



Utah State Standards / Excel Math Correlation
5th Grade

Utah State Standards / Objectives	Excel Math Lesson Numbers	Stretch Lesson Numbers Activity Numbers
Standard 1: Students will acquire number sense and perform operations with whole numbers, simple fractions, and decimals.		
Objective 1: Represent whole numbers and decimals in a variety of ways.		
a. Model, read, and write numerals from hundredths to one millions.	1, 21, 26, 27, 33, 34, 41, 65, 80, 100, 108, 121	66, 69, 82, 91, 97, 103, 116, 118, 144
b. Write a whole number up to 999,999 in expanded form (e.g., $876,539 = 8 \text{ hundredthousands} + 7 \text{ ten-thousands} + 6 \text{ thousands} + 5 \text{ hundreds} + 3 \text{ tens} + 9 \text{ ones}$ or $8 \times 100,000 + 7 \times 10,000 + 6 \times 1,000 + 5 \times 100 + 3 \times 10 + 9$).	1, 21, 26, 27, 33, 34, 65, 80, 108	
c. Demonstrate multiple ways to represent whole numbers by using models and symbolic representations (e.g., $108 = 2 \times 50 + 8$; $108 = 10^2 + 8$).	1, 4, 21, 25, 26, 27, 33, 34, 80, 100, 108, 146	
d. Classify whole numbers from 2 to 20 as prime or composite and 0 and 1 as neither prime nor composite, using models.	62, 93 Multiples: 28, 29, 38, 49, 55, 91, 97, 119, 141 Factors: 61, 88, 91	102 Multiples: 149
e. Represent repeated factors using exponents up to three (e.g., $8 = 2 \times 2 \times 2 = 2^3$).	138, 152	
Objective 2: Identify relationships among whole numbers, fractions, decimals, and percents.		
a. Order and compare whole numbers, fractions (including mixed numbers), and decimals using a variety of methods and symbols.	6, 9, 14, 31, 37, 43, 50, 53, 65, 78, 85, 89, 98, 100, 105, 111, 113, 148	3, 8, 12, 66, 69, 82, 84, 91, 92, 97, 103, 116, 144
b. Rewrite mixed numbers and improper fractions from one form to the other.	23, 39, 50, 59, 68, 69, 77, 78, 99, 113, 117, 127, 153	
c. Find the least common denominator for two fractions.	*15, *23, 50	132
d. Represent commonly used fractions as decimals and percents in various ways (e.g., objects, fraction strips, pictures, calculators).	15, *31, 65, 83, 109 , 112, 113, 116, 117, 125, 130, 136, 142, 149	*148 Activity 14
Objective 3: Model and illustrate meanings of operations and describe how they relate.		
a. Identify the dividend, divisor, and quotient regardless of the division symbol used.	11, 21, 26, 27, 28, 29, 33, 34, 41, 44, 46, 47, 79, 94, 100, 101, 102, 103, 119, 128, 136, 141, 146, 147	81, 95, 98
b. Determine whether a whole number is divisible by 2, 3, 5, 9, and/or 10, using the rules of divisibility.	9, 11, 21, 26, 27, 28, 29, 33, 34, 41, 44, 46, 47, 100, 101, 102, 103, 119, 141, 146	44, 81, 95, 98



