Michigan District Lutheran School Curriculum *SCOPE & SEQUENCE*

Grade Level: 2	**Curricular Area: Mathematics**		
Unit 1: **Numbers & Operations**	**Unit 2:** **Measurement**	**Unit 3:** **Geometry**	**Unit 4:** **Data & Probability**
1A **Count, write, and order whole numbers**	**2A** **Measure, add, and subtract length**	**3A** **Identify and describe shapes**	**4A** **Create, interpret, and solve problems involving pictographs**
1B **Understand Place Value**	**2B** **Understand the concept of area**	**3B** **Use coordinate systems**	
1C **Add and subtract whole numbers**	**2C** **Tell time and solve time problems**		
1D **Understand meaning of multiplication and division**	**2D** **Record, add and subtract money**		
1E **Work with unit fractions**	**2E** **Read thermometers**		
	2F **Solve measurement problems**		

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Mathematics Grade 2 - Unit 1: Number & Operations

Outcome: 1A: Count, write, and order whole numbers

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities**
N.ME.02.01 Count to 1000 by 1's, 10's and 100's starting from any number in the sequence. N.ME.02.02 Read and write numbers to 1000 in numerals and words, and relate them to the quantities they represent. N.ME.02.03 Compare and order numbers to 1000; use the symbols > and <. N.ME.02.04 Count orally by 3's and 4's starting with 0, and by 2's, 5's, and 10's starting from any whole number.	I.1.1 Recognize, describe and extend numerical and geometric patterns. IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals. IV. 1.2 Investigate and develop an understanding of the base-10 place-value system. IV.2.3 Investigate ways numbers are used (e.g., counting, ordering, naming, locating, measuring). IV.3.1 Compare and order numbers using "equal," "less than" or "greater than."	• In connection with the "Calendar Countdown" activity described in Objective 1, have each child record the daily information (writing the numeral and the describing word) in his or her own journal. • Have each child write the number of his or her street address in large number on a sheet of paper. Have two children stand in front of the room, holding their numbers chest high. Have them stand in order from smaller to larder number. One at a time add another child and number to this lineup, continuing to place number in order by size. • Daniel 6:10 says that it was Daniel's custom to pray to God three times a day. Have the children use skip counting to determine how many times Daniel prayed in five days, in 10 days in 15 days, etc. • For children who are ready for an extra challenge, try this activity to see how numbers can form circles or loops and will continue on and on. Start with any number you like. Have the children determine if it is even or odd. If the number is even, divide it in half. If the number is odd,

		multiply it by 2, then add 1. Whatever answer you get, apply one of the two rules to it. Use the resulting number to continue this procedure again and again. You will find that it will create a loop of numbers that goes on and on. Have the children try it with different numbers. Comment, “This makes me think of God’s love for us. God’s love continues on and on, looping like circles. It never ends.”

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1A: Count, Write, and Order Whole Numbers **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 1: Numbers & Operations** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
I.1.1 Recognize, describe and extend numerical and geometric patterns.					
IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals.					
V. 1.2 Investigate and develop an understanding of the base-10 place-value system.					
IV.2.3 Investigate ways numbers are used (e.g., counting, ordering, naming, locating, measuring).					
IV.3.1 Compare and order numbers using "equal," "less than" or "greater than."					

