

Standards / Objectives	Excel Math Lesson Numbers	Stretch Lesson Numbers Activity Numbers
<b>STRAND 1 NUMBER and OPERATIONS</b>		
<b>Understand division of whole numbers</b>		
N.MR.05.01 Understand the meaning of division of whole numbers with and without remainders; relate division to fractions and to repeated subtraction.	9, 11, 21, 26, 27, 28, 29, 33, 46, 47, 49, 101, 119, 128, 141 Multiples / Factors 28, 29, 38, 49, 61, 88, 91, 141 Comparing Numbers 69, 87, 89, 108	Multiples / Factors 95, 98, 102, 149 Comparing Numbers 8, 66, 69, 82, 84, 91, 92, 97, 103, 116
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).	29, 33, 34, 38, 46, 47, 49, 71, 86, 106, 107, 111, 119, 121, 128, 141	98
N.MR.05.03 Write mathematical statements involving division for given situations.	9, 11, 14, 16, 29, 32, 51, 58, 74, 124	44, 55, 61
<b>Multiply and divide whole numbers</b>		
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.	2, 21, 22, 24, 26, 27, 33, 34, 36, 46, 47, 73, 101, 107, 119, 128, 139, 141	70, 155
N.FL.05.05 Solve applied problems involving multiplication and division of whole numbers.	9, 11, 13, 16, 25, 26, 27, 28, 29, 32, 34, 51, 55, 56, 58, 73, 74, 79, 97, 102, 103, 124, 134, 144, 145 Addition / Subtraction 2, 10	10, 17, 19, 21, 24, 29, 32, 41, 44, 55, 61, 70, 80, 81, 87, 89, 95, 98, 106, 110, 113, 115, 121, 122, 125, 127, 130, 137, 138, 146, 147, 148, 149, 155 Addition / Subtraction 2, 3, 5, 7, 8, 9, 11, 12, 13, 18, 31, 33, 36, 44, 47, 52, 54, 58, 59, 64, 67, 69, 72, 79, 84, 92, 96, 103, 105, 107, 109, 111, 114, 116, 120, 124, 141, 145, 150, 151, 154
N.FL.05.06 Divide fluently up to a four-digit number by a two-digit number.	11, 28, 36, 49, 63, 71, 73, 74, 86, 106, 107, 111, 121, 128, 131	44
<b>Find prime factorizations of whole numbers</b>		
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.	61, 62, 93, 138	102



## Michigan 5<sup>th</sup> Grade Standards / Excel Math Correlation

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<b>Understand meaning of decimal fractions and percentages</b>		
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.	1, 3, 4, 41, 65, 79, 80, 85, 94, 98, 100, 111, 120, 121, 131, 132, 148	13, 18, 20, 119, 129, 144
N.ME.05.09 Understand percentages as parts out of 100, use % notation, and express a part of a whole as a percentage.	83, 109, 112, 116, 117, 125, 130, 142, 145	148 Activity 14
<b>Understand fractions as division statements; find equivalent fractions</b>		
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.	31, 44, 59, 77, *106, 142	44
N.ME.05.11 Given two fractions, e.g., $\frac{1}{2}$ and $\frac{1}{4}$ , express them as fractions with a common denominator, but not necessarily a <u>least</u> common denominator, e.g., $\frac{1}{2} = \frac{4}{8}$ and $\frac{3}{4} = \frac{6}{8}$ ; use denominators less than 12 or factors of 100.	15, 31, 39, 43, 59, 68, *105, *106	132
<b>Multiply and divide fractions</b>		
N.ME.05.12 Find the product of two unit fractions with small denominators using an area model.	39, 50, 59, 110, 118, 126, 133, 142, 145, 153	
N.MR.05.13 Divide a fraction by a whole number and a whole number by a fraction, using simple unit fractions.	*44, 76, 126, 129, 136, 153	
<b>Add and subtract fractions using common denominators</b>		
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.	23, 50, 69, 77, 99, 122 Positive / Negative Numbers 150, 151, 154, 155	132
<b>Multiply and divide by powers of ten</b>		
N.MR.05.15 Multiply a whole number by powers of 10: 0.01, 0.1, 1, 10, 100, 1,000; and identify patterns.	120	70

\*Gives opportunity to teach specific State Standard



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N.FL.05.16 Divide numbers by 10's, 100's, 1,000's using mental strategies.	120, 146	
N.MR.05.17 Multiply one-digit and two-digit whole numbers by decimals up to two decimal places.	13, 41, 47, 81, 100, 120, 131, 132, 147, 149 Add / Subtract 3, 4, 66 Divide: 94, 147	
<b>Solve applied problems with fractions</b>		
N.FL.05.18 Use mathematical statements to represent an applied situation involving addition and subtraction of fractions.	*15, *59, 69, 78 Multiply 149	133
N.MR.05.19 Solve contextual problems that involve finding sums and differences of fractions with unlike denominators using knowledge of equivalent fractions.	*15, *44, 69 Multiply 133, 142, 149 Divide 136	132, 133
N.FL.05.20 Solve applied problems involving fractions and decimals; include rounding of answers and checking reasonableness.	*31, *65, 117, 135, 145, 148, 149 Decimals Only 3, 4, 41, 79, 92, 121 Whole Numbers 25, 70, 82	Decimals Only 13, 18, 20, 64, 79, 80, 89, 119, 121, 129, Activity 7 Fractions 132
N.MR.05.21 Solve for the unknown in equations such as $\frac{1}{4} + x = \frac{7}{12}$ .	77, 82, 127 Whole Numbers 14, 18, 19, 37, 55, 104, 124, 140, 143 Pre-Algebra 6, 13, 14, 18, 19, 32, 37, 42, 52, 53, 55, 64, 77, 82, 89, 90, 91, 96, 123, 124, 138, 140, 143, 150, 151, 154, 155	Whole Numbers 1, 4, 7, 9, 21, 32, 41, 84, 87 Pre-Algebra 13, 18, 21, 32
<b>Express, interpret, and use ratios; find equivalences</b>		
N.MR.05.22 Express fractions and decimals as percentages and vice versa.	83, 109, 112, 113, 116, 117, 125, 130, 142, 149	*148 Activity 14
N.ME.05.23 Express ratios in several ways given applied situations, e.g., 3 cups to 5 people, 3: 5, 3/5; recognize and find equivalent ratios.	55, 117	137

