



Arizona 3rd Grade Standards / *Excel Math* Correlation

Standards / Objectives	Excel Math Lesson Numbers	Stretch Lessons Activity Numbers
Strand 1: Number and Operations		
Concept 1: Number Sense		
Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.		
PO 1. Express whole numbers through six digits using and connecting multiple representations	1, 3, 7, 9, 12, 14, 19, 23, 27, 34, 38, 43, 47, 49, 64, 67, 79, 91, 100, 104, 132, 133, 150	85, 125
PO 2. Compare and order whole numbers through six digits by applying the concept of place value.	4, 13, 21, 38, 46, 53, 57, 98, 99, 104, 134	9, 30, 48, 57, 65, 82, 91, 93, 116, 123, 138, 146
PO 3. Count and represent money using coins and bills to \$100.00.	16, 22, 33, 44, 51, 82, 114, 126, 127, 134, 146	55, 71, 92, 112, 130, 137, 139, 152
PO 4. Sort whole numbers into sets and justify the sort.	31, 46, 63, *80, 93, 100, 111, 143, 144	31, 35, 48, 57
PO 5. Express benchmark fractions as fair sharing, parts of a whole, or parts of a set.	31, 54, 58, 59, 66, 71, 82, 109, 137, 140, 147, 148, *149	Activity 3, 8 (percent)
PO 6. Compare and order benchmark fractions.	140, 147, 148, 149	Activity 8
Concept 2: Numerical Operations		
Understand and apply numerical operations and their relationship to one another.		
PO 1. Add and subtract whole numbers to four digits.	1, 2, 3, 6, 7, 8, 9, 11, 12, 13, 14, 16, 17, 19, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34, 36, 38, 39, 41, 42, 43, 44, 45, 46, 47, 51, 52, 53, 57, 58, 61, 64, 65, 67, 68, 69, 73, 74, 75, 79, 81, 84, 85, 86, 91, 95, 96, 97, 98, 99, 100, 105, 114, 115, 131, 136, 137, 146, 152	2, 6, 9, 11, 12, 13, 16, 19, 21, 23, 24, 26, 28, 31, 33, 34, 35, 36, 38, 39, 40, 43, 44, 45, 48, 49, 52, 54, 56, 57, 63, 65, 68, 69, 73, 77, 79, 83, 81, 89, 91, 94, 95, 97, 100, 101, 102, 105, 107, 110, 114, 119, 122, 123, 124, 125, 129, 130, 134, 138, 139, 141, 144, 145, 146, 149, 150, 152, 154
PO 2. Create and solve word problems based on addition, subtraction, multiplication, and division.	9, 11, 20, 22, 31, 32, 35, 40, 65, 68, 75, 82, 83, 87, 88, 96, 98, 105, 111, 114, 115, 117, 121, 126, 127, 137, 151, 152	3, 5, 7, 10, 12, 13, 18, 22, 23, 25, 26, 29, 34, 35, 38, 43, 48, 52, 54, 57, 65, 69, 71, 79, 81, 91, 95, 96, 100, 102, 103, 105, 112, 122, 130, 137, 143, 144, 145, 152 Activity 5, 9



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PO 3. Demonstrate the concept of multiplication and division using multiple models.	31, 39, 46, 53, 58, 59, 61, 68, 71, 73, 81, 87, 88, 91, 92, 93, 94, 95, 96, 97, 101, 102, 103, 111, 117, 118, 126, 127, 131, 132, 133, 134, 142, 143, 151, 153, 154	70, 95, 100
PO 4. Demonstrate fluency of multiplication and division facts through 10.	39, 42, 44, 46, 47, 48, 49, 51, 52, 53, 56, 57, 58, 59, 64, 67, 68, 69, 71, 72, 73, 74, 76, 79, 81, 82, 83, 84, 86, 89, 92, 94, 96, 97, 99, 104, 105, 107, 108, 113, 117, 118, 119, 124, 126, 127, 131, 136, 142, 143, 144, 146, 148, 151, 152, 153, 154	73, 83, 94, 95, 100, 101, 102, 107, 110, 114, 119, 124, 129, 134, 141, 149, 154
PO 5. Apply and interpret the concept of multiplication and division as inverse operations to solve problems.	*59, 71, 96, 103, 117, 118, 126, 131, 132, 133, 134, 142, 143, 151, *153, *154	
PO 6. Describe the effect of operations (multiplication and division) on the size of whole numbers.	39, 46, 58, 59, 71, 73, 88, 91, 92, 94, 96, 103, 107, 117, 118, 126, 127, 131, 133, 134, 142, 143, 153	100, 152
PO 7. Apply commutative, identity, and zero properties to multiplication and apply the identity property to division.	39, 57, 71, 92, 96, 102, 103, 117, 118, 122, 133, 134, 142, 151, 153 Add / Subtract: 13, 17, 24, 45	2, 6, 16, 21, 28, 36, 82, 93, 116, 146
Concept 3: Estimation Use estimation strategies reasonably and fluently.		
PO 1. Make estimates appropriate to a given situation or computation with whole numbers.	56, 60, 62, 63, 75, 78, 85, 90, 95, 98, 108, 115, 122, *131, 134, 146	2, 6, 13, 16, 21, 28, 30, 36, 48, 55, 57, 65, 79, 91, 92, 95, 96, 100, 101, 102, 106, 119, 122, 124, 128, 144, 146, 152 Activity 3
<h2 style="text-align: center;">Strand 2: Data Analysis, Probability, and Discrete Mathematics</h2>		
Concept 1: Data Analysis (Statistics) Understand and apply data collection, organization and representation to analyze and sort data.		
PO 1. Collect, record, organize, and display data using frequency tables, single bar graphs, or single line graphs.	5, *30, 126, 127,	23, 97, 143 Activity 4, 10