Outcome: 1B: Understand Place Value

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.ME.02.05 Express numbers through 999 using place value, e.g., 137 is 1 hundred, 3 tens, and 7 ones; use concrete materials.	IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals. IV. 1.2 Investigate and develop an understanding of the base-10 place-value system. IV.1.3 Develop an understanding of the properties of numbers (e.g., order) and of the properties of the special numbers 0 and 1. IV.2.1 Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations. IV.3.2 Use part-whole relationships to explore numbers, develop number concepts and understand computation. V.1.3 Explore properties of operations (e.g., commutative and distributive properties) and give examples of how they use those properties.	• Create a bulletin board in the classroom that can be used for eth whole year. Title it "Calendar Countdown" It should contain a monthly calendar, a cardboard thermometer, a supply of wooden craft sticks, and four plastic sandwich bags labeled ones, tens, hundreds and thousands. Students will use the craft sticks to tally the number of house spent in school. (These numbers will add up fast!) Beginning on the first day of school, have a child put an six craft sticks in the Ones bag and give one description of God (e.g., a name of God, and attribute, or an action of God). Keep a supply of words printed on slips of paper in the container so that children who do no have a suggestion can draw on from your word bank. Each day record the numeral and the description in a side column on the bulletin board. Also have the child position the thermometer to reflect the day's temperature and record that information. On day 2 and days to follow, add six more craft sticks to the bag and repeat the recording process. Whenever you have a group of 10 sticks, replace them by putting on stick in the tens bag, with any remaining ones stay in the ones bag. Follow a similar procedure with groups of 10 tens and 10 hundreds. IN a practical way, use this process to informally teach place value. Mark each "hundredth hour" with a praise celebration in which you review the action

		and attributes of God.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1B: Understand Place Value **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 1: Numbers & Operations** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals.					
IV. 1.2 Investigate and develop an understanding of the base-10 place-value system.					
IV.1.3 Develop an understanding of the properties of numbers (e.g., order) and of the properties of the special numbers 0 and 1.					
V.1.3 Explore properties of operations (e.g., commutative and distributive properties) and give examples of how they use those properties.					
IV.2.1 Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.					

Outcome: 1C: Add and subtract whole numbers

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.FL.02.06 Decompose 100 into addition pairs, e.g., 99 + 1, 98 + 2… N.MR.02.07 Find the distance between numbers on the number line, e.g., how far is 79 from 26? N.MR.02.08 Find missing values in open sentences, e.g., 42 + ■ = 57; use relationship between addition and subtraction. N.MR.02.09 Given a contextual situation that involves addition and subtraction using numbers through 99: model using objects or pictures; explain in words; record using numbers and symbols; solve. N.FL.02.10 Add fluently two numbers through 99, using strategies including formal algorithms; subtract fluently two numbers through 99. N.FL.02.11 Estimate the sum of two numbers with three digits. N.FL.02.12 Calculate mentally sums and differences involving: three-digit numbers and ones; three-digit numbers and tens; three-digit numbers and hundreds.	IV.2.2 Explore and recognize different representations for the same number and explain why they are the same. IV 2.4 Explore and recognize different representations for the same number and explain why they are the same. V.1.1 Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms. V 1.2 Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation. V.2.1 Write and solve open sentences (e.g., □+ □= 5) and write stories to fit the open sentence. V.2.2 Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.	• Provide each child with a grid card that has five rows of five squares. Have the children fill each space with numbers from 3 to 27 in random order. (Each number is to be printed once) Play a game in which the teacher draws three one-digit numbers from a jar. (Have each digit from 1-9 in the jar three times. Place the numbers back into the jar after each drawing.) The children are to add the number on scratch paper on in their heads) and mark and X over the correct answer on the grid. The object is to cover five in a row. Try this variation once children have become proficient to this process. Instead of numbers, give the children clues from the numbers to add. Possible Clues 0-numbers of sins God holds against us; 1-number of true gods. 2-number of eyes God gave you to see with; number of fish that the boy had in "The feeding of the 5,000"; 3- number of day Jesus was in the tomb; number of person in the Trinity; 4- number of hands folded when you're praying with your prayer partner; 5- number of fingers on each hand; number of loves of bread that the boy had in "The feeding of the 5,000"; 6- number of the day of creation when God created people; 7- number of the day of creation when God rested; 8- number of legs on an octopus; 9-number of lepers who did not return to say Thanks. • Play "Alphabet Math" Alphabet Math is a

