

Math - Kindergarten

Idaho Department of Education Content Standards	Objective	Sub Objectives	Task Analysis	Essential Vocabulary	Assessment Ideas	Materials & Resources
Cognitive level codes: • B: Memorize • C: Perform procedures • D: Demonstrate understanding • E: Conjecture, generalize, prove • F: Solve non-routine problems, make connections	Bloom's Equivalent • B = Knowledge • C = Comprehension • D = Comprehension • E = Application and Analysis • F = Synthesis	Calculator codes: NO: student MUST NOT have a calculator while completing this item in order to assess this objective.	Shaded objectives should be assessed in the classroom, but not included on the ISAT assessment.			
Standard 1: Number and Operation						
Goal 1.1: Understand and use numbers.	K.M.1.1.1 Demonstrate knowledge of our numeration system by counting forward by ones to at least 31.	<ul style="list-style-type: none"> Count forward by ones to at least 31. 	<ul style="list-style-type: none"> Count by ones to 10 Count by ones to 20 Count by ones to 31 	count • number words 1 to 31	<ul style="list-style-type: none"> Have student count aloud to at least 31 	<i>Chugga, Chugga, Vroom, Vroom</i> , by Anne Miranda and David Murphy <i>Ten Black Dots</i> , by Donald Crews <i>Anno's Counting Book</i> , by Mitsumasa Anno K-2 Mathematics Instructional Supplement 2005 pg. 1
	K.M.1.1.2 Show the verbal, symbolic, and physical representations of a number up to 10.	<ul style="list-style-type: none"> State verbally, name symbols, and physically represent numbers up to 10. 	<ul style="list-style-type: none"> Count by ones to 10 Count objects to 10 with 1:1 correspondence Came symbols up to 5 Came symbols up to 10 Match symbol/physical representation/verbal response to quantities representing numbers up to 10 	count • number words 1 to 10 • number	<ul style="list-style-type: none"> Give student a pile of 12 objects. Ask student to show specific amounts for numbers 0-10. Place specific numbers of objects in front of student. Ask student to name the amount shown. In random order show flashcards for numerals 0 -10 and have student identify the numeral. 	http://www.sesamestreet.org/click/games - Egg Counting Elmo -Big Birds Numbers -Magical Numbers http://www.nickjr.com/playtime/shows/dora/games/index.html -Dora's Number Pyramid K-2 Mathematics Instructional Supplement 2005 pg. 1-2 http://www.barrbunch.com/numeralpractice.htm http://www.barrbunch.com/grab.htm
	K.M.1.1.3 Identify a penny as a value of money.	<ul style="list-style-type: none"> Identify a penny as a value of money. 	<ul style="list-style-type: none"> Identify a penny as a value of money 	penny • money	<ul style="list-style-type: none"> Place three objects (penny, button, key) in front of child. Ask: Which of these is money? Point to the penny and say: "Tell me the name of this." 	<i>Benny's Pennies</i> by Pat Brisson <i>One Pizza One Penny</i> by K.G. Hao, K-2 Mathematics Instructional Supplement 2005 pg. 2
	K.M.1.1.4 Select strategies appropriate for solving a problem.	<ul style="list-style-type: none"> Select strategies appropriate for solving a problem. 	<ul style="list-style-type: none"> Solve problems using a variety of strategies (i.e. draw a picture, count objects, number line, calendar, etc.) 		<ul style="list-style-type: none"> Use Idaho K2MI Number Sense: Skill 5 (2005) Place 5 buttons on the table. Give the child 6 bears and ask: "Can you show me if each bear can have a button?" 	Idaho K2MI Kit (2005) http://www.prekinders.com/gridgames.htm http://www.kidzone.ws/math/kindergarten.htm
	K.M.1.1.5 Use appropriate vocabulary.	<ul style="list-style-type: none"> Use appropriate vocabulary. 	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. use appropriate vocabulary. 		<ul style="list-style-type: none"> Dialogue with student; record on anecdotal record 	see district vocabulary list and essential vocabulary column
Goal 1.2: Perform computations accurately.	K.M.1.2.1 Use concrete objects to illustrate the concepts of addition and subtraction.	<ul style="list-style-type: none"> Use concrete objects to illustrate the concepts of addition and subtraction. 	<ul style="list-style-type: none"> Count to 10 Count to 10 with 1:1 correspondence Combine two sets of objects (add) tell the sum Remove a set of objects from the greater set (subtract) tell the difference 	add • addition • subtract • subtraction • equal • sum	<ul style="list-style-type: none"> Give student a pile of 10 manipulatives. ADD: Teacher says: Please show me 5 plus 1. (pause) What does 5 plus 1 equal? Repeat using 3+2, 4+3 SUB: Teacher says: Please show me 4 minus 2. (pause) What does 4 minus 2 equal? Repeat using 9-8, 6-1 Proficiency is at least 5 of 6 demonstrated correctly. 	<i>Just Enough Carrots</i> by Stuart J. Murphy <i>Quack and Count</i> by Keith Baker K-2 Mathematics Instructional Supplement 2005 pg. 2 http://www.barrbunch.com/numeralpractice.htm
