Rose Hamilton Elementary Curriculum Mapping
Math – 1st Grade
1st Nine Weeks
Rewritten using Indiana State Standards by Beth Schauss, May 27, 2015

Unit Chapter Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit l Quarter 1 Number and Operations in Base Ten	MA.1.NS.1		Orally count whole numbers up to 100		Daily Activities Homework Anecdotal Records Chapter/Unit tests
	MA.1.NS.1		Write whole numbers up to 100 in numerical form		
	MA.1.NS.3	Why are predictable mathematical patterns important?	Arrange any given set of whole numbers up to ten in numerical order from least to greatest and from greatest to least	sets	
	MA.1.NS.2		Identify whether two whole numbers up to ten are greater than, less than, or equal to each other.	More than Less than Equal to	
	MA.PS.1	How can I describe the location of one object, given the location of another object?	Explain the relationship between the order of objects, numbers, and ordinal names (first, second, third, etc.).		
	MA.PS.1		Identify an object's ordinal position in an ordered set of up to 10 items when given oral directions.	Ordinal numbers	
Unit l Quarter l Operations and Algebraic Thinking	MA.1.CA.1		Model addition with up to 20 objects		Same as Above
	MA.1.CA.1		Explain the role of zero in addition		

	MA.1.DA.1		Show the role of zero in addition, using objects, diagrams, and number sentences (equations).		
	MA.1.DA.1	How can I use objects, drawings, and equations to act out real-life situations?	Show the role of zero in subtraction, using objects, diagrams, and number sentences (equations		
	MA.1.DA.1		Explain the role of zero in subtraction		
Unit 1Quarter 1 Geometry	MA.1.DA.1		Describe the relative position of objects in the environment using terms such as near, far, under, over, up, down, behind, in front of, next to, to the left or right of.	Left Right In front of behind	Same as Above
	MA.1.DA.1		Place objects in the environment as orally directed by the following relative positions: near, far, under, over, up, down, behind, in front of, next to, to the left or right of.		

Curriculum Mapping
Math – 1st Grade
2nd Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit 2 Quarter 2 Number and Operations in Base Ten	MA.1.NS.1		Read whole numbers up to 100 that are written numerically	Whole numbers	Daily Activities Homework Chapter/Unit Tests Anecdotal Records
	MA.1.NS.1		Write whole numbers up to 10 in word form.	Whole numbers	
	MA.1.NS.2	Why are predictable mathematical patterns important?	Investigate and explain that each successive (preceding) number name refers to a quantity that is one larger (smaller).		
	MA.1.CA.6		Explain the meaning of addition (putting together, increasing) using objects or words.	Number sentence	
Unit 2Quarter 2 Operations and Algebraic Thinking	MA.1.CA.6	How can I use symbols and numbers to show the actions of taking apart and combining numbers?	Explain the meaning of the symbols + and -.	Addition subtraction	Same as Above
	MA.1.CA.6		Define number sentence (equation	Number sentence	
Unit 2Quarter 2 Measurement and Data	MA.1.DA.1		Organize objects or other data into (up to five) categories.		Same as Above
	MA.1.DA.1		. Define data	data	
	MA.1.DA.1	What does a picture graph tell me?	Define a picture graph	Graph	

	MA.1.DA.1		Represent quantities in different categories using pictures and picture graphs		
	MA.1.DA.1	What does a picture graph tell me?	Answer questions about the total number of data points, how many in each category, and how many more or less are in one category than another		
	MA.1.DA.1		Ask questions about the total number of data points, how many in each category, and how many more or less are in one category than another		
Unit2 Quarter 2 Geometry	MA.1.G.1	What makes a shape a shape?	Construct two-dimensional shapes, including triangles, rectangles, squares, and circles.		Same as Above
	MA.1.G.1		Identify, describe, compare, sort, and draw triangles	Triangle	
	MA.1.G.1		Identify, describe, compare, sort, and draw rectangles	rectangle	
	MA.1.G.1		Identify, describe, compare, sort, and draw squares	square	
	MA.1.G.1		Identify, describe, compare, sort, and draw circles.	circle	
	MA.1.G.2	What two-dimensional and three-dimensional shapes exist in our environment?	Explain the rule used to sort two-dimensional and three-dimensional shapes	Two dimensional Three dimensional	
	MA.1.G.1		Sort by defining attributes (i.e., triangles are closed and 3 sided) and/or non-defining attributes (i.e., color, orientation, overall size).		

