14 (T.G.)	36 (T.G.)	61 (T.G.)
<b>3.CM.8</b>	Consider strategies used and solutions found in relation to their own work	54	14 (T.G.)	57	61 (T.G.)
	<b>Students will use the language of mathematics to express mathematical ideas precisely.</b>				
<b>3.CM.9</b>	Increase their use of mathematical vocabulary and language when communicating with others	vocabulary cards	vocabulary cards	vocabulary cards	vocabulary cards
<b>3.CM.10</b>	Describe objects, relationships, solutions and rationale using appropriate vocabulary	14	8	49	6, 48
<b>3.CM.11</b>	Decode and comprehend mathematical visuals and symbols to construct meaning	14	9	13	6
	<b>CONNECTIONS</b>				
	<b>Students will recognize and use connections among mathematical ideas.</b>				
<b>3.CN.1</b>	Recognize, understand, and make connections in their everyday experiences to mathematical ideas	59	46	3	8, 19
<b>3.CN.2</b>	Compare and contrast mathematical ideas	2 (T.G.)	37	18	70
<b>3.CN.3</b>	Connect and apply mathematical information to solve problems	65	37	2	23

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	<b>Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.</b>				
<b>3.CN.4</b>	Understand multiple representations and how they are related	3	5	5	23
<b>3.CN.5</b>	Model situations with objects and representations and be able to make observations	3	3	20	74
	<b>Students will recognize and apply mathematics in contexts outside of mathematics.</b>				
<b>3.CN.6</b>	Recognize the presence of mathematics in their daily lives	59	6	10	8
<b>3.CN.7</b>	Apply mathematics to solve problems that develop outside of mathematics	59	7	23	61
<b>3.CN.8</b>	Recognize and apply mathematics to other disciplines	18	33	17, 50	70 (T.G.)
	<b>REPRESENTATION</b>				
	<b>Students will create and use representations to organize, record, and communicate mathematical ideas.</b>				
<b>3.R.1</b>	Use verbal and written language, physical models, drawing charts, graphs, tables, symbols, and equations as representations	throughout	throughout	throughout	throughout
<b>3.R.2</b>	Share mental images of mathematical ideas and understandings	7	15	7	2 (T.G.)
<b>3.R.3</b>	Recognize and use external mathematical representations	8 (T.G.)	29	22	2

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<b>3.R.4</b>	Use standard and nonstandard representations with accuracy and detail	8 (T.G.)	15	19 (T.G.)	3
	<b>Students will select, apply, and translate among mathematical representations to solve problems.</b>				
<b>3.R.5</b>	Understand similarities and differences in representations	68	46	16	61 (T.G.)
<b>3.R.6</b>	Connect mathematical representations with problem solving	13	9	19 (T.G.)	61 (T.G.)
<b>3.R.7</b>	Construct effective representations to solve problems	13	9	19 (T.G.)	76
	<b>Students will use representations to model and interpret physical, social, and mathematical phenomena.</b>				
<b>3.R.8</b>	Use mathematics to show and understand physical phenomena (e.g., estimate and represent the number of apples in a tree)	7	17	25	49
<b>3.R.9</b>	Use mathematics to show and understand social phenomena (e.g., determine the number of buses required for a field trip)	6	21	25	19, 61
<b>3.R.10</b>	Use mathematics to show and understand mathematical phenomena (e.g., use a multiplication grid to solve odd and even number problems)	9	63	7, 13	23
	<b>NUMBER SENSE AND OPERATIONS</b>				

