

A Correlation of



to the

**Piqua City School District  
Math Objectives  
Grades 1-6**



G/M-201

## INTRODUCTION

This document contains information showing how **SILVER BURDETT GINN *Mathematics*** supports the Piqua City School District Math Objectives.

**SILVER BURDETT GINN *Mathematics*** has as its foundation the development of mathematical concepts and skills necessary for students to be successful in the classroom, on standardized and state tests, and in the real world.

This K-6 program addresses real-life problem solving in an exciting venue based on students' experiences and interests. Lessons devoted to problem solving analysis, problem solving strategies, and real-life problem solving applications are provided in every chapter in a student-friendly manner. Each lesson is carefully written to ensure student access in an area that is one of the most difficult in mathematics.

Concepts are presented to students through a hands-on approach appropriate to the students' grade level. These concepts precede the development of the skills/algorithms that are associated with them.

Skills/algorithms are developed through clear, concise presentations that frequently include more than one way to solve the problem (There's Always A Way). Practice consists of honing skills through follow-up exercises and application in problem solving opportunities. To continue to develop mastery of the skills presented, the skills are revisited through the daily *Review and Remember* feature.

Opportunities for assessment range from concepts, skills, and problem solving tests, to ongoing performance tasks and portfolio activities.

References are from the Teacher Editions, which contain reduced Student Edition pages.

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**Silver Burdett Ginn Mathematics  
to the  
Piqua City School District Math Objectives**

**Grade One**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.01	Given a real life problem involving addition or subtraction, the student will write a number sentence to solve the problem with 80% accuracy.	79-80, 325-326
1.02	The student will use ordinal numbers (e.g., first, second, third) to compare and order objects with 80% accuracy.	27-28
1.03	The student will recognize and generate at least two equivalent forms for the same number using physical models, words, and number expressions (e.g., concept of ten is describe by “10 blocks”, full tens frame, numeral 10, 5+5,15-5, one less than 11, my brother’s age).	19-20, 45-46, 47-48, 51-52, 165-166, 167-168, 171-172, 173--174
1.04	When given two numbers between 0-100, the student will identify which number is greater and which is less.	21-22, 181-182
1.05	Given a number or numbers between 0-99 the student will identify numbers which come before, after or between the given number or numbers.	23 –24, 97-98, 111-112, 183-184

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.06	Given an object divided into equal parts, the student will color one half, one third, or one fourth as directed with 80% accuracy.	151-152, 153-154
1.07	The student will model and explain addition as combining sets (part + part = whole) and counting on.	39-40, 42-42, 97-98, 99-100, 101-102, 103-104, 321-322, 343-344, 345-346
1.08	The student will model, represent and explain subtraction as take-away, and comparison.	67-68, 69-70, 71-72
1.09	The student will use conventional symbols to represent the operations of addition and subtraction.	43-44, 73-74
1.10	The student will model and recognize multiplication as repeated addition in contextual situations.	This objective is met in the second grade curriculum on pages 349-350.
1.11	The student will recognize division as sharing equally in contextual situations.	179-180
1.12	The student will use concrete objects to show that the equal sign means “the same as.”	43-44
1.13	Given a set of numbers between 0-18, the student will use more than one of the following strategies to add: a. Counting all b. Counting on c. One more, two more d. Doubles e. Doubles plus or minus one	55-56, 97-98, 99-100, 101-102, 103-104, 105-106, 107-108, 309-310, 313-314, 315-316, 317-318, 319-320, 321-322, 343-344, 345-346

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade One
	<ul style="list-style-type: none"> <li>f. Make ten</li> <li>g. Using ten frames</li> <li>h. Identity property (adding zero)</li> </ul>	
1.14	<p><b>Given a set of numbers between 0-18, the student will use more than one of the following strategies to subtract:</b></p> <ul style="list-style-type: none"> <li>a. relating to addition (for example, <math>7-3=?</math>; think “3 plus ? equals 7”)</li> <li>b. one less, two less</li> <li>c. all but one (for example, <math>8-7</math>, <math>5-4</math>)</li> <li>d. using ten frames</li> <li>e. missing addends</li> </ul>	113-114, 115-116, 117-118, 127, 239-240, 355-356
1.15	<p><b>Given concrete objects and a number line to use as necessary, the student will add and subtract numbers to sums of 18 with 80% accuracy.</b></p>	103-104, 113-114, 115-116, 321-322, 331-332
1.16	<p><b>Given an addition or subtraction equation, the student will estimate sums and differences to determine whether an estimate is greater than or less than a given sum or difference with 70% accuracy.</b></p>	369
1.17	<p><b>The student will estimate the number prior to counting and count objects.</b></p>	168, 172, 174 This objective is also met in the suggested Daily Routines (pg. xx)
1.18	<p><b>Given a situation the student will determine whether an estimate is appropriate.</b></p>	173-174

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.19	The student will use place value concepts to represent whole numbers using numerals, words, expanded notation, and physical models with tens and ones with 80% accuracy.	165-166, 169-170, 171-172, 173-174, 175-176, 177-178
1.20	Given a picture of objects 0-100 the student will write the related numeral with 90% accuracy.	165, 167-168, 171-172
1.21	The student will count, read, and write the numerals for numbers to 100 with 90% accuracy.	13-14, 17-18, 19-20, 185-186
1.22	The student will skip count by 5 or 10 to 100 and by 2 to 20.	187-188, 277
1.23	The student will count backwards from 20.	This objective is met in the suggested Daily Routines (pg. xx)
1.24	The student will identify and state the value of a penny, nickel, dime, quarter, and dollar.	199-200, 225
1.25	Given a collection of coins involving pennies, nickels, dimes, and quarter, the student will find value of combinations of \$1.00 or less with 70% accuracy.	201-202, 203-204, 205-206, 209-210, 215-216
1.26	The student will show different combinations of coins that have the same value.	207-208, 211-212, 224
1.27	Given nonstandard units such as counting links, blocks or paper clips the student will measure lengths with 80% accuracy.	283-284

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.28	The student will explain the need for a fixed unit of length and recognize the standard tools to measure length.	222
1.29	Using a ruler marked in inches or centimeters, the student will measure the length of an object to the nearest inch or centimeter with 80% accuracy.	285-286, 287-288
1.30	The student will explain the need for measuring weight with standard units.	291-292
1.31	Given a situation requiring the measurement of length, capacity or weight the student will pick the required tool to measure (ruler, measuring cup, scale) with 80% accuracy.	301-302
1.32	Given units or objects, the student will estimate the approximate size in inches or centimeters.	281-282
1.33	Given an analog or digital timepiece the student will tell time to the hour or half hour with 80% accuracy.	257-258, 259-260, 261-262
1.34	The student will order sequence of events as related to time. (seasons of the year, school day).	251-252
1.35	After listening to a reading or scenario, the student will use mental, paper and pencil and physical strategies to determine time elapsed in hour intervals with 70% accuracy.	263-264



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.36	The student will identify, compare and sort two-dimensional shapes (i.e. square, circle, ellipse, triangle, rectangle, rhombus, trapezoid, and hexagon).	135-136
1.37	The student will describe two-dimensional shapes using attributes such as number of sides and number of vertices (corners, or angles).	135-136
1.38	The student will create new shapes by combining or cutting apart existing shapes.	143-144
1.39	The student will copy figures and circle, triangle, rectangle and square from memory.	Closest match: 135-136, 141B
1.40	The student will identify circles, squares, rectangles, and triangles on the faces of three-dimensional objects with 80% accuracy.	133-134
1.41	Given a set of objects or pictures, the student will identify a cube, cylinder, cone, and sphere with 70% accuracy.	129-130
1.42	Students will indicate near and far and left and right with 70% accuracy.	32
1.43	Given a set of pictures or objects the student will sort by two or more attributes and will explain how objects or pictures were sorted.	25-26

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.44	Given a set of objects or pictures which are alike in some way the student will decide whether or not additional objects or pictures should be included in that set with 80% accuracy.	25-26, 142
1.45	Given a set of objects, the student will use various attributes to create, copy or continue patterns with 80% accuracy.	25-26, 139-140, 274
1.46	Given a pattern the student will orally describe the basic unit or general plan of a repeating or growing pattern.	240, 349-350
1.47	Given a sequence of numbers involving counting by one, two, five or ten, the student will continue the pattern with 80% accuracy.	185-186
1.48	The student will use the calculator to add, subtract and count with 80% accuracy.	66, 94, 128, 250, 370
1.49	The student will represent an expression in more than one way using the commutative property. (e.g. $4+5=5+4$ or the number of blue balls plus red balls is the same as the number of blue balls plus red balls: $R+B=B+R$ )	57-58
1.50	The student will model a problem situation using a number phrase, symbols and/or concrete materials.	37D, 51-52, 53-54, 67-68, 79-80, 83-84, 109-110, 121-122, 243-244

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.51	The student will describe qualitative change (e.g. students growing taller).	289-290, 291
1.52	Given data the student will identify at least two categories for sorting the data.	199-200
1.53	The student will collect and organize data to make a chart using tally marks.	29B, 271-272
1.54	Using data from a given situation, the student will create a picture graph each picture representing a single unit and a bar graph with intervals of one.	52, 237-238
1.55	Given a chart, picture graph or bar graph the student will identify the main idea, draw conclusions and make predictions with 70% accuracy.	237-238, 271-272
1.56	The student will construct a question that can be answered using information from a graph.	29B, 29-30
1.57	The student will arrange five objects by an attribute such as size or weight, and identify the ordinal position of each object.	Closest match: 27-28, 121B
1.58	Given a picture, bar or table graph (each picture or interval representing a single unit) the student will use the data to identify most, fewest, and number of objects in two or more categories in the graph with 80% accuracy.	29-30, 59B

