



Utah State Standards / Excel Math Correlation
4th 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 tenths to 100,000	1, 3, 7, 17, 22, 42, 43, 46, 50, 85, 102, 126, 129, 131	153
b. Write a whole number up to 99,999 in expanded form (e.g., 76,539 is 7 ten thousands, 6 one thousands, 5 hundreds, 3 tens, 9 ones or $70,000 + 6,000 + 500 + 30 + 9$).	1, 27, 28, 42, 43, 50, 52, 53, 62, 85, 126, 131	
c. Identify the place and the value of a given digit in a five-digit numeral, including decimals to tenths.	1, 2, 3, 7, 11, 27, 28, 32, 42, 43, 47, 50, 52, 53, 62, 85, 86, 100, 102, 104, 105, 107, 115, 117, 131, 141	
d. Demonstrate multiple ways to represent numbers by using models and symbolic representations (e.g., 36 is the same as the square of six, three dozen, or 9×4).	1, 3, 11, 12, 13, 14, 21, 24, 27, 28, 32, 42, 43, 50, 52, 53, 74, 85	
e. Identify square numbers using models.		
Objective 2: Identify relationships among whole numbers and decimals.		
a. Identify the number that is 100 more, 100 less, 1,000 more, or 1,000 less than any whole number up to 10,000.	*6, *50, *85	
b. Compare the relative size of numbers (e.g., 100 is small compared to a million, but large compared to 5).	*9, *32, *50, 55, 74, *85, *133	
c. Compare whole numbers up to five digits using the symbols $<$, $>$, and $=$.	8, 22, 74, 100, 133	13, 132
d. Identify a whole number that is between two given whole numbers.	8, 17, *55, 61, *102	13
e. Order and compare whole numbers and decimals to tenths on a number line.	*8, 55, *61, *85, *100, *105, 145	8, 13, 21, 63, 68, 90, 92, 102, 105, 113, 122 Activity 12
Objective 3: Model and illustrate meanings of the four operations and describe how they relate.		
a. Use models to represent multiplication of a one- or two-digit factor by a two-digit factor (up to 30) using a variety of methods (e.g., rectangular arrays, partial products, manipulatives, pictures) and connect the representation to an algorithm.	12, 21, 26, *32, *49, 56, 59, 62, 84, 87, 89, 92, 116, 141, 142, 146, 151	67, 148
b. Recognize that division by zero is not possible (e.g., $6 \div 0$ is undefined).	Teachable in all lessons in standard 3c below.	



Utah State Standards / Excel Math Correlation
4th Grade

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c. Select and write a multiplication or division sentence to solve a problem related to the students' environment and write a story problem that relates to a given equation.	21, 24, 26, 31, 33, 56, 72, 82, 83, 90, 92, 96, 104, 109, 111, 121, 122, 123, 124, 129, 132, 139, 143, 150 Addition / Subtraction: 1, 9, 41, 69, 72, 77, 104, 111	14, 16, 27, 29, 41, 55, 59, 70, 71, 76, 79, 87, 91, 95, 103, 111, 114, 115, 117, 118, 121, 125, 135, 148, 153, 155 Addition / Subtraction: 3, 5, 10, 18, 22, 33, 43, 47, 48, 83, 101, 116, 133, 138, 147 Activity 1, 6, 8, 11
d. Represent division of a two-digit dividend by a one-digit divisor, including whole number remainders, using various methods (e.g., rectangular arrays, manipulatives, pictures) and connect the representation to an algorithm.	21, 24, 27, 28, 33, 36, 42, 43, 52, 53, 59, 61, 82, 83, 87, 89, 92, 107, 109, 115, 138, 139, 151	148, 153
e. Demonstrate that multiplication and division are inverse operations (e.g., $3 \times 4 = 12$; thus, $12 \div 4 = 3$ and $12 \div 3 = 4$).	12, 24, 27, 28, 42, 43, 49, 52, 53, 59, 61, 73, 82, 83, 87, 89, 92, 107, 109, 115, 134, 138, 151	
f. Describe the effect of place value when multiplying whole numbers by 10 and 100.	36, 47, 48, 49, 102, 109, 127, 128, 143	*67
Objective 4: Use fractions to communicate parts of the whole.		
a. Divide regions and sets of objects into equal parts using a variety of models and illustrations.	15, 16, 17, 21, 27, 28, 33, 54, 59, 67, 75, 99, 110	121
b. Name and write a fraction to represent a portion of a unit whole for halves, thirds, fourths, fifths, sixths, eighths, and tenths.	15, 16, 54, 67, 75, 76, 79, 88, 99, 110, 114, 125, 137, 143 Percent: 136, 143	
c. Relate fractions to decimals that represent tenths.	85, 100, 118, 137, 148 Add / Subtract decimals: 86 Relate Fractions to Percentages: 127, 128, 136, 143	
d. Determine which of two fractions is greater using models or illustrations.	*67, 79, 88, 125	
e. Find equivalent fractions for one-half, one-third, and one-fourth using manipulatives and pictorial representations.	75, 88, 99, 110, 112, 118, 127, 128 Add / Subtract Fractions: 67, 76, 81 Multiply Fractions: 153, 154	
Objective 5: Solve whole number problems using addition, subtraction, multiplication, and division in vertical and horizontal notation.		
a. Determine when it is appropriate to use estimation, mental math strategies, paper and pencil, or a calculator.	1, 2, 9, 12, 21, 26, 31, 32, 33, 42, 43, 45, 52, 53, 56, 59, 61, 69, 74, 82, 83, 87, 89, 90, 91, 92, 104, 129, 131	3, 6, 7, 11, 17, 23, 25, 26, 47, 76, 87, 95, 96, 106, 126, 132, 133, 142



