



New Mexico / Excel Math Correlation
Grade 6

New Mexico Standards / Objectives	Excel Math Lesson Numbers	Stretch Lesson Numbers Activity Numbers
Mathematics Standard 1 - NUMBER AND OPERATIONS: Students will understand numerical concepts and mathematical operations.		
A. Understand numbers, ways of representing numbers, relationships among numbers, and number systems.		
1. Compare and order rational numbers.	2, 19, 22, 27, 35, 47, 53, 63, 71, 73, 74, 81, 95, 107, 123	1, 3, 20, 23, 29, 32, 36, 62, 66, 67, 72, 81, 88, 103, 125, 128, 153 Activity 12
2. Use equivalent representations for rational numbers (e.g., integers, decimals, fractions, percents, ratios, numbers with whole-number exponents).	1, 2, 5, 16, 18, 24, 27, 35, 44, 46, 47, 48, 53, 57, 71, 74, 78, 81, 83, 87, 93, 107, 123 Reciprocals: 101	62, 70, 86, 117, 133, 142, 155 Activity 12
3. Use appropriate representations of positive rational numbers in the context of real-life applications.	1, 2, 5, 6, 8, 9, 13, 18, 19, 20, 31, 39, 41, 42, 43, 54, 55, 58, 67, 79, 86, 87, 92, 94, 96, 98, 100, 105, 110, 121, 124, 137, 151	21, 37, 113, 150
4. Identify greatest common factor and least common multiples for a set of whole numbers.	1, 17, *26, *50, 56, *64, 132	*67, 90, 92, 99, 139 Activity 11
5. Identify and represent on a number line decimals, fractions, mixed numbers, and positive and negative integers.	*22, *35, *44, 49, 63, *90, *108, 109, 119, 130, 131	23, 29 Activity *12
B. Understand the meaning of operations and how they relate to one another.		
1. Calculate multiplication and division problems using contextual situations.	5, 6, 8, 9, 12, 19, 31, 41, 42, 55, 67, 69, 71, 72, 79, 86, 89, 92, 94, 96, 99, 100, 108, 110, 117, 127, 137, 151, 152, 153, 154	2, 4, 7, 10, 12, 17, 25, 28, 31, 38, 42, 44, 47, 48, 50, 54, 59, 63, 68, 69, 70, 74, 76, 77, 78, 81, 82, 84, 89, 90, 94, 101, 111, 124
2. Factor a whole number into a product of its primes.	50 Square Root / Exponents: 77	72, 88
3. Demonstrate the relationship and equivalency among ratios and percents.	97 Equivalent ratios: 66	48, 143, 147, 152 Activity 4, 6
4. Use proportions to solve problems.	19, 29, 34, 40, 66, 72, *94, 97, *98, *152	44, 54, 109, 144 Activity 4
5. Explain and perform:		
a. Whole number division and express remainders as decimals or appropriately in the context of the problem	6, 9, 16, 17, 26, 31, 38, 62, 72, 79, 81, 82, 89, 96, 103, 107, 128, 129, 132, 134, 136, 140, 147, 152, 154	2, 5, 7, 10, 12, 22, 25, 27, 28, 39, 42, 44, 47, 48, 54, 68, 69, 76, 77, 78, 82, 87, 89, 98, 101, 102, 111, 115, 123, 124, 130, 132, 143, 155
b. Addition, subtraction, multiplication, and division with decimals	1, 2, 6, 31, 35, 38, 51, 52, 61, 71, 79, 81, 86, 95, 102, 110, 122, 128, 129, 138, 140	18, 35, 38, 44, 46, 85, 93, 150 Activity 14