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade One</b>
1.59	Given an event the student will determine whether the event is sure to happen, is more or less likely to happen or is impossible with 80% accuracy.	271-272

**Silver Burdett Ginn Mathematics  
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**Grade Two**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.01	<p><b>Given an addition or subtraction equation, the student will apply one or more of the following strategies to solve the equation:</b></p> <ul style="list-style-type: none"> <li>a. Compensatory numbers (<math>8 + 10 - 1 = 17</math>)</li> <li>b. Compatible numbers (number families)</li> <li>c. Commutative property of addition (<math>8 + 2 = 10</math>, <math>2 + 8 = 10</math>)</li> <li>d. Associative property of addition</li> </ul>	5-6, 25-26, 53-54, 55-56
2.02	<p><b>Given addition and subtraction facts through 18, the student will demonstrate fluency in solving the problems (1-18).</b></p>	9-10, 11-12, 13-14, 21-22, 23-24, 41-42, 43-44, 47-48, 49-50, 51-52, 55-56
2.03	<p><b>Given addition and subtraction problems, the student will use regrouping and renaming strategies to the tens place with 70 % accuracy.</b></p>	141-142, 143-144, 145-146, 147-148, 149-150, 153-154, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 319-320, 321-322, 323-324, 327-328, 329-330, 331-332, 337-338
2.04	<p><b>Using models, the student will represent and explain division as sharing equally and repeated subtraction.</b></p>	361-362, 363-364
2.05	<p><b>Using models, the student will represent and explain multiplication as repeated addition and skip counting.</b></p>	87-88, 103, 273, 349-350

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.06	Given addition or subtraction problems with missing addends, the student will solve problems by counting up or subtracting with 80% accuracy.	27-28, 125-126
2.07	Given a number, the student will correctly determine place value of the number using hundreds, tens, and ones through 999 with 80% accuracy.	69-70, 71-72, 77-78, 85-86, 259-260, 263-264
2.08	Given number words, the student will write standard form of the number through 9,999.	261-262
2.09	Given two amounts of money, students will solve the problems using the addition and subtraction of decimals (money) with 80% accuracy.	187-188, 333-334, 335-336
2.10	Given a collection of coins including, pennies, nickels, dimes, quarters, half dollars, and dollars, the student will count collections and make change up to 1.99 in a buying situation with 70% accuracy.	125-126
2.11	After being shown a collection of money, the student will accurately identify coins and bills up to ten dollars.	107-108, 109-110, 111-112, 113-114, 117-118, 121-122, 131
2.12	Given an amount of money, the student will represent and write the value using the ¢ sign and in decimal form.	119-120, 121-122, 127-128
2.13	Given a real-life situation, the student will illustrate or use models to construct a number sentence, and explain why the solution is correct with 70% accuracy.	15-16, 42, 50, 354

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.14	After listening to or reading a story problem, students will accurately identify all needed information to solve a problem.	15-16, 38, 50, 56, 59-60, 189-190, 322, 354
2.15	Given a sum, the students will accurately list two or more number sentences that equal the given sum, ( $7 = 3 + 4$ or $2 + 5$ )	13B, 17-18
2.16	Given a group of numbers, the student will accurately order and compare numbers ( $<$ , $>$ , $=$ ) with 80% accuracy.	91-92, 93-94, 269-270, 271-272
2.17	Given a number, the student will correctly identify the number as odd or even.	89-90
2.18	Given two physical representations of fractions, the students will compare fractions using the terms greater than, less than, or equal to ( $>$ , $<$ , $=$ ).	This objective is met in the third grade curriculum on pages 406-407.
2.19	Given physical models of halves, thirds, and fourths, the student will compare and order models in relationship to 0 and 1.	This objective is met in the third grade curriculum on pages 404-405.
2.20	Shown whole objects or sets of objects, the student will illustrate and identify the fractional parts with 80% accuracy. (halves through tenths).	299B
2.21	Given two different sized shapes, the student will identify which $\frac{1}{2}$ of a quantity is larger.	Closest match: 305-306

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Two
2.22	Given a number, the student will accurately round to the nearest ten.	279
2.23	Given an addition or subtraction equation, the student will estimate sums and differences using front end estimation and judge the reasonableness of the answer with 70% accuracy.	137-138, 196
2.24	Using a measurement tool the student will measure the length of an object in standard and metric form 70% accuracy (inch, centimeter, feet, yard, meters).	225-226, 229-230, 231-232
2.25	Given a measurement tool and an object, the learner will explain in written terms how to measure the object.	Closest match: 225-226, 229-230
2.26	Given U.S. standard and metric measurement tools, the student will measure lengths, capacities, or weight of given objects with 70% accuracy.	225-226, 235-236, 237-238, 241-242, 243-244
2.27	Given examples of the various objects, the student will accurately identify the appropriate unit of measure needed to determine the length, capacity, or weight of the object in standard and metric units.	227-228, 231-232, 237-238, 241-242, 247-248
2.28	Given units or objects, TLW estimate the approximate size using inches, centimeter, feet.	223-224, 253
2.29	Given a simple, straight-line figure of region, the student will correctly calculate the perimeter and/or area using grids.	293-294



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.30	Using an analog and digital clock, the student will tell time to five-minute intervals with 80% accuracy.	205-206, 209-210, 214
2.31	After listening to a reading or scenario, the student will use mental, paper and pencil and physical strategies to determine time elapsed to hour and ½ hour intervals with 70% accuracy.	211-212, 213-214
2.32	Using a calendar the learner will determine time elapse using days of the week or dates with 80% accuracy.	215-216
2.33	Given a geometric figure, the student will identify parallel, intersecting, and perpendicular lines, and right angles in geometric figures with 60% accuracy.	This objective is met in the third grade curriculum on pages 366-367.
2.34	Given two-dimensional figures, the student will determine properties and compare shapes according to their characterizing properties (number and length of sides and number of angles) from any position with 70% accuracy.	289-290
2.35	Given 3 dimensional objects (cubes, spheres, prisms, cones, cylinders, and pyramids), the student will identify, describe, compare, and sort objects according to the shape of the faces or the numbers of faces, edges, or vertices with 70% accuracy.	283-284, 285-286

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grace Two</b>
2.36	Given three-D objects, the student will compare and describe similarities and differences within 70% accuracy.	283-284
2.37	Given a set of shapes, the student will accurately determine which figures are congruent, in any position and using superposition (lay one thing on top of another).	291-292
2.38	Given a pair of shapes or objects, the student will determine which sets are symmetrical with 80% accuracy.	297-298
2.39	Given a shape, the student will predict what new shapes will be formed by combining or cutting apart existing shapes.	285-286, 287-288, 295-296
2.40	Shown a set of objects and shapes, student will correctly sort according to size, shape, color and other attributes.	283-284
2.41	Given an object the student will logically explain verbally and in written terms the reason it was sorted, with 80% accuracy.	This objective is met in the first grade curriculum on pages 199-200.
2.42	Given a pattern, the student will make generalizations and predictions determined by a rule (determine a missing element in a pattern).	273-274, 318

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.43	Using objects, pictures, tables numbers, letters, and other symbols, the student will accurately model problem situations by determining the rule and identifying missing elements.	151-152, 181-182, 207-208, 265-266
2.44	Given existing patterns, the student will describe verbally and in written terms, the rule or general plan and create new patterns with consistent rules.	85-86, 142, 181-182
2.45	Using concrete objects or shapes to represent a numerical pattern, the student will extend simple number patterns (both repeating and growing patterns) and create similar patterns.	357-358, 359-360
2.46	Given a problem students will locate a keying sequence (+, -, =) on a calculator to solve the problem with 80% accuracy.	27, 34, 66, 104, 164, 196, 254, 280, 346
2.47	Given an addition or subtraction problem using letters or symbols, the students will identify the value of the letter or symbol with 80% accuracy.	100
2.48	After posing questions, using observations, interviews and surveys to collect data, the student will accurately organize data in charts, picture graphs, bar graphs and timelines.	46, 295-296, 307-308, 365-366

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Two</b>
2.49	<b>Given charts, line plots, picture graphs, timelines, and bar graphs, the student will read, interpret, compare and predict data with 80% accuracy.</b>	45-46, 157-158, 295-296, 365-366
2.50	<b>Given physical models and/or pictures, the student will represent possible arrangements of 2 to 3 objects.</b>	1C, 1D, 1N, 1-2, 17-18
2.51	<b>Given statements about a given set of data, the student will accurately identify untrue or inappropriate statements.</b>	309-310
2.52	<b>Given a list of some possible outcomes of a simple experiment, the student will predict whether given outcomes are more, less, or equally likely to occur.</b>	309-310, 368
2.53	<b>Given a variety of data representations, the student will write at least 3 sentences to describe and compare categories, of data and make statements about the data as whole.</b>	199D, 307-308, 368