Utah State Standards / Excel Math Correlation
4th Grade

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b. Find the sum and difference of four-digit numbers and describe the process used.	1, 2, 3, 6, 11, 13, 32, 36, 69 Basic Facts (Add / Subtract): 2, 3, 6, 7, 8, 11, 14	8, 21, 43, 90, 105, 113, 122, 126
c. Multiply two- and three-digit factors by a one-digit factor and describe the process used.	12, 13, 19, 21, 22, 26, 27, 28, 42, 45, 46, 47, 48, 49, 52, 53, 59, 61, 62, 71, 73, 77, 82, 83, 84, 87, 89, 91, 92, 93, 102, 103, 107, 109, 116, 129, 131, 137, 141, 142, 146 Basic Facts (Multiply / Divide): 12, 13, 14, 17, 18, 19, 21, 23, 26, 29, 31, 34, 36, 46, 51, 56, 59, 61, 62, 66, 71, 73, 74, 76, 77, 78, 79, 81, 84, 89, 92, 93, 94, 96, 98, 101, 102, 103, 108, 112, 114, 116, 117, 122, 124, 129, 131, 132, 136, 137, 141, 142	96, 125
d. Divide a two-digit whole number dividend by a one-digit divisor, with a one-digit quotient, and a remainder of zero, and describe the process used.	21, 22, 27, 28, 31, 33, 42, 43, 46, 47, 48, 49, 51, 52, 53, 54, 56, 59, 61, 62, 66, 71, 73, 74, 76, 77, 78, 79, 81, 82, 83, 84, 87, 89, 91, 92, 93, 96, 98, 101, 102, 103, 107, 109, 112, 114, 115, 116, 117, 122, 124, 129, 131, 132, 136, 137, 141, 142, 151	125, 153
Standard 2: Students will use patterns and relations to represent mathematical situations.		
Objective 1: Recognize, describe, and use patterns and identify the attributes.		
a. Represent and analyze repeating and growing patterns using objects, pictures, numbers, and tables.	6, 17, 23, 25, 48, 56, 58, 101, 103, 113, 117, 152	12, 16, 35, 60, 61, 62, 77, 116, 124, 130, 136, 138 Order: 1, 2, 54, 72
b. Recognize and extend multiples and other number patterns using a variety of methods.	6, 17, 23, 25, 33, 48, 51, 56, 89, 91, 103, 113, 117, 152 Factors: 93, 94, 106, 135	12, 16, 35, 62, 77, 116, 124, 130, 136, 138
Objective 2: Recognize, represent, and solve mathematical situations using patterns and symbols.		
a. Solve equations involving equivalent expressions (e.g., $6x2= x3$ or $6x =9+9$).	13, 14, 21, 22, 34, 35, 74, 87, 134	39, 45, 52, 56, 75, 76, 87, 95, 104, 109, 128, 143
b. Use the $<$, $>$, $=$ symbols to compare two expressions involving addition, subtraction, multiplication, and division (e.g., $5x4 = 9\div3$).	1, 13, 14, 21, 22, 31, 34, 35, 74, 87, 134, 152	9, 15, 19, 31, 39, 45, 52, 56, 75, 76, 80, 87, 89, 93, 95, 99, 104, 109
c. Recognize that a given variable maintains the same value throughout an equation or expression (e.g., $+ =8$; $=4$).	14, 34, 87, 134, 152	9, 15, 19, 20, 28, 31, 39, 45, 52, 56, 69, 75, 80, 89, 93, 99, 104, 109