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	Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.				
<b>3.N.1</b>	Skip count by 25's, 50's, 100's to 1,000				
<b>3.N.2</b>	Read and write whole numbers to 1000	21 SB: 4-2, 5-1, 5-2			
<b>3.N.3</b>	Compare and order numbers to 1,000	5, 6, 16 SB: 2-1, 2-2, 2-3			
<b>3.N.4</b>	Understand the place value structure of the base ten number system: <ul style="list-style-type: none"> <li>• 10 ones = 1 ten</li> <li>• 10 tens = 1 hundred</li> <li>• 10 hundreds = 1 thousand</li> </ul>	14, 15, 17, 18 SB: 1-1, 1-3, 6-3			
		14 SB: 6-3			
		14 SB: 6-3			
		14 SB: 6-3			
<b>3.N.5</b>	Use a variety of strategies to compose and decompose three-digit numbers	2-4 SB: 1-1, 1-2			
<b>3.N.6</b>	Use and explain the commutative property of addition and multiplication	27 SB: 9-1	10 SB: 20-6	6, 16 SB: 20-23	
<b>3.N.7</b>	Use 1 as the identity element for multiplication		13 SB: 20-9	4 SB: 20-21	
<b>3.N.8</b>	Use the zero property of multiplication		13 SB: 20-9	4 SB: 20-21	
<b>3.N.9</b>	Understand and use the associative property of addition	28 SB: 9-2			
<b>3.N.10</b>	Develop an understanding of fractions as part of a whole unit and as parts of a collection				2-6, 8-10 SB: 30-1, 30-5, 31-1



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<b>3.N.11</b>	Use manipulatives, visual models, and illustrations to name and represent unit fractions ( $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{1}{5}$ , $\frac{1}{6}$ , and $\frac{1}{10}$ ) as part of a whole or a set of objects				2-6, 8-10 <b>SB:</b> 30-2, 30-5
<b>3.N.12</b>	Understand and recognize the meaning of numerator and denominator in the symbolic form of a fraction				6 <b>SB:</b> 30-1
<b>3.N.13</b>	Recognize fractional numbers as equal parts of a whole				2, 3 <b>SB:</b> 30-2, 30-3, 30-5
<b>3.N.14</b>	Explore equivalent fractions ( $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ )				14 <b>SB:</b> 32-3
<b>3.N.15</b>	Compare and order unit fractions ( $\frac{1}{2}$ , $\frac{1}{3}$ , $\frac{1}{4}$ ) and find their approximate locations on a number line				7, 12, 13 <b>SB:</b> 30-4, 32-1, 32-2
<b>3.N.16</b>	Identify odd and even numbers	8 <b>SB:</b> 3-1			
<b>3.N.17</b>	Develop an understanding of the properties of odd/even numbers as a result of addition or subtraction	8			
	<b>Students will understand meanings of operations and procedures, and how they relate to one another.</b>				
<b>3.N.18</b>	Use a variety of strategies to add and subtract 3-digit numbers (with and without regrouping)	34-37, 51 <b>SB:</b> 10-9 to 10-12, 15-8 to 15-12			
<b>3.N.19</b>	Develop fluency with single-digit multiplication facts		20 <b>SB:</b> 20-8	7 <b>SB:</b> 20-24, 20-30	

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<b>3.N.20</b>	Use a variety of strategies to solve multiplication problems with factors up to $12 \times 12$		3-6, 41, 42, 51, 52 <b>SB:</b> 20-3, 20-8, 20-10, 20-15	3-13, 18 <b>SB:</b> 20-20 to 20-28	
<b>3.N.21</b>	Use the area model, tables, patterns, arrays, and doubling to provide meaning for multiplication		3-6, 41, 42, 51, 52 <b>SB:</b> 20-4, 20-5, 20-7	2, 3, 5, 8-12 <b>SB:</b> 20-20 to 20-28	
<b>3.N.22</b>	Demonstrate fluency and apply single-digit division facts		40 <b>SB:</b> 25-8	43, 52-57 <b>SB:</b> 25-23, 25-26	
<b>3.N.23</b>	Use tables, patterns, halving, and manipulatives to provide meaning for division		21-28 <b>SB:</b> 25-1, 25-8, 25-14	41-47 <b>SB:</b> 25-18 to 25-22	
<b>3.N.24</b>	Develop strategies for selecting the appropriate computational and operational method in problem solving situations	38, 52, 53, 55 <b>SB:</b> 14-2, 15-13 to 15-15	33, 35, 37 <b>SB:</b> 26-5, 26-6	10, 51, 76 <b>SB:</b> 26-12	
	<b>Students will compute accurately and make reasonable estimates.</b>				
<b>3.N.25</b>	Estimate numbers up to 500	7			
<b>3.N.26</b>	Recognize real world situations in which an estimate (rounding) is more appropriate	7		23, 24 <b>SB:</b> 21-6, 21-7	
<b>3.N.27</b>	Check reasonableness of an answer by using estimation	63		24, 63 <b>SB:</b> 23-3, 16-13	
	<b>ALGEBRA</b>				
	<b>Students will perform algebraic procedures accurately.</b>				