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PO 2. Formulate and answer questions by interpreting and analyzing displays of data, including frequency tables, single bar graphs, or single line graphs.	5, 20, 30, 35, 80, 126, 127, 141	23, 97, 143 Activity 4, 10
Concept 2: Probability Understand and apply the basic concepts of probability. (<i>Grades 2-HS</i>)		
No performance objectives at this grade level.		
Concept 3: Discrete Mathematics – Systematic Listing and Counting Understand and demonstrate the systematic listing and counting of possible outcomes.		
PO 1. Represent all possibilities for a variety of counting problems using arrays, charts, and systematic lists; draw conclusions from these representations.	2, 6, 13, 17, 24, 27, 30, 31, 37, 46, 48, 49, 80, 93, 97, 113, 118, 126, 127, 153, 154, 155	
PO 2. Solve a variety of problems based on the multiplication principle of counting.zzz	39, 43, 46, 53, 61, 68, 73, 80, 91, *97, 100, *117, *118, 126, 127, *131, *143, 153, 154, 155	55, 105, 139
Concept 4: Vertex-Edge Graphs Understand and apply vertex-edge graphs.		
PO 1. Color complex maps using the least number of colors and justify the coloring	Map / directions *10	*82, *93 Activity *4
PO 2. Investigate properties of vertex-edge graphs <ul style="list-style-type: none"> • circuits in a graph, • weights on edges, and • shortest path between two vertices. 	*4	Activity *4
PO 3. Solve problems using vertex-edge graphs.	*4	Activity *4
<h2 style="text-align: center;">Strand 3: Patterns, Algebra, and Functions</h2>		
Concept 1: Patterns Identify patterns and apply pattern recognition to reason mathematically.		
PO 1. Recognize, describe, extend, create, and find missing terms in a numerical sequence.	2, 6, 31, 37, 48, 49, 80, 97, 113, 126, 127, 155 Shapes: 77, 130	45 Shapes: 78



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PO 2. Explain the rule for a given numerical sequence and verify that the rule works.	2, 6, 31, 37, 48, 49, 80, 97, 113, 126, 127, 155 Shapes: 77, 130	45 Shapes: 78
Concept 2: Functions and Relationships Describe and model functions and their relationships. (<i>Grades 2-HS</i>)		
PO 1. Recognize and describe a relationship between two quantities, given by a chart, table or graph, in which the quantities change proportionally, using words, pictures, or expressions.	2, 6, 37, 48, 49, 80, 97, 107, 113, 117, 126, 127, 155	Activity *4
PO 2. Translate between the different representations of whole number relationships, including symbolic, numerical, verbal, or pictorial.*	12, 28, 36, 37, 48, 57, 80, 98, 113, 126, 127	Activity *4
Concept 3: Algebraic Representations Represent and analyze mathematical situations and structures using algebraic representations.		
PO 1. Record equivalent forms of whole numbers to six digits by constructing models and using numbers.	1, 28, 36, 57, 91, 92, 93, 99, 101, 102, 107, 126, 127, 131	95, 128
PO 2. Use a symbol to represent an unknown quantity in a given context.	36, 81, 107 Parentheses 28, 57, 92	1, 11, 19, 24, 31, 39, 40, 44, 49, 56, 63, 65, 68, 70, 73, 75, 83, 89, 94, 95, 101, 107, 110, 114, 119, 124, 125, 129, 134, 141, 149, 154
PO 3. Create and solve simple one-step equations that can be solved using addition and multiplication facts.	11, 28, 32, 36, 57, 58, 76, 81, 84, 85, 92, 99, 105, 121, 122, 123, 127, 152	1, 11, 19, 22, 24, 30, 31, 33, 39, 40, 44, 48, 49, 54, 56, 63, 65, 68, 70, 73, 75, 77, 83, 85, 89, 94, 95, 105, 107, 110, 114, 119, 123, 124, 125, 128, 129, 134, 138, 141, 144, 145, 149, 152, 154 Activity 5
Concept 4: Analysis of Change Analyze change in a variable over time and in various contexts.		
No performance objectives at this grade level.		
<h1>Strand 4: Geometry and Measurement</h1>		
Concept 1: Geometric Properties Analyze the attributes and properties of 2- and 3- dimensional shapes and develop mathematical arguments about their relationships.		