		fun way to practice addition. Display a code that assigns monetary value to alphabet letters, or place a number above the letters on your classroom alphabet chart. (The letter A is worth 1 cent, B is 2 cents,…Z is 26 cents.) Children use the code to give values to words. For example, the word fish (f=6, I=9, s=19, h=8) is worth 42 cents. Have the children total the value of the words in the Bible verse they are learning this week. Compare this with the totals from other weeks. • Set up situations to help children see the value of estimating when you need to be close, but don't have to be exact. For example, Don wants to buy a jacket for $27, and book for $12, and a gift for his mom for $18. Don has $75. Does he have enough money or does he need more? At some point in your discussion add a comment such as "There are a lot of things we want to have, but God knows what is best what we need to have. What does He give that we need most of all?" • Use a calculator to determine the total amount spent by your class for hot lunch or milk on a single day. Keep track of these totals for a week and find the total for the whole week. Do this for several weeks. Then use the calculator to determine the total for one month. • Use different strategies to determine basic facts.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1C: Add and Subtract Whole Numbers **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 1: Numbers & Operations** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
IV.2.2 Explore and recognize different representations for the same number and explain why they are the same.					
IV. 2.4 Explore and recognize different representations for the same number and explain why they are the same.					
V.1.1 Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms.					
V. 1.2 Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation.					
V.2.1 Write and solve open sentences (e.g., □+ □= 5) and write stories to fit the open sentence.					
V.2.2 Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.					
V. 2.3 Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.					

Outcome: 1D: Understand meaning of multiplication and division

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.MR.02.13 Understand multiplication as the result of counting the total number of objects in a set of equal groups, e.g., 3 x 5 gives the number of objects in 3 groups of 5 objects, or 3 x 5 = 5 + 5 + 5 = 15. N.MR.02.14 Represent multiplication using area and array models. N.MR.02.15 Understand division (÷) as another way of expressing multiplication, using fact families within the 5 x 5 multiplication table; emphasize that division "undoes" multiplication, e.g., 2 x 3 = 6 can be rewritten as 6 ÷ 2 = 3 or 6 ÷ 3 = 2. N.MR.02.16 Given a situation involving groups of equal size or of sharing equally, represent with objects, words, and symbols; solve. N.MR.02.17 Develop strategies for fluently multiplying numbers up to 5 x 5.	IV.2.2 Explore and recognize different representations for the same number and explain why they are the same. IV.2.5 Select appropriate numbers and representations in order to solve problems. IV.3.2 Use part-whole relationships to explore numbers, develop number concepts and understand computation. V.1.1 Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms. V.1.2 Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation. V.1.3 Explore properties of operations (e.g., commutative and distributive properties) and give examples of how they use those properties.	• Use a calculator to determine the total amount spent by your class for hot lunch or milk on a single day. Keep track of these totals for a week and find the total for the whole week. Do this for several weeks. Then use the calculator to determine the total for one month.. • Use different strategies to determine basic facts.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1D: Understand Meaning of Multiplication and Division **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 1: Numbers & Operations** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
IV.2.2 Explore and recognize different representations for the same number and explain why they are the same.					
IV.2.5 Select appropriate numbers and representations in order to solve problems.					
IV.3.2 Use part-whole relationships to explore numbers, develop number concepts and understand computation.					
V.1.1 Use manipulatives to model operations with numbers; develop their own methods of recording operations; and relate their models and recordings to standard symbolic expressions and algorithms.					
V. 1.2 Develop and apply the appropriate method of computation from among mental computation, estimation, paper-and-pencil or calculators; explain why they are choosing a method and how they know which operations to perform in a given situation.					
V.1.3 Explore properties of operations (e.g., commutative and distributive properties) and give examples of how they use those properties					