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c. Represent remainders as whole numbers, decimals, or fractions and describe the meaning of remainders as they apply to problems from the students' environment (e.g., If there are 53 people, how many vans are needed if each van holds 8 people?).	29, 33, 34, 38, 46, 47, 49, 71, 86, 106, 111, 119, 121, 128, 141	95, 98, 102
d. Model addition, subtraction, and multiplication of fractions and decimals in a variety of ways (e.g., using objects, number line, area models).	3, 4, 15, 23, 41, 50, 59, 66, 69, 79, 81, 82, 92, 97, 99, 107, 109, 110, 112, 113, 120, 126, 131, 132, 142 Division: 94, 100, 136, 147	13, 20 Activity 7
e. Model strategies for whole number multiplication (e.g., partial product, lattice) or division (e.g., partial quotient).	9, 11, 16, 21, 22, 24, 25, 26, 27, 28, 29, 33, 34, 36, 38, 46, 47, 49, 55, 101, 102, 103, 119, 128, 139, 141, 146 Positive / Negative: 150, 151, 154, 155 Add / Subtract: 1, 3	32, 41, 70, 95 Add / Subtract: 1, 2, 3, 4, 9, 12, 13, 18, 31, 61, 69, 84, 92, 96, 103, 107, 111, 116
f. Select or write the number sentences that can be used to solve a two-step problem.	2, 4, 9, 25, 29, 32, 48, 55, 58, 70, 73, 92, 97, 102, 103, 109, 116, 117, 124, 127, 133, 135, 140, 149	2, 5, 10, 11, 13, 17, 18, 19, 21, 27, 29, 44, 55, 61, 64, 67, 70, 72, 79, 80, 81, 89, 92, 95, 96, 98, 103, 107, 109, 110, 111, 113, 114, 116, 120, 121, 129, 141, 145, 146, 148
g. Describe the effect of place value when multiplying and dividing whole numbers and decimals by 10, 100, and 1,000.	22, 25, 38, *100, 120 , 146	70
Objective 4: Use fractions to communicate parts of the whole.		
a. Divide regions, sets of objects, and line segments into equal parts using a variety of models and illustrations.	9, 11, 26, 27, 31, 39, 44, 59, 97	55, 61, 102
b. Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, fifths, sixths, eighths, tenths, and twelfths.	15, 23, 31, 39, 59, 68, 77, 106	
c. Represent the simplest form of a fraction in various ways (e.g., objects, pictorial representations, symbols).	15, 23, 31, 59, 76 , 99, 113, 117, 126	
d. Represent mixed numbers and improper fractions in various ways (e.g., rulers, objects, number lines, symbols).	23, 50, 59, 65, 68, 77, 78, 99, 106, 113, 127, 146	
e. Rename whole numbers as fractions with different denominators (e.g., $5=5/1$, $3=6/2$, $1=7/7$).	68, 78, 118, 135, 144, 153	



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f. Model and calculate equivalent forms of a fraction and describe the process used.	31, 39, 50, 68, 76, 113	
Objective 5: Solve problems using the four operations with whole numbers, decimals, and fractions.		
a. Determine when it is appropriate to use estimation, mental math strategies, paper and pencil, or a calculator.	1, 2, 25, 28, 32, 36, 38, 41, 44, 46, 47, 48, 49, 55, 70, 82, 92, 94, 97, 102, 103, 109, 114, 116, 117, 142	1, 8, 10, 12, 17, 19, 21, 29, 32, 41, 52, 55, 61, 64, 67, 70, 72, 79, 80, 81, 98, 106, 107, 113, 114, 119, 120, 127, 133, 145, 146, 155 Activity 7
b. Use estimation strategies to determine whether results obtained using a calculator are reasonable.	41, 70, 82, 92, 102, 103, 121, 146	21, 64, 67, 70, 72, 79, 81, 98, 106, 107, 113, 119, 127, 145, 155 Activity 5, 7
c. Multiply up to a three-digit whole number by a one- or two-digit whole number.	2, 11, 16, 21, 22, 24, 25, 28, 33, 34, 36, 38, 46, 47, 48, 49, 55, 61, 73, 97, 101, 102, 103, 107, 119, 128, 139, 141	10, 17, 19, 21, 29, 32, 41, 52, 55, 70, 81, 87, 106, 121, 122, 125, 127, 133, 146, 155
d. Divide up to a three-digit whole number dividend by a one-digit divisor.	11, 21, 26, 27, 28, 29, 33, 34, 36, 38, 44, 46, 47, 49, 63, 71, 73, 86, 97, 100, 101, 102, 103, 106, 107, 111, 121, 128, 141, 146	10, 17, 19, 21, 29, 44, 55, 81, 87, 95, 98, 106, 125, 127, 130, 133
e. Add and subtract decimals with digits to the hundredths place (e.g., $35.42+7.2$; $75.2-13.45$).	3, 66, 82, 92, 97 Multiplication: 120, 131, 132 Division: 79, 94, 100	20, 64, 79, 80, 89, 119, 121 Activity 7
f. Add, subtract, and multiply fractions.	15, 50, 59, 69, 110, 113, 122, 126, 133, 135, 142, 144, 153 Division: 129, 135	132
g. Simplify expressions, without exponents, using the order of operations.	18, 19, 32, *37, 96	21, 52, 110, 155
Objective 6: Model and illustrate integers.		
a. Identify, read, and locate integers on a number line.	41, 64, 89, 148, 150, 151	82, 91, 97
b. Describe situations where integers are used in the students' environment.	28, 41, 51, 55, 70, 79, 82	5, 9, 20, 55, 61, 64, 70, 79, 80, 89, 98, 106, 114, 119, 121, 122, 125, 130, 137, 154
Standard 2: Students will use patterns and relations to represent and analyze mathematical situations using algebraic symbols.		
Objective 1: Recognize, analyze, and use patterns and describe their attributes.		