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**STRAND 3 MEASUREMENT**

**Know, and convert among, measurement units within a given system**

M.UN.05.01 Recognize the equivalence of 1 liter, 1,000 ml and 1,000 cm <sup>3</sup> and include conversions among liters, milliliters, and cubic centimeters.	12, 48, *103	*122
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 (cm <sup>3</sup> , m <sup>3</sup> , in <sup>3</sup> , ft <sup>3</sup> , yd <sup>3</sup> ).	72, 84	*76, *93, 122, 143 Activity *9, *13
M.UN.05.03 Compare the relative sizes of one cubic inch to one cubic foot, and one cubic centimeter to one cubic meter.	*72, *84	*76, *93, *122, *143 Activity *9, *13
M.UN.05.04 Convert measurements of length, weight, area, volume, and time within a given system using easily manipulated numbers.	7, 8, 17, 48, 51, 57, 67, 114 Compare Measurements 12, 54	5, *14, 31, 122, 125

**Find areas of geometric shapes using formulas**

M.PS.05.05 Represent relationships between areas of rectangles, triangles, and parallelograms using models.	56, 63, 134, 144 Circle 145 Irregular Figure 152 Perimeters 54, 63, 95	99, 106, 139, 140, 147 Activity 8 Perimeter 138
M.TE.05.06 Understand and know how to use the area formula of a triangle: $A = \frac{1}{2}bh$ (where b is length of the base and h is the height), and represent using models and manipulatives.	*63, 144	
M.TE.05.07 Understand and know how to use the area formula for a parallelogram: $A = bh$ , and represent using models and manipulatives.	134	



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<b>Understand the concept of volume</b>		
M.TE.05.08 Build solids with unit cubes and state their volumes.	72, 84	*143 Activity 9, 13
M.TE.05.09 Use filling (unit cubes or liquid), and counting or measuring to find the volume of a cube and rectangular prism.	72, 84	*14, *76, *93, 122, *143 Activity 9, 13
M.PS.05.10 Solve applied problems about the volumes of rectangular prisms using multiplication and division and using the appropriate units.	72, 84 Surface Area 137	122, 143 Activity 13 Surface Area Activity 9
<b>STRAND 4 GEOMETRY</b>		
<b>Know the meaning of angles, and solve problems</b>		
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 ¼, ½, and ¾, and full turns.	30 Three-Dimensional Figures 20 Two-Dimensional Figures 35, 42, 45, 71, 75 Parallel / Intersection Lines 35	Three-Dimensional Figures 76, 93, 94, 128, 134, 142, Activity 10, 11, 12 Two-Dimensional Figures 15, 22, 25, 34, 40, 43, 49, 50, 56, 60, 63, 71, 73, 78, 85, 88, 100, 103, 112, 136, 139
G.GS.05.02 Measure angles with a protractor and classify them as acute, right, obtuse, or straight.	30	
G.GS.05.03 Identify and name angles on a straight line and vertical angles.	30	
G.GS.05.04 Find unknown angles in problems involving angles on a straight line, angles surrounding a point, and vertical angles.	30	
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.	30	
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.	30	



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<b>Solve problems about geometric shapes</b>		
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.	*30	
<b>STRAND 5 DATA and PROBABILITY</b>		
<b>Construct and interpret line graphs</b>		
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.	5, 40, 60, *74, 116 Charts 13, 55, 80, 97 Coordinate Points 52, 64, 90, 95, 123, 140 Union of Sets 53	91, 97, 148 Charts 5, 11, 31, 51, 152, Activity 4 Venn Diagrams 117, 126, 135 Circle Graph Activity 6
D.RE.05.02 Construct line graphs from tables of data; include axis labels and scale.	40 Charts 13, 55, 80, 97	148 Charts 11, 152, Activity 4 Venn Diagrams 117, 126, 135 Circle Graph Activity 6
<b>Find and interpret mean and mode for a given set of data</b>		
D.AN.05.03 Given a set of data, find and interpret the mean (using the concept of fair share) and mode.	115 Averages: 102, 103, 135 Range: 25	Venn Diagrams *117, *126, *135 Averages 130
D.AN.05.04 Solve multi-step problems involving means.	115 Deductive Reasoning 10, 58, 70	Venn Diagrams *117, *126, *135 Averages 130 Deductive Reasoning: 6, 14, 16, 19, 23, 26, 27, 28, 30, 35, 37, 38, 39, 42, 46, 48, 51, 53, 57, 62, 68, 74, 75, 77, 83, 86, 90, 101, 108, 114, 133, 149, 152, 153, 154, Activity 1, 2, 3, 4 Patterns 7, 9, 24, 45, 47, 59, 96, 105, 111, 131, 152 Possibilities / Combinations 65, 118, 123, Activity 4