**Michigan District Lutheran School Curriculum *SCOPE & SEQUENCE***

| **Grade Level: 7** | **Curricular Area: Mathematics** | | |
|---|---|---|---|
| **Unit 1:**<br>**Number and Operations** | **Unit 2:**<br>**Algebra** | **Unit 3:**<br>**Geometry** | **Unit 4:**<br>**Data and Probability** |
| **1A**<br>**Understand derived quantities** | **2A**<br>**Understand and apply directly proportional relationships and relate to linear relationships** | **3A**<br>**Draw and construct geometric objects** | **4A**<br>**Represent and interpret data** |
| **1B**<br>**Understand and solve problems involving rates, ratios, and proportions** | **2B**<br>**Understand and represent linear functions** | **3B**<br>**Understand the concept of similar polygons and solve related problems** | **4B**<br>**Compute statistics about data sets** |
| **1C**<br>**Recognize irrational numbers** | **2C**<br>**Understand and solve problems about inversely proportional relationships** | | |
| **1D**<br>**Computer with rational numbers** | **2D**<br>**Apply basic properties of real numbers in algebraic contexts** | | |
| | **2E**<br>**Combine algebraic expressions and solve equations** | | |

**Michigan District Lutheran School Curriculum *OUTCOMES***

**Curricular Area: Mathematics Grade 7 – Unit 1: Number & Operations**

**Outcome: 1A: Understand derived quantities**

| **Grade Level Content Expectations (GLCEs)** | **Michigan Benchmarks** | **Teaching The Faith Activities** |
|---|---|---|
| N.MR.07.02 Solve problems involving derived quantities such as density, velocity, and weighted averages. | IV.2.5 Select appropriate representations for numbers, including integers and rational numbers, in order to simplify and solve problems.<br><br>IV.3.2 Express a numerical comparison as ratios and rates.<br><br>IV.3.5 Apply their understanding of number relationships in solving problems.<br><br>V.1.4 Efficiently and accurately apply operations with integers, rational numbers and simple algebraic expressions in solving problems. | ▪ Play "Percent Rummy using cards with equivalent fractions, decimals, and percents. Talk about the equivalencies that exist among all people-all are sinners, all have been redeemed by Christ.<br><br>▪ Explore hymns and find notes or groups of notes that could be matched up by having the same duration.<br><br>▪ Find square figures mentioned in the Bible.<br><br>▪ Find biblical expressions that contain numerical relationships and translate them into algebraic terms or expressions. Explain the numerical meaning of biblical words. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **1A: Understand derived quantities**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 1-Numbers and Operations**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| IV.2.5 Select appropriate representations for numbers, including integers and rational numbers, in order to simplify and solve problems. | | | | | |
| IV.3.2 Express a numerical comparison as ratios and rates. | | | | | |
| IV.3.5 Apply their understanding of number relationships in solving problems. | | | | | |
| V.1.4 Efficiently and accurately apply operations with integers, rational numbers and simple algebraic expressions in solving problems. | | | | | |
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**Outcome: 1B: Understand and solve problems involving rates, ratios, and proportions**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| N.FL.07.03 Calculate rates of change including speed.<br><br>N.MR.07.04 Convert ratio quantities between different systems of units, such as feet per second to miles per hour.<br><br>N.FL.07.05 Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b=c/d; know how to see patterns about proportional situations in tables. | I.2.1 Identify and describe the nature of change; recognize change in more abstract and complex situations and explore different kinds of change, and patterns of variation<br><br>I.2.3 Begin to investigate applications in bivariate data and linear relationships, and explore questions of what will happen to one quantity if another variable is changed.<br><br>IV.3.5 Apply their understanding of number relationships in solving problems.