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Grade Three**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.01	The student will explain the symbols $<$ , $>$ , $=$ and how they can be used to order and compare numbers with 90% accuracy.	22-25, 406-407
3.02	Given a sum or product, the student will illustrate how to decompose it. Produce various equations for a given sum or product with 80% accuracy.	6-9, 20-21, 28-29
3.03	Name prime and composite numbers with 60% accuracy.	This topic is introduced at Grade 4.
3.04	Given a geometric shape with shaded areas, the student will identify the fractional part that is either shaded or not shaded with 80% accuracy.	402-403
3.05	Shown a set of objects, the student will identify the fraction part that has a specified attribute with 80% accuracy.	408-411
3.06	Using a ruler, the student will find the fractional and decimal measurements to the nearest $\frac{1}{4}$ inch with 60% accuracy.	140-143

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Three
3.07	Shown a geometric shape, divided into fractional parts, the student will be able to show how to add and subtract fractions with 70% accuracy.	This topic is introduced at Grade 4.
3.08	Given a list of fractions the student will order them from greatest in size to least in size or vice versa with 80% accuracy.	This topic is introduced at Grade 4.
3.09	Given two fractions the student will determine which is $>$ , $<$ , or $=$ with 80% accuracy.	404-407
3.10	Given a set of numbers, the student will compute addition problems with at least three 2-digit numbers with regrouping with 80% accuracy.	94-95
3.11	Given a set of numbers the student will compute subtraction problems with at least 3 digit numbers with regrouping with 80% accuracy.	104-113
3.12	Given a series of problems the student will compute the product of multiplication facts through $9 \times 9$ with 80% accuracy.	184-187, 190-193, 218-221, 226-229, 324-327
3.13	Given a series of problems the student will compute the product of multiplication facts with at least 2 digits by 1 without regrouping with 80% accuracy.	444-457
3.14	Given a series of problems the student will compute the quotient of division facts through $81 \div 9$ with 80% accuracy.	296-299, 304-307, 324-327, 330-333, 338-341

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.15	In addition and subtraction, the student will use the compensatory rule, cumulative and associative properties, inverse operations, and repeated addition and subtraction.	50-51, 64-65, 176-177
3.16	Given a number, the student will correctly determine place value of the number up through 100,000 with 80% accuracy.	6-9, 20-21, 28-29
3.17	The student will read numbers up to 1000 words. Given a number written in words, the student will read and write the number with 80% accuracy.	6-9, 20-21, 28-29
3.18	Given number words, the student will write the standard form of the number up through 100,000.	6-9, 20-21, 28-29
3.19	The student will solve addition and subtraction problems using money amounts, both vertically and horizontally with 80% accuracy.	88-93, 95, 104-111
3.20	Given a ruler, the student will fill in the blank with the missing fraction, whole number, or decimal with 60% accuracy.	140-143, 152-155
3.21	Given an amount of money, the student will represent and write the value using the cents sign and in decimal form (\$).	30-31
3.22	Using hands on coins and bills, the student will count amounts of money, up to \$20 with 80% accuracy.	30-31

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.23	The student, given a buying situation, will determine total spent and change required with 80% accuracy.	32-32A
3.24	The student will explore combinations of quarters and relate to sums and differences with 25.	30-31
3.25	Given an addition problem, the student will round each addend to the nearest ten and then compute the sum with 80% accuracy.	82-83
3.26	Given a subtraction problem, the student will round each numeral to the nearest ten and then compute the difference with 80% accuracy.	100-101
3.27	Given a multiplication problem, the student will round each factor to the nearest ten and then compute the product with 80% accuracy.	458-459
3.28	In addition, subtraction, and multiplication, the student will predict whether estimates are $>$ , $<$ , a given sum, difference, or product with 90% accuracy.	82
3.29	Using front-end estimation for both addition and subtraction, the student will find an initial estimate with 80% accuracy.	This topic is introduced at Grade 4.
3.30	Given a measuring tool, the student will use it to find lengths in the standard and metric system with 80% accuracy.	140-143, 152-155



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.31	<b>Given a measurement tool and an object, the learner will explain in written terms how to measure the object.</b>	143, 155, 165, 170
3.32	<b>Given whole numbers and fractions, the student will locate their positions on number line with 70% accuracy.</b>	10-13, 405, 419
3.33	<b>Given examples, the students will describe the approximate size of units of length, capacity, and weight in Metric and Standard with 80% accuracy.</b>	140-143, 144-145, 146-147, 152-155
3.34	<b>Given an illustration, the student will use an appropriate unit of measurement to compare length, capacity, and weight in Metric and Standard with 80% accuracy.</b>	140-143, 144-145, 146-147, 152-155
3.35	<b>Given a hands-on object, the student will use an appropriate unit of measure to compute length, capacity, and weight in Metric and Standard with 80% accuracy.</b>	140-143, 144-145, 146-147, 152-155
3.36	<b>Given units or objects, the student will estimate the approximate size in inches, feet, yard, centimeter or meter.</b>	140-143, 152-155
3.37	<b>The student will develop geometric language terms using models of each concept with 90% accuracy.</b>	360-375

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Three
3.38	Given an illustration of a simple straight-line figure and region, the student will state a rule for finding the perimeter of the figure and compute the perimeter with 80% accuracy.	380-381, 384-384A
3.39	Given an illustration of a simple straight-line figure and region, the student will state a rule for finding the area of the figure and compute the area with 80% accuracy.	382-383, 384-384A
3.40	Using both digital and analog timepieces and a calendar, the student will show elapsed time when given beginning and ending times or days/date with 80% accuracy.	132-133, 136-137
3.41	Shown a pictorial representation of a clock face the student will show elapsed time when shown beginning and ending times with 80% accuracy.	132-133
3.42	After listening to a reading or scenario, the student will use mental, paper and pencil and physical strategies to determine time elapsed to 5-minute intervals with 70% accuracy.	132-133
3.43	Using both digital and analog timepieces, the student will recognize time to the minute to 80% accuracy.	128-129, 130-131
3.44	Given a thermometer, the student will determine the degree of temperature either Fahrenheit or Celsius.	148-149, 160-161

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Three
3.45	The student will develop geometric language terms using models of each concept with 90% accuracy.	360-375
3.46	The student will sort drawings of 2 dimensional geometric shapes with 80% accuracy.	362-365
3.47	The student will illustrate an understanding of each of these terms with 80% accuracy.	362-365
3.48	Given a pair of drawings the student will be able to conclude if the drawings are symmetric, congruent, or similar with 80% accuracy.	370-371, 372-373
3.49	Given illustrations of real-life objects or geometric figures, students will be able to identify parallel, intersecting, and perpendicular lines with 70% accuracy.	This topic is introduced at Grade 4.
3.50	Given illustrations of real-life objects or geometric figures, students will be able to identify right angles and whether it is $<$ or $>$ a right angle with 70% accuracy.	366-367
3.51	Given an illustration of 2 or 3 dimensional geometric figures as well as real life objects, the student will determine properties of the figure with 80% accuracy.	362-365
3.52	Given an illustration of a three-dimensional geometric figure the student will identify 2 dimensional shapes on that 3 dimensional figure with 80% accuracy.	386-389

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.53	Given a geometrical solid figure the student will compare the similarities and differences with 80% accuracy.	386-389
3.54	Shown a series of objects the student will sort the shapes according to given instructions with 80% accuracy.	386-389
3.55	Given an object, the student will determine and explain how it was sorted with 80% accuracy.	386-389
3.56	After observing patterns in nature, art or poetry, the student will describe the pattern in words with 70% accuracy.	360-361, 363, 365, 366
3.57	The student will describe a rule identifying missing numbers in a sequence with 80% accuracy.	8, 29, 81, 83, 187
3.58	Shown a table of numbered pairs, the student will determine the rule and identify missing numbers in the table with 80% accuracy.	261, 270-271, 278
3.59	Shown a pattern with missing elements the student will identify the missing elements and justify their inclusion in the pattern with 70% accuracy.	8, 29, 81, 83, 187, 267
3.60	The student will determine a rule to identify missing numbers in a sequence or table of numbered pairs related by a combination of (+), (x), (-), and/or (÷) with 80% accuracy.	209, 229

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
<b>3.61</b>	<b>Given a problem situation or real life situation, the student will interpret that problem with pictures, graphs, number phrases or sentences, mathematical symbols and/or words with 70% accuracy.</b>	27, 61, 99, 151, 264-265, 308-309, 343, 377, 416-417, 469
<b>3.62</b>	<b>The student will examine a problem to see if there is enough information to solve a problem with 80% accuracy.</b>	222-223
<b>3.63</b>	<b>The student will examine a problem to see if extra information is included and identify that extra information with 80% accuracy.</b>	222-223
<b>3.64</b>	<b>The student will examine a problem to see if there is more information needed to solve the problem with 80% accuracy.</b>	222-223
<b>3.65</b>	<b>The student will determine whether a solution is correct and explain why or why not a solution is correct with 80% accuracy.</b>	33-33A, 69-69A, 88, 103, 115-115A, 163-163A, 182-183, 201-201A, 239-239A, 277-277A, 313-313A, 349-349A, 385-385A, 412-413, 433-433A, 477-477A
<b>3.66</b>	<b>The student will justify why a solution is correct or incorrect with 90% accuracy.</b>	33-33A, 69-69A, 88, 103, 115-115A, 163-163A, 182-183, 201-201A, 239-239A, 277-277A, 313-313A, 349-349A, 385-385A, 412-413, 433-433A, 477-477A
<b>3.67</b>	<b>The student will verify the accuracy of your solution using pictures, graph, and number phrases, sentences and/or words with 80% accuracy.</b>	33-33A, 69-69A, 88, 103, 115-115A, 163-163A, 182-183, 201-201A, 239-239A, 277-277A, 313-313A, 349-349A, 385-385A, 412-413, 433-433A, 477-477A

