Arizona's Common Core Standards
Mathematics

Crosswalks: ACCS / 2008

Second Grade

ARIZONA DEPARTMENT OF EDUCATION
High Academic Standards for Students
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Operations and Algebraic Thinking – (OA)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Represent and solve problems involving addition and subtraction.	2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See Glossary, Table 1.)	M02-S1C2-01	Solve contextual problems using multiple representations involving • addition and subtraction with one- and/or two-digit numbers, • multiplication for 1s, 2s, 5s, and 10s, and • adding and subtracting money to $1.00.
			M02-S1C2-05	Create and solve word problems based on addition and subtraction of two-digit numbers. (Extends to "create" word problems)
			M02-S2C3-02	Solve a variety of problems based on the addition principle of counting.
			M02-S3C3--03	Represent a word problem requiring addition or subtraction through 100 using an equation. (Includes unknowns)
			M02-S3C3--04	Identify the value of an unknown number in an equation involving an addition or subtraction fact.
Add and subtract within 20.	2.OA.B.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers. (See standard 1.OA.6 for a list of mental strategies.)	M02-S1C2-02	Demonstrate the ability to add and subtract whole numbers (to at least two digits) and decimals (in the context of money) • with up to three addends and to $1.00.
			M02-S1C2-03	Demonstrate fluency of addition and subtraction facts.
			M02-S1C2-04	Apply and interpret the concept of addition and subtraction as inverse operations to solve problems. (Includes fact families)
Work with equal groups of objects to gain foundations for multiplication.	2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.	M02-S1C1-06	Sort whole numbers through 1000 into odd and even, and justify the sort. (Extends to 1000)

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Operations and Algebraic Thinking – (OA)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Work with equal groups of objects to gain foundations for multiplication.	2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.	*	

Number and Operations in Base Ten – (NBT)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Understand place value.	2.NBT.A.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases:	M02-S1C1-01	Express whole numbers 0 to 1000, in groups of hundreds, tens and ones using and connecting multiple representations.
		a. 100 can be thought of as a bundle of ten tens—called a "hundred."	M02-S1C1-01	Express whole numbers 0 to 1000, in groups of hundreds, tens and ones using and connecting multiple representations.
		b. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).	M02-S1C1-01	Express whole numbers 0 to 1000, in groups of hundreds, tens and ones using and connecting multiple representations.
	2.NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.	M01-S1C1-02	Count forward to 100 and backward from 100 by 1s and 10s using different starting points, and count forward to 100 by 2s and 5s. (Includes skip-counting by 5s and 10s, but only to 100; extends to counting backward from 100 by 1s and 10s)
			M02-S1C1-02	Count forward to 1000 and backward from 1000 by 1s, 10s, and 100s using different starting points. (Extends to counting backward; does not include skip-counting by 5s)
Understand place value.	2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	M02-S1C1-01	Express whole numbers 0 to 1000, in groups of hundreds, tens and ones using and connecting multiple representations.
			M02-S3C3-01	Record equivalent forms of whole numbers to 1000 by constructing models and using numbers.

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Number and Operations in Base Ten – (NBT)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
	2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.	M02-S1C1-04	Compare and order whole numbers through 1000 by applying the concept of place value.
Use place value understanding and properties of operations to add and subtract.	2.NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.	M02-S1C2-02	Demonstrate the ability to add and subtract whole numbers (to at least two digits) and decimals (in the context of money) • with up to three addends and • to $1.00. (Extends to decimals in the context of money)
			M02-S1C2-04	Apply and interpret the concept of addition and subtraction as inverse operations to solve problems.
			M02-S1C2-08	Apply properties to solve addition/subtraction problems • identity property of addition/subtraction, • commutative property of addition, and • associative property of addition.
	2.NBT.B.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.	M02-S1C2-02	Demonstrate the ability to add and subtract whole numbers (to at least two digits) and decimals (in the context of money) • with up to three addends and • to $1.00. (Extends to include subtraction also)
			M03-S1C2-01	Add and subtract whole numbers to four digits.