Outcome: 1E: Work with unit fractions

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.ME.02.18 Recognize, name, and represent commonly used unit fractions with denominators 12 or less; model 12, 13, and 14 by folding strips. N.ME.02.19 Recognize, name, and write commonly used fractions: 12, 13, 23, , 24, 34. N.ME.02.20 Place 0 and halves, e.g., 12, 112, 212, on the number line; relate to a ruler. N.ME.02.21 For unit fractions from 112 to 12 understand the inverse relationship between the size of a unit fraction and the size of the denominator; compare unit fractions from 112 to 12. N.ME.02.22 Recognize that fractions such as 22, 33, and 44are equal to the whole (one).	II.2.1 Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map. IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals. IV.2.1 Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations. IV.2.2 Explore and recognize different representations for the same number and explain why they are the same. IV.3.1 Compare and order numbers using "equal," "less than" or "greater than." IV.3.2 Use part-whole relationships to explore numbers, develop number concepts and understand computation.	• Recognize different physical representations for the same fraction. • Bring in apples, small pizzas, chocolate chip cookies, or and other food items that can be divided easily. Tell the children that you would like to share a snack with them, but need help in deciding how to distribute it. Divide the children in groups and use paper replicas to have them decide how they would divide the food so everyone is their group could have some. Emphasize the need to have equal pieces so no one feels left out. The children can then report back to the class what they have discovered. With the teacher's assistance, fraction names can be given and fraction sizes compared. Of course, enjoy the real food when done. Remind the children God desired that we share with one another, and especially with those who are less fortunate than we. (1 Timothy 6:18 says, "Be generous and willing to share.") Pray that the love of Jesus and the power of the Holy Spirit in our hearts would lead us to follow God's will in this way.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1E: Work with Unit Fractions **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 1: Numbers & Operations** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.2.1 Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map.					
IV. 1.1 Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals.					
IV.2.1 Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.					
IV.2.2 Explore and recognize different representations for the same number and explain why they are the same.					
IV.3.1 Compare and order numbers using "equal," "less than" or "greater than."					
IV.3.2 Use part-whole relationships to explore numbers, develop number concepts and understand computation.					

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Mathematics Grade 2 - Unit 2: Measurement

Outcome: 2A: Measure, add, and subtract length

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities**
M.UN.02.01 Measure lengths in meters, centimeters, inches, feet, and yards approximating to the nearest whole unit and using abbreviations: cm, m, in, ft, yd. M.PS.02.02 Compare lengths; add and subtract lengths (no conversion of units).	II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement. II. 3.3 Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is "a good estimate." II. 3.4 Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit. II. 3.6 Apply measurement to describe the real world and to solve problems	• The best opportunity to explore "Pumpkin Math" is in October, but this activity can be adapted to any time pumpkins are available. If possible, invite an older class or a parent volunteer to help. Divide the children into small groups. Provide each group with a pumpkin, Ask each group to estimate the height, width, weight, and circumference of its pumpkin. Then have groups record accurate measurements, using tape measures and scales. Ask groups to estimate the number of seeds and then verify by counting. After the pumpkin is cleaned out, have the groups estimate how many cups of water would fill the pumpkin and test for accuracy. All this information can be then tabulate and recorded in graph form. When the activities are completed, take time to thank God for all the gifts of harvest.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2A: Measure, Add, and Subtract Length **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.					
II.3.3 Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is "a good estimate."					
II. 3.4 Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.					
II. 3.6 Apply measurement to describe the real world and to solve problems.					

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Mathematics Grade 2 - Unit 2: Measurement

Outcome: 2B: Understand the concept of area

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities**
M.UN.02.03 Measure area using non-standard units to the nearest whole unit. M.TE.02.04 Find the area of a rectangle with whole number side lengths by covering with unit squares and counting, or by using a grid of unit squares; write the area as a product.	II. 3.3 Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is "a good estimate." II. 3.4 Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.	• The best opportunity to explore "Pumpkin Math" is in October, but this activity can be adapted to any time pumpkins are available. If possible, invite an older class or a parent volunteer to help. Divide the children into small groups. Provide each group with a pumpkin, Ask each group to estimate the height, width, weight, and circumference of its pumpkin. Then have groups record accurate measurements, using tape measures and scales. Ask groups to estimate the number of seeds and then verify by counting. After the pumpkin is cleaned out, have the groups estimate how many cups of water would fill the pumpkin and test for accuracy. All this information can be then tabulate and recorded in graph form. When the activities are completed, take time to thank God for all the gifts of harvest.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2B: Understand the Concept of Area **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.3.3 Develop strategies for estimating measures and compare the estimates to the results of the measurement; decide if an estimate is "a good estimate."					
II. 3.4 Explain the meaning of measurements and recognize that the number of units it takes to measure an object is related to the size of the unit.					