Utah State Standards / Excel Math Correlation
4th Grade

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d. Demonstrate that changing the order of factors does not change the product (e.g., $2 \times 3 = 6$, $3 \times 2 = 6$) and that the grouping of three or more factors does not change the product (e.g., $(2 \times 3) \times 1 = 6$; $2 \times (3 \times 1) = 6$).	*13, 24, 34, 49, 73, 87, 134	*69, 129
e. Demonstrate the distribution of multiplication over addition using a rectangular array (e.g., $8 \times 14 = 8$ rows of 10 plus 8 rows of 4).	12, 16, 24, 26, 31, *36, 49, 108 Commutative Property: 72	142
Standard 3: Students will use spatial reasoning to recognize, describe, and identify geometric shapes.		
Objective 1: Describe, identify, and analyze characteristics and properties of geometric shapes.		
a. Identify and draw parallel lines and intersecting lines.	38, 71, 130	
b. Identify and draw lines of symmetry on a variety of polygons.	30	
c. Identify and describe quadrilaterals (i.e., rectangles, squares, rhombuses, trapezoids, kites).	*15, 39, 58, 64, 68, 96, 144, 147 Parts of a Circle: 71 Triangles: 98	4, 24, 44, 65, 66, 78, 82, 100, 107, 110, 119, 123 Triangles: 32, 36, 53, 58, 94, 131 Activity 3, 4, 5, 10
d. Identify right, obtuse, and acute angles.	*70, 78, 132	
e. Compare two polygons to determine whether they are congruent or similar.	60, *64, 98	
f. Identify and describe cylinders and rectangular prisms.	40, 105, 149	Triangles: Activity 9
Objective 2: Specify locations and describe spatial relationships using grids and maps.		
a. Locate positions on a map of Utah using coordinates or regions.	*121 Coordinate Points: 65, 97, 120, 130, 140	Coordinate Points: Activity 5
b. Give the coordinates or regions of a position on a map of Utah.	*121	
Objective 3: Visualize and identify geometric shapes after applying transformations.		
a. Identify a slide (translation) or a flip (reflection) of a geometric shape using manipulatives.	60	36, 53
b. Relate cubes, cylinders, cones, and rectangular prisms to the two-dimensional shapes (nets) from which they were created.	*40, *105, 149	140, 141 Activity 9
Standard 4: Students will understand and use measurement tools and techniques.		
Objective 1: Identify and describe measurable attributes of objects and units of measurement.		



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4th Grade

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a. Describe the relative size (e.g., bigger than, smaller than) among metric units of length (i.e., millimeter, centimeter, meter), between metric units of volume (i.e., milliliter, liter), and between metric units of weight (i.e., gram, kilogram).	29, 30, 63, 73, 87, 95, 97, 105, 123	23, 49, 133, 134, 139, 144
b. Identify a mile as a measure of distance and its relationship to other customary units of length.	92, *97, 121	
c. Describe the relative size (e.g., bigger than, smaller than) among customary units of capacity (i.e., cup, pint, quart, gallon).	29, *87, *123	23
d. Estimate length, capacity, and weight using metric and customary units.	29, 37, 64, *122, *123	23, 49, 134, 139, 144, 149
Objective 2: Determine measurements using appropriate tools and formulas.		
a. Measure the length of objects to the nearest centimeter, meter, quarter-inch, foot, and yard.	37, 64, 97, 121	
b. Measure capacity using milliliters, liters, cups, pints, quarts, and gallons and measure weight using grams, kilograms, and pounds.	29, 30, 63	
c. Read, tell, and write time to the nearest minute, identifying a.m. and p.m.	18, 57 Days / Months: 19, 66, 90, 124 Elapsed Time: 111	Days / Months: 10, 18, 43
d. Read and record the temperature to the nearest degree, in Fahrenheit, using a thermometer.	30, 133	
e. Determine the value of a combination of coins and bills that total \$20.00 or less.	9, 11, 26	30, 146
f. Count back change for a single-item purchase and determine the amount of change to be received from a multiple-item purchase.	9, 26	83, 111, 114, 146
g. Determine possible perimeters, in whole units, for a rectangle with a fixed area and determine possible areas when given a rectangle with a fixed perimeter.	64, 68, 96, 120, 147, 149 Triangle: 155	*118, 125, 135, 137, 150 Activity 7, 10
Standard 5: Students will collect and organize data to make predictions and use basic concepts of probability.		
Objective 1: Collect, organize, and display data to make predictions and answer questions.		
a. Identify a question that can be answered by collecting data.	4, 5, 10, 20, 80, 119	85, 86, 97, 112, 145, 151 Graphing Activity: 1, 2, 3, 6



Utah State Standards / Excel Math Correlation
4th Grade

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b. Collect, read, and interpret data from tables, graphs, charts, surveys, and observations.	4, 5, 10, 20, 56, 80, 119	85, 86, 97, 112, 145, 151 Graphing Activity: 1, 2, 3, 4, 5, 6
c. Represent data using tables, line plots, line graphs, and bar graphs.	5, *20 Deductive Reasoning: 4, 41	86, 97, 112, 145, 151 Graphing Activity: 1, 2, 3, 4, 5, 6 Deductive Reasoning: 1, 2, 34, 37, 38, 40, 42, 46, 47, 50, 51, 54, 57, 61, 64, 73, 74, 81, 84, 88, 98, 108, 120, 127, 134, 139, 144, 149, 152, 154, Activity 2
d. Identify and distinguish between clusters and outliers of a data set.	Range: 69 Average: 122, 123 Mean, Median, Mode: 150	
Objective 2: Use basic concepts of probability.		
a. Describe the results of investigations involving random outcomes as simple ratios (e.g., 4 out of 9, 4/9).	5	85 Graphing Activity: 1, 2
b. Predict outcomes of simple experiments, including with and without replacement, and test the predictions.	5 Possibilities: 77	Graphing Activity: 1, 2 Possibilities: 85, 122, Activity 1

* Gives opportunity to teach specific Standard