



Arizona Mathematics Standards & Essential Skills Math Software

This document outlines the correlations between the Grade 1 Arizona Mathematics Standards and the Essential Skills math programs. The specific curriculum outcomes are noted on the left and are matched with the relevant Essential Skills program on the right. Where correlations are not exact, the difference is noted in brackets. Essential Skills programs correlate with 89% of the Grade 1 Arizona Mathematics Standards.

Arizona Mathematics Standards	Essential Skills Software CORRELATING PROGRAMS
Strand 1 - Number Sense and Operations Concept 1: Number Sense <i>Understand and apply numbers, ways of representing numbers, the relationships among numbers and different number systems.</i>	
PO 1. Make a model to represent a given whole number 0 through 100.	Mastering Numeration 1
PO 2. Identify a whole number represented by a model with a word name and symbol 0 through 100.	
PO 3. Count aloud, forward or backward, in consecutive order (0 through 100).	
PO 4. Identify whole numbers through 100 in or out of order.	
PO 5. Write whole numbers through 100 in or out of order.	
PO 6. Construct equivalent forms of whole numbers, using manipulatives or symbols, through 99 (e.g., $15 + 5 = 10 + 10$).	
PO 7. State verbally whole numbers, through 100, using correct place value (e.g., A student will read 84 as eight tens and four ones.).	
PO 8. Construct models to represent place value concepts for the one's and ten's places.	
PO 9. Apply expanded notation to model place value through 99 (e.g., $37 = 3$ groups of ten + 7 units).	
PO 10. Identify odd and even whole numbers through 100.	

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PO 11. Compare two whole numbers through 100.	Mastering Numeration 1
PO 12. Use ordinal numbers through tenth.	Mastering Numeration 2 (to 30th)
PO 13. Order three or more whole numbers through 100 (least to greatest or greatest to least).	Mastering Numeration 1
PO 14. Make models that represent given fractions (halves).	Mastering Numeration 2
PO 15. Identify in symbols and in words a model that is divided into equal fractional parts (halves).	
PO 16. Identify money by name and value: penny, nickel, dime, quarter, and one dollar.	Mastering Numeration 1 Measurement 1
PO 17. Count money through \$1.00 using coins.	
PO 18. Identify the value of a collection of coins using the symbols ¢ and \$.	
Strand 1 - Number Sense and Operations Concept 2: Numerical Operations <i>Understand and apply numerical operations and their relationship to one another.</i>	
PO 1. Demonstrate the process of addition through sums of 20 using manipulatives.	Mastering Numeration 1
PO 2. Demonstrate the process of subtraction with minuends of 20 using manipulatives.	
PO 3. State addition facts for sums through 18 and subtraction for differences with minuends through 9 or less.	
PO 4. Add one- and two-digit whole numbers without regrouping.	Mastering Numeration 1 (one digit)
PO 5. Subtract one- and two-digit whole numbers without regrouping.	Mastering Numeration 2 (two digit)
PO 6. Select the grade-level appropriate operation to solve word problems.	Problem Solving 2-3
PO 7. Solve word problems using addition and subtraction of 2-digit numbers without regrouping.	Problem Solving 2-3

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PO 8. Count by multiples to show the process of multiplication (10s, 5s, or 2s).	Mastering Numeration 2
PO 9. Demonstrate families of equations for addition and subtraction through 18.	Mastering Numeration 1
PO 10. Demonstrate the identity and commutative properties of addition through 18.	
PO 11. Identify addition and subtraction as inverse operations.	
PO 12. Apply the symbols: +, -, =.	Mastering Numeration 1
PO 13. Use grade-level appropriate mathematical terminology.	Mastering Numeration 1
PO 14. Demonstrate addition of fractions with like denominators (halves) using models.	Mastering Numeration 3
PO 15. Demonstrate subtraction of fractions with like denominators (halves) using models.	
PO 16. Add and subtract money without regrouping using manipulatives and paper and pencil, through 99¢.	Mastering Numeration 1 Measurement 1
Strand 1 - Number Sense and Operations Concept 3: Estimation <i>Use estimation strategies reasonably and fluently.</i>	
PO 1. Solve problems using a variety of mental computations and reasonable estimation.	
PO 2. Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.	
Strand 2: Data Analysis, Probability, and Discrete Mathematics Concept 1: Data Analysis (Statistics) <i>Understand and apply data collection, organization and representation to analyze and sort data.</i>	
PO 1. Formulate questions to collect data in contextual situations.	Patterning, Geometry & Data Management 1
PO 2. Make a simple pictograph or tally chart with appropriate labels from organized data.	
PO 3. Interpret pictographs using terms such as most, least, equal, more than, less than, and greatest.	