<br><br>IV.3.2 Express a numerical comparison as ratios and rates.<br><br>II.3.5 Use proportional reasoning and indirect measurements to draw inferences.<br><br>V.1.4 Efficiently and accurately apply operations with integers, rational numbers, and simple algebraic expressions in solving problems.<br><br>IV.2.5 Select appropriate representations for numbers, including integers and rational numbers, in order to simplify and solve problems. | ▪ Explore the ratio between length and width (height) of certain objects like Solomon's temple, Noah's Ark, etc. Discuss the similarities in this to Michelangelo's golden ratio (0.61803).<br><br>▪ Compare the original tabernacle (Exodus 25) to Solomon's temple (1 Kings 6-7). Discuss the circumference of the earth and what would change if that measurement were different. Compute the increase in area that the Gospel touched as Paul spread through Jerusalem.<br><br>▪ Make scale drawings of the ark, temple, and tabernacle. Research numeration and measuring systems used in Old and New Testament times. (e.g., cubit to span [2 to 1], talent to minas [60 to 1]).<br><br>▪ Solve simple linear equations and solve simple linear inequalities. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **1B: Understand and solve problems involving rates, ratios, and proportions**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 1 Numbers and Operations**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| I.2.1 Identify and describe the nature of change; recognize change in more abstract and complex situations and explore different kinds of change, and patterns of variation | | | | | |
| I.2.3 Begin to investigate applications in bivariate data and linear relationships, and explore questions of what will happen to one quantity if another variable is changed. | | | | | |
| IV.3.5 Apply their understanding of number relationships in solving problems. | | | | | |
| IV.3.2 Express a numerical comparison as ratios and rates. | | | | | |
| II.3.5 Use proportional reasoning and indirect measurements to draw inferences. | | | | | |
| V.1.4 Efficiently and accurately apply operations with integers, rational numbers, and simple algebraic expressions in solving problems. | | | | | |
| IV.2.5 Select appropriate representations for numbers, including integers and rational numbers, in order to simplify and solve problems. | | | | | |
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**Outcome: 1C: Recognize irrational numbers**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| N.MR.07.06 Understand the concept of square root and cube root, and estimate using calculators. | IV.1.2 Extend their understanding of numeration systems to include decimal numeration, scientific numeration and non-decimal numeration systems.<br><br>IV.2.4 Develop and refine strategies for estimating quantities, including fractional quantities, and evaluate the reasonableness and appropriateness of their estimates.<br><br>IV.3.4 Explain the meaning of powers and roots of numbers and use calculators to compute powers and square roots. | ▪ Play "Percent Rummy using cards with equivalent fractions, decimals, and percents. Talk about the equivalencies that exist among all people-all are sinners, all have been redeemed by Christ.<br><br>▪ Use information from a Biblical census of the tribes of Israel. (Numbers 1 and 26). Use a calculator to find the total number of exiles who returned from Babylon. (Ezra 2, Nehemiah 7)<br><br>▪ Estimate and find the quotient of any two whole numbers or of a decimal divided by a whole number or a decimal with two digits on paper and with a calculator.<br><br>▪ Estimate first and then determine actual values related to population, church attendance, members, etc.<br><br>▪ Explore hymns and find notes or groups of notes that could be matched up by having the same duration.<br><br>▪ Explore the ratio between length and width (height) of certain objects like Solomon's temple, Noah's Ark, etc. Discuss the similarities in this to Michelangelo's golden ratio (0.61803).<br><br>▪ Relate to Jesus' advice regarding forgiveness. Also, use examples in God's creation like timing of thunder. |