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Number and Operations in Base Ten – (NBT)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Use place value understanding and properties of operations to add and subtract.	2.NBT.B.7	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.	M01-S1C2-02	Demonstrate addition and subtraction of numbers that total less than 100 by using various representations that connect to place value concepts.
			M02-S1C2-02	Demonstrate the ability to add and subtract whole numbers (to at least two digits) and decimals (in the context of money) • with up to three addends and • to $1.00. (Does not extend to 1000)
			M03-S1C2-01	Add and subtract whole numbers to four digits. (Extends beyond 1000)
	2.NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.	M02-S1C1-03	Identify numbers which are 100 more or less than a given number to 900. (Does not include mentally adding or subtracting 10)
	2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations. (Explanations may be supported by drawings or objects.)	M02-S1C2-04	Apply and interpret the concept of addition and subtraction as inverse operations to solve problems.
			M02-S1C2-08	Apply properties to solve addition/subtraction problems • identity property of addition/subtraction, • commutative property of addition, and • associative property of addition. (Does not include "using place value")

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Measurement and Data (MD)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Measure and estimate lengths in standard units.	2.MD.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.	M02-S4C4-02	Apply measurement skills to measure the attributes of an object (length, capacity, weight). (Measurement skills include selecting and using appropriate tools)
			M04-S4C4-02	Apply measurement skills to measure length, mass, and capacity using metric units.
	2.MD.A.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.	*	
	2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.	M02-S4C4-02	Apply measurement skills to measure the attributes of an object (length, capacity, weight). (Measurement skills include estimation and selecting appropriate unit of measure)
	2.MD.A.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.	*	
Relate addition and subtraction to length.	2.MD.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.	M02-S3C3-03	Represent a word problem requiring addition or subtraction through 100 using an equation. (Does not explicitly include length)
			M02-S3C3-04	Identify the value of an unknown number in an equation involving an addition or subtraction fact.
	2.MD.B.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2… and represent whole-number sums and differences within 100 on a number line diagram.	*	
Work with time and money.	2.MD.C.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.	M02-S4C4-01	Tell time to the nearest minute using analog and digital clocks. (Does not include writing the time or telling time to the nearest five minutes)

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Measurement and Data (MD)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Work with time and money.	2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately. *Example: If you have 2 dimes and 3 pennies, how many cents do you have?*	M02-S1C1-05	Count money to $1.00. (Limited to $1.00 only)
			M02-S1C2-01	Solve contextual problems using multiple representations involving • addition and subtraction with one- and/or two-digit numbers, • multiplication for 1s, 2s, 5s, and 10s, and • adding and subtracting money to $1.00.
			M02-S1C2-02	Demonstrate the ability to add and subtract whole numbers (to at least two digits) and decimals (in the context of money) • with up to three addends and • to $1.00.
			M03-S1C1-03	Count and represent money using coins and bills to $100.00.
Represent and interpret data.	2.MD.D.9	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.	M01-S4C4-02	Measure and compare the length of objects using the benchmark of one inch. (Includes measuring and comparing using benchmark of one inch only; Making line plots is not included)
	2.MD.D.10	Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph. (See Glossary, Table 1.)	M02-S2C1-01	Collect, record, organize, and display data using pictographs, frequency tables, or single bar graphs.(Extends to using multiple-units scale)
			M02-S2C1-02	Formulate and answer questions by interpreting displays of data, including pictographs, frequency tables, or single bar graphs.