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PO 4. Answer questions about pictographs using terms such as most, least, equal, more than, less than, and greatest.	Patterning, Geometry & Data Management 1
PO 5. Formulate questions based on graphs, charts, and tables.	
PO 6. Solve problems using graphs, charts, and tables.	
Strand 2: Data Analysis, Probability, and Discrete Mathematics Concept 3: Discrete Mathematics – Systematic Listing and Counting <i>Understand and demonstrate the systematic listing and counting of possible outcomes.</i>	
PO 1. Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives (e.g., How many ice cream cones can one make with 2 different types of ice cream and 2 different types of cones?).	
Strand 2: Data Analysis, Probability, and Discrete Mathematics Concept 4: Vertex-Edge Graphs <i>Understand and apply vertex-edge graphs.</i>	
PO 1. Color pictures with the least number of colors so that no common edges share the same color (increased complexity throughout grade levels).	
Strand 3: Patterns, Algebra, and Functions Concept 1: Patterns <i>Identify patterns and apply pattern recognition to reason mathematically.</i>	
PO 1. Communicate a grade-level appropriate pattern (e.g., $\blacklozenge, \blacktriangledown, \heartsuit$ Repeat this complete pattern.)	Patterning, Geometry & Data Management 1
PO 2. Extend a simple grade-level appropriate repetitive pattern (e.g., $\uparrow, \downarrow, \uparrow, \downarrow, \uparrow, \underline{\quad}, \underline{\quad}, \underline{\quad}$).	
PO 3. Create grade-level appropriate patterns.	
Strand 3: Patterns, Algebra, and Functions Concept 3: Algebraic Representations <i>Represent and analyze mathematical situations and structures using algebraic representations.</i>	
PO 1. Use variables in contextual situations.	Problem Solving 2-3

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PO 2. Find the missing sum or difference in number sentences for sums and minuends through 9 (e.g., $2 + 5 = _$).	Problem Solving 2-3
Strand 3: Patterns, Algebra, and Functions Concept 4: Analysis of Change <i>Analyze change in a variable over time and in various contexts.</i>	
PO 1. Identify the change in a variable over time (e.g., an object gets taller, colder, heavier, etc.).	Patterning, Geometry & Data Management 1
PO 2. Make simple predictions based on a variable (e.g., select next stage of plant growth).	
Strand 4: Geometry and Measurement Concept 1: Geometric Properties <i>Analyze the attributes and properties of 2- and 3- dimensional shapes and develop mathematical arguments about their relationships.</i>	
PO 1. Use the words vertex and side when describing simple 2-dimensional geometric shapes.	Patterning, Geometry & Data Management 1
PO 2. Identify 2-dimensional shapes by attribute (size, shape, number of sides, vertices).	
PO 3. Use concepts and terms of position and size in contextual situations: <ul style="list-style-type: none"> • Inside/outside, • Left/right, • Above/below/between, • Smaller/larger, and • Longer/shorter. 	
PO 4. Name common 2-dimensional shapes (square, rectangle, triangle, circle).	
PO 5. Draw 2-dimensional shapes (square, rectangle, triangle, circle).	
PO 6. Recognize where a line of symmetry divides a 2-dimensional shape into mirror images.	
Strand 4: Geometry and Measurement Concept 2: Transformation of Shapes <i>Apply spatial reasoning to create transformations and use symmetry to analyze mathematical situations.</i>	
PO 1. Recognize same shape in different positions (slide/translations).	Patterning, Geometry & Data Management 1

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<p>Strand 4: Geometry and Measurement Concept 4: Measurement - Units of Measure - Geometric Objects <i>Understand and apply appropriate units of measure, measurement techniques, and formulas to determine measurements.</i></p>	
PO 1. Compare the measurable characteristics of two objects (e.g., length, weight, size).	<p>Measurement 1 (non-standard units)</p> <p>Measurement 2 (standard units)</p>
PO 2. Select the appropriate measure of accuracy: <ul style="list-style-type: none"> • length – inches, feet, • capacity/volume – cups, gallons, and • mass/weight – pounds. 	
PO 3. Tell time to the hour using analog and digital clocks.	<p>Measurement 1 (to half hour)</p>
PO 4. Name the days of the week for yesterday, today, and tomorrow (e.g., If today is Wednesday, what day will it be tomorrow?).	<p>Measurement 1</p>
PO 5. Name the 12 months of the year in proper order, starting with January.	
PO 6. Name the 7 days of the week in proper order, starting with Sunday.	
PO 7. Measure a given object using the appropriate unit of measure: <ul style="list-style-type: none"> • length – inches, feet and yards, • capacity/volume – cups, gallons, and • mass/weight – pounds. 	<p>Measurement 1 (non-standard units)</p> <p>Measurement 2 (standard units)</p>