	K.M.1.2.2 Use appropriate vocabulary.	<ul style="list-style-type: none"> Use appropriate vocabulary. 	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. Use appropriate vocabulary. 		<ul style="list-style-type: none"> Dialogue with student; record on anecdotal record 	See district vocabulary list and essential vocabulary column K-2 Mathematics Instructional Supplement 2005 pg. 2

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Goal 1.3: Estimate and judge reasonableness of results.	K.M.1.3.1 Use estimation to identify a number of objects.	• Use estimation to identify a number of objects.	<ul style="list-style-type: none"> Count to 10 Count with 1:1 correspondence to 10 Identify a group of objects up to 5 without counting Estimate objects up to 5 Estimate objects up to 10 	number words • estimate • "how many"	• Use Idaho K2MI Number Sense: Skill 1 (2005)	Idaho K2MI Kit (2005) K-2 Mathematics Instructional Supplement 2005 pg. 3 http://www.proteacher.org/c/246_Estimation_Jar.html
	K.M.1.3.2 Use estimation to evaluate the reasonableness of an answer.	• Use estimation to evaluate the reasonableness of an answer.	<ul style="list-style-type: none"> Count to 10 Count with 1:1 correspondence to 10 Estimate objects up to 5/count objects/evaluate reasonableness Identify a group of objects up to 5 without counting (instant recognition) Estimate objects up to 10/count objects/evaluate reasonableness 	number words • estimate • "how many"	• Dialogue with student; record on anecdotal record	• See district vocabulary list and essential vocabulary column K-2 Mathematics Instructional Supplement 2005 pg. 3 http://www.wilton.k12.ct.us/staff/2005summer_curr_pjcts/math_estimation_m_d.htm
	K.M.1.3.3 Use appropriate vocabulary.	• Use appropriate vocabulary.	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. Use appropriate vocabulary. 		• Dialogue with student; record on anecdotal record	• See district vocabulary list and essential vocabulary column K-2 Mathematics Instructional Supplement 2005 pg. 3
Standard 2: Concepts and Principles of Measurement						
Goal 2.1: Understand and use U.S. customary and metric measurements.	K.M.2.1.1 Compare the length and size of objects (e.g., longer, shorter, larger, smaller).	• Compare the length and size of objects (e.g., longer, shorter, larger, smaller).	<ul style="list-style-type: none"> Compare the length of two or more Objects using appropriate vocabulary Compare the size of two or more objects using appropriate vocabulary 	big • small • bigger • smaller • biggest • smallest • long • short • longer • shorter • longest • shortest	• Use Idaho K2MI Measurement: Skill 1 (2005)	Idaho K2MI Kit (2005) K-2 Mathematics Instructional Supplement 2005 pg. 4 & 5 <i>Is it Larger? Is it Smaller?</i> By Tana Hoban
	K.M.2.1.2 Estimate measurement using concrete objects.	• Estimate measurement using concrete objects.	<ul style="list-style-type: none"> Compare the length of two or more objects Compare the length of an object using a nonstandard measuring tool Estimate the length of an object using a nonstandard measuring tool (e.g. weight, volume, size) 	All of K.M.2.1.1 • measure • same • equal • more • less	• Use Idaho K2MI Measurement: Skill 2 (2005)	Idaho K2MI Kit (2005) <i>Inch By Inch</i> by Leo Lionni K-2 Mathematics Instructional Supplement 2005 pg. 4 <i>The Mitten</i> by Jan Brett with the following activity: http://www.hubbardscupboard.org/Mitten_Measuring.pdf http://www.kindergarten-lessons.com/teaching-measurement.html
	K.M.2.1.3 Name the day of the week and the day's date using a calendar.	• Name the day of the week and the day's date using a calendar. (<i>Today</i>)	<ul style="list-style-type: none"> Recite the days of the week Using the calendar state the day of the week Count to 31 using the calendar state today's date 	days of the week • number words to 31 • calendar • today • day • date	• Using the classroom calendar ask child to state the day and date (number) of today.	<i>Today is Monday, Very Hungry Caterpillar</i> by Eric Carle <i>Cookie's Week</i> by Cindi Ward K-2 Mathematics Instructional Supplement 2005 pg. 4 <i>Jasper's Beanstalk</i> by Nick Butterworth
	K.M.2.1.4 Use appropriate vocabulary.	• Use appropriate vocabulary.	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. Use appropriate vocabulary. 		• Dialogue with student; record on anecdotal record	See district vocabulary list and essential vocabulary column
Goal 2.2: Apply the concepts of rates, ratios, and proportions.	No objectives at this grade level.					