Outcome: 2C: Tell time and solve time problems

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
M.UN.02.05 Using both A.M. and P.M., tell and write time from the clock face in 5 minute intervals and from digital clocks to the minute; include reading time: 9:15 as nine-fifteen and 9:50 as nine-fifty. Interpret time both as minutes after the hour and minutes before the next hour, e.g., 8:50 as eight-fifty and ten to nine. Show times by drawing hands on clock face. M.UN.02.06 Use the concept of duration of time, e.g., determine what time it will be half an hour from 10:15.	II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement. II.3.2 Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature and money	• Designate time for prayers, songs, and other worship activities throughout the school day. List these times and draw the correct clock faces on a chart. Each day, assign some of these times to students. The student will then (1) observe the classroom clocks; (2) signal the teacher when the time has come fro that activity; (3) read the correct time; and (4) lead the class in the appointed activity. Repeat this procedure till each child has had the opportunity to do this at least once.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2C: Tell Time and Solve Time Problems **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.					
II.3.2 Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature and money.					

Outcome: 2D: Record, add and subtract money

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
M.UN.02.07 Read and write amounts of money using decimal notations, e.g., $1.15. M.PS.02.08 Add and subtract money in mixed units, e.g., $2.50 + 60 cents and $5.75 - $3, but not $2.50 + $3.10.	II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement. II.3.2 Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature and money. II 3.6 Apply measurement to describe the real world and to solve problems.	• Send a note to parents asking each child t bring in exactly 67 cents fro a special offering (after using it in math class). Have each child set out the coins they used to make 67 cents. Chart the different ways that amount was made (e.g., 67 pennies, 13 nickels and 2 pennies0> Add up the amounts to find the total collection. Put the coins together and recheck the addition. Place the money in a special envelop, to be given by your class at your next chapel service offering.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2D: Record, Add and Subtract Money **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.					
II.3.2 Identify the attribute to be measured and select the appropriate unit of measurement for length, mass (weight), area, perimeter, capacity, time, temperature and money.					
II. 3.6 Apply measurement to describe the real world and to solve problems.					

Outcome: 2E: Read thermometers

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
M.UN.02.09 Read temperature using the scale on a thermometer in degrees Fahrenheit.	II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.	• The best opportunity to explore "Pumpkin Math" is in October, but this activity can be adapted to any time pumpkins are available. If possible, invite an older class or a parent volunteer to help. Divide the children into small groups. Provide each group with a pumpkin, Ask each group to estimate the height, width, weight, and circumference of its pumpkin. Then have groups record accurate measurements, using tape measures and scales. Ask groups to estimate the number of seeds and then verify by counting. After the pumpkin is cleaned out, have the groups estimate how many cups of water would fill the pumpkin and test for accuracy. All this information can be then tabulate and recorded in graph form. When the activities are completed, take time to thank God for all the gifts of harvest.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2E: Read Thermometers **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II.3.1 Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.					

Outcome: 2F: Solve measurement problems

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
M.PS.02.10 Solve simple word problems involving length and money. M.TE.02.11 Determine perimeters of rectangles and triangles by adding lengths of sides, recognizing the meaning of perimeter.	II. 3.6 Apply measurement to describe the real world and to solve problems.	• Gather a variety of items from the classroom of from outside. Write word problems using the length of these items. Assign a value to some of these items. Using these values, solve simple work problems. Discuss the gifts that God has blessed us with as students write word problems or determine the perimeters.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2F: Solve Measurement Problems **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 2: Measurement** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II. 3.6 Apply measurement to describe the real world and to solve problems					

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Mathematics Grade 2 - Unit 3: Geometry

