

Kindergarten Mathematics Menu

The lesson descriptions below are a short summary. Please find the complete lesson description and instructions in the resources listed.

Standard	Lesson	Description	Resource
	Writing Numbers	Children practice writing numerals, while the teacher recites rhymes to guide them in the correct formation.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 20.
K.1.A, K.1.B, K.1.E	<i>Investigation: Attendance Classroom Routines</i>		
<u>K.1.A-H CORE CONTENT</u>			
K.1.A Rote count by ones forward from 1 to 100 and backward from any number in the range of 10 to 1.			
K.1.A or K.1.B	<i>Investigations: Counting Ourselves and Others</i>	All lessons (page 28 to 81) teach to counting and reading numbers.	<i>Investigations: Counting Ourselves and Others</i> , pg. 28-81
K.1.A	Puppet Count	Children sing and count from one to five as they use finger puppets	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 2
K.1.A	Number Pop	Children count aloud to five and then continue to count individually, as part of a forward sequence of counting to a determined number.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 5.
K.1.A & K.1.D	Number Hopscotch	Children say the numbers in order as they jump on a hopscotch grid.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 56.
K.1.A, K.1.B, K.1.E	<i>Investigation 1: Counting Books</i>	Developing strategies for counting and keeping track of quantities; recognizing numerals and number names; representing quantities with pictures, numerals or words; connecting numerals to the quantities they represent; creating a set of a given size.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 2-9.
K.1.A, K.1.B, K.1.E	<i>Investigation 1: My Counting Book</i>	Developing strategies for counting and keeping track of quantities; recognizing numerals and number names; representing quantities with pictures and numerals; connecting numerals to the quantities they represent.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 10-11.
K.1.A, K.1.B	<i>Investigation 1: Grab and Count (Choice Time)</i>	Developing strategies for counting and keeping track of quantities; representing quantities with pictures and numerals.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 12-13.
K.1.A, K.1.E	<i>Investigation 1: Counting Jar (Choice Time)</i>	Developing strategies for counting and keeping track of quantities; creating a set of a given size.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 14-17.

Standard	Lesson	Description	Resource
K.1.A, K.1.B, K.1.E	<i>Investigation 2: Taking Inventory (Focus Time)</i>	Developing strategies for counting and keeping track of quantities; representing quantities with pictures, numerals or words.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 22-29.
K.1.A, K.1.E	Birthday Claps (Understand Whole Numbers – KU 1)	Ask students to clap once for each birthday they have had. Students link each clap with each number name as it is said.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.A	Jack in the Box (Understand Whole Numbers – KU 4)	Students play games that involve chanting numbers. Initially, ask students to count into the teens. Then, have students choose a number between 10 and 20. In unison the class counts up to the chosen number and one student playing ‘Jack’ jumps up in the air. Similarly, students count down from a number and call out ‘Blast Off’.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 42.
K.1.A	Counting Sequences (Understand Whole Numbers – KU 4)	Ask the class to form a line. Beginning at 1, have students say in turn the next number in the counting sequence, going down the line and then back again. Over time, begin the count at say 8, 18, 25, 30, etc. to extend the count into larger numbers.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 43.
K.1.B Read aloud numerals from 0 to 31.			
K.1.A or K.1.B	<i>Investigations: Counting Ourselves and Others</i>	All lessons (page 28 to 81) teach to counting and reading numbers.	<i>Investigations: Counting Ourselves and Others</i> , pg. 28-81
K.1.B	My Phone Number	Children say their phone number and select numeral cards to match. This activity helps children commit their own phone number to memory.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 16.
K.1.B & K.1.E	Birthday Candles	Children pick a numeral card, read the number, place that many candles on a ‘cake’. Then they say the age that corresponds to the candles.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 24.
K.1.B & K.1.E	Number Jumble	Children sort different representations of numerals. Then count out that number of objects.	<i>Beginning Processes</i> , pg. 42.
K.1.B & K.1.E	<i>Investigation 3: Calendar</i>	<ul style="list-style-type: none"> ▪ Counting on the calendar ▪ Connecting number names, numerals and quantities 	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 40-46.
K.1.B, K.1.E	<i>Investigation 2: Inventory Bags (Choice Time)</i>	Developing strategies for counting and keeping track of a set of objects; representing quantities with pictures, numerals or words.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 30- 31.
K.1.B, K.1.C, K.5.E	<i>Investigation 4: Five Crayons in All (Focus Time)</i>	Finding combinations of five; using pictures, numbers, and words to record solutions to a problem; beginning to recognize	<i>Investigations: How Many in All?</i> , pg. 76-81.