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| | | ▪ Use the speed of light, 186,000 miles per second, to find how long it takes for light to travel from the sun. Using the number 600,000,000,000,000,000, how long does it take to travel the Milky Way.<br><br>▪ Find square figures mentioned in the Bible. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **1C: Recognize irrational numbers**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 1-Numbers and Operations**<br><br>**School Year:** | | | | |
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| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| IV.1.2 Extend their understanding of numeration systems to include decimal numeration, scientific numeration and non-decimal numeration systems. | | | | | |
| IV.2.4 Develop and refine strategies for estimating quantities, including fractional quantities, and evaluate the reasonableness and appropriateness of their estimates. | | | | | |
| IV.3.4 Explain the meaning of powers and roots of numbers and use calculators to compute powers and square roots. | | | | | |
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**Outcome: 1D: Compute with rational numbers**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| N.FL.07.07 Solve problems involving operations with integers.<br><br>N.FL.07.08 Add, subtract, multiply, and divide positive and negative rational numbers fluently.<br><br>N.FL.07.09 Estimate results of computations with rational numbers. | V.1.3 Describe the properties of operations with Rational Numbers and integers (e.g., closure; associative, commutative and distributive properties) and give examples of how they use those properties.<br><br>V.1.2 Compute with integers, rational numbers and simple algebraic expressions using mental computation, estimation, calculators and paper-and-pencil; explain what they are doing and how they know which operations to perform in a given situation.<br><br>V.1.4 Efficiently and accurately apply operations with integers, rational numbers, and simple algebraic expressions in solving problems.<br><br>IV.2.4 Develop and refine strategies for estimating quantities, including fractional quantities, and evaluate the reasonableness and appropriateness of their estimates. | ▪ Play "Percent Rummy using cards with equivalent fractions, decimals, and percents. Talk about the equivalencies that exist among all people-all are sinners, all have been redeemed by Christ.<br><br>▪ Use information from a Biblical census of the tribes of Israel. (Numbers 1 and 26). Use a calculator to find the total number of exiles who returned from Babylon. (Ezra 2, Nehemiah 7)<br><br>▪ Estimate and find the quotient of any two whole numbers or of a decimal divided by a whole number or a decimal with two digits on paper and with a calculator.<br><br>▪ Estimate first and then determine actual values related to population, church attendance, members, etc.<br><br>▪ Explore hymns and find notes or groups of notes that could be matched up by having the same duration.<br><br>▪ Explore the ratio between length and width (height) of certain objects like Solomon's temple, Noah's Ark, etc. Discuss the similarities in this to Michelangelo's golden ratio (0.61803).<br><br>▪ Find the sum, difference, product, or quotient of any two integers and the absolute value of any integer. |

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| | | ▪ Solve simple linear equations and solve simple linear inequalities.<br>▪ Find biblical expressions that contain numerical relationships and translate them into algebraic terms or expressions. Explain the numerical meaning of biblical words. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **1D Compute with rational numbers**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 1-Numbers and operations**<br><br>**School Year:** | | | | |
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| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| V.1.3 Describe the properties of operations with Rational Numbers and integers (e.g., closure; associative, commutative and distributive properties) and give examples of how they use those properties. | | | | | |
| V.1.2 Compute with integers, rational numbers and simple algebraic expressions using mental computation, estimation, calculators and paper-and-pencil; explain what they are doing and how they know which operations to perform in a given situation. | | | | | |
| V.1.4 Efficiently and accurately apply operations with integers, rational numbers, and simple algebraic expressions in solving problems. | | | | | |
| IV.2.4 Develop and refine strategies for estimating quantities, including fractional quantities, and evaluate the reasonableness and appropriateness of their estimates. | | | | | |
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**Michigan District Lutheran School Curriculum *OUTCOMES***

**Curricular Area: Mathematics Grade 7 – Unit 2: Algebra**

**Outcome: 2A: Understand and apply directly proportional relationships; relate to linear relationships**

| **Grade Level Content Expectations (GLCEs)** | **Michigan Benchmarks** | **Teaching The Faith Activities** |
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| A.PA.07.01 Recognize when information given in a table, graph, or formula suggests a directly proportional or linear relationship.<br><br>A.RP.07.02 Represent directly proportional and linear relationships using verbal descriptions, tables, graphs, formulas, and translate among these representations**.**<br><br>A.PA.07.03 Given a directly proportional or other linear situation, graph and interpret the slope and intercept in terms of the original situation; evaluate y=mx+b for specific x values, e.g., weight vs. volume of water, base cost plus cost per unit<br><br>A.PA.07.04 For directly proportional or linear situations, solve applied problems using graphs and equations, e.g., the heights and volumes of a container with uniform cross-section; height of a water tank being filled at a constant rate; degrees Celsius and Fahrenheit; distance and time under constant speed.<br><br>A.PA.07.05 Recognize and use directly proportional relationships of the form y=mx+b, b non-zero; understand that in a directly proportional relationship between two quantities one quantity is a constant multiple of the other quantity. | I.1.4 Explore and describe visual and numeric patterns, including linear expressions, near-linear patterns and symmetric and spatial patterns.<br><br>I.1.2 Represent and record patterns in a variety of ways including tables, charts and graphs, and translate between various representations.<br><br>I.2.4 Represent variability of change by ordered pairs, tables, graphs and equations.<br><br>I.2.1 Identify and describe the nature of change; recognize change in more abstract and complex situations and explore different kinds of change, and patterns of variation.<br><br>II.1.7 Use shape, shape properties and shape relationships to describe the physical world and to solve problems.<br><br>IV.3.2 Express a numerical comparison as ratios and rates<br><br>IV.3.5 Apply their understanding of number relationships in solving problems.<br><br>V.2.4 Students analyze problems to determine an appropriate process for solution, and use algebraic notations to model or represent problems. | ▪ Look for patterns in Scripture. Explore finding the sum of these terms. Consider the growth of God's people from Adam and Eve.<br><br>▪ Survey 50 people regarding their religious beliefs/practices.<br><br>▪ Graph the members of the congregation by age ranges. Graph the budget and spending habits of the congregation.<br><br>▪ Solve simple linear equations and solve simple linear inequalities.<br><br>▪ Tear out newspaper in various shapes and discuss sides and angles comparing the shape to our lives as Christians.<br><br>▪ Do tessellations in the symbol of a cross. Look for signs of symmetry in God's creation. Use symmetrical Christian symbols to cover one half and have students recreate the other half.<br><br>▪ Research how different geometric shapes are present in Scripture. Find out how people measured for accuracy in the Bible.<br><br>▪ Construct a model of a 3-D figure when shown the top, side, and front views. |