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PO 1. Describe sequences of 2-dimensional figures created by increasing the number of sides, changing size, or changing orientation.	8, 41, 106, 129, 139 Circle: 119 Angles: 138, 139	4, 17, 41, 46, 50, 58, 60, 72, 76, 86, 87, 90, 104, 111, 115, 126, 136, 147, 151 Activity 2
PO 2. Recognize similar figures.	*41, *106, 120, *139	Activity *1
PO 3. Identify and describe 3-dimensional figures including their relationship to real world objects: sphere, cube, cone, cylinder, pyramids, and rectangular prisms.	69, 141, 135, 145	90, 132, 150 Activity 7, 12
PO 4. Describe and compare attributes of two- and three-dimensional figures.	69, 135, 141, 145 Parts of a circle 119 Perpendicular / parallel 128, 129, 138	90, 132 Activity 7, 12
Concept 2: Transformation of Shapes Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.		
PO 1. Identify a translation, reflection, or rotation and model its effect on a 2-dimensional figure	120	46, 72
PO 2. Identify, with justification, all lines of symmetry in a 2-dimensional figure.	55	
Concept 3: Coordinate Geometry Specify and describe spatial relationships using coordinate geometry and other representational systems.		
No performance objectives at this grade level.		
Concept 4: Measurement - Units of Measure - Geometric Objects Understand and apply appropriate units of measure, measurement techniques, and formulas		
PO 1. Determine elapsed time <ul style="list-style-type: none"> • across months using a calendar • by hours and half hours using a clock. 	18, 26, 65, 78, 83, 84, 89, 112, 152	12, 22, 38, 54, 64, 88
PO 2. Apply measurement skills to measure length, weight, and capacity using US Customary units.	32, 50, 56, 62, 63, 108, 121, 125, 138 Volume: 135, 145	29, 140, 142, 145, 150 Activity 11

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PO 3. Convert units of length, weight, and capacity <ul style="list-style-type: none"> • inches or feet to yards, • ounces to pounds, and • cups to pints, pints to quarts, quarts to gallons. 	50, 56, 62, 63, 74, 83, 108, 121, 125, 129	Activity 11
PO 4. Determine the area of a rectangular figure using an array model.	72, 124, 135, 145	Activity 7
PO 5. Measure and calculate perimeter of 2-dimensional figures.	86, 116, 135, 145	145, 150
Strand 5: Structure and Logic		
Concept 1: Algorithms and Algorithmic Thinking Use reasoning to solve mathematical problems in contextual situations.		
No performance objectives at this grade level.		
Concept 2: Logic, Reasoning, Arguments, and Mathematical Proof Evaluate situations, select problem-solving strategies, draw logical conclusions, develop and describe solutions and recognize their applications.		
PO 1. Analyze a problem situation to determine the question(s) to be answered.	5, 10, 11, 15, 25, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 67, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 120, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11
PO 2. Identify relevant, missing, and extraneous information related to the solution to a problem	15, 25, 83, 110, 123, 137, 151	20, 51, 67, 110, 120
PO 3. Select and use one or more strategies to efficiently solve the problem and justify the selection.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11



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PO 4. Determine whether a problem to be solved is similar to previously solved problems, and identify possible strategies for solving the problem.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11
PO 5. Represent a problem situation using any combination of words, numbers, pictures, physical objects, or symbols.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11
PO 6. Summarize mathematical information, explain reasoning, and draw conclusions.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11
PO 7. Analyze and evaluate whether a solution is reasonable, is mathematically correct, and answers the question.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11



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PO 8. Make and test conjectures based on data (or information) collected from explorations and experiments.	5, 10, 11, 32, 82, 83, 105, 110, 111, 114, 123, 125, 126, 151	3, 6, 7, 8, 10, 12, 13, 14, 18, 20, 22, 23, 25, 26, 27, 29, 32, 34, 37, 38, 40, 42, 43, 45, 47, 51, 52, 53, 55, 59, 61, 62, 64, 66, 69, 70, 71, 74, 79, 80, 81, 84, 88, 92, 96, 97, 98, 99, 102, 103, 105, 106, 108, 109, 112, 113, 116, 117, 118, 121, 122, 123, 127, 128, 130, 131, 133, 135, 137, 139, 140, 142, 143, 144, 145, 146, 148, 153 Activity 1, 4, 5, 6, 9, 11