

Michigan District Lutheran School Curriculum *SCOPE & SEQUENCE*

Grade Level: 5	Curricular Area: Mathematics		
Unit 1:	Unit 2:	Unit 3:	Unit 4:
Number and Operations	Measurement	Geometry	Data and Probability
1A Understand division of whole numbers	2A Know, and convert among, measurement units within a given system	3A Know the meaning of angles, and solve problems	4A Construct and interpret line graphs
1B Multiply and divide whole numbers	2B Find areas of geometric shapes using formulas	3B Solve problems about geometric shapes	4B Find and interpret mean and mode for a given set of data
1C Find prime factorization of whole numbers	2C Understand the concept of volume		
1D Understand meaning of decimal fractions and percentages			
1E Understand fractions as division statements; find equivalent fractions			
1F Multiply and divide fractions			



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1G Add and subtract fractions using common denominators			
1H Multiply and divide by powers of ten			
1I Solve applied problems with fractions			
1J Express, interpret, and use ratios; find equivalences			



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Michigan District Lutheran School Curriculum *OUTCOMES*

Curricular Area: Mathematics Grade 5 – Unit 1: Number and Operations

Outcome 1A: Understand division of whole numbers.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.MR.05.01 Understand the meaning of division of whole numbers with and without remainders; relate division to fractions and to repeated subtraction.</p> <p>N.MR.05.02 Relate division of whole numbers with remainders to the form $a = bq + r$, e.g., $34 \div 5 = 6 \text{ r } 4$, so $5 \cdot 6 + 4 = 34$; note remainder (4) is less than divisor (5).</p> <p>N.MR.05.03 Write mathematical statements involving division for given situations.</p>	<p>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.</p> <p>V.2.1. Write and solve open sentences (e.g., $\square + \Delta = 5$) and write stories to fit the open sentence.</p>	



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1A: Understand division of whole numbers. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
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.2.1. Write and solve open sentences (e.g., $\square + \Delta = 5$) and write stories to fit the open sentence.					



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Outcome 1B: Multiply and divide whole numbers.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.FL.05.04 Multiply a multi-digit number by a two-digit number; recognize and be able to explain common computational errors such as not accounting for place value.</p> <p>N.FL.05.05 Solve applied problems involving multiplication and division of whole numbers.</p> <p>N.FL.05.06 Divide fluently up to a four-digit number by a two-digit number.</p>	<p>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.</p> <p>V.1.4. Apply operations efficiently and accurately in solving problems.</p>	<ul style="list-style-type: none"> ▪ In Matthew 20, the story is told of a landowner who hired laborers to work in his fields. He hired some early in the morning (~6 A.M.), some at the third hour (~9 A.M.), some the sixth hour (about noon), some at the ninth hour (~3 P.M.), and some at the eleventh hour (~5 P.M.). They worked until about 6 P.M. Determine what each group received per hour if the salary for all was a denarius (equivalent to a typical day's wage, or about \$50 for a 12-hour day at minimum wage today). Discuss how you would feel if you were one of the workers hired early. Later? What point did Jesus make by telling the story?



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1B: Multiply and divide whole numbers. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
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.1.4. Apply operations efficiently and accurately in solving problems.					



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Outcome 1C: Find prime factorizations of whole numbers.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.MR.05.07 Find the prime factorization of numbers from 2 through 50, express in exponential notation, e.g., $24 = 2^3 \times 3^1$, and understand that every whole number greater than 1 is either prime or can be expressed as a product of primes.</p>	<p>IV.3.3. Classify numbers as even or odd and explore concepts of factors and multiples.</p>	<ul style="list-style-type: none"> ▪ Brainstorm some significant biblical numbers: 4 for the gospels, 12 for the tribes and disciples, 10 for the Commandments, 100 for the flock of sheep, 99 for the ones not lost, 5000 that were fed, and the 72 people that were sent out in Luke 10:1. Make factor trees to determine the prime factorization of each number. List both as separate factors and in exponential form.



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1C: Find prime factorizations of whole numbers. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
IV.3.3. Classify numbers as even or odd and explore concepts of factors and multiples.					