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Geometry (G)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
Reason with shapes and their attributes.	2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (Sizes of lengths and angles are compared directly or visually, not compared by measuring.)	M01-S4C1-01	Identify and draw 2-dimensional geometric figures based on given attributes regardless of size or orientation. (Includes drawing shapes)
			M02-S4C1-01	Describe and compare the attributes of polygons up to six sides using the terms side, vertex, point, and length.
	2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.	*	
	2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words *halves*, *thirds*, *half of*, *a third of*, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.	M03-S1C1-05	Express benchmark fractions as fair sharing, parts of a whole, or parts of a set. (Extends beyond fair-shares)

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Standards for Mathematical Practice – (MP)				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
	2.MP.1	Make sense of problems and persevere in solving them.	M02-S5C2-01	Identify the question(s) asked and any other questions that need to be answered in order to find a solution.
			M02-S5C2-02	Identify the given information that can be used to find a solution.
			M02-S5C2-03	Select from a variety of problem-solving strategies and use one or more strategies to arrive at a solution.
			M02-S5C2-04	Represent a problem situation using any combination of words, numbers, pictures, physical objects, or symbols.
			M02-S5C2-05	Explain and clarify mathematical thinking.
			M02-S5C2-06	Determine whether a solution is reasonable.
	2.MP.2	Reason abstractly and quantitatively.	M02-S5C2-05	Explain and clarify mathematical thinking.
	2.MP.3	Construct viable arguments and critique the reasoning of others.	M02-S5C2-05	Explain and clarify mathematical thinking.
	2.MP.4	Model with mathematics.	M02-S5C2-03	Select from a variety of problem-solving strategies and use one or more strategies to arrive at a solution.
			M02-S5C2-04	Represent a problem situation using any combination of words, numbers, pictures, physical objects, or symbols.
	2.MP.5	Use appropriate tools strategically.	M02-S5C2-03	Select from a variety of problem-solving strategies and use one or more strategies to arrive at a solution.
			M02-S5C2-06	Determine whether a solution is reasonable.
	2.MP.6	Attend to precision.	M02-S5C2-05	Explain and clarify mathematical thinking.
	2.MP.7	Look for and make use of structure.	M02-S5C2-05	Explain and clarify mathematical thinking.
	2.MP.8	Look for and express regularity in repeated reasoning.	M02-S5C2-06	Determine whether a solution is reasonable.

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Removed or Moved 2008 Performance Objectives				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
		REMOVED	M02-S1C2-06	Demonstrate the concept of multiplication for 1s, 2s, 5s, and 10s.
		REMOVED	M02-S1C2-07	Describe the effect of operations (addition and subtraction) on the size of whole numbers.
	K.OA.3 K.OA.4	MOVED TO KINDERGARTEN	M02-S2C3-01	List all possibilities in counting situations.
		REMOVED	M02-S1C3-01	Use estimation to determine if sums of two 2-digit numbers are more or less than 20, more or less than 50, or more or less than 100.
		REMOVED	M02-S2C4-01	Color simple pictures or maps using the least number of colors and justify the coloring.
		REMOVED	M02-S2C4-02	Build vertex-edge graphs using concrete materials and explore simple properties of vertex-edge graphs • number of vertices and edges, • neighboring vertices, and • paths in a graph.
		REMOVED	M02-S2C4-03	Construct simple vertex-edge graphs from simple pictures or maps.
		REMOVED	M02-S3C1-01	Recognize, describe, extend, create, and find missing terms in a numerical or symbolic pattern.
		REMOVED	M02-S3C1-02	Explain the rule for a given numerical or symbolic pattern and verify that the rule works.
		REMOVED	M02-S3C2-01	Describe a rule that represents a given relationship between two quantities using words or pictures.
		REMOVED	M02-S3C3-02	Compare expressions using spoken words and the symbols =, ≠, <, and >.
		REMOVED	M02-S4C2-01	Identify, with justification, whether a 2-dimensional figure has lines of symmetry.
		REMOVED	M02-S4C4-03	Read temperatures on a thermometer using Fahrenheit and Celsius.

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Removed or Moved 2008 Performance Objectives				
CLUSTER	**ACCS**	**ITEM DESCRIPTION**	**2008 PO**	**ITEM DESCRIPTION**
		REMOVED	M02-S4C4-04	Demonstrate unit conversions • 1 foot = 12 inches, • 1 quart = 4 cups, • 1 pound = 16 ounces, • 1 hour = 60 minutes, • 1 day = 24 hours, • 1 week = 7 days, and • 1 year = 12 months.

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