Outcome: 3A: Identify and describe shapes

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities**
G.GS.02.01 Identify, describe, and compare familiar two-dimensional and three-dimensional shapes, such as triangles, rectangles, squares, circles, semi-circles, spheres, and rectangular prisms. G.GS.02.02 Explore and predict the results of putting together and taking apart two-dimensional and three-dimensional shapes. G.GS.02.04 Distinguish between curves and straight lines and between curved surfaces and flat surfaces. G.SR.02.05 Classify familiar plane and solid objects, e.g., square, rectangle, rhombus, cube, pyramid, prism, cone, cylinder, and sphere, by common attributes such as shape, size, color, roundness, or number of corners and explain which attributes are being used for classification. G.TR.02.06 Recognize that shapes that have been slid, turned, or flipped are the same shape, e.g., a square rotated 45° is still a square. M.TE.02.11 Determine perimeters of rectangles and triangles by adding lengths of sides, recognizing the meaning of perimeter.	II 1.1 Recognize and name familiar shapes in one, two and three dimensions such as lines, rectangles and spheres and informally discuss the shape of a graph. II 1.2 Describe the attributes of familiar shapes. II 1.3 Compare, sort and classify familiar shapes. II 1.4 Draw and build familiar shapes. II 1.5 Explore ways to combine, dissect and transform shapes. II 1.6 Recognize parallel and perpendicular line segments and figures that have similarity and/or congruence. II 1.7 Use shape, shape properties and shape relationships to describe the physical world and to solve problems. II.2.3 Explore what happens to the size, shape and position of an object after sliding, flipping, turning, enlarging or reducing it. II.2.5 Use concepts of position, direction and orientation to describe the physical world and to solve problems.	• Discuss the differences in two-dimensional and three-dimensional shapes. Walk around the school and church and find places where God has used these shapes in His creation. If possible, make prints or illustrations of these shapes and discuss their qualities. • Distribute paper and have the children fold it in half. Have the children cut a small shape on the fold and try to draw what the paper will look like when it's unfolded. Then unfold it and compare. As you explain congruency as to things that are alike, point out that God wants us to be like Him. Ephesians 5:1. "Be imitators of God, therefore, as dearly loved children") Ask, "How can that happen?" (Only through God's actions, as Jesus takes away our sins and give us His righteousness.) • Relate this objective to an art activity in which the children make gift-wrap paper using stencils or sponge stamps (in the shape of squares, circles, triangles) to make series of patterns. Brainstorm possibilities for patterns and variety. Perhaps a single shape could be repeated in different colors; or there could be a pattern of several shapes but only one

		color; or a single shape in different sizes could be used; or an alternating pattern of several shapes could be used; or the layout could form a pattern of one shape in straight lines or diagonal lines, etc. Set out the material and let the children explore the possibilities

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

3A: Identify and Describe Shapes **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 3: Geometry** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II. 1.1 Recognize and name familiar shapes in one, two and three dimensions such as lines, rectangles and spheres and informally discuss the shape of a graph.					
II. 1.2 Describe the attributes of familiar shapes.					
II. 1.3 Compare, sort and classify familiar shapes.					
II. 1.4 Draw and build familiar shapes.					
II. 1.5 Explore ways to combine, dissect and transform shapes.					
II. 1.6 Recognize parallel and perpendicular line segments and figures that have similarity and/or congruence.					
II. 1.7 Use shape, shape properties and shape relationships to describe the physical world and to solve problems.					
II.2.3 Explore what happens to the size, shape and position of an object after sliding, flipping, turning, enlarging or reducing it					
II.2.5 Use concepts of position, direction and orientation to describe the physical world and to solve problems.					