	MA.1.G.1		Identify objects as two-dimensional or three-dimensional		
	MA.1.DA.1		Identify two-dimensional and three-dimensional geometric shapes in the e Tell where the two-dimensio environment.		
	MA.1.DA.1		Tell where the two-dimensional and three-dimensional geometric shapes are found in the environment.		

Curriculum Mapping
Math – 1st Grade
3rd Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit Quarter 3 Number and Operations in Base Ten	MA.1.NS.2		Recognize that ten can be thought of as a bundle of ten ones.		Daily Activities Homework Chapter/Unit Tests Anecdotal Records
	MA.1.NS.2	How can I count large numbers of objects efficiently?	Identify different methods to count a group of less than one hundred objects		
	MA.1.NS.2		Explain which method of counting a group of less than one hundred objects is most efficient and why.		
	MA.1.NS.2	What do the digits mean in a number?	Demonstrate that the numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to 1, 2, 3, 4, 5, 6, 7, 8, and 9 tens (and zero ones).	Place value	
	MA.1.NS.2		Count and group objects in ones and tens.		
	MA.1.NS.1	What patterns do I notice on the 100 chart?	From any given whole number up to 100, find the number that is one more or one less.		
	MA.1.NS.3		Identify an object's ordinal position in an ordered set of up to 10 items when given written directions.		
UnitQuarter3 Operations and Algebraic Thinking	MA.1.CA.6		Explain the meaning of the equal sign to represent equivalence		Same as Above

	MA.1.CA.7	What kind of patterns can I make with numbers?	Create complex repeating patterns using numbers and shapes	pattern	
	MA.1.CA.7		Define growing patterns using addition		
	MA.1.CA.7	What patterns do I notice on the 100 chart?	Create a growing pattern using addition		
	MA.1.CA.7		Extend a growing pattern using addition.		
UnitQuarter 3 Measurement And Data	MA.1.M.2	How can I use a clock to know when events will happen?	Relate time to events, using terms before/after and shorter/longer		Same as Above
	MA.1.M.2		Explain that on an analog clock, the long hand corresponds to the minutes and the short hand corresponds to the hour.	analog	
	MA.1.M.2		Write and tell time to the hour when the minute hand is on the 12.	O'clock	
	MA.1.M.2		Identify that when the minute hand is at the 6 (30 minutes), the elapsed time represents half of an hour or half of the face of the analog clock.		
	MA.1.M.2		Manipulate the minute hand, starting at 12 and ending at 6, to count by ones to show an elapsed time of 30 minutes on an analog clock.		
	MA.1.M.2		Tell and write the time to the nearest half hour on an analog clock		
	MA.1.M.3		Identify pennies, nickels, and dimes.	Penny Nickel dime	