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Three
3.68	Given a keying sequence on the calculator/computer the student will supply the missing digit or operating symbols and determine what number symbol will be displayed with 80% accuracy.	3, 94-95, 112-113, 215, 311, 423, 450
3.69	In a problem-solving situation, on a mathematical sentence the student will understand the use of letters and determine the value of those letters in statements such as $4b = 12$ and $3c = 15$ with 80% accuracy.	This topic is introduced at Grade 4.
3.70	The student will generalize the answer to a math statement by determining odd and even numbers.	2-3
3.71	Given a table, the student will find out the missing variables and state the rule.	49, 209
3.72	Given a problem-solving situation, the student will sort information to construct a table or graph using information from the problem with 90% accuracy.	98-99, 233, 264-265, 309, 343, 377, 417, 469
3.73	Match a set of data with a graphical representation of the data.	264-265, 343, 377, 469
3.74	After constructing a table or graph, the student will interpret information in the table or graph by making identifications, comparisons, and predictions with 90% accuracy.	98-99, 233, 264-265, 309, 343, 377, 417, 469
3.75	Given physical models and/or pictures, the student will represent possible arrangements of 2 to 3 objects.	194-195

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Three</b>
3.76	<b>Shown a collection of objects, the student will determine the probability of choosing an object on a given property such as color, shape, size, etc. with 80% accuracy.</b>	272-275
3.77	<b>Given a series of events the student will differentiate between events that are sure to happen, events sure not to happen, and those we cannot be sure about with 80% accuracy.</b>	272-273

**Silver Burdett Ginn Mathematics  
to the  
Piqua City School District Math Objectives  
Grade Four**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.01	Shown a series of real-life or geometric shapes, the student will sort the shapes according to specified attributes (size, shape, shading).	430-431
4.02	After sorting shapes according to specified attributes, the student will determine and explain the reasoning used to sort the shapes.	430-431
4.03	Given a sequence of numbers, the student will determine a rule and identify missing numbers in the sequence.	21, 59
4.04	Shown a table of number pairs, the student will determine the rule and identify missing numbers in the table.	117, 316, 343-345
4.05	Shown a pattern with missing elements, the student will identify the missing elements and justify their inclusion in the pattern.	21, 59
4.06	Given a sequence of numbers or number pairs, the student will determine the rule to identify missing numbers in the sequence or table of number pairs	117, 316, 343-345



PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Four
	related by +, −, x, and/or ÷, and solve for the missing numbers or number pairs.	
4.07	Given a problem situation, the student will interpret that problem with pictures, graphs, number phrases or sentences, mathematical symbols and/or words.	23, 63, 115, 154-155, 195, 233, 320-321, 371, 410-411, 449, 489
4.08	Given a problem-solving situation, the student will determine if there is sufficient information to solve the problem.	220-221
4.09	Given a problem to solve, the student will use the distributive property to solve it.	86-87, 90-91
4.10	Given a problem situation, the student will determine if extra information has been included and identify that extra information.	220-221
4.11	Given a problem situation, the student will determine what information is still needed if there is not enough information to solve the problem.	220-221
4.12	Given a solution to a problem, the student will determine whether a solution is or is not correct.	29-29A, 73-73A, 121-121A, 161-161A, 205-205A, 237-237A, 287-287A, 327-327A, 350-351, 377-377A, 419-419A, 459-459A, 493-493A
4.13	After determining whether a solution is correct or not, the student will justify their solutions, thinking process, and conjectures.	29-29A, 73-73A, 121-121A, 161-161A, 205-205A, 237-237A, 287-287A, 327-327A, 350-351, 377-377A, 419-419A, 459-459A, 493-493A

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.14	After solving a problem the student will verify the accuracy of the solution using pictures, graphs, number phrases, sentences, and/or words.	23, 63, 115, 154-155, 195, 233, 320-321, 371, 410-411, 449, 489
4.15	Shown the symbols $<$ , $>$ , $\leq$ , $\geq$ , and $=$ , the student will explain how they may be used to order and compare.	8-11, 352-355, 398-401
4.16	Given a sum or product, the student will illustrate how to decompose it (expanded notation).	4-7, 18-19
4.17	Differentiate between prime and composite numbers.	129
4.18	Given a computation, the student will use the associative and distributive properties to simplify.	88-89
4.19	Given a geometric shape with shaded areas, the student will identify the fractional part that is either shaded or unshaded using words, numerals, and physical models.	338-339
4.20	Shown a set of objects, the student will identify the fractional part that has a specified attribute.	340-343
4.21	Without using pictures, the student will add and subtract like fractions.	362-365, 366-371
4.22	Shown a series of fractions, the student will determine which fractions are equivalent.	344-345, 352-353

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.23	Given a common fraction, the student will convert the fraction to lowest terms.	346-349
4.24	Given a series of numbers, the student will be able to fluently compute addition problems with at least 3 three-digit numbers with multiple regrouping using a variety of methods and appropriate tools (mental math, paper and pencil, and calculate).	48-53
4.25	Given a series of numbers, the student will be able to fluently compute subtraction problems with at least four digits with multiple regrouping using a variety of methods and appropriate tools (mental math, paper and pencil, and calculator).	58-61, 70-71
4.26	Given a series of problems, the students will compute the product of multiplication facts through 100.	86-87, 90-97, 102-105
4.27	Given a series of 2-digit multiplication problems, the student will fluently compute the product of at least 3-digits times 2-digits involving multiple regrouping.	234-235
4.28	Given a series of problems, the student will fluently compute the quotient of division facts through 100 listing factors of each dividend.	102-109, 112-113, 116-119
4.29	Given a series of problems, the student will be able to compute and check one-digit division problems with at least 3-digit dividend.	314-319

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.30	Given a series of problems, the student will be able to compute and check 2-digit division problems with at least a 3-digit dividend.	482-487, 490-491
4.31	Given a list of fractions, the student will order them from greatest in size or vice versa.	352-355
4.32	Given two fractions, the student will determine which is greater than or less than or if they are equal.	352-355
4.33	Shown a number with place value to hundred millions, the student will tell the value of each digit in that number.	4-7, 16-19
4.34	Given a whole number written in words, the student will translate that to numerals and vice versa.	4-7, 16-19
4.35	Given whole numbers, fractions, and decimals, the student will identify and generate equivalent forms. ( $1/2 = 5/10 = .5 =$ five tenths or $10/10 = 1$ whole).	390-393
4.36	Shown a number with place value to the thousandths, the student will determine the value of each digit and value of the entire number.	396-397
4.37	Given an addition or subtraction problem with numbers to the thousandths place, the student will compute the sum or difference in horizontal or vertical format.	48-49, 412-413, 416-417

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.38	Given a problem written with a dollar sign and decimal point, the student will compute the sum or difference in vertical or horizontal format with 80% accuracy.	48-52
4.39	Shown a series of 2-dimensional geometric shapes, the student will explain the meaning of congruent and similar and determine which figures are congruent or similar.	440-441, 442-443
4.40	Shown a series of 2-dimensional geometric shapes, the student will explain the meaning of symmetry and draw all lines of symmetry on those figures.	444-445
4.41	Using paper and pencil, the students will illustrate their understanding of geometric terms path, simple closed curve, interior, and exterior.	430-431, 506
4.42	Given two shapes, the student will identify, describe, and use reflections (flips), rotations (turns), and translations (slides).	446-447
4.43	Given illustrations of real-life objects or geometric figures, the student will identify, describe, and build models that illustrate intersecting, parallel, and perpendicular lines.	428-429, 432-435
4.44	Given illustrations of real-life objects or geometric figures, the student will identify an angle as a right angle, acute angle, or obtuse angle.	432-435

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.45	Given examples of right angles, acute angles, and obtuse angles, the student will draw each kind of angle without the use of a protractor.	This topic is introduced at Grade 5.
4.46	Given a drawing of a three-dimensional geometric figure, the student will identify two-dimensional shapes on that three-dimensional figure.	460-461
4.47	Given an illustration of a three dimensional geometric figure, the student will describe, classify, compare, and model figures and solids using attributes (faces, edges, and vertices).	460-461
4.47	Given objects in the environment, the students will describe points, lines, and plane figures such as triangles and quadrilaterals.	430, 434
4.48	Shown a series of quadrilaterals, the student will identify similarities and differences of squares, rectangles, parallelograms, and trapezoids.	430-431
4.48	Shown a series of triangles, the student will sort by angle measurement and side length. Angle measurement: equiangular, right, acute, obtuse. Side length: isosceles, equilateral, scalene.	This topic is introduced at Grade 5.
4.49	Given a keying sequence for a calculator, the student will determine the missing digits or operating symbols, and determine what number will be displayed as a result of the keying sequence.	58-59, 200-203, 234-235, 307, 324-325, 401, 427, 490-491