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c. Addition and subtraction with integers	1, 4, 7, 13, 20, 35, 37, 43, 58, 91, 98, 130, 131, 137, 143, 144 Multiply / Divide: 1, 6, 12, 17, 37, 122, 155	1, 6, 9, 20, 21, 24, 26, 30, 32, 37, 41, 60, 62, 65, 66, 75, 86, 91, 101, 113, 117, 124, 125, 126, 133, 141, 154
d. Addition, subtraction, and multiplication with fractions and mixed numerals	5, 18, 28, 34, 39, 46, 48, 62, 67, 78, 85, 93, 104, 106, 112, 117, 120, 124, 127, 133, 146 Divide: 118, 142, 153 Reciprocals: 101	49, 69, 96, 104, 110, 124 Activity 12
6. Determine the least common multiple and the greatest common divisor of whole numbers and use them to solve problems with fractions.	*1, 17, *26, *27, *48, *50, *56, *132	
C. Compute fluently and make reasonable estimates.		
1. Estimate quantities involving rational numbers using various estimations.	8, 20, 29, 43, 55, 61, 95, 98, 108, 123, 134, 140, 154	3, 16, 18, 31, 35, 67, 90, 123, 126, 135, 149 Activity 14
2. Use estimates to check reasonableness of results and make predictions in situations involving rational numbers.	8, 20, 29, 43, 55, 61, 95, 98, 108, 123, 134, 140, 154 Deductive Reasoning: 7	3, 16, 18, 31, 35, 67, 90, 123, 126, 135, 149 Deductive Reasoning: 10, 11, 16, 17, 37, 51, 57, 58, 64, 80, 95, 100, 105, 106, 107, 112, 114, 122, 127, 134, 145, 148 Activity 14
3. Determine if a problem situation calls for an exact or approximate answer and perform the appropriate computation.	8, 20, 29, 43, 55, 61, 95, 98, 108, 123, 134, 140, 154	3, 16, 18, 31, 35, 67, 90, 123, 126, 135, 149 Activity 14
4. Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.	*18, *44, *46, *47, *48, *83, *105, 119	Activity *11
5. Convert fractions to decimals and percents and use these representations in estimations, computations, and applications.	35, 44, 46, 52, 67, 71, 74, 90, 94, *95, 97, 99, 105, 110, 111, 112, 116, 126, 127, 128, 129, 133, 135 Reciprocals: 101	
6. Interpret and use ratios in different contexts.	40, 66, 97, 99	109, 119, 131, 144, 147 Activity 4, 6
7. Compute and perform multiplication and division of fractions and decimals and apply these procedures to solving problems.	18, 44, *46, 48, 57, 71, 72, 97, 110, 127	Activity 11, 14
Mathematics Standard 2 - ALGEBRA: Students will understand algebraic concepts and applications.		



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A. Understand patterns, relations, and functions.		
1. Solve problems involving proportional relationships.	3, 8, 29, 34, 40, 66, 72, *94, 97, 100	44, 50, 54, 109, 119, 131, 147, 149 Activity 4, 6, 14
2. Graph ordered pairs in the coordinate plane.	32, 36, 68, 76, 109, 115, 145	
3. Explain and use symbols to represent unknown quantities and variable relationships.	3, 18, 40, 48, 54, 57, 61, 91, 100, 116	3, 5, 8, 22, 23, 29, 73, 75, 78, 81, 83, 87, 96, 102, 110, 115, 130, 141
4. Explain and use the relationships among ratios, proportions, and percents.	40, 66, 97, *98, *100, 116	*50, 54, 109, 119, 131, 143, 144, 152 Activity 4, 6
5. Make generalizations based on observed patterns and relationships.	8, 21, 33, 37, 54, 69, 73, 84, 92, 100, 149	6, 9, 13, 15, 26, 30, 51, 57, 64, 75, 76, 80, 81, 94, 104, 121, 135, 139, 140, 141, 151 Activity 6, 8
B. Represent and analyze mathematical situations and structures using algebraic symbols.		
1. Solve problems involving proportional relationships.	3, 8, 29, 34, 40, 66, 72, *94, 97, 100	44, 50, 54, 109, 119, 131, 141, 147, 149 Activity 4, 6, 14
2. Use letters to represent an unknown in an equation.	3, 18, 40, 48, 54, 57, 61, 83, 91, 100, 114	5, 8, 22, 73, 75, 78, 81, 83, 87, 96, 102, 110, 115, 130, 141
3. Solve one-step linear equations and inequalities in one variable with positive whole-number solutions.	3, 18, 40, 48, 54, 57, 61, 83, 91, 100, 114	5, 8, 22, 27, *38, 75, 81, 96, 110 Activity 14
4. Demonstrate that a variable can represent a single quantity that changes.	40, *69, 72, 92, 100	75, 141
5. Demonstrate how changes in one variable affect other variables.	40, *69, 92, 100	75, 141
C. Use mathematical models to represent and understand quantitative relationships.		
1. Develop and use mathematical models to represent and justify mathematical relationships found in a variety of situations.	33, 37, 40, 41, 48, 54, 69, 83, 92, 94, 100	75, 81, 109, 119, 131, 141 Activity 6, 14
2. Create, explain, and use mathematical models such as:		
a. Venn diagrams to show the relationships between the characteristics of two or more sets	45	33, 43, 52
b. Equations and inequalities to model numerical relationships	8, 37, 40, 41, 48, 54, 83, 92, 100, 116	75, 81, 132, 141
c. Three-dimensional geometric models	15, 59, 100, 108, 139	51, 57, 58, 59, 64, 118 Activity 4, 5, 8, 13