Goal 2.3: Apply dimensional analysis.	No objectives at this grade level.					
Standard 3: Concepts and Language of Algebra and Functions						

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Goal 3.1: Use algebraic symbolism as a tool to represent mathematical relationships.	K.M.3.1.1 Use concrete objects to identify and show a solution to problems.	<ul style="list-style-type: none"> Use concrete objects to identify and show a solution to problems. 	<ul style="list-style-type: none"> Count with 1:1 correspondence to 10 Demonstrate the concepts of addition/subtraction using concrete objects Show the solution State the answer 	add • subtract • plus • minus • equals	<ul style="list-style-type: none"> Give student a pile of 12 counters (i.e., bears, farm animals, etc.) Ask student: Please use your counters to show what happens in this story. <i>There were 2 <u>insert word</u> at the park. 3 more _____ came to play. How many _____ were there all together?</i> Require the student to use the counters. Repeat with a similar subtraction problem. 	K-2 Mathematics Instructional Supplement 2005 pg. 4 http://www.barrbunch.com/numeralpractice.htm
	K.M.3.1.2 Compare sets of objects using vocabulary (less than, greater than, and same as).	<ul style="list-style-type: none"> Compare sets of objects using vocabulary (less than, greater than, and same as). 	<ul style="list-style-type: none"> Compare sets of objects using vocabulary. 	"greater than" • "less than" • "same as"	<ul style="list-style-type: none"> Dialogue with student using two sets of objects. The student must state the relationship between the two objects using the essential vocabulary. record on anecdotal record 	K-2 Mathematics Instructional Supplement 2005 pg. 5 http://www.prekinders.com/moreless.htm
Goal 3.2: Evaluate algebraic expressions.	No objectives at this grade level.					
Goal 3.3: Solve algebraic equations and inequalities.	No objectives at this grade level.					
Goal 3.4: Understand the concept of functions.	K.M.3.4.1 Replicate and extend simple repeating patterns (e.g., ABAB).	<ul style="list-style-type: none"> Replicate and extend simple repeating patterns (e.g., ABAB). 	<ul style="list-style-type: none"> Replicate simple repeating pattern Extend a simple repeating pattern (i.e. rhythmic, physical, verbal, concrete objects, simple pictures...) 	pattern	<ul style="list-style-type: none"> Use Idaho K2MI Patterns and Algebraic Thinking: Skill 1&3 (2005) 	Idaho K2MI Kit http://www.sesamestreet.org click games -Check out cookie K-2 Mathematics Instructional Supplement 2005 pg. 5
	K.M.3.4.2 Use appropriate vocabulary.	<ul style="list-style-type: none"> Use appropriate vocabulary. 	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. use appropriate vocabulary. 		<ul style="list-style-type: none"> Use Idaho K2MI Patterns and Algebraic Thinking: skill 2 	Idaho K2MI Kit see district vocabulary list and essential vocabulary column
Goal 3.5: Represent equations, inequalities and functions in a variety of formats.	No objectives at this grade level.					
Goal 3.6: Apply functions to a variety of problems.	No objectives at this grade level.					