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Outcome 1D: Understand meaning of decimal fractions and percentages.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.ME.05.08 Understand the relative magnitude of ones, tenths, and hundredths and the relationship of each place value to the place to its right, e.g., one is 10 tenths, one tenth is 10 hundredths.</p>	<p>IV.2.2. Explore and recognize different representations for the same number and explain why they are the same.</p>	<ul style="list-style-type: none"> ▪ In Numbers 1, Moses was instructed to take a census of all the men 20 years of age and older, by tribes, who were able to go to war. List the numbers in order from the greatest to the least. Round each number to the nearest thousand and ten thousand. Using this census information, find out what fraction of the total census each tribe accounted for by determining fractional parts and decimals. If this percentage is a fair representation of the division among the tribes of Israel, about how many of people total out of 1,800,000 were in each tribe of Israel?
<p>N.ME.05.09 Understand percentages as parts out of 100, use % notation, and express a part of a whole as a percentage.</p>	<p>IV.2.4. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.</p> <p>IV.3. Compare and order numbers using “equal,” “less than” or “greater than.”</p>	



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

ID: Understand meaning of decimal fractions and percentages. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> 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. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.					
IV.3. Compare and order numbers using “equal,” “less than” or “greater than.”					



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Outcome 1E: Understand fractions as division statements; find equivalent fractions.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.ME.05.10 Understand a fraction as a statement of division, e.g., $2 \div 3 = 2/3$, using simple fractions and pictures to represent.</p> <p>N.ME.05.11 Given two fractions, e.g., $1/2$ and $1/4$, express them as fractions with a common denominator, but not necessarily a least common denominator, e.g., $1/2 = 2/4$ and $3/4 = 6/8$; use denominators less than 12 or factors of 100.</p>	<p>IV.1.1. Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals.</p> <p>IV.2.1. Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.</p> <p>IV.2.2. Explore and recognize different representations for the same number and explain why they are the same.</p>	<ul style="list-style-type: none"> ▪ In Numbers 1, Moses was instructed to take a census of all the men 20 years of age and older, by tribes, who were able to go to war. List the numbers in order from the greatest to the least. Round each number to the nearest thousand and ten thousand. Using this census information, find out what fraction of the total census each tribe accounted for by determining fractional parts and decimals. If this percentage is a fair representation of the division among the tribes of Israel, about how many of people total out of 1,800,000 were in each tribe of Israel? ▪ In Numbers 4, Moses also takes a census of the Levites age 30-50 who were able to work in the tabernacle. If the total number of Levites 30-50 years old was 8,850, what fractional part of the total came from each clan? Order them from least to greatest. Write addition and subtraction problems using the fractions and decimals. ▪ Think of things in the Bible that come in groups of 2, 3, 4, 5, etc. Put the numbers on index cards and turn them face down. Pick two cards at a time and find the greatest common factor and the least common multiple of the pair. ▪ Numbers 15:1-12 talks about the grain offerings that the Israelites were to bring to the Lord. Use the following equivalencies to answer questions: <ul style="list-style-type: none"> • 1 ephah = 10 omers = $3/5$ bushel = 22 liters = 22 quarts • 1 hin = $1/6$ bath = 4 liters = 4 quarts



		<ul style="list-style-type: none">• 1 quart = 4 cups▪ How many loaves of bread could be made with 1/10 of an ephah if a loaf requires about 3 cups of flour? How many chocolate chip cookies could be made with a 1/10 ephah if 2 cups makes 4 dozen cookies?
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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

<p>1E: Understand fractions as division statements; find equivalent fractions Teacher Name: _____ Grade Level: 5</p>	<p>Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:</p>				
<p>Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used).</p>	<p>Dates Taught (month/day/initials):</p>				
<p>IV.1.1. Develop an understanding of whole numbers and read, write and count using whole numbers; investigate basic concepts of fractions and decimals.</p>					
<p>IV.2.1. Represent whole numbers, fractions and decimals using concrete, pictorial and symbolic representations.</p>					
<p>IV.2.2. Explore and recognize different representations for the same number and explain why they are the same.</p>					



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Outcome 1F: Multiply and divide fractions.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.ME.05.12 Find the product of two unit fractions with small denominators using an area model. N.MR.05.13 Divide a fraction by a whole number and a whole number by a fraction, using simple unit fractions.	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.	



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1F: Multiply and divide fractions. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
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.					



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Outcome 1G: Add and subtract fractions using common denominators.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.FL.05.14 Add and subtract fractions with unlike denominators through 12 and/or 100, using the common denominator that is the product of the denominators of the 2 fractions, e.g., $\frac{3}{8} + \frac{7}{10}$: use 80 as the common denominator.	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.	▪ In Numbers 4, Moses also takes a census of the Levites age 30-50 who were able to work in the tabernacle. If the total number of Levites 30-50 years old was 8,850, what fractional part of the total came from each clan? Order them from least to greatest. Write addition and subtraction problems using the fractions and decimals.