Standard	Lesson	Description	Resource
		that some problems have more than one solution.	
K.1.B, K.1.E, K.2.D	How Many? (Understand Whole Numbers – KU 1)	Students read number labels on storage containers to see how many things they have to get. Label shelves to show how many blocks of each type there are in the containers. During packing away time, ask students: How many blocks have you returned so far? How many more do you need to find?	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.B	Phone Numbers (Understand Whole Numbers – KU 3)	Ask each student to write, then hold up their telephone number for others to read. See questions.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 35.
K.1.B	Number Hunt (Understand Whole Numbers – KU 3)	During a walk around the school, encourage students to find out where numbers are used and what they are used for. Pay particular attention to room, house and bus numbers.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 35.
K.1.B	Number Scrolls (Understand Whole Numbers – KU 4)	Ask students to generate number sequences using the constant function on their calculators over the decades.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 43.
K.1.B, 1.1.C	Biggest Number (Understand Whole Numbers – KU 4)	Select students to write the biggest number they know at the top of a display board. Ask each student: What is one more? Write the new number beneath the first. Then have students add to the sequence each day and say the new number. Ask: Can this number sequence come to an end?	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 43.
K.1.B	Bingo (Understand Whole Numbers – KU 5)	Give students practice in recognizing number symbols by using ‘Bingo’ cards that include the numbers 0 to 10. Gradually extend the numbers to include the ‘teens’ and ‘decades’ (e.g. numbers to 31.)	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 54.
K.1.B, 1.1.B	Next Number (Understand Whole Numbers – KU 5)	Students read aloud the numbers on their calculators as they use the constant function to count. Stop students at 9, then ask: What number will be next? Check to see if you are correct. What is different about 9 and 10? See other questions.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 54.
K.1.B, 1.1.C	Exploring Calculators (Calculate – KU 9)	Have students use calculators to explore, press keys and discover what happens. Focus students on watching the display to notice what happens each time they press a number key. Have them take turns to read out the digits on the display for others to make the same numbers.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 174.

Standard	Lesson	Description	Resource
K.1.B, 1.1.C	Clearing (Calculate – KU 9)	Encourage students to become familiar with the function of particular keys, e.g. C/CE. After a student discovers how to clear numbers, ask them to show all students the steps. To practice, they key in 1, press the clear key to clear back to zero. Continue in order through the numbers to 12.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 174.
K.1.C Fluently compose and decompose numbers to 5.			
K.1.C, K.1.E	<i>Investigation 5: Racing Bears</i> (Choice Time)	Becoming familiar with combinations of numbers up to about six; counting out amounts up to six; finding the number of dots in familiar dot patterns in order to move on a gameboard.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 74-75.
K.1.C, K.5.A, K.5.D, K.5.E	<i>Investigation 6: Six Tiles</i> (Focus Time)	Exploring different ways to visualize and arrange a set of six objects; solving a problem with many possible solutions.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 80-85.
K.1.C, K.5.A, K.5.D, K.5.E	<i>Investigation 6: Books of Six</i> (Choice Time)	Finding different ways to visualize and arrange a set of six objects; solving a problem with many possible solutions.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 86-87.
K.1.C	Collecting (Understand Whole Numbers – KU 2)	Students pick up a collection of two blocks, three blocks without counting. Increase the number to five if students are successful at each amount.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 26.
K.1.C,	Dice Combinations (Understand Whole Numbers – KU 2)	Organize students into pairs. Give each pair two dice. Have students take turns to roll the dice and then say how many dots just by looking.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 26.
K.1.C, 1.1.F	How Many? (Understand Whole Numbers – KU 2)	Flash small groups of things to students. Ask them to say how many at a glance without one to one counting.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 27.
K.1.C, 1.1.F	Snap (Understand Whole Numbers – KU 2)	Working with a partner, students use adhesive dots or stamps to make sets of cards with groupings of up to six spots randomly placed. When playing, have students say the number of spots on the cards. Later, add number cards where students match numbers to spots.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 27.
K.1.C	Five Little Monkeys (Understand Whole Numbers – KU 2)	Use story contexts to help students group numbers in an organized way. Begin with one monkey in a small tree and four in a large tree. Ask students to move one monkey so there are three monkeys in one tree and two monkeys in the other. Are there still five altogether?	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 27.

Standard	Lesson	Description	Resource
K.1.C, K.1.H, 1.1.B	Counting On (Calculate – KU 5)	Have students say which number they are able to count on from when adding small collections, e.g. 3 + 2. Think of two now count on three more. Try thinking of five and counting on three more.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 134.