Standard 4: Concepts and Principles of Geometry						
Goal 4.1: Apply concepts of size, shape, and spatial relationships.	K.M.4.1.1 Recognize, name, compare, and sort two- and three- dimensional shapes (triangle, rectangle, square, circle, cone, cube).	<ul style="list-style-type: none"> Sort two- and three- dimensional shapes (triangle, rectangle, square, circle, cone, cube). Recognize two- and three- dimensional shapes (triangle, rectangle, square, circle, cone, cube). Name two- and three- dimensional shapes (triangle, rectangle, square, circle, cone, cube). Compare two- and three- dimensional shapes (triangle, rectangle, square, circle, cone, cube). 	<ul style="list-style-type: none"> Sort triangles, rectangles, squares, & circles Recognize triangles, rectangles, squares, & circles in environment name triangles, rectangles, squares, & circles Identify attributes of triangles, rectangles, squares, & circles compare triangles, rectangles, squares, & circles Repeat process with cone and cube. Compare attributes of two and three dimensional shapes 	shape • triangle • rectangle • square • circle • cone • cube • side • corner • point	<ul style="list-style-type: none"> Give students a pile of assorted triangles, rectangles, squares & circles. Ask the student to sort by shape. Ask the student to point to the triangles. (rectangles, squares & circles) At another time show student shapes individually and ask student to name each shape. Dialogue with student. Student will tell how shapes differ. Record results on teacher made check list. <i>(Teacher may choose to assess again with the addition of cone and cube or include in above assessment.)</i> 	http://www.sesamestreet.org click games-Big Birds Shapes K-2 Mathematics Instructional Supplement 2005 pg. 7 http://www.barrbunch.com/gameboards/shapes.pdf http://www.hubbardscupboard.org/i_see_shapes.html
	K.M.4.1.2 Sort and classify objects.	<ul style="list-style-type: none"> Sort and classify objects. 	<ul style="list-style-type: none"> Sort objects. Use appropriate vocabulary to describe distinguishing characteristics of each group. 	sort	<ul style="list-style-type: none"> Provide students with a variety of manipulatives. Ask the students to sort the items and use appropriate vocabulary to distinguish characteristics of each group. (one attribute) 	K-2 Mathematics Instructional Supplement 2005 pg. 6 http://www.prekinders.com/sizes.htm
	K.M.4.1.3 Apply appropriate vocabulary.	<ul style="list-style-type: none"> Use appropriate vocabulary. 	<ul style="list-style-type: none"> Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. Follow directions using grade level appropriate vocabulary. use appropriate vocabulary. 		<ul style="list-style-type: none"> Dialogue with student; record on anecdotal record. 	See district vocabulary list and essential vocabulary column K-2 Mathematics Instructional Supplement 2005 pg. 6 http://www.kindergarten-lessons.com/teach-math-vocabulary.html
Goal 4.2: Apply the geometry of right triangles.	No objectives at this grade level.					

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Goal 4.3: Apply graphing in two dimensions.	K.M.4.3.1 Describe the location of an object relative to another (e.g., next to, under, over, behind).	• Describe the location of an object relative to another (e.g., next to, under, over, behind).	<ul style="list-style-type: none"> • Place an object in a position relative to another object when given a specific location. • Describe the location of an object relative to the location of another object. 	<ul style="list-style-type: none"> • on • above • before • in • after • next to • under • beside • behind • over • etc. 	<ul style="list-style-type: none"> • Modify Idaho K2MI Concepts and Principles of Geometry: Skill 2 (2005) to have teacher place the object and have student describe location. 	<i>Rosie's Walk</i> by Pat Hutchins <i>All about Where</i> by Tana Hoban Idaho K2MI Kit (2005)
Standard 5: Data Analysis, Probability, and Statistics						
Goal 5.1: Understand data analysis.	K.M.5.1.1 Interpret information from real object graphs and simple pictographs.	• Interpret information from real object graphs and simple pictographs.	<ul style="list-style-type: none"> • Compare 2 sets of real objects using appropriate vocabulary • Compare 3 or more sets of real objects using appropriate vocabulary • Compare 3 or more sets using simple pictographs 	"less than" • "greater than" • most • least • "same as" • equal • graph	<ul style="list-style-type: none"> • Idaho K2MI Data Analysis and Probability: Skill 1 (2005) 	Idaho K2MI Kit K-2 Mathematics Instructional Supplement 2005 pg. 8 http://www.prekinders.com/moreless.htm
	K.M.5.1.2 Use appropriate vocabulary.	• Use appropriate vocabulary.	<ul style="list-style-type: none"> • Demonstrate mathematical concepts using appropriate grade level vocabulary as listed in essential vocabulary column. • Follow directions using grade level appropriate vocabulary. use appropriate vocabulary. 		<ul style="list-style-type: none"> • Dialogue with student; record on anecdotal record. 	see district vocabulary list and essential vocabulary column
Goal 5.2: Collect, organize, and display data.	K.M.5.2.1 Create a graph using real objects or pictorial representations.	• Create a graph using real objects or pictorial representations.	<ul style="list-style-type: none"> • Sort objects • Create graphs using 2 sets of real objects • Create graphs using 3 or more sets of real objects • Create graphs using 3 or more sets with simple pictures 	sort	<ul style="list-style-type: none"> • Idaho K2MI Data Analysis and Probability: Skill 3 (2005) 	Idaho K2MI Kit K-2 Mathematics Instructional Supplement 2005 pg. 8 http://www.prekinders.com/moreless.htm
Goal 5.3: Apply simple statistical measurements.	No objectives at this grade level.					
Goal 5.4: Understand basic concepts of probability.	No objectives at this grade level.					
Goal 5.5: Make predictions or decisions based on data.	No objectives at this grade level.					