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.50	Given a problem-solving situation or a mathematical sentence, the student will understand the use of letters and determine the value of those letters in statements such as $4b = 12$ or $3c = 15$ .	61, 485
4.51	Given a problem with 2 variables, the student will describe how the change in one variable affects the value of the other variable ( $3c = d$ )	Readiness for this topic is found on the following pages: 61, 485.
4.52	Shown a series of numbers, the student will distinguish between even and odd numbers.	86, 90
4.53	Given a measuring tool, the student will use it to find approximate lengths in the standard and metric systems.	264-267, 276-279
4.54	Using a ruler, the student will find the lengths of given lines to the nearest $\frac{1}{4}$ inch or nearest centimeter with 80% accuracy.	264-267, 276-279
4.55	Using a pictorial representation, the student will determine the value of a collection of coins and bills.	67
4.56	Given a buying situation, the student will determine the total spent and the change required.	68-69, 69A-69B
4.57	Using examples given by the teacher, the student will describe the approximate size of units of length, capacity, and weight in metric and standard units.	264-267, 268-269, 270-271,

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.58	<b>Given a hands-on object, the student will use an appropriate unit of measurement to compute length, capacity, or weight in U.S. Standard and Metric units with 80% accuracy.</b>	264-267, 268-269, 270-271, 276-279, 280-281
4.59	<b>Given an illustration, the student will choose an appropriate unit of measurement to figure length, perimeter, area, volume/capacity, or weight in U.S. Standard and Metric units.</b>	264-267, 268-269, 270-271, 276-279
4.60	<b>Given a formula or using pictures, the student will convert from one unit of measurement to another in either the metric or U.S. Standard measurement of length, capacity, and weight.</b>	264-267, 268-269, 270-271, 276-279, 280-281, 282-283
4.61	<b>Given an illustration of a simple straight-line figure, a region or an irregular shape, the student will develop and use strategies for finding the perimeter and area.</b>	452-453, 454-457, 458-458A
4.62	<b>Given an illustration of a rectangular prism, the student will develop and use strategies for finding the volume.</b>	462-463
4.63	<b>Using both digital and dial timepieces, the student will compute the elapsed time when given the beginning and ending times.</b>	252-255
4.64	<b>Shown the pictorial representation of clock faces and digital timepieces, the student will compute the elapsed time when given the beginning and ending time.</b>	252-255



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.65	Given data specifying temperature changes, the student will solve multi-step problems and verify solutions.	272-273, 283-285
4.66	Using front-end estimation in addition and subtraction, the student will find an initial estimate.	81
4.67	Given an addition problem the student will round each addend and compute the estimated sum of whole numbers, fractions, and decimals.	44-45, 406-409
4.68	Given a subtraction problem, the student will round each numeral and compute the estimated difference of whole numbers, fractions, and decimals.	44-45
4.69	Given a multiplication problem, the student will round each factor to the nearest ten, hundred, or greatest place value and compute the product.	180-181, 218-219
4.70	Given an addition, subtraction, multiplication, or division problem, the student will predict whether the estimate will be greater than or less than the actual sum, difference, quotient, or product.	44-45, 81, 180-181, 218-219
4.71	After creating a plan for collecting data and constructing a table or graph, the student will interpret information in the table or graph by making identifications, comparisons, and predictions.	154-155, 195, 261, 489

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Four</b>
4.72	Given data, the student will interpret and construct Venn diagrams.	159
4.73	Using a table to record patterns found in nature, art, and poetry, the student will describe those patterns in words.	431, 461
4.74	Shown a collection of objects, the student will determine the probability of choosing an object based on a given property such as color, shape, size, etc.	164-165
4.75	Given a series of events, the student will differentiate between events that are sure to happen (with a numerical value of 1) and events that are sure not to happen (with a numerical value of 0) and place events in the order of likelihood from impossible to certain to happen.	162-163, 164
4.76	Given data, the student will find the mean, median, and mode of that data and make comparisons among that data.	134-135, 138-139, 322-323, 324-325, 326-326A, 332
4.77	Given several sets of numbers or objects, the student will list and count all possible combinations.	232-233

**Silver Burdett Ginn Mathematics  
to the  
Piqua City School District Math Objectives**

**Grade Five**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
<b>5.01</b>	<b>Given a number written in word form, the student will translate to standard form and vice versa.</b>	Read and Write Whole Numbers, 4-5, 20-21, 34
<b>5.02</b>	<b>Given a number, the student will explain in words the importance or role of 0 (zero) in place value.</b>	Patterns of Zero, 2-3; Place Value, 4-5, 6-9, 14-15, 16-19, 20-21, 32-33, 34
<b>5.03</b>	<b>The student will demonstrate an understanding of and explain in words why order does not make a difference for adding and multiplying whole numbers, but does for subtracting and dividing.</b>	Commutative Property of Addition, 42-43; Commutative Property of Multiplication, 130-131; Order of Operations, 170-171
<b>5.04</b>	<b>Given an addition or subtraction problem with whole numbers up to four digits long, the student will solve the problem successfully.</b>	Adding and Subtracting Whole Numbers, 42-43, 44-45, 46-47, 56-57; Adding and Subtracting Greater Whole Numbers, 60-63
<b>5.05</b>	<b>Given an addition or subtraction problem with decimals through the thousandths place, the student will solve the problems successfully.</b>	Adding and Subtracting Decimals, 64-65, 66-67, 68-69, 70-71
<b>5.06</b>	<b>Given a multiplication problem with whole numbers up to four digits long, the student will solve the problem successfully.</b>	Multiplying Whole Numbers, 140-141, 146-147, 148-151, 153-153, 154-155, 161, 162

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.07	<b>Given a multiplication problem with decimals through the thousands place, the student will solve the problem successfully.</b>	Multiplying Decimals, 296-297, 298-299, 300-301, 304-305, 306-309, 310-311, 326, 327, 330
5.08	<b>Given a division problem with whole number divisors up to two-digits long, the learner will solve the problem successfully.</b>	Dividing Whole Numbers, 184-187, 188-189, 190-191, 196-197, 200-201, 203, 206, 216-219, 220-221, 222-223, 224-225, 228-231, 234-235, 237, 240
5.09	<b>Given a division problem with decimals through the thousandths place and divisors up to two-digits long, the learner will solve the problem successfully.</b>	Dividing Decimals, 316-317, 318-319, 320-321, 328, 330
5.10	<b>The student will demonstrate an understanding of and explain how addition, subtraction, multiplication and division are related to one another.</b>	Addition and Subtraction, 46-47, 60-63, 78; Multiplication and Division, 168-169, 191
5.11	<b>Given a problem to solve, the student will use the distributive property to solve it.</b>	Distributive Property, 130-131, 140, 151, 146-147, 148-151, 175, 189, 299
5.12	<b>The student will know the definitions and calculate the arithmetic mean, mode, median, and range of a given set of numbers.</b>	Range, Mode, and Median, 114-115, 122; Finding Averages, 194-195, 198-199
5.13	<b>Given a problem-solving situation, the student will use the appropriate math concepts (number sentences, equations, inequalities, and symbols) to state (write) and solve the problem.</b>	Problem Solving Strategy: Write an Equation, 56-57, 107, 143, 193, 271, 313, 351, 401, 451, 493

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.14	<b>Given a problem to solve, the student will discriminate between what is needed and what is given to solve the problem.</b>	Problem-Solving Strategies, 26-27, 56-57, 106-107, 142-143, 192-193, 226-227, 270-271, 312-313, 350-351, 400-401, 450-451, 492-493; Problem-Solving Applications, 30-30A, 74-74A, 116-116A, 156-156A, 198-198A, 232-232A, 278-278A, 322-322A, 362-362A, 412-412A, 460-460A, 504-504A; Problem Solving: Preparing for Tests, 31-31A, 75-75A, 117-117A, 157-157A, 199-199A, 233-233A, 279-279A, 323-323A, 363-363A, 413-413A, 461-461A, 505-505A
5.15	<b>Given a solved problem, the student will support the given answer and/or create new solutions.</b>	Problem-Solving Strategies, 26, 56, 106, 142, 192, 226, 270, 312, 350, 400, 450, 492; Problem-Solving Applications, 30, 74, 116, 156, 198, 232, 278, 322, 362, 412, 460, 504
5.16	<b>Students will practice solving problems using the problem solving model.</b>	Problem-Solving Strategies, 26-27, 56-57, 106-107, 142-143, 192-193, 226-227, 270-271, 312-313, 350-351, 400-401, 450-451, 492-493; Problem-Solving Applications, 30-30A, 74-74A, 116-116A, 156-156A, 198-198A, 232-232A, 278-278A, 322-322A, 362-362A, 412-412A, 460-460A, 504-504A; Problem Solving: Preparing for Tests, 31-31A, 75-75A, 117-117A, 157-157A, 199-199A, 233-233A, 279-279A, 323-323A, 363-363A, 413-413A, 461-461A, 505-505A

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.17	<b>The student will determine an appropriate scale for an axis for a specific graph.</b>	Making Graphs, 102-103, 103A-103B, 104-105, 106-107, 351; Changing Scale, 108-111
5.18	<b>The student will construct a table or a graph.</b>	Making Tables, 27, 57, 143, 226-227, 271, 313, 401, 493; Making Graphs, 102-103, 103A-103B, 104-105, 106-107, 116-116A, 117-117A, 351
5.19	<b>Construct and/or use a table, chart, or graph to record and sort information.</b>	Make a Table, 27, 57, 143, 226-227, 271, 313, 401, 493; Make a Graph, 106-107, 351
5.20	<b>Analyze the completeness and accuracy of a table or graph for a given set of data.</b>	Collecting Data, 86-87; Ways to Represent Data 116-116A
5.21	<b>The student will interpret:</b> <ul style="list-style-type: none"> <li>• <b>Tables</b></li> <li>• <b>Charts</b></li> <li>• <b>Maps</b></li> <li>• <b>Picture graphs</b></li> <li>• <b>Bar graphs</b></li> <li>• <b>Circle graphs</b></li> <li>• <b>Line graphs</b></li> </ul>	Tables, 46-47, 78, 81, 127, 136, 168-169, 202, 243, 297, 437; Maps, 92, 94, 481; Pictographs, 74-75, 106-107, 108-111, 263; Bar Graphs, 9, 25, 30-31, 88-91, 101, 104, 106-107, 108-111, 116-117, 120-121 123, 127,137, 219, 447; Circle Graphs, 125, 504-505; Line Graphs, 96-97, 98-101, 102-103, 105, 106-107, 108-109, 118-119, 121