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| | V.2.5 Explore problems that reflect the contemporary uses of mathematics in significant contexts and use the power of technology and algebraic and analytic reasoning to experience the ways mathematics is used in society. | |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **2A: Understand and apply directly proportional relationships; relate to linear relationships**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 2- Algebra**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| I.1.4 Explore and describe visual and numeric patterns, including linear expressions, near-linear patterns and symmetric and spatial patterns. | | | | | |
| I.1.2 Represent and record patterns in a variety of ways including tables, charts and graphs, and translate between various representations. | | | | | |
| I.2.4 Represent variability of change by ordered pairs, tables, graphs and equations. | | | | | |
| I.2.1 Identify and describe the nature of change; recognize change in more abstract and complex situations and explore different kinds of change, and patterns of variation. | | | | | |
| II.1.7 Use shape, shape properties and shape relationships to describe the physical world and to solve problems. | | | | | |
| IV.3.2 Express a numerical comparison as ratios and rates | | | | | |
| IV.3.5 Apply their understanding of number relationships in solving problems. | | | | | |
| V.2.4 Students analyze problems to determine an appropriate process for solution, and use algebraic notations to model or represent problems. | | | | | |
| V.2.5 Explore problems that reflect the contemporary uses of mathematics in significant contexts and use the power of technology and algebraic and analytic reasoning to experience the ways mathematics is used in society. | | | | | |