Standard	Lesson	Description	Resource
K.1.D Order numerals from 1 to 10.			
Looking ahead (1.1.D Order objects or events using ordinal numbers (up to and including twentieth.))			
K.1.D	Acting Out the Order	Children act out the ordinal positions of first, second, and last (third).	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 34.
K.1.D	Bears on Parade	Children place objects in order by color and ordinal number name.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 35.
K.1.D	Warm Wombats	Children identify and name the ordinal positions of first to sixth.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 36.
K.1.D	A Day in School	Children order pictures of events in the school day and describe the order.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 37.
K.1.D	What Action is First	Children select three ‘action’ cards, then do the actions in a “first-second- third” sequence of movements.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 38.
K.1.D	Animal Antics	Children read ordinal number names and place animals in order according to a chart.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 39.
K.1.D	Name the Position	Children read ordinal name cards and place objects in order.	<i>Number</i> , ORIGO Education, pg. 40.
K.1.D	Fruit Salad Fun	Children read ordinal words with pictorial clues to follow a recipe.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 41.
K.1.D	Heads or Tails	Children record and discuss how many coins land showing ‘heads’ and how many coins land showing ‘tails’, in first through fifth rounds.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 42.
K.1.D	March in Order	Children act out the ordinal positions of first, second, third, and last.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 43.
K.1.D	Car Races	Children race cars and determine who comes in first, second, and third.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 45.
K.1.D	Penguin Party	Children place penguins in order and draw on them according to instructions based on their ordinal position.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 47.

Standard	Lesson	Description	Resource
K.1.D	Who Lives Where?	Children practice working with the ordinal positions of first, second, third, fourth, and last.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 48.
K.1.D	Line Up the Lids	Children sort and order quantities from one to ten.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg.50.
K.1.D	Bags in Order	Children place quantities in order and then write the matching numerals.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 51.
K.1.D	Number Track Fun	Children write the numerals 1 to 10 on small dot stickers and place them on connecting cubes to make a number track.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 52.
K.1.D	Birthday Cards	Children determine numerical order by reading numerals or number names on birthday cards.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 53.
K.1.D	Missing Bears	Children determine the quantity in between two numbers and then find its matching numeral.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 54.
K.1.D & K.1.E	Before and After	Children read a numeral, make groups of objects for the numbers ‘just before’ and ‘just after’, and write the matching numerals.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 55.
K.1.D	Missing Numbers.	Children determine the number that is missing in the order of numbers from one to 10.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 57.
K.1.D	Some are Gone	Children order “groups of three” arrangement and numeral card to determine missing numbers.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 58.
K.1.D	Beanbag Toss	Children toss a beanbag onto numbers in numerical order and then record those numbers	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 62.
K.1.D	Pictures and Symbols	Children order playing cards. Playing cards represent the numbers one to ten pictorially and symbolically.	<i>Beginning</i> , ORIGO Education, pg. 72.
K.1.D	Nearby Numbers	Children place numerals in order.	<i>Beginning Processes</i> , ORIGO Education, pg. 73.
K.1.D	What’s the Price?	Children place postage stamps in order according to their price.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 74.
K.1.D, K.1.E, K.1.F, K.4.A	<i>Investigation 5: Least to Most (Focus Time)</i>	Ordering quantities from least to most or most to least; counting sets of objects; comparing several quantities to determine which is more; using appropriate language to describe and compare amounts (<i>less, least, more, most, same, equal</i>); using a recording sheet to represent mathematical work.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 68-71.

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K.1.D	Hungry Caterpillar (Understand Whole Numbers – KU 3)	Read <i>The Very Hungry Caterpillar</i> by Eric Carle with the class. Invite students to recall the order of events in the story. Ask: What did the caterpillar eat on the third day? Etc.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 34.
K.1.D	Everyday Events (Understand Whole Numbers – KU 3)	Ask students to make an ordered list of jobs they need to complete before school.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 34.
K.1.D	Order in the Classroom (Understand Whole Numbers – KU 3)	Brainstorm classroom routines where students would benefit from establishing and using an order.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 35.
K.1.D	Patterns (Understand Whole Numbers – KU 3)	In groups, have students discuss the order of things used in a pattern sequence they have made.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 35.
K.1.D	Sports Stars (Understand Whole Numbers – KU 3)	Show a photograph of a sporting team to students. Invite each student to say the number on their favorite star's uniform.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 35.
K.1.E Count objects in a set of up to 20, & count out a specific number of up to 20 objects			
K.1.E	Match and Count	Children match buttons or counters to dot arrangements on cars and then count them.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 3.
K.1.E	Imagine the Group	Children imagine a quantity by creating a picture of a group in their mind.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 6.
K.1.E	Birds and Nests	Children place birds in nests to show one to one pictorially.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 8.
K.1.E	Find the Treasure	Children draw a picture to represent the number of objects found.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 9.
K.1.E	Goldfish Count	Children count dots on a die, say the number of dots, and make a group of that many 'goldfish'.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 10.
K.1.E	Move It, Move It!	Children make physical movements to match a number of dots on a die.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 11.
K.1.E	Bowl and Count	Children bowl a tennis ball, knock 'tenpins' down and count the fallen ones.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 13.
K.1.E	Handful of Pompoms	Children take a handful of pompoms and count them.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 14.
K.1.E	Collage by Numbers	Children roll a regular die and a shaded cube to select pieces of paper to make a collage.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 15.
K.1.E	Felt Board Fun	Children make a group of felt characters to match a number spoken by the teacher.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 18.