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a. Analyze and make predictions about patterns involving whole numbers, decimals, and fractions using a variety of tools including organized lists, tables, objects, and variables.	6, 13, 28, 38, 42, 55, 86, 97, 104, 111, 127, 136, 143	7, 9, 24, 44, 45, 47, 59, 61, 96, 105, 109, 111, 131, 149, 150
b. Extend patterns and describe a rule for predicting the next element.	6, 13, 38, 42, 55, 86, 104, 111	7, 9, 24, 44, 45, 47, 59, 96, 105, 111, 131, 149, 150
Objective 2: Represent, solve, and analyze mathematical situations using algebraic symbols.		
a. Recognize a variety of symbols for multiplication and division including \times , \cdot , and $*$ as symbols for multiplication and \div , \div , and a fraction bar ($/$ or $-$) as division symbols.	9, 11, 16, 18, 19, 22, 24, 32, 44, 55, 77, 124, 139, 140, 143, 146	21, 32, 41, 44, 58, 81, 87, 155
b. Recognize that a variable (\diamond , n , x) represents an unknown quantity.	14, 18, 19, 37, 55, 77, 82, 124, 127, 140, 143	1, 4, 13, 18, 21, 32, 41, 81, 87
c. Solve one-step equations involving whole numbers and a single variable (e.g., $n \div 7 = 3$).	14, 18, 19, 37, 55, 77, 82, 124, 127, 140, 143	1, 4, 13, 18, 21, 32, 41, 58, 81, 87
d. Recognize that the answer to a multiplication problem involving a factor of zero is equal to zero (e.g., $0 \times 45 = 0$).	18, 96	155
e. Use expressions or one-step equations to represent real-world situations.	2, 4, 7, 8, 15, 16, 25, 29, 32, 44, 51, 55, 58, 69, 74, 79, 82, 92, 97, 102, 103, 109, 116, 142	5, 9, 11, 18, 19, 20, 29, 31, 33, 36, 44, 55, 61, 64, 67, 70, 72, 79, 80, 89, 96, 98, 106, 111, 114, 119, 120, 121, 125, 127, 130, 133, 137, 148, 154 Deductive Reasoning: 6, 14, 17, 27, 28, 48, 57, 74, 75, 77, 86, 90, 95, 101, 102, 108, 115, 152 Activity 1, 2, 3, 4
f. Use the associative, commutative, and distributive properties to compute with whole numbers.	32, 37, 96 Inverse Operations: 21, 28, 33, 73, 101, 119	
Standard 3: Students will use spatial reasoning to recognize, describe, and identify geometric shapes and principles.		
Objective 1: Describe, identify, and analyze characteristics and properties of geometric shapes.		
a. Identify and draw perpendicular lines.	30, 35, 64	*63
b. Draw, label, and describe rays and describe an angle as two rays sharing a common endpoint.	30	
c. Label an angle as acute, obtuse, right, or straight.	30	