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d. Graphs, tables, and charts to interpret and analyze data	2, 8, 40, 69, 94, 100	4, 11, 21, 23, 29, 36, 60, 65, 81, 91, 141, 149, 154 Activity 3, 4, 11
D. Analyze changes in various contexts.		
1. Represent and explain changes using one-step equations with one variable.	3, 40, 48, 57, 61, 83, 91, 114 Two Variables: 3, 100, 115, 148	81, 141, 149 Activity 14
2. Solve problems that involve change using proportional relationships.	8, 34, 37, 40, 69, 70, *97, 100	81, 109, 119, 131, 141, 144, 147, 149 Activity 4, 6, 14
3. Use ratios to predict changes in proportional situations.	40, *97, *100	109, 119, 131, *144, 147 Activity 4, 6
4. Use tables and symbols to represent and describe proportional and other relationships involving conversions, sequences, and perimeter.	8, 29, 40, 69, 100	81, 141, 149 Activity *4, 6
5. Generate formulas to represent relationships involving changes in perimeter.	*30, 75, *100 Distance / Time / Speed: 89	Activity 3
Mathematics Standard 3 - GEOMETRY: Students will understand geometric concepts and applications.		
A. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.		
1. Identify, describe, and classify the properties of, and the relationships between, plane and solid geometric figures:		
a. Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools (e.g., straightedge, ruler, compass, protractor, drawing software)	14, 25, 30, *33, 60, 76, 80, 88, 121, 124, 145, 148	14, 45, 53, 63, 71, 77, 84, 108, 116, 118, 129 Activity 1, 2, 7, 8
b. Understand that the sum of angles of any triangle is 180 degrees and the sum of the angles of any quadrilateral is 360 degrees and use this information to solve problems	25, 33, 60, 80, 121, 148	Activity 2
c. Visualize and draw two-dimensional views of three-dimensional objects made from rectangular solids	15, 59, 100, 139	51, 57, 58, 64, 118 Activity 1, 2, 5, 7, 8
2. Classify angles as right, obtuse, or straight.	25, *60, 80, 88, *124	Activity 2
3. Describe the properties of geometric figures that include regular polygons, circles, ellipses, cylinders, cones, spheres, and cubes.	14, 15, 21, 25, 76, 100, 121, 124, 139, 145, 148	59, 63, 77, 84, 108, 116, 118, 129 Activity 1, 2, 5, 7, 8