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K.1.E	Boxes with Buttons	Children match buttons to a number picture or numeral on a box by placing that many buttons in the box.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 19.
K.1.E	Farm Animals	Children make groups of toys to match a numeral.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 21.
K.1.E	Friends in School	Children match numerals to photographs of groups of their classroom.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 22.
K.1.E	Match the Dots	Children match the number of dots on a die to counters and a numeral.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 23.
K.1.E	Shirts and Buttons	Children hear a number and place that many buttons on a shirt.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 25.
K.1.E	Number Name Match	Children match concrete materials to a number name, then select letters to create the number name.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 26.
K.1.E	Goofy Groups	Children feel three-dimensional objects in opaque bags and select a numeral to match the number of objects felt. Children then check to determine if the numeral and objects match.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 28.
K.1.E	How Many?	Children count objects to match a numeral card and color card.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 29.
K.1.E	Number Sculptures	Children select a numeral card and build a sculpture using that number of objects.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 30.
K.1.E	The Flower Shop	Children match artificial flowers to the numeral written on a customer's order.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 44.
K.1.E	Pine Cone Count	Children count a group of objects.	<i>Beginning Processes</i> , ORIGO Education, pg. 8.
K.1.E	Imaginary Images	Children visualize groups of objects. Mental imagery is a high-level thinking experience. Children point and count.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 9.
K.1.E	Box of Buttons	Children sort objects and count the number of each sorted group.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 40.
K.1.E & K.1.F	Know the Number	Children sort pictures of objects to show the same number. This activity helps children identify pictures of quantities and make equal groups.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 41.
K.1.E &	Winner Takes All	Children compare two quantities to decide which is greater.	<i>Beginning Processes</i> by

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K.1.F			Rosemary Reuille Irons, ORIGO Education, pg. 58.
K.1.E	<i>Investigation 2: Counting Jar</i>	<ul style="list-style-type: none"> ▪ Counting a set of objects ▪ Creating a set of a given size ▪ Recording numerical information 	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 24-33.
K.1.E	<i>Investigation 3: Calendar</i>	<ul style="list-style-type: none"> ▪ Counting on the calendar ▪ Connecting number names, numerals and quantities 	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 40-46.
K.1.E & K.1.F	<i>Investigation 1: Attendance – Focus Time</i>	Student work focuses on counting the number of students in the class and establishing one-to-one correspondence between the number of students in the class and a stack of interlocking cubes.	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 4-9.
K.1.E & K.1.F	<i>Investigation 4: Today’s Question</i>	Students count and compare the number of students in two different groups.	<i>Investigations: Mathematical Thinking in</i> , pg. 52-59.
K.1.E	<i>Investigation 4: Letters in Our Names (Focus Time)</i>	Counting a set of objects; creating a set of given size.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 54-59.
K.1.E, K.1.C, K.2.C	<i>Investigation 4: Collect 10 Together</i>	Finding the number of dots in dot patterns; counting a group of objects; keeping track of the size of a growing collection of objects; finding the total of two single-digit numbers.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 64-65.
K.1.B, K.1.E 1.4.B	<i>Investigation 1: Measuring with Cubes (Choice Time)</i>	Counting up to about 15 objects; repeating a nonstandard unit to quantify a length; recording measurements with numbers, pictures, and words.	<i>Investigations: How Many in All?</i> pg. 14-16.
K.1.E	<i>Investigation 1: Collect 15 Together (Choice Time)</i>	Counting up to about 15 objects; keeping track of the size of a growing collection of objects.	<i>Investigations: How Many in All?</i> , pg. 17-19.
K.1.E, K.1.B	<i>Investigation 1: Inventory Bags (Choice Time)</i>	Counting up to about 20 objects; representing quantities with pictures, numbers, and words.	<i>Investigations: How Many in All?</i> , pg. 20-22.
K.1.E, 1.5.A	<i>Investigation 1: How Many Are We? (Focus Time)</i>	Collecting data by counting; representing data in a variety of ways; looking at different representations of the same set of data.	<i>Investigations: Counting Ourselves and Others