**Outcome: 2B: Understand and represent linear functions**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| A.PA.07.06 Calculate the slope from the graph of a linear function as the ratio of "rise/run" for a pair of points on the graph, and express the answer as a fraction and a decimal; understand that linear functions have slope that is a constant rate of change.<br><br>A.PA.07.07 Represent linear functions in the form y-x+b, y=mx, and y=mx+b, and graph, interpreting slope and y-intercept.<br><br>A.FO.07.08 Find and interpret the x and/or y intercepts of a linear equation or function. Know that the solution to a linear equation of the form ax+b=0 corresponds to the point at which the graph of y=ax+b crosses the x axis | IV.3.2 Express a numerical comparison as ratios and rates.<br><br>V.2.4 Analyze problems modeled by linear functions, determine strategies for solving the problems and evaluate the adequacy of the solutions in the context of the problems.<br><br>V.2.3 Solve linear equalities and inequalities using algebraic and geometric methods, and use the context of the problem to interpret and explain their solutions. | ▪ Explore the ratio between length and width (height) of certain objects like Solomon's temple, Noah's Ark, etc. Discuss the similarities in this to Michelangelo's golden ratio (0.61803).<br><br>▪ Use a calculator to find the square root and the square of a given number.<br><br>▪ Find the sum, difference, product, or quotient of any two integers and the absolute value of any integer.<br><br>▪ Solve simple linear equations and solve simple linear inequalities.<br><br>▪ Find biblical expressions that contain numerical relationships and translate them into algebraic terms or expressions. Explain the numerical meaning of biblical words. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **2B: Understand and represent linear functions**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 2-Algebra**<br><br>**School Year:** | | | | |
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| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| IV.3.2 Express a numerical comparison as ratios and rates. | | | | | |
| V.2.4 Analyze problems modeled by linear functions, determine strategies for solving the problems and evaluate the adequacy of the solutions in the context of the problems. | | | | | |
| V.2.3 Solve linear equalities and inequalities using algebraic and geometric methods, and use the context of the problem to interpret and explain their solutions. | | | | | |
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**Outcome: 2C: Understand and solve problems about inversely proportional relationships**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
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| A.PA.07.09 Recognize inversely proportional relationships in contextual situations; know that quantities are inversely proportional if their product is constant, e.g., the length and width of a rectangle with fixed area, and that an inversely proportional relationship is of the form y=k/x where k is some non-zero number.<br><br>A.RP.07.10 Know that the graph of y=k/x is not a line, know its shape, and know that it crosses neither the x nor the y-axis. | I.2.5 Differentiate between functions and relationships such as linear vs. not linear or continuous vs. non-continuous. | ▪ Solve simple linear equations and solve simple linear inequalities. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **2C: Understand and solve problems about inversely proportional relationships**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 2-Algebra**<br><br>**School Year:** | | | | |
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| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| I.2.5 Differentiate between functions and relationships such as linear vs. not linear or continuous vs. non-continuous. | | | | | |
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**Outcome: 2D: Apply basic properties of real numbers in algebraic contexts**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| A.PA.07.11 Understand and use the basic properties of real numbers: additive and multiplicative identities, additive and multiplicative inverses, commutativity, associativity, and the distributive property of multiplication over addition. | IV.1.3 Develop an understanding of integers and rational numbers and represent rational numbers in both fraction and decimal form.<br><br>V.1.3 Describe the properties of operations with Rational Numbers and integers (e.g., closure; associative, commutative and distributive properties) and give examples of how they use those properties. | ▪ Play "Percent Rummy using cards with equivalent fractions, decimals, and percents. Talk about the equivalencies that exist among all people-all are sinners, all have been redeemed by Christ.<br><br>▪ Use information from a Biblical census of the tribes of Israel. (Numbers 1 and 26). Use a calculator to find the total number of exiles who returned from Babylon. (Ezra 2, Nehemiah 7)<br><br>▪ Discuss choices we make as a Christian and some seem to work, but really don't like problems with remainders.<br><br>▪ Estimate first and then determine actual values related to population, church attendance, members, etc.<br><br>▪ Relate to Jesus' advice regarding forgiveness. Also, use examples in God's creation like timing of thunder.<br><br>▪ Use the speed of light, 186,000 miles per second, to find how long it takes for light to travel from the sun. Using the number 600,000,000,000,000,000, how long does it take to travel the Milky Way.<br><br>▪ Find biblical expressions that contain numerical relationships and translate them into algebraic terms or expressions. Explain the numerical meaning of biblical words. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **2D: Apply basic properties of real numbers in algebraic contexts**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 2- Algebra**<br><br>**School Year:** | | | | |
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| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| IV.1.3 Develop an understanding of integers and rational numbers and represent rational numbers in both fraction and decimal form. | | | | | |
| V.1.3 Describe the properties of operations with Rational Numbers and integers (e.g., closure; associative, commutative and distributive properties) and give examples of how they use those properties. | | | | | |
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**Outcome: 2E: Combine algebraic expressions and solve equations**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| A.FO.07.12 Add, subtract, and multiply simple algebraic expressions of the first degree and justify using properties of real numbers.<br><br>A.FO.07.13 From applied situations, generate and solve linear equations of the form ax+b=c and ax+b=cx+d, and interpret solutions. | IV.1.3 Develop an understanding of integers and rational numbers and represent rational numbers in both fraction and decimal form.<br><br>V.2.1 Read and write algebraic expressions; develop original examples expressed verbally and algebraically; simplify expressions and translate between verbal and algebraic expressions; and solve linear equations and inequalities.<br><br>V.2.3 Solve linear equalities and inequalities using algebraic and geometric methods, and use the context of the problem to interpret and explain their solutions. | ▪ Play "Percent Rummy using cards with equivalent fractions, decimals, and percents. Talk about the equivalencies that exist among all people-all are sinners, all have been redeemed by Christ.<br><br>▪ Use information from a Biblical census of the tribes of Israel. (Numbers 1 and 26). Use a calculator to find the total number of exiles who returned from Babylon. (Ezra 2, Nehemiah 7<br><br>▪ Discuss choices we make as a Christian and some seem to work, but really don't like problems with remainders.<br><br>▪ Estimate first and then determine actual values related to population, church attendance, members, etc.<br><br>▪ Relate to Jesus' advice regarding forgiveness. Also, use examples in God's creation like timing of thunder.<br><br>▪ Use the speed of light, 186,000 miles per second, to find how long it takes for light to travel from the sun. Using the number 600,000,000,000,000,000, how long does it take to travel the Milky Way.<br><br>▪ Find the sum, difference, product, or quotient of any two integers and the absolute value of any integer.<br><br>▪ Solve simple linear equations and solve simple |