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1G: Add and subtract fractions using common denominators. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
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.					



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Outcome 1H: Multiply and divide by powers of ten.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
N.MR.05.15 Multiply a whole number by powers of 10: 0.01, 0.1, 1, 10, 100, 1,000; and identify patterns.	IV.3.3. Classify numbers as even or odd and explore concepts of factors and multiples.	
N.FL.05.16 Divide numbers by 10's, 100's, 1,000's using mental strategies.	IV.3.4. (Middle School) Explain the meaning of powers and roots of numbers and use calculators to compute powers and square roots.	
N.MR.05.17 Multiply one-digit and two-digit whole numbers by decimals up to two decimal places.	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.	



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

1H: Multiply and divide by powers of ten. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
IV.3.3. Classify numbers as even or odd and explore concepts of factors and multiples					
IV.3.4. (Middle School) Explain the meaning of powers and roots of numbers and use calculators to compute powers and square roots					
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.					



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Outcome 1I: Solve applied problems with fractions.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.FL.05.18 Use mathematical statements to represent an applied situation involving addition and subtraction of fractions.</p>	<p>IV.2.4. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.</p>	<ul style="list-style-type: none"> ▪ Money values in the New Testament: <ul style="list-style-type: none"> ○ Greek farthing = $\frac{1}{4}$ of a penny ○ Roman didrachma = 32 $\frac{1}{3}$ cents ○ Jewish shekel = 64 $\frac{2}{3}$ cents ○ Mite = 15 cents ○ Denarius = 16 cents ○ Sestertius = 4 cents ○ Mina = 15 cents ○ Talent = \$2000 (silver) ▪ Make addition and subtraction problems using the New Testament money values. How much would 4 sparrows cost (Matthew 10:29)? 2 farthings = $\frac{1}{2}$ cent. How much are 2 mites worth (Mark 12:42)? 1 farthing = $\frac{1}{2}$ cent. How much did David pay for the oxen (2 Samuel 24:24)? 50 shekels or \$32.34. How much did Abraham pay for Sarah's plot (Genesis 23:15)? 400 shekels or \$258.68.
<p>N.MR.05.19 Solve contextual problems that involve finding sums and differences of fractions with unlike denominators using knowledge of equivalent fractions.</p>	<p>IV.2.5. Select appropriate numbers and representations in order to solve problems.</p>	
<p>N.FL.05.20 Solve applied problems involving fractions and decimals; include rounding of answers and checking reasonableness.</p>	<p>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.</p>	
<p>N.MR.05.21 Solve for the unknown in equations such as $14 + x = 712$.</p>	<p>V.1.4. Apply operations efficiently and accurately in solving problems.</p> <p>V.2.1. Write and solve open sentences (e.g., $a + D = 5$) and write stories to fit the open sentence.</p>	



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

II: Solve applied problems with fractions. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the italicized indicates the one used)	Dates Taught (month/day/initials):				
IV.2.4. Develop strategies for estimating quantity and evaluate the reasonableness of their estimates.					
IV.2.5. Select appropriate numbers and representations in order to solve problems.					
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.1.4. Apply operations efficiently and accurately in solving problems.					
V.2.1. Write and solve open sentences (e.g., $a + D = 5$) and write stories to fit the open sentence.					