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4. Classify polygons as regular or irregular.	*14, *21, *25, 75, 76, 121	14, 28, 53, 55, 56, 63, 84, 108, 116, 129 Activity: 2, 6, 8
5. Classify triangles as scalene, isosceles, or equilateral and by angles (i.e., right, acute, and obtuse).	25, *124, *148	77 Activity 2
6. Identify angle, line, segment, and ray and use the symbols for each.	14, 25, 60, 88	Activity 2
7. Describe the relationship between radius, diameter, and circumference of a circle.	60, 125	55 Activity 3
B. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.		
1. Use coordinate geometry to describe location on a plane.	32, 36, 68, 76, 109, 115, 145 Slope / Intercept: 115	Activity *9
2. Recognize skewed lines in space.	*14	118
C. Apply transformations and use symmetry to analyze mathematical situations.		
1. Identify line of symmetry with rotation and scaling.	23	54, 61 Activity *1, 6, *7
D. Use visualization, spatial reasoning, and geometric modeling to solve problems.		
1. Use appropriate technology, manipulatives, constructions, or drawings to recognize or compare geometric figures.	14, 15, 21, 25, 59, 75, 121, 124, 139, 148	14, 77, 84, 108, 116, 129 Activity 1, 6, 7, 8
Mathematics Standard 4 - MEASUREMENT: Students will understand measurement systems and applications.		
A. Understand measurable attributes of objects and the units, systems, and process of measurement.		
1. Perform multi-step conversions of measurement units to equivalent units within a given system (e.g., 36 inches equals 3 feet or 1 yard).	4, 10, 29, 41, 89, 126, 137, 141, 151	28, 39, 42, 44, 54, 74, 87, 111 Activity 4, 14
2. Estimate measurement in both U.S. customary and metric units.	10, 11, 29, 75, 137	Activity 13, *14
3. Select and use units of appropriate size and type to measure angles (e.g., degrees, radians), perimeter, area, and capacity in both U.S. customary and metric systems.	10, 30, 60, 75, 76, 100, 121, 124, 137, 139	28, 39, 55, 56, 63, 77, 84 Activity 3, 4 (surface area), 13 (density), 14 (range/velocity)
4. Use standard units of linear measurement to the nearest sixteenth of an inch; metric measurements to the nearest millimeter.	10, 11, 29 Distance: 89	39, 54 Activity 4, 14 (range)
B. Apply appropriate techniques, tools, and formulas to determine measurements.		



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1. Apply various measurement techniques and tools, units of measure, and degrees of accuracy to find accurate rational number representations for length, liquid, weight, perimeter, temperature, and time.	4, 13, 29, 30, 43, 75, 76, 92, 100, 137 Volume: 59, 108, 139	16, 28, 39, 41, 42, 55, 77, 89, 120, 136, 137, 148 Volume: 59 Activity 3, 4, 13, 14
2. Select and use formulas for perimeters of squares and rectangles.	30, 75, 76 Volume: 59, 108, 139 Surface area: 100 Area: 121, 124	28, 39, 77 Area: 28, 63, 84 Volume: 59 Activity 4 (surface area)
3. Select and use strategies to estimate measurements including angle measure and capacity.	10, 11, 75	Activity 13 (density)
4. Select and justify the selection of measurement tools, units of measure, and degrees of accuracy appropriate to the given situation.	10, 11, 30, 43, 75, 89, 100, 121, 148	39, 77 Activity 1, 13
Mathematics Standard 5 - DATA ANALYSIS AND PROBABILITY:		
Students will understand how to formulate questions, analyze data, and determine probabilities.		
A. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.		
1. Use statistical representations to analyze data.	2, 8, 34, *40, 65, 69, 70, 150	Activity 9, 10, 11
2. Draw and compare different graphical representations of the same data.	2, 55, 65, *70	Activity 9, 10, 11
3. Use mean, median, mode, and range to describe data.	55, 65 Averages: 120	Activity *9, 10, *11 Averages: 47, 89, 138
4. Sketch circle graphs to display data.	94	
5. Solve problems by collecting, organizing, displaying and interpreting data.	34, 65, 69, 70, 94, 150	Activity 9, 10, 11
6. Compare different samples of a population with the entire population and determine the appropriateness of using a sample.	2, *34, 65, 70, 150	Activity 9, 10, 11
7. Conduct and explain sampling techniques such as observations, surveys, and random sampling for gathering data.	*2, *34, 65, 70, 150	Activity 9, 10, 11
8. Determine the median for a rational number data set containing an odd number of data points.	55, *65	Activity *9,* 10, *11