Outcome: 3B: Use coordinate systems

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
G.LO.02.07 Find and name locations using simple coordinate systems such as maps and first quadrant grids.	II. 2.1 Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map. II.2.2 Locate and describe objects in terms of their orientation, direction and relative position, including up, down, front, back, N- S- E- W, flipped, turned, translated; recognize symmetrical objects and identify their lines of symmetry. II. 2.5 Use concepts of position, direction and orientation to describe the physical world and to solve problems.	• Create a large coordinate plane on mural paper. Review with the children how to mark coordinate points, reminding them to always go over first and then up. Provide children with individual coordinate planes and one of the set of points below. Have them plot points and draw connection lines (in Order) to find the hidden picture. • Manger: (6,1) (2,5) (8,5) (4,1) • Heart: (5,5) (7,7) (8,7) (9,6)(9,5) (5,1) (1,5) (1,6) (2,7) (3,7) (5,5) • Cross: (4,0) (4,4) (2,4) (2,6) (4,6) (4,8) (6,8) (6,6) (8,6) (8,4) (6,4) (6,0) • After children have mastered plotting pints, provide them with another blank coordinate plane so they may create their own pictures. Have them record their coordinates in order on paper. Then partners can trade coordinate sets and discover the new designs.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

3B: Use Coordinate Systems **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 3: Geometry** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE (The *italicized* indicates the one used)	**Dates Taught (month/day/initials):**				
II. 2.1 Locate and describe objects in terms of their position, including front, back, inside, outside, right, left, over, under, next to, between and locations on the number line, on a coordinate graph and on a map.					
II.2.2 Locate and describe objects in terms of their orientation, direction and relative position, including up, down, front, back, N- S- E- W, flipped, turned, translated; recognize symmetrical objects and identify their lines of symmetry.					
II. 2.5 Use concepts of position, direction and orientation to describe the physical world and to solve problems.					

Michigan District Lutheran School Curriculum *Outcomes*

Curricular Area: Mathematics Grade 2 - Unit 4: Data & Probability

Outcome: 4A: Create, interpret, and solve problems involving pictographs

Grade Level Content Expectations (GLCEs)	**Michigan Benchmarks**	**Teaching the Faith Activities**
D.RE.02.01 Make pictographs using a scale representation, using scales where symbols equal more than one. D.RE.02.02 Read and interpret pictographs with scales, using scale factors of 2 and 3. D.RE.02.03 Solve problems using information in pictographs; include scales such as each ■ represents 2 apples; avoid ■ cases.	III.1.2 Organize data using concrete objects, pictures, tallies, tables, charts, diagrams and graphs. III. 2.1 Read and explain data they have collected and organized themselves and progress to reading data from other sources. III.2.3 Draw, explain and justify conclusions, such as trends based on data. III.2.5 Formulate questions and problems and gather and interpret data to answer those questions. V.2.2 Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.	• When you are studying how God blesses our families, have the children make a survey of their won families. Predetermine the categories to be surveyed (e.g., favorite foods, favorite TV show, favorite pets.) have each child graph the date they collect. Then gather in groups of five and compile the family data to make graphs with a broader scope. Then put all of the information in the class together into on big graph. Display and compare the graphs. (Te emphasize the size of each group studies, you may want to use notebook paper for family graphs, newsprint sheets for group graphs, and mural-size paper for the class graph.) • Gather information about the amount of chapel offering collected for the past several weeks. Have the children use calculators to find monthly totals. Plot this information on a bar graph. Using the graph, have children predict what they think the next month's total will be. Halfway through the next month, check to see if their predictions are on target. Verify their predictions at the end of the month. Discuss why the predictions were or were not accurate.

		• Determine the likelihood that an event will occur.

Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

4A: Create, Interpret, and Solve Problems Involving Pictographs **Teacher Name: _____** **Grade Level: 2**	**Curricular Area: Mathematics - Unit 4: Data & Probability** **School Year:**				
Michigan Standards, *Benchmark*, or GLCE **(The *italicized* indicates the one used)**	**Dates Taught (month/day/initials):**				
III.1.2 Organize data using concrete objects, pictures, tallies, tables, charts, diagrams and graphs.					
III. 2.1 Read and explain data they have collected and organized themselves and progress to reading data from other sources.					
III.2.3 Draw, explain and justify conclusions, such as trends based on data.					
III.2.5 Formulate questions and problems and gather and interpret data to answer those questions.					
V.2.2 Explore algebraic concepts with manipulatives such as balance scales, tables of input and output, and pictorial representations of problems.					