	MA.1.M.3	How do I know if I have enough money to buy something?	State the value (in cents) of a penny, nickel, and dime	cents	
	MA.1.M.3		Calculate the value of a collection of pennies, nickels, and/or dimes	value	
Unit Quarter 3 Geometry	MA.1.G.1		Decompose three-dimensional shapes and identify all two-dimensional faces such as triangles, rectangles, squares, and circles		Same as Above
	MA.1.G.4		Define congruent.	congruent	
	MA.1.G.4	What does it mean to have part of a whole?	Show different ways to divide a shape (rectangles and circles) into congruent parts		
	MA.1.G.4		Explain how, when all congruent parts are included, the result is the whole shape (rectangles and circles).		
	MA.1.G.4	How can I break a number or shape into smaller parts?	Describe a divided shape (rectangles and circles) in terms of its congruent parts, using the words halves, fourths, and quarters.	Fraction	
	MA.1.G.4		Orally state "__ out of __ parts" to describe the part of the whole shape (rectangles and circles) that is shaded.		
	MA.1.G.4		Represent "__ out of __ parts" (up to 8).		
	MA.1.G.4		Write the fraction that describes the part of the whole shape (rectangles and circles) that is shaded.		
	MA.1.DA.1		Describe the whole set in terms of its subsets		

	MA.1.DA.1		Orally state "__ out of __ parts" to describe a subset and write the fraction		
	MA.1.DA.1		Represent "__ out of __ parts" (up to 8).		

Curriculum Mapping
Math – 1st Grade
4th Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Questions	Resources/Activities	Vocabulary	Assessments
Unit Quarter 4 Numbers and Operations in Base Ten	MA.1.NS.2		Demonstrate that the numbers 11-19 are composed of a ten and 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones.	digit	Daily Activities Homework Chapter/Unit Tests Anecdotal Records
	MA.1.NS.2	What patterns do I notice on the 100 chart?	Demonstrate that the numbers 21-99 are composed of 2, 3, 4, 5, 6, 7, 8, or 9 tens and 1, 2, 3, 4, 5, 6, 7, 8, or 9 ones.		
	MA.1.NS.2		Represent the number of tens and ones in numbers less than 100 using objects, pictures, and symbols.		
	MA.1.NS.2		Count and record (using pictures, words, and numbers) the number of tens and ones in two digit numbers.		
	MA.1.NS.2	What happens to a number when the digits are changed?	Explain the relationship between the position of a digit in a two digit number and its value.	Place value	
	MA.PS.1		Choose the approach, materials, and strategies to use in solving problems.		
	MA.PS.4		Use tools such as objects or drawings to model problems		

	MA.PS.3	How can I use objects, drawings and equations to solve problems?	Explain the reasoning used and justify the procedures selected in solving a problem		
	MA.PS.6		Make precise calculations and check the validity of the results in the context of the problem.		
	MA.PS.2		Understand and use connections between two problems		
Unit Quarter4 Operations and Algebraic Thinking	MA.1.CA.1		Explain the meaning of subtraction (taking away, comparing, and finding the difference) using objects or words.	Subtraction number sentence	Same as above
	MA.1.CA.1		Model subtraction with up to 20 objects		
	MA.1.CA.1	What happens when a number is decomposed?	Decompose the same whole number (up to 20) into parts, using objects, diagrams, and numbers		
	MA.1.CA.1		Generate equivalent forms (using addition and subtraction) of the same whole number (up to 20) using objects, diagrams, and numbers.		
	MA.1.CA.1		Add (mentally and with paper and pencil) up to 20, demonstrating mastery		
	MA.1.CA.1	How are addition and subtraction related?	Explain the inverse relationship between addition and subtraction facts (up to 20).		
	MA.1.CA.1		Show the inverse relationship between addition and subtraction (up to 20), using objects, diagrams, and number sentences (equation		

	MA.1.CA.2		Write addition number sentences (equations) up to 20 from problem situations	Addition number sentence	
	MA.1.CA.1		Solve addition number sentences (equations) up to 20 from problem situations		
	MA.1.CA.1		Create (orally and/or in writing) word problems that match given number sentences (equations) involving addition.		
	MA.1.CA.1	How can I use symbols and numbers to show the actions of taking apart and combining numbers?	Solve multiple step word problems that involve both addition and subtraction in the same problem.		
	MA.PS.1		Choose the approach, materials, and strategies to use in solving problems		
	MA.PS.4		Use tools such as objects or drawings to model problems		
	MA.PS.3		Explain the reasoning used and justify the procedures selected in solving a problem		
	MA.PS.6		Make precise calculations and check the validity of the results in the context of the problem		
	MA.PS.2		Understand and use connections between two problems		
Unit Quarter 4 Measurement and Date	MA.1.M.1		Define standard unit of measure	Inch centimeter	Same as above
	MA.1.M.1		Lay out multiple copies of nonstandard and standard (inches and centimeters) units end to end with no gaps or overlaps.	Standard unit Nonstandard unit	