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| | | linear inequalities.<br>▪ Find biblical expressions that contain numerical relationships and translate them into algebraic terms or expressions. Explain the numerical meaning of biblical words. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **2E: Combine algebraic expressions and solve equations**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 2 - Algebra**<br><br>**School Year:** | | | | |
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| Michigan Standards, *Benchmark*, or GLCE<br>(The *italicized* indicates the one used) | **Dates Taught (month/day/initials):** | | | | |
| IV.1.3 Develop an understanding of integers and rational numbers and represent rational numbers in both fraction and decimal form. | | | | | |
| V.2.1 Read and write algebraic expressions; develop original examples expressed verbally and algebraically; simplify expressions and translate between verbal and algebraic expressions; and solve linear equations and inequalities. | | | | | |
| V.2.3 Solve linear equalities and inequalities using algebraic and geometric methods, and use the context of the problem to interpret and explain their solutions. | | | | | |
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**Michigan District Lutheran School Curriculum *OUTCOMES***

**Curricular Area: Mathematics Grade 7 – Unit 3: Geometry**

**Outcome: 3A: Draw and construct geometric figures**

| **Grade Level Content Expectations (GLCEs)** | **Michigan Benchmarks** | **Teaching The Faith Activities** |
|---|---|---|
| G.SR.07.01 Use a ruler and other tools to draw squares, rectangles, triangles, and parallelograms with specified dimensions.<br><br>G.SR.07.02 Use compass and straightedge to perform basic geometric constructions: the perpendicular bisector of a segment, an equilateral triangle, and the bisector of an angle; understand informal justifications. | II.1.5 Combine, dissect and transform shapes.<br><br>II.3.1 Select and use appropriate tools; measure objects using standard units in both the metric and common systems, and measure angles in degrees. | ▪ Tear out newspaper in various shapes and discuss sides and angles comparing the shape to our lives as Christians.<br><br>▪ Do tessellations in the symbol of a cross. Look for signs of symmetry in God's creation. Use symmetrical Christian symbols to cover one half and have students recreate the other half.<br><br>▪ Research how different geometric shapes are present in Scripture. Find out how people measured for accuracy in the Bible.<br><br>▪ Construct a model of a 3-D figure when shown the top, side, and front views. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **3A: Draw and construct geometric figures**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 3- Geometry**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| Michigan Standards, *Benchmark*, or GLCE<br>(The *italicized* indicates the one used) | **Dates Taught (month/day/initials):** | | | | |
| II.1.5 Combine, dissect and transform shapes | | | | | |
| II.3.1 Select and use appropriate tools; measure objects using standard units in both the metric and common systems, and measure angles in degrees. | | | | | |
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**Outcome: 3B: Understand the concept of similar polygons, and solve related problems**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| G.TR.07.03 Understand that in similar polygons, corresponding angles are congruent and the ratios of corresponding sides are equal; understand the concepts of similar figures and scale factor.<br><br>G.TR.07.04 Solve problems about similar figures and scale drawings.<br><br>G.TR.07.05 Show that two triangles are similar using the criteria: corresponding angles are congruent; the ratios of two pairs of corresponding sides are equal and the included angles are congruent; ratios of all pairs of corresponding sides are equal; use these criteria to solve problems and justify arguments.<br><br>G.TR.07.06 Understand and use the fact that when two triangles are similar with the scale factor of r, their areas are related by a factor of r squared. | II.3.4 Interpret measurements and recognize that two objects may have the same measurement on one attribute (e.g., area), but not necessarily on another (e.g., perimeter).<br><br>II.3.5 Use proportional reasoning and indirect measurements to draw inferences. | ▪ Look for trapezoids in Solomon's temple (1 Kings 6-7) and in Ezekiel's temple (Ezekiel 40-43).<br><br>▪ Find the surface area and volume of the church building. Research and compare current buildings to ancient pyramids.<br><br>▪ Compare the original tabernacle (Exodus 25) to Solomon's temple (1 Kings 6-7). Discuss the circumference of the earth and what would change if that measurement were different. Compute the increase in area that the Gospel touched as Paul spread through Jerusalem.<br><br>▪ Make scale drawings of the ark, temple, and tabernacle. Research numeration and measuring systems used in Old and New Testament times. (e.g., cubit to span [2 to 1], talent to minas [60 to 1]).<br><br>▪ Discover geometric relationships such as the sum of the interior angles of a polygon, the number of diagonals of a polygon, etc. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **3B: Understand the concept of similar polygons, and solve related problems**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 3- Geometry**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| Michigan Standards, *Benchmark*, or GLCE<br>(The *italicized* indicates the one used) | **Dates Taught (month/day/initials):** | | | | |
| II.3.4 Interpret measurements and recognize that two objects may have the same measurement on one attribute (e.g., area), but not necessarily on another (e.g., perimeter). | | | | | |
| II.3.5 Use proportional reasoning and indirect measurements to draw inferences. | | | | | |
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**Michigan District Lutheran School Curriculum *OUTCOMES***