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Outcome 1J: Express, interpret, and use ratios; find equivalences.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>N.MR.05.22 Express fractions and decimals as percentages and vice versa.</p> <p>N.ME.05.23 Express ratios in several ways given applied situations, e.g., 3 cups to 5 people, 3: 5; recognize and find equivalent ratios.</p>	<p>IV.2.2. Explore and recognize different representations for the same number and explain why they are the same.</p> <p>IV.3.1. Compare and order numbers using “equal,” “less than” or “greater than.”</p>	<p>Teaching the Faith Activities</p> <ul style="list-style-type: none"> ▪ Find the market value of an ounce of pure gold. If a <i>talent</i> of gold weighs about 100 pounds, what would be the value of each lampstand at today’s prices? The combined value for the seven lampstands? (Exodus 25:37-39) ▪ Follow with the annual salary of King Solomon (1 Kings 10:14) which was 666 talents. What is the current value of his yearly salary? Monthly salary? ▪ List the following as ratios and decimals: <ul style="list-style-type: none"> • Apostles who were fishermen • Lepers who were thankful • Wise virgins (out of the ten) • Men Gideon took to fight the Midianites out of the 32,000 he started with in Judges 7:3 • Sheep that were lost • Women listed as ancestors of Jesus in Matthew 1 • Tribes that stayed east of the Jordan River • Coins that were lost and then found in Luke 15 • Commandments that deal with our relationships with God • Commandments that deal with our relationships with others ▪ Are any of the ratios equivalent? Which ones? Write problems to determine missing numbers. ▪ Draw a map of the Israelite’s trip from Egypt to the River Jordan. Their itinerary is listed in Numbers 33. Choose a scale commensurate with the size of paper the student will be using.



		<p>If the map is drawn fairly accurately to scale, it should be possible to determine the number of miles they traveled plus their rate of speed.</p> <ul style="list-style-type: none">▪ Make a detailed scale drawing of the ark of covenant from the information given in Exodus 25. The size of the paper will determine the scale. An extension of this activity would be to make a three-dimensional model.
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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

IJ: Express, interpret, and use ratios; find equivalences. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 1 - Number and Operations School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> 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.3.1. Compare and order numbers using “equal,” “less than” or “greater than.”					



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Michigan District Lutheran School Curriculum *OUTCOMES*

Curricular Area: Mathematics Grade 5 – Unit 2: Measurement

Outcome 2A: Know, and convert among, measurement units within a given system.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>M.UN.05.01 Recognize the equivalence of 1 liter, 1,000 ml and 1,000 cm³ and include conversions among liters, milliliters, and cubic centimeters.</p> <p>M.UN.05.02 Know the units of measure of volume: cubic centimeter, cubic meter, cubic inches, cubic feet, cubic yards, and use their abbreviations (cm³, m³, in³, ft³, yd³).</p> <p>M.UN.05.03 Compare the relative sizes of one cubic inch to one cubic foot, and one cubic centimeter to one cubic meter.</p> <p>M.UN.05.04 Convert measurements of length, weight, area, volume, and time within a given system using easily manipulated numbers.</p>	<p>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.</p> <p>II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.</p>	<ul style="list-style-type: none"> ▪ Use the following chart to have the students convert biblical measurements to millimeters and kilometers: <ul style="list-style-type: none"> • Cubit = .44 m • Pace = 1.480 m • Furlong = 177.60 m • Sabbath-day’s journey = 1480 m ▪ Use the following chart to have the students convert biblical measurements to milliliters and kiloliters: <ul style="list-style-type: none"> • Cab = 2.24 L • Hin = 6.75 L • Bath = 40.50 L • Homer = 405.00 L ▪ Use the following chart to have students convert biblical measurements to milligrams and kilograms: <ul style="list-style-type: none"> • Talent (silver) = 152.29 g • Shekel = 14.29 g ▪ Exodus 38:21-31 lists the amount of gold, silver, and bronze used in building the



		tabernacle. If a talent weighed about 100 pounds and a shekel $\frac{2}{3}$ of an ounce, determine the weight for each type of metal in ounces, pounds, and tons.
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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

<p>2A: Know, and convert among, measurement units within a given system. Teacher Name: _____ Grade Level: 5</p>	<p>Curricular Area: Mathematics /Unit 2-Measurement School Year:</p>				
<p>Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)</p>	<p>Dates Taught (month/day/initials):</p>				
<p>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.</p>					
<p>II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects</p>					