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<b>3.A.1</b>	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 $1/10$ )	5, 16 SB: 2-1			13, 15 SB: 32-1, 32-4
	<b>Students will recognize, use, and represent algebraically patterns, relations, and functions.</b>				
<b>3.A.2</b>	Describe and extend numeric (+, -) and geometric patterns	10, 11 SB: 3-2		14 SB: 3-4	
	<b>GEOMETRY</b>				
	<b>Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.</b>				
<b>3.G.1</b>	Define and use correct terminology when referring to shapes (circle, triangle, square, rectangle, rhombus, trapezoid, and hexagon)				35, 36, 39 SB: 37-4, 37-6
<b>3.G.2</b>	Identify congruent and similar figures				41 SB: 39-1, 39-3
<b>3.G.3</b>	Name, describe, compare, and sort three-dimensional shapes: cube, cylinder, sphere, prism, and cone				46-48 SB: 40-1, 40-3
<b>3.G.4</b>	Identify the faces on a three-dimensional shape as two-dimensional shapes				47 SB: 40-4
	<b>Students will apply transformations and symmetry to analyze problem solving situations.</b>				
<b>3.G.5</b>	Identify and construct lines of symmetry				44, 45 SB: 38-1, 38-2

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	<b>MEASUREMENT</b>				
	<b>Students will determine what can be measured and how, using appropriate methods and formulas.</b>				
<b>3.M.1</b>	Select tools and units (customary) appropriate for the length measured				56, 57 <b>SB:</b> 43-1, 43-5
<b>3.M.2</b>	Use a ruler/yardstick to measure to the nearest standard unit (whole and 1/2 inches, whole feet, and whole yards)				56, 57 <b>SB:</b> 43-1, 43-5
<b>3.M.3</b>	Measure objects, using ounces and pounds				59
<b>3.M.4</b>	Recognize capacity as an attribute that can be measured				60 <b>SB:</b> 44-2
<b>3.M.5</b>	Compare capacities (e.g., Which contains more? Which contains less?)				60
<b>3.M.6</b>	Measure capacity, using cups, pints, quarts, and gallons				60 <b>SB:</b> 44-2
	<b>Students will use units to give meaning to measurements.</b>				
<b>3.N.7</b>	Count and represent combined coins and dollars, using currency symbols (\$0.00)	58 <b>SB:</b> 47-1			
<b>3.M.8</b>	Relate unit fractions to the face of the clock:				<b>SB:</b> 35-7
	• Whole = 60 minutes				
	• $1/2 = 30$ minutes				
	• $1/4 = 15$ minutes				
	<b>Students will develop strategies for estimating measurements.</b>				

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<b>3.M.9</b>	Tell time to the minute, using digital and analog clocks				50 SB: 41-1
<b>3.M.10</b>	Select and use standard (customary) and non-standard units to estimate measurements				56, 57
	<b>STATISTICS AND PROBABILITY</b>				
	<b>Students will collect, organize, display, and analyze data.</b>				
<b>3.S.1</b>	Formulate questions about themselves and their surroundings	68 SB: 50-4	46		
<b>3.S.2</b>	Collect data using observation and surveys, and record appropriately	68 SB: 50-4	46	68 (T.G.)	
<b>3.S.3</b>	Construct a frequency table to represent a collection of data	68	46		
<b>3.S.4</b>	Identify the parts of pictographs and bar graphs	69, 70 SB: 50-2, 50-3	58 SB: 50-5		
<b>3.S.5</b>	Display data in pictographs and bar graphs	69, 70 SB: 50-4	58 SB: 50-5		
<b>3.S.6</b>	State the relationships between pictographs and bar graphs	69, 70			
<b>3.S.7</b>	Read and interpret data in bar graphs and pictographs	69, 70 SB: 50-2, 50-3	58 SB: 50-5	68 SB: 50-7	
	<b>Students will make predictions that are based upon data analysis.</b>				
<b>3.S.8</b>	Formulate conclusions and make predictions from graphs	68-70 SB: 50-4	49, 58 SB: 50-5, 50-6		74 SB: 49-6, 50-10