**Curricular Area: Mathematics Grade 7 Data & Probability**

**Outcome: 4A: Represent data and interpret**

| **Grade Level Content Expectations (GLCEs)** | **Michigan Benchmarks** | **Teaching The Faith Activities** |
|---|---|---|
| D.RE.07.01 Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions.<br><br>D.AN.07.02 Create and interpret scatter plots and line of best fit; use an estimated line of best fit to answer questions about the data. | III.1.2 Organize data using tables, charts, graphs, spreadsheets and databases.<br><br>III.1.3 Present data using a variety of appropriate representations and explain why one representation is preferred over another or how a particular representation may bias the presentation.<br><br>III.2.3 Draw, explain and justify conclusions based on data. | ▪ Graph the members of the congregation by age ranges. Graph the budget and spending habits of the congregation.<br><br>▪ Superimpose a coordinate system over the Holy Land or Mediterranean area. Locate significant places by using ordered pairs. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **4A: Represent data and interpret**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 4- Data and Probability**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| III.1.2 Organize data using tables, charts, graphs, spreadsheets and databases. | | | | | |
| III.1.3 Present data using a variety of appropriate representations and explain why one representation is preferred over another or how a particular representation may bias the presentation. | | | | | |
| III.2.3 Draw, explain and justify conclusions based on data. | | | | | |
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**Outcome: 4B Compute statistics about datasets**

| Grade Level Content Expectations (GLCEs) | Michigan Benchmarks | Teaching The Faith Activities |
|---|---|---|
| D.AN.07.03 Calculate and interpret relative frequencies and cumulative frequencies for given data sets.<br><br>D.AN.07.04 Find and interpret the median, quartiles, and interquartile range of a given set of data. | III.3.2 Describe the shape of a data distribution and identify the center, the spread, correlations and any outliers | ▪ Plot congregation information: age of members, Baptism, Communion attendance. Find the median, mode, mean, and range.<br><br>▪ Find information from the most recent census about the religious affiliation of people.<br><br>▪ Predict the waste habits of your community including paper, yard waste, metal, food, glass, or plastic. Discuss how to manage God's creation wisely. |

**Michigan District Lutheran School Curriculum *TEACHER ACCOUNTABILITY RECORD***

| **4B Compute statistics about datasets**<br>**Teacher Name: _____**<br>**Grade Level: 7** | **Curricular Area: Mathematics /Unit 4- Data and Probability**<br><br>**School Year:** | | | | |
|---|---|---|---|---|---|
| **Michigan Standards, *Benchmark*, or GLCE**<br>**(The *italicized* indicates the one used)** | **Dates Taught (month/day/initials):** | | | | |
| III.3.2 Describe the shape of a data distribution and identify the center, the spread, correlations and any outliers | | | | | |
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