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.22	<b>Given a word problem to solve, the student will use addition, subtraction, multiplication, and division of fractions with the same denominator and different denominator to solve a problem accurately.</b>	Adding Fractions and Mixed Numbers: Like Denominators, 376-379, 416; Subtracting Fractions and Mixed Numbers: Like Denominators, 380-383, 416; Adding Fractions With Unlike Denominators, 388-389, 390-391, 417; Subtracting Fractions With Unlike Denominators, 388-389, 392-393, 417; Multiplying Whole Numbers and Fractions, 402-403; Multiplying Fractions and Mixed Numbers, 404-405, 406-409, 418; Dividing by Fractions, 410-411
5.23	<b>The student will know the definition of and use improper fractions.</b>	Improper Fractions, 346-347, 406-409
5.24	<b>The student will know the definition of and use mixed numbers.</b>	Mixed Numbers, 346-347, 358-361, 376-379, 380-383, 386-387, 394-395, 396-397, 406-409, 417, 418
5.25	<b>The student will know the definition of and use least common denominators, greatest common factors, least common multiples, prime, and composite numbers.</b>	Primes and Composites, 334-335; Common Factors and Greatest Common Factors, 336-337; Common Multiples and Least Common Multiples 338-339; Comparing and Ordering Fractions and Mixed Numbers, 358-361; Prime Factorization, 371
5.26	<b>The learner will reduce (simplify) and compare fractions for computation.</b>	Fractions in Simplest Form, 356-357

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.27	The student will be able to use fraction models or pictorial representation to understand equivalent fractions.	Equivalent Fractions, 352-355, 367
5.28	The student will select a number between any 2 rational numbers (i.e. $\frac{3}{5}$ and $\frac{4}{5}$ )	Comparing and Ordering Fractions and Mixed Numbers, 358-361
5.29	Given a combo of whole numbers, fractions, and decimals, the student will apply the symbols $<$ , $\leq$ , $>$ , $\geq$ , and $=$ accurately.	Relating Fractions to One Half and One, 344-345; Fractions Greater Than One, 346-347; Comparing and Ordering Fractions and Mixed Numbers, 358-361
5.30	Given a combo of whole numbers, fractions, and decimals, the student will accurately place them on a number line.	Comparing and Ordering Fractions and Mixed Numbers, 358-361, 368, 386-387; Percents, Decimals, and Fractions, 488-489
5.31	Given fractions (with the denominators of 10 and 100) and decimals, the student will convert between each.	Relating Fractions and Decimals, 342-343, 366
5.32	Given a set of numbers, the student will discover the rule and recognize missing numbers in a sequence or a table of number pairs.	Find a Rule, 46-47, 52, 95, 136, 168-169; Exploring Sequences, 241; Square Numbers, 339; Finding Fraction Patterns, 362-362A
5.34	The student will know and use common units of measure accurately.	Units of Time, 424-427; Customary Units of Length, 428-431; Customary Units of Capacity, 434-435; Customary Units of Weight, 436-437; Fahrenheit Temperatures, 446-447



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.35	<b>The student will convert and compute in situations involving Metric Units.</b>	Metric Units of Length, 438-441; Metric Units of Capacity, 442-443; Metric Units of Mass, 444-445; Celsius Temperatures, 446-447
5.36	<b>The student will convert and compute in situations involving Metric Units.</b>	Metric Units of Length, 438-441; Metric Units of Capacity, 442-443; Metric Units of Mass, 444-445; Celsius Temperatures, 446-447
5.37	<b>The student will be able to correctly identify, describe, compare and classify lines, rays, and segments.</b>	Geometric Ideas, 246-249, 288, 293
5.38	<b>The student will accurately draw a figure and measure its angles to the nearest degree with a protractor.</b>	Working With Angles, 252-255
5.39	<b>The student will know how to label angles using letters to represent points.</b>	Angle Measures, 255; Using the Geometry Tools, 263
5.40	<b>The student will identify and know the terms for right angle, acute angle and obtuse angle.</b>	Classifying Angles, 250-251, 251A-251B
5.41	<b>The student will recognize, classify, compare, and apply characteristics or properties of a simple plane and solid figures.</b>	Polygons, 256-257; Classifying Triangles, 260-263; Classifying Quadrilaterals, 266-269; Circles, 280-281; Solid Figures, 282-285
5.42	<b>The student will know and use the appropriate geometric terms, models, characteristics, and properties while describing shapes orally and in written form.</b>	Polygons, 256-257; Classifying Triangles, 260-263; The Sum of the Angles of a Triangle, 264-265; Classifying Quadrilaterals, 266-269; Circles, 280-281; Solid Figures, 282-285; Properties of Plane and Solid Figures, 286-287

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.43	<b>The student will explore with the rotation, translation, reflection, and stretching of geometric shapes.</b>	Congruent Figures and Transformations, 272-275; Looking at Similar Figures, 276-277; Using Symmetry, 278-278A; Properties of Plane and Solid Figures, 286
5.44	<b>The student will identify or draw a particular transformation of a given figure on a grid or graph.</b>	Congruent Figures and Transformations, 272-275; Properties of Plane and Solid Figures, 286
5.45	<b>The student will use ordered pairs to identify or label the vertices of the figure drawn.</b>	(precursors to coordinate geometry) Using the Geometry Tools, 251A-251B, 263; Congruent Figures and Transformations, 272-275; Irregular Polygons, 460B-460C
5.46	<b>Given a regular figure, the learner will explore and apply the relationship between doubling the sides of the figure and the corresponding increased area.</b>	Side-Area, 459, 470
5.47	<b>The student will find the perimeter, circumference, or area of two-dimensional figures using counting techniques or formulas.</b>	Circumference, 450-451; Perimeter, 452-453; Area of Rectangles and Squares, 454-455; Area of Parallelograms and Triangles, 456-459; Area of Irregular Polygons, 460-460A, 460B-460C
5.48	<b>The student will find the surface area of three-dimensional figures having square, rectangular, or triangular faces.</b>	Surface Area, 459
5.49	<b>The student will know and use the formulas to find the area of a square or rectangle.</b>	Area of Rectangles and Squares, 454-455, 468

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.50	<b>The student will find the volume of three-dimensional figures.</b>	Volume, 462-463
5.51	<b>Given a problem to solve, the student will use front-end estimation to obtain an initial estimate.</b>	Using Front-End Estimation, 54-55, 79
5.52	<b>Given a problem, to solve, the student will use rounding that includes flexible rounding to produce mentally manageable number.</b>	Rounding Whole Numbers, 10-11, 32-33, 36; Rounding Decimals, 28-29, 32-33, 36; Using Rounding to Estimate, 50-53; Estimating the Product of a Whole Number and a Decimal, 300-301
5.53	<b>Given a problem to solve, the student will use compatible numbers to find numbers that easily “fit together” and are easy to manipulate mentally (powers of 10).</b>	Mental Math: Using Compatible Numbers and Compensation, 44-45, 78; Estimating Quotients of Whole Numbers, 174-175; Estimating a Fraction of a Number, 421
5.54	<b>The student will describe estimation in relation to the exact results.</b>	Developing Skills for Problem Solving: Exact and Estimated Data, 12-13; Is an Estimate Enough?, 48-49, 432-433; Using Front-End Estimation, 54-55; Dividing by Two-Digit Divisors, 216-219
5.55	<b>The student will estimate the sum or difference of mixed numbers by adding or subtracting the whole numbers and then adding or subtracting the fraction using the closest value: 0, <math>\frac{1}{2}</math>, or 1.</b>	Estimating Sums and Differences of Mixed Numbers, 386-387

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.56	<b>The student will estimate the product or quotient of mixed numbers by rounding them to whole numbers.</b>	Multiplying Fractions and Mixed Numbers, 406-409; Dividing by Fractions, 410-411
5.57	<b>The student will estimate the product or quotient of mixed numbers by rounding them to whole numbers.</b>	Multiplying Fractions and Mixed Numbers, 406-409; Dividing by Fractions, 410-411
5.58	<b>The student will look for compatibles in division to help perform these operations mentally.</b>	Estimating Quotients of Whole Numbers, 174-175, 203; Estimating Quotients, 212-213, 236
5.59	<b>The student will use a variety of methods to make a prediction about an experiment and explain the final outcome.</b>	Understanding Probability, 494-495
5.60	<b>Given a problem to solve, the student will use the distributive property to solve it.</b>	Multiplication Properties, 130-131; Multiplying by One-Digit Numbers, 140-141; Understanding Partial Products, 146-147; Multiplying by Two-Digit Numbers, 148-151, Using Algebra, 175, 189, 299
5.61	<b>The student will identify the type of logic represented or used in the display as each key is pressed.</b>	(opportunities) Calculator Keystrokes, 3, 61, 70, 72, 151, 196, 225, 228, 309, 310, 320, 383, 431
5.62	<b>The student will determine the resulting display for a keying sequence and apply it to a problem situation.</b>	Using a Calculator in Problem Solving, 3, 9, 30, 53, 63, 67, 69, 115, 137, 151, 153, 155, 161, 169, 173, 178, 195, 218, 219, 230, 233, 234, 235, 236, 249, 262, 275, 277, 285, 290, 299, 301, 311, 313, 320, 321, 322-323, 327, 337, 339, 347, 363, 437, 441, 453, 455, 479, 480, 497