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d. Identify and describe equilateral, isosceles, scalene, right, acute, and obtuse triangles.	30	*22, *43, *71, *136
e. Identify the vertex of an angle or the vertices of a polygon.	20, *35, *42, *71 Parts of a Circle: 75, 145	15, 22, 34, 43, 49, 50, 60, 63, 71, 73, 78, 85, 88, 100, 104, 112, 136 Activity 10, 11
f. Compare corresponding angles of two triangles and determine whether the triangles are similar.	45 Congruent: 30	*25, *40, *71
g. Identify and describe pyramids and prisms.	137	*76, *93, *94, *128, *134, *136 Activity 10, 11
Objective 2: Specify locations and describe spatial relationships using coordinate geometry.		
a. Locate points defined by ordered pairs in the first quadrant.	52, 64, 90, 95, 123, 140	
b. Write an ordered pair for a point in the first quadrant.	52, 64, 90, 95, 123, 140	
c. Specify possible paths between locations on a coordinate grid and compare distances of the various paths.	*52, 64, 90, 140	
Objective 3: Visualize and identify geometric shapes after applying transformations.		
a. Identify a slide (translation) or a flip (reflection) of a shape across a line.	45	*25, *40, 56
b. Demonstrate the effect of a turn (rotation) on a figure using manipulatives.	45	
c. Relate pyramids and prisms to the two-dimensional shapes (nets) from which they were created.	20, 137	76, 93, 94, 128, 134, 142 Activity 10, 11, 12
Standard 4: Students will understand and apply measurement tools and techniques.		
Objective 1: Identify and describe measurable attributes of objects and units of measurement.		
a. Describe the relative size (e.g., bigger than, smaller than) among metric units of length (i.e., millimeter, centimeter, meter, kilometer).	12, 17, 48, 114	*99, *137
b. Describe the relative size (e.g., bigger than, smaller than) among customary units of weight (i.e., ounce, pound).	12, 48	14, 58, 67, 72, 114, 115, 124, 152
c. Identify the correct units of measurement for volume, area, and perimeter in both metric and customary systems.	12, 54, 56, 63, 72, 84, 134, 144, 152 Surface Area: 137	99, 106, 140, 143, 147 Activity 8, 9, 13



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d. Estimate length, volume, weight, and area using metric and customary units.	12, 17, 53, 114, 152	13, 58, 99, 106, 114, 115, 124, 139, 152 Activity 13
e. Convert units of measurement within the metric system and convert units of measurement within the customary system.	17, 48, 58, 67, 114	106, 122, 137
Objective 2: Determine measurements using appropriate tools and formulas.		
a. Measure length to the nearest 1/8 of an inch and to the nearest centimeter.	17, 114 Distance: 74	
b. Measure volume and weight using metric and customary units.	72, 84	58, 67, 72, 114, 115, 124, 127, 143, 152 Activity 9, 13
c. Measure angles using a protractor.	30	
d. Calculate elapsed time within a.m. or p.m. time periods.	8, 57, 73, 74 Calendar / Days: 7, 51	5, 6, 9, 31, 54, 125, 151, 154
e. Read and record the temperature to the nearest degree (above and below zero) when using a thermometer with a Celsius or Fahrenheit scale.	12	
f. Calculate the perimeter of rectangles and triangles.	54, 63, 95	106, 122, 138 Activity 8
g. Calculate the area of squares and rectangles using a formula.	56, 63, 95, 134, 152 Surface Area: 137 Triangle: 144	99, 106, 122, 140, 147 Activity 8, 9
Standard 5: Students will collect, analyze, and draw conclusions from data and apply basic concepts of probability.		
Objective 1: Formulate and answer questions using statistical methods to compare data.		
a. Formulate a question that can be answered by collecting data.	115	117, 126, 135
b. Collect, compare, and display data using an appropriate format (i.e., line plots, bar graphs, pictographs, circle graphs, line graphs).	40, 53, 115	11, 19, 117, 126, 135
c. Identify minimum and maximum values for a set of data.	5, *53, *115	*117, *126, *135
d. Identify or calculate the mean, mode, and range.	25, 115 Averages: 102, 103, 135	Averages: 130



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e. Propose and justify inferences based on data.	5, 40, 53, 115, 116	11, 19, 117, 126, 135
Objective 2: Apply basic concepts of probability.		
a. Describe the results of investigations involving random outcomes using a variety of notations (e.g., 4 out of 9, $\frac{4}{9}$, 4:9).	55, 60, 142	*137 Activity 6
b. Recognize that outcomes of experiments and samples are fractions between 0 and 1.	60, 117, 142	133 Activity 6
c. Predict the probability of an outcome in a simple experiment.	60 Word Problem: 117 Possibilities: 58	Activity 6 Possibilities: 15, 65, 118, 123, Activity 4 Order: 6, 16, 23, 26, 30, 35, 37, 38, 39, 42, 46, 51, 53, 62, 68, 83, 153

* Gives opportunity to teach specific Standard