	MA.1.M.1		Count multiple copies of nonstandard and standard (inches and centimeters) units that span an object end to end with no gaps or overlaps		
	MA.1.M.1		State the length of an object, understanding that it is equal to the number of same sized length units that span it with no gaps or overlaps.		
	MA.1.M.1		Predict the effect of using different unit lengths (nonstandard and standard) when measuring the length of the same object and explain why the prediction is true.		
	MA.1.M.1	What different units can I use to measure different attributes of an object?	State the pros and cons of having different measurements when using different units (nonstandard and standard) to measure the length of the same object		
	MA.1.M.1		Explain the need for a fixed unit of length.		
	MA.1.M.1		Define inch	inch	
	MA.1.M.1		Define centimeter	Centimeter	
	MA.1.M.1		Estimate the length of an object to the nearest inch and centimeter		
	MA.1.M.1		Measure the length of an object to the nearest inch and centimeter		
	MA.1.M.1		Define area		
	MA.1.M.1	In what ways can I measure an object?	Sort objects according to area, capacity, weight, and temperature	Capacity Weight temperature	

	MA.1.M.1		Order objects according to area, capacity, weight, and temperature from least to greatest (greatest to least).		
	MA.PS.1		1a Choose the approach, materials, and strategies to use in solving problems		
	MA.PS.4		Use tools such as objects or drawings to model problems.		
	MA.PS.3		Explain the reasoning used and justify the procedures selected in solving a problem.		
	MA.PS.6		Make precise calculations and check the validity of the results in the context of the problem.		
	MA.PS.2		Understand and use connections between two problems.		
Unir Quarter 4 Geometry	MA.1.DA.1		Define distance in nonstandard and/or standard (inches and centimeters) units		Same as above
	MA.1.DA.1		Define turns (right or left).		
	MA.1.DA.1	How can I give directions from here to there?	Follow oral or written directions, involving distance and/or turns, for finding a place or object.		
	MA.1.DA.1		Give oral or written directions, involving distance and/or turns, for finding a place or object.		
	MA.PS.1		Choose the approach, materials, and strategies to use in solving problems		
	MA.PS.4		Use tools such as objects or drawings to model problems		
	MA.PS.3		Explain the reasoning used and justify the procedures selected in solving a problem		

	MA.PS.6		Make precise calculations and check the validity of the results in the context of the problem.		
	MA.PS.2		Understand and use connections between two problems		

PROCESS STANDARDS FOR MATHEMATICS

The Process Standards demonstrate the ways in which students should develop conceptual understanding of mathematical content, and the ways in which students should synthesize and apply mathematical skills. **PROCESS STANDARDS FOR MATHEMATICS**

PS.1: Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway, rather than simply jumping into a solution attempt. They consider analogous problems and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” and "Is my answer reasonable?" They understand the approaches of others to solving complex problems and identify correspondences between different approaches. Mathematically proficient students understand how mathematical ideas interconnect and build on one another to produce a coherent whole.

PS.2: Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different

properties of operations and objects.

PS.3: Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They analyze situations by breaking them into cases and recognize and use counterexamples. They organize their mathematical thinking, justify their conclusions and communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. They justify whether a given statement is true always, sometimes, or never. Mathematically proficient students participate and collaborate in a mathematics community. They listen to or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

PS.4: Model with mathematics.

Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace using a variety of appropriate strategies. They create and use a variety of representations to solve problems and to organize and communicate mathematical ideas. Mathematically proficient students apply what they know and are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

PS.5: Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, models, a ruler, a protractor, a calculator, a spreadsheet, a computer

algebra system, a statistical package, or dynamic geometry software. Mathematically proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. Mathematically proficient students identify relevant external mathematical resources, such as digital content, and use them to pose or solve problems. They use technological tools to explore and deepen their understanding of concepts and to support the development of learning mathematics. They use technology to contribute to concept development, simulation, representation, reasoning, communication and problem solving.

PS.6: Attend to precision.

Mathematically proficient students communicate precisely to others. They use clear definitions, including correct mathematical language, in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They express solutions clearly and logically by using the appropriate mathematical terms and notation. They specify units of measure and label axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently and check the validity of their results in the context of the problem. They express numerical answers with a degree of precision appropriate for the problem context.

PS.7: Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. They step back for an overview and shift perspective. They recognize and use properties of operations and equality. They organize and classify geometric shapes based on their attributes. They see expressions, equations, and geometric figures as single objects or as being composed of several objects.

PS.8: Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated and look for general methods and shortcuts. They notice regularity in mathematical problems and their work to create a rule or formula. Mathematically proficient students maintain oversight of the process, while attending to the details as they solve a problem. They continually evaluate the reasonableness of their intermediate results.

MATHEMATICS: GRADE 1

The Mathematics standards for grade 1 are supplemented by the Process Standards for Mathematics.

The Mathematics standards for grade 1 are made up of 5 strands: Number Sense; Computation and Algebraic Thinking; Geometry; Measurement; and Data Analysis. The skills listed in each strand indicate what students in grade 1 should know and be able to do in Mathematics.

NUMBER SENSE GRADE 1

1.NS.1: Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NS.2: Understand that 10 can be thought of as a group of ten ones — called a “ten." Understand that the numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. Understand that the numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NS.3: Match the ordinal numbers first, second, third, etc., with an ordered set up to 10 items.

1.NS.4: Use place value understanding to compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.

1.NS.5: Find mentally 10 more or 10 less than a given two-digit the number without having to count, and explain the thinking process used to get the answer.

1.NS.6: Show equivalent forms of whole numbers as groups of tens and ones, and understand that the individual digits of a two-digit number represent amounts of tens and ones.

COMPUTATION AND ALGEBRAIC THINKING GRADE 1

1.CA.1: Demonstrate fluency with addition facts and the corresponding subtraction facts within 20. Use strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). Understand the role of 0 in addition and subtraction.

1.CA.2: Solve real-world problems involving addition and subtraction within 20 in situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all parts of the addition or subtraction problem (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).

1.CA.3: Create a real-world problem to represent a given equation involving addition and subtraction within 20.

1.CA.4: Solve real-world problems that call for addition of three whole numbers whose sum is within 20 (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem).

1.CA.5: Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; describe the strategy and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones, and that sometimes it is necessary to compose a ten.

1.CA.6: Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false (e.g., Which of the following equations are true and which are false? 6 = 6, 7 = 8 – 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2).

1.CA.7: Create, extend, and give an appropriate rule for number patterns using addition within 100.

GEOMETRY GRADE 1

1.G.1: Identify objects as two-dimensional or three-dimensional. Classify and sort two-dimensional and three-dimensional objects by shape, size, roundness and other attributes. Describe how two-dimensional shapes make up the faces of three-dimensional objects.

1.G.2: Distinguish between defining attributes of two- and three-dimensional shapes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size). Create and draw two-dimensional shapes with defining attributes.

1.G.3: Use two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. [In grade 1, students do not need to learn formal names such as "right rectangular prism."]

1.G.4: Partition circles and rectangles into two and four equal parts; describe the parts using the words halves, fourths, and quarters; and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of, the parts. Understand for partitioning circles and rectangles into two and four equal parts that decomposing into equal parts creates smaller parts.