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Five</b>
5.63	<b>The student will determine the resulting display for a keying sequence for a calculator with arithmetic and with algebraic logic.</b>	Calculator Keystrokes, 3, 61, 70, 72, 151, 196, 225, 228, 309, 310, 320, 383, 431
5.64	<b>The student will identify the phrase or equations represented by sentence (six less than some number is equal to ten).</b>	Write an Equation, 56-57, 107, 143, 193, 271, 313, 351, 401, 451, 493; Preparing for Tests, 75-75A, 157A, 199A, 233A, 279, 323, 363, 413A
5.65	<b>The student will apply ratios and proportions to real-life situations and set of numbers accurately</b>	Understanding Ratios, 474-475; Equivalent Ratios, 476-477; Exploring Scale Drawing, 478-481; Understanding Rates, 482-483
5.66	<b>The student will determine whether two ratios form proportions.</b>	(precursors to proportion) Exploring Scale Drawing, 478-481; Understanding Rates, 482-483
5.67	<b>The student will express ratios in one of 3 ways: 2 to 4, 2:4, or 2/4.</b>	Understanding Ratios, 474-475; Equivalent Ratios, 476-477

**Silver Burdett Ginn Mathematics  
to the  
Piqua City School District Math Objectives**

**Grade Six**

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
<b>6.01A</b>	<b>Given a number written in word form, the student will translate to standard form and vice versa.</b>	Understanding Whole Numbers, 2-3; Understanding Decimals, 4-5
<b>6.01B</b>	<b>Given a whole number or a decimal, the student will round to the nearest whole number, tenths, hundredths, or thousandths.</b>	Rounding Whole Numbers and Decimals, 18-19, 36-37, 86-87
<b>6.02</b>	<b>Given a number, the learner will be able to explain in words the importance or role of 0 (zero) in place value.</b>	Understanding Whole Numbers, 2-3; Understanding Decimals, 4-5
<b>6.03</b>	<b>The student will demonstrate an understanding of and be able to explain in words why order does not make a difference for adding and multiplying whole numbers, but does for subtracting and dividing.</b>	Mental Math Strategies and Properties, 14-15, 48-49; Order of Operations, 46-47
<b>6.04</b>	<b>Given an addition or subtraction problem with whole numbers up to four digits long, the student will solve the problem successfully.</b>	Adding and Subtracting Whole Numbers, 26-29, 30-33, 36-37
<b>6.05</b>	<b>Given an addition or subtraction problem with decimals through the thousandth place, the student will solve the problem successfully.</b>	Adding and Subtracting Decimals, 26-29, 30-33, 36-37

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.06	<b>Given a multiplication problem with whole numbers up to four digits long, the learner will solve the problem successfully.</b>	Multiplying Whole Numbers, 56-57, 64-65
6.07	<b>Given a multiplication problem with decimals through the thousandths place, the learner will solve the problem successfully.</b>	Multiplying Decimals, 60-63, 64-65
6.08	<b>Given a division problem with whole number divisors up to two-digits long, the learner will solve the problem successfully.</b>	Dividing Whole Numbers, 74-75, 76-77, 90-91
6.09	<b>Given a division problem with decimals through the thousandths place and divisors up to two-digits long, the student will solve the problem successfully.</b>	Dividing Decimals, 78-81, 82-83, 84-85, 90-91
6.10	<b>The student will demonstrate an understanding of and explain how addition, subtraction, multiplication, and division are related to one another.</b>	Solving Addition and Subtraction Equations, 498-499; Solving Multiplication and Division Equations, 500-501
6.11	<b>Given an equation to solve, the student will use the distributive property to solve the problem successfully.</b>	Mental Math: Strategies and Properties, 48-49; Expressions and Equations, 50-51
6.12	<b>The student will be able to use the distributive property when two or more numbers are multiplied by the same factor.</b>	Order of Operations, 46-47; Mental Math: Strategies and Properties, 48-49; Expressions and Equations, 50-51; Using Algebra, 64
6.13	<b>Use the distributive property to write equivalent expressions.</b>	Order of Operations, 46-47; Expressions and Equations, 50-51

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.14	<b>The learner will know the definitions for and calculate the arithmetic mean, mode, median, and range of a given set of numbers.</b>	Mean, Median, Mode, and Range, 104-105, 118-119, 261
6.15	<b>Given a problem-solving situation, the learner will use the appropriate math concepts (number phrases, sentences, and symbols) to state (write) and solve the problem.</b>	Variables and Equations, 10-11; Write an Equation, 364-365; Solving Equations, 496-497; Solving Addition and Subtraction Equations, 498-499; Solving Multiplication and Division Equations, 500-501; Integer Equations, 502-503
6.16	<b>Given a problem to solve, the learner will discriminate between what is needed and what is given to solve the problem.</b>	Problem-Solving Strategies, 24-25, 72-73, 120-121, 162-163, 208-209, 246-247, 276-277, 326-327, 364-365, 406-407, 450-451, 494-495; Problem-Solving Applications, 34-34A, 88-88A, 128-128A, 172-172A, 214-214A, 252-252A, 288-288A, 332-332A, 372-372A, 422-422A, 458-458A, 504-504A; Problem Solving: Preparing for Tests, 35-35A, 89-89A, 129-129A, 173-173A, 215-215A, 253-253A, 289-289A, 333-333A, 373-373A, 423-423A, 459-459A, 505-505A
6.17	<b>Given a solved problem, the student will support the given answer and/or create new solutions.</b>	Problem-Solving Strategies, 24, 72, 120, 162, 208, 246, 276, 326, 364, 406, 450, 494; Problem-Solving Applications, 34, 88, 128, 172, 214, 252, 288, 332, 372, 422, 458, 504



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.18	The student will determine an appropriate scale for an axis for a specific graph.	Making Graphs, 106-109, 112-115; Choosing the Best Graph, 116-117; Coordinate Graphing, 486-489
6.19	The student constructs a table or a graph.	Making Tables, 25, 73, 121, 209, 276-277, 327, 347-348, 407, 451; Making Graphs, 106-109, 112-115, 116-117, 120-121, 451, 486-489
6.20	Construct and/or use a table, chart, or graph to record and sort information.	Make a Table, 25, 73, 121, 209, 276-277, 327, 347-348, 407, 451; Make a Graph, 120-121, 451; Data from a Graph, 17, 34-35, 88-89, 109, 115, 117, 123, 126
6.21	Analyze the completeness and accuracy of a table or graph for a given set of data.	Collecting and Organizing Data, 102-103; Choosing the Best Graph, 116-117; Using Graphs to Persuade, 128-128A
6.22	<p>The student will be able to interpret:</p> <ul style="list-style-type: none"> <li>• Tables</li> <li>• Charts</li> <li>• Maps</li> <li>• Picture graphs</li> <li>• Bar graphs</li> <li>• Circle graphs</li> <li>• Line graphs</li> </ul>	Tables, 10, 14, 23, 29, 37, 39, 50, 63, 91, 99, 104-105, 106-109, 112-115, 114, 116-117, 118-119, 121, 123, 124-127, 132-134, 135, 136, 268, 275, 276-277, 285, 291, 317, 335, 338, 346, 371, 381, 386, 392, 396, 400, 402, 419, 420, 421, 429, 474, 492, 507; Maps, 314-316; Pictographs, 88-89, 88B-88C, 109, 116; Bar Graphs, 3, 9, 17, 18, 23, 33, 39, 87, 106-109, 116, 118, 132, 135, 155, 207, 249, 455; Circle Graphs, 127, 349, 353, 376, 418-421, 422B-422C, 425; Line Graphs, 112-115, 116

PPO#	PPO's	Silver Burdett Ginn Mathematics References—Grade Six
6.23	Given a problem to solve, the student will use addition and subtraction of fractions with the same denominator and different denominator to solve a problem accurately.	Adding and Subtracting Fractions With Like Denominators, 186-187, 188-191; Adding and Subtracting Fractions With Unlike Denominators, 200-203, 204-207; Using Fractions, 214-214A
6.24	The student will know the definition of and be able to use improper fractions.	Improper Fractions and Mixed Numbers, 164-165
6.25	The student will know the definition of and be able to use mixed numbers.	Mixed Numbers, 164-165, 170-171, 188-191, 204-207, 232-233, 244-245, 252-252A
6.26	The student will know the definition of and be able to use least common denominators, greatest common factors, and least common multiples.	Prime and Composite Numbers, 152-155; Finding the Greatest Common Factor, 156-159; Finding the Least Common Multiple, 166-169
6.27	The student will be able to simplify, compare, reduce and explain fractions for computation.	Equivalent Fractions, 142-143, 144-145, 160; Comparing and Ordering Fractions and Mixed Numbers, 170-171, 176-177
6.28	The student will use fraction models or pictorial representation to understand equivalent fractions.	Equivalent Fractions, 142-143, 144-145, 160; Working With Fraction, 210-211
6.29	Given a problem to solve, the student will use multiplication and/or division of fractions with the same and/or different denominators.	Multiplying Fractions, 226-227, 228-231, 232-233; Dividing Fractions, 240-241, 242-243, 244-245; Multiplying and Dividing by Fractions, 248-249; Using Fractions and Mixed Numbers, 252-252A