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9. Calculate and explain the median for a whole number data set containing an even number of data points.	55, *65	Activity *9,* 10, *11
10. Explain advantages and disadvantages of using various display formats for a specific data set.	2, 65, 70, 150	Activity 9, 10, 11
11. Formulate and solve problems by collecting, organizing, displaying, and interpreting data.	65, 69, 70, 94, 150	Activity 9, 10, 11
B. Select and use appropriate statistical methods to analyze data.		
1. Choose an appropriate graphical format to organize and represent data.	8, 40, 65, 69, 70, 150	Activity 9, 10, 11
2. Describe the effects of missing or incorrect data.	*2, *8, 40, 65, 70, 150	Activity 9, 10, 11
3. Compute and analyze statistical measurements for data sets:		
a. Understand how additional data added to data sets may affect the computations of central tendency	*65, 70	Activity 10, *11
b. Understand how the inclusion or exclusion of outliers affects measures of central tendency	*65, 70	Activity 10, *11
c. Know why a specific measure of central tendency provides the most useful information in a given context	*65, 70	Activity 10, *11
4. Use data samples of a population and describe the characteristics and limitations of the sample.	65, 70, 150	Activity 9, 10, 11
5. Identify different ways of selecting a sample (e.g., convenience sampling, responses to a survey, random sampling) and which method makes a sample more representative for a population.	*65, 70, 150	Activity *9, *10, 11
6. Explain how the way a question is asked in a survey might influence the results obtained.	*34, *65, 70, 150	Activity 9, *10, 11
7. Identify data that represent sampling errors and explain why the sample and the display might be biased.	*70, 150	Activity *9, *10, 11
8. Identify claims based on statistical data and, in sample cases, evaluate the validity and usefulness of the claims.	34, 65, 69, 70, 150	Activity 9, 10, 11
C. Develop and evaluate inferences and predictions that are based on data.		



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1. Identify claims based on statistical data and evaluate the validity of the claim.	65, 69, 70, 150	Activity 9, 10, 11
2. Conduct observations, surveys, experiments and/or simulations, record the results in charts, tables, or graphs, and use the results to draw conclusions and make predictions.	34, 65, 69, 70, 150	Activity 9, 10, 11
3. Find all possible combinations in a given set (e.g., the number of ways a set of books can be arranged on a shelf).	8, 34, 69, 150	19
4. Compare expected results with actual results in a simple experiment.	34, 65, 69, 150	19 Activity *9
D. Understand and apply basic concepts of probability.		
1. List all possible outcomes for a compound event composed of two independent events and recognize whether an outcome is certain, impossible, likely, or unlikely.	34, 69, 70, 133, 150	19, 40, 79, 80, 97, 138, *146, 147
2. Determine and compare experimental (empirical) and mathematical (theoretical) probabilities (e.g., flipping two color counters).	34, 70, *133, 150	19, 79, 80, 97, 147
3. Determine theoretical and experimental probabilities and use them to make predictions about events.	34, *70, 97, 99, 133, 150	19, 79, 80, 97, 146, 147
4. Represent all possible outcomes for compound events in an organized way (e.g., tables, grids, tree diagrams) and express the theoretical probability of each outcome.	8, 69, *70, 150	19, 34, 40, 79, 80, 97, 146, 147
5. Use data to estimate the probability of future events (e.g., batting averages).	34, 70, *97, *99, 133, 150	19, 79, 80, 97, 146, 147
6. Represent probabilities as ratios, proportions, decimals between 0 and 1, and percentages between 0 and 100 and verify that the probabilities computed are reasonable; know that if P is the probability of an event, 1- P is the probability of the event not occurring.	34, *70, 97, 99, 133, 150	*19, 147
7. Describe the difference between independent and dependent events and identify situations involving independent or dependent events.	70, *97, *99, 150	

* Gives opportunity to teach specific Standard