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Outcome 2B: Find areas of geometric shapes using formulas.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>M.PS.05.05 Represent relationships between areas of rectangles, triangles, and parallelograms using models.</p> <p>M.TE.05.06 Understand and know how to use the area formula of a triangle: $A = 1/2 bh$ (where b is length of the base and h is the height), and represent using models and manipulatives.</p> <p>M.TE.05.07 Understand and know how to use the area formula for a parallelogram: $A = bh$, and represent using models and manipulatives.</p>	<p>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.</p> <p>II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.</p>	<p>Teaching the Faith Activities</p> <ul style="list-style-type: none"> ▪ According to 2 Chronicles 4:2-5, Solomon built a large circular pond or ‘sea’ in his palace. Its dimensions were 5 cubits high, 10 cubits across, and 30 cubits around. Change all these measurements to both customary and metric units if a cubit equals 18” or .5 m. Determine if the relationship between the diameter and the circumference is the same as the constant we call <i>pi</i>. ▪ Verse 5 says it held 3000 baths. If a bath is 6 gallons, how many gallons of water is that? If a bath is also 22 liters, how many liters would it hold? ▪ Make a scale drawing of the sea using the scale 2cm = 1 cubit. Draw both top and side views. Make sure to label the dimensions and draw the bulls around the circumference of the pool. ▪ Make a scale drawing of the tabernacle, including the courtyard, tabernacle, Holy of Holies, Holy Place, incense altar, altar of burnt offerings, Ark of the Covenant, and table. Dimensions may be found in Exodus 25-30. Determine the various perimeters, areas, and volumes (where applicable).



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2B: Find areas of geometric shapes using formulas. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics /Unit 2-Measurement School Year:				
Michigan Standard, Benchmark, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
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.3.5. Explore scale drawings, models					
II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.					



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Outcome 2C: Understand the concept of volume.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>M.TE.05.08 Build solids with unit cubes and state their volumes.</p> <p>M.TE.05.09 Use filling (unit cubes or liquid), and counting or measuring to find the volume of a cube and rectangular prism.</p> <p>M.PS.05.10 Solve applied problems about the volumes of rectangular prisms using multiplication and division and using the appropriate units.</p>	<p>II.1.4. Draw and build familiar shapes.</p> <p>II.3.1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.</p> <p>II.3.6. Apply measurement to describe the real world and to solve problems.</p>	



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

2C: Understand the concept of volume. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics /Unit 2-Measurement School Year:			
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):			
II.1.4. Draw and build familiar shapes.				
II.3.1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.				
II.3.6. Apply measurement to describe the real world and to solve problems.				



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Michigan District Lutheran School Curriculum *OUTCOMES*

Curricular Area: Mathematics Grade 5 – Geometry

Outcome 3A: Know the meaning of angles, and solve problems.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>G.TR.05.01 Associate an angle with a certain amount of turning; know that angles are measured in degrees; understand that 90°, 180°, 270°, and 360° are associated respectively, with $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$, and full turns.</p> <p>G.GS.05.02 Measure angles with a protractor and classify them as acute, right, obtuse, or straight.</p> <p>G.GS.05.03 Identify and name angles on a straight line and vertical angles.</p> <p>G.GS.05.04 Find unknown angles in problems involving angles on a straight line, angles surrounding a point, and vertical angles.</p> <p>G.GS.05.05 Know that angles on a straight line add up to 180° and angles surrounding a point add up to 360°; justify informally by “surrounding” a point with angles.</p> <p>G.GS.05.06 Understand why the sum of the interior angles of a triangle is 180° and the sum of the interior angles of a quadrilateral is 360°, and use these properties to solve problems.</p>	<p>II.1.2. Describe the attributes of familiar shapes.</p> <p>II.2.3. Explore what happens to the size, shape and position of an object after sliding, flipping, turning, enlarging or reducing it.</p> <p>II.3.1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.</p> <p>II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.</p>	



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

3A: Know the meaning of angles, and solve problems. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 3-Geometry School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
II.1.2. Describe the attributes of familiar shapes.					
II.2.3. Explore what happens to the size, shape and position of an object after sliding, flipping, turning, enlarging or reducing it.					
II.3.1. Compare attributes of objects; develop standard units of measurement; and select and use standard tools for measurement.					
II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.					



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Outcome 3B: Solve problems about geometric shapes.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>G.GS.05.07 Find unknown angles and sides using the properties of triangles, including right, isosceles, and equilateral triangles; parallelograms, including rectangles and rhombuses; and trapezoids.</p>	<p>II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.</p>	<ul style="list-style-type: none"> ▪ Observe, identify, and sketch major polygons and types of symmetry found in nature. A partial list could include: <ul style="list-style-type: none"> • Irregular triangles and circular shapes in spider webs; rotational symmetry • Regular hexagons in honeycombs • Six sides on a snowflake • Various numbers of sides and angles on various crystals • Veins in leaves; butterflies – line symmetry • Rotational symmetry found in cross sections of fruits and vegetables ▪ Take the students on a symmetry and shape scavenger hunt. Pool the class results and organize them on a table. See which polygons and which type of symmetry occur most often. Graph the results. Reinforce once again that God is a God of order and patterns – but also a God of variety. What a wonderful world He gave us to enjoy! ▪ Use polygons with biblical significance or other Christian symbols such as the cross, fish, butterfly, or shell to create your own tessellations.



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

3B: Solve problems about geometric shapes Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 3-Geometry School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used).	Dates Taught (month/day/initials):				
II.3.5. Explore scale drawings, models and maps and relate them to measurements of real objects.					



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Michigan District Lutheran School Curriculum *OUTCOMES*

Curricular Area: Mathematics Grade 5 – Data and Probability

Outcome 4A: Construct and interpret line graphs.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>D.RE.05.01 Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.</p> <p>D.RE.05.02 Construct line graphs from tables of data; include axis labels and scale.</p>	<p>I.2.1. Recognize change and variability when it occurs in a variety of settings.</p> <p>III.1.2. Organize data using concrete objects, pictures, tallies, tables, charts, diagrams and graphs.</p> <p>II.1.3. Present data using a variety of appropriate representations and explain the meaning of the data.</p> <p>III.2.3. Draw, explain and justify conclusions, such as trends based on data.</p> <p>III.2.4. Raise and answer questions about the source, collection, organization and presentation of data, as well as the conclusions drawn from the data; explore biases in the data.</p>	<ul style="list-style-type: none"> ▪ Organize the information found in Numbers 1 (census Moses made of the Israelites) into a line or bar graph. What is the mean number of Israelites per tribe? In which tribe does the median fall? What is the range of the data? ▪ In Numbers 26, Moses is again told to take a census of the fighting men 20 years of age and older. Using this information and the information found in Numbers 1, make a double bar graph that compares the two censuses. ▪ Using the information found in Numbers 1, make circle graphs of the information. You may want to use the numbers of the clans of Levi from Numbers 3 for a simple graph.



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Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

4A: Construct and interpret line graphs Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 4-Data and Probability School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used).	Dates Taught (month/day/initials):				
I.2.1. Recognize change and variability when it occurs in a variety of settings. .					
III.1.2. Organize data using concrete objects, pictures, tallies, tables, charts, diagrams and graphs.					
II.1.3. Present data using a variety of appropriate representations and explain the meaning of the data.					
III.2.3. Draw, explain and justify conclusions, such as trends based on data.					
III.2.4. Raise and answer questions about the source, collection, organization and presentation of data, as well as the conclusions drawn from the data; explore biases in the data					



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Outcome 4B: Find and interpret mean and mode for a given set of data.

Grade Level Content Expectations (GLCEs)	Michigan Benchmarks	Teaching the Faith Activities
<p>D.AN.05.03 Given a set of data, find and interpret the mean (using the concept of fair share) and mode.</p> <p>D.AN.05.04 Solve multi-step problems involving means.</p>	<p>III.2.2. Describe the shape of the data using informal language.</p> <p>III.2.3. Draw, explain and justify conclusions, such as trends based on data.</p>	<ul style="list-style-type: none"> ▪ Organize the information found in Numbers 1 (census Moses made of the Israelites) into a line or bar graph. What is the mean number of Israelites per tribe? In which tribe does the median fall? What is the range of the data? ▪ In Genesis 5 there is a list of some of the descendants of Adam that tells the age at which they died. There is another list of Shem’s descendants in Genesis 11. How did the average life span change between the times of the two lists? ▪ In Numbers 28-29 the Israelites are given instructions concerning sacrifices and burnt offerings. Instructions for daily, weekly, and monthly sacrifices are included in Numbers 28:3-15. Not counting special festivals, how many animals per month and year would be sacrificed? In addition to the regular sacrifices listed in 28:16-31 and in chapter 29, list special feast days such as Passover, Pentecost, the Festival of Trumpets, etc. How many additional animals are sacrificed during these celebrations? Add these animals to the total sacrificed in regular sacrifices. How many animals, on average, did the Israelites sacrifice per month? Per year?



Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD*

4B: Find and interpret mean and mode for a given set of data. Teacher Name: _____ Grade Level: 5	Curricular Area: Mathematics/Unit 4-Data and Probability School Year:				
Michigan Standard, <i>Benchmark</i>, or GLCE (the <i>italicized</i> indicates the one used)	Dates Taught (month/day/initials):				
III.2.2. Describe the shape of the data using informal language					
III.2.3. Draw, explain and justify conclusions, such as trends based on data					



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