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.30	The student will be able to select a number between any 2 rational numbers (i.e. $\frac{3}{4}$ and $\frac{4}{5}$ ).	Comparing and Ordering Fractions and Mixed Numbers, 170-171; Comparing and Ordering Integers, 474-475
6.31	Given a combo of whole numbers, fractions, and decimals, the student will apply the symbols $<$ , $\leq$ , $>$ , $\geq$ , and $=$ accurately.	Comparing and Ordering, 6-9; Comparing and Ordering Fractions and Mixed Numbers, 170-171, 176-177
6.32	Given a combo of whole numbers, fractions, and decimals, the student will accurately place them on a number line.	Rounding on Number Line, 18,192
6.34	Given a set of numbers, the student will discover the rule and recognize missing numbers in a sequence or a table of number pairs.	Using Algebra, 11, 29, 71, 115, 318
6.35	Given a sequence of numbers or a table of numbers involving one operation, the student will discover the rule and explain it in words.	Find a Pattern, 24-25, 73, 121, 163, 209, 247, 277, 327, 365, 407, 495; Patterns and Relations, 491
6.36	The student will know to use common units of measure accurately.	Customary Units of Length, 266-267; Customary Units of Weight, 268-269; Customary Units of Capacity, 270-271
6.37	The student will convert and compute in situations involving U.S. Standard Units accurately.	Customary Units of Length, 266-267; Customary Units of Weight, 268-269; Customary Units of Capacity, 270-271; Computing With Customary Units, 274-275; Relating Customary and Metric Units of Measure, 280-281

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.38	<b>The student will convert and compute in situations involving Metric Units.</b>	Metric Units of Length, 282-283; Metric Units of Mass, 284-285; Metric Units of Capacity, 286-287; Relating Customary and Metric Units of Measure, 280-281
6.39	<b>The student will correctly identify, describe, compare, and classify lines, rays, and segments.</b>	Basic Geometric Ideas, 386-387; Classifying Lines, 392-393, 404
6.40	<b>The student will accurately draw a figure and measure its angles to the nearest degree.</b>	Classifying and Measuring Angles, 388-391
6.41	<b>The student will differentiate between angles using letters to represent points.</b>	Classifying and Measuring Angles, 388-391
6.42	<b>The student will identify and know the terms for right angle, acute angle and obtuse angle.</b>	Classifying and Measuring Angles, 388-391; Classifying Triangles, 396-399
6.43	<b>The student will recognize classify, compare, and apply characteristics or properties of a simple plane and solid figures.</b>	Classifying Triangles, 396-399; Classifying Quadrilaterals, 400-401; Investigating Polygons, 402-403; Circles, 418-421; Space Figures, 456-457, 460-461
6.44	<b>The student will know and use the appropriate geometric terms, models, characteristics, and properties while describing shapes orally and in written form.</b>	Basic Geometric Ideas, 386-387; Classifying Lines, 392-393; Classifying Triangles, 396-399; Classifying Quadrilaterals, 400-401; Investigating Polygons, 402-403; Constructing Congruent Line Segments, 412-413; Similar Figures, 414-415; Circles, 418-421; Space Figures, 456-457, 460-461

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.45	The student will explore with the rotation, translation, reflection, and stretching or transformation of geometric shapes.	Motion Geometry, 408-411; Similar Figures, 414-415; Line Symmetry, 416-417
6.46	The student will identify, draw and/or explain a particular transformation of a given figure on a grid or graph.	Motion Geometry, 409; Line Symmetry, 417
6.47	The student will use ordered pairs to identify or label the vertices of the figure drawn.	(precursors to coordinate geometry) Motion Geometry, 409; Line Symmetry, 417; Coordinate Graphing, 486-489, 490
6.48	Given a regular figure, the learner will explore the relationship between doubling the size of the figure and corresponding increased area.	Generalize, 438; Think and Discuss, 445
6.49	The student will find the perimeter or area of two-dimensional figures.	Perimeter, 434-435; Area of Quadrilaterals, 436-439; Area of Triangles, 440-441; Relating Area and Perimeter, 444-445, 445A-445B; Area of Combined Shapes, 446-447; Circumference and Area of Circles, 452-455, 458-458A, 462
6.50	The student will find the surface area of three-dimensional figures having square, rectangular, or triangular faces.	Surface Area, 456-457
6.51	The learner will know and use the formulas to find the area of a square or rectangle.	Area of Quadrilaterals, 436-439, 448; Area of Combined Shapes, 446-447, 449

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.52	<b>The student will find the volume of three-dimensional figures.</b>	Volume of Rectangular Prisms, 460-461, 462
6.53	<b>Given a problem to solve, the learner will use front-end estimation to obtain an initial estimate.</b>	Estimating Sums and Differences, 20-23
6.54	<b>Given a problem to solve, the student will use rounding that includes flexible rounding to produce a mentally manageable number.</b>	Rounding Whole Numbers and Decimals, 18-19, 36-37
6.55	<b>Given a problem to solve, the student will use compatible numbers to find numbers that easily “fit together” and are easy to manipulate mentally (powers of ten).</b>	Mental Math: Strategies and Properties, 14-15, 16
6.56	<b>The student will describe estimation in relation to the exact result.</b>	Developing Skills for Problem Solving: Exact or Estimated Data, 12-13, 272-273; Is an Estimate Enough?, 358-359
6.57	<b>The student will estimate the sum or difference of mixed numbers by adding or subtracting the whole numbers and then adding or subtracting the fraction using the closest value: 0, <math>\frac{1}{2}</math>, or 1.</b>	Estimating Sums and Differences, 192-193, 196-197
6.58	<b>The student will estimate the product or quotient of mixed numbers by rounding them to whole numbers.</b>	Estimating Products, 234-235, 238-239; Dividing Fractions, 240-241

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.59	<b>The student will estimate the product or quotient of decimal numbers by rounding them to single decimal places and then performing the operation.</b>	Multiplication of Decimals, 58-59; Rounding and Decimal Quotients, 86-87
6.60	<b>The student will look for compatibles in multiplication and division to help perform these operations mentally.</b>	Mental Math: Strategies and Properties, 48-49; Estimating Quotients, 70-71
6.61	<b>The student will use a variety of methods to make a prediction about an experiment and explain the final outcome.</b>	Probability, 320-321, 321A-321B, 322-325; Use a Simulation, 326-327; Using Sampling, 332-332A
6.62	<b>Given a problem to solve, the student will use the distributive property to solve it.</b>	Mental Math: Strategies and Properties, 48-49
6.63	<b>The student will identify the type of logic represented or use in the display as each key is pressed.</b>	(opportunities) Calculator Keystrokes, 26-28, 30-32, 56-57, 60, 251, 269, 353, 366-367, 439, 452, 453
6.64	<b>The student will determine the resulting display for a keying sequence and apply it to a problem situation.</b>	Using a Calculator in Problem Solving, 28, 32, 59, 145, 165, 193, 203, 233, 267, 308, 313, 337, 355, 371, 417, 454, 457, 461
6.65	<b>The student will determine the resulting display for a keying sequence for a calculator with arithmetic and with algebraic logic.</b>	Calculator Keystrokes, 26-28, 30-32, 56-57, 60, 251, 269, 353, 366-367, 439, 452, 453

<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.66	The student will identify the phrase or equations represented by sentence (six less than some number is equal to ten).	Expressions and Equations, 50-51; Write an Equation, 364-365; Solving Equations, 212-213, 250-251, 498-499, 500-501, 502-503; Preparing for Tests, 89, 129A, 173A, 215, 253A, 289A, 333A, 373, 423A, 459A, 505A
6.67	The student will recognize and apply proportions to real-life situations and sets of numbers accurately.	Proportions, 304-305, 306-309, 318-319, 354
6.68	The student will determine whether two ratios form proportions and explain why or why not.	Proportions, 304-305, 306-309; Too Much or Too Little Information, 310-311
6.69	The student will express ratios in one of 3 ways: 2 to 4, 2:4, or $\frac{2}{4}$ .	Ratios and Equivalent Ratios, 300-303, 318-319
6.70	Given a problem to solve, the student will determine the percent of the given number.	Finding the Percent of a Number, 354-355; Estimating Percent, 356-357; Is an Estimate Enough?, 358-359, 360
6.71	The student will determine a final price using items purchased and figuring sales tax.	Finding Sales Tax, 366-367; Computing Discounts, 368-369; Using Percent, 372-372A, 374-375
6.72	Given a receipt the student will calculate the tip or sales tax for services rendered.	Finding a Percent of a Number: Tips, 362-363; Write an Equation: Tips, 364-365; Finding Sales Tax, 366-367
6.73	Given a set of numbers, the student will calculate the simple interest or profit made of those numbers.	Simple Interest, 370-371



<b>PPO#</b>	<b>PPO's</b>	<b>Silver Burdett Ginn Mathematics References—Grade Six</b>
6.74	Given a problem to student will compute to find what percent one number is of another.	More About Discounts, 381
6.75	The student will compute to find the number when the percent is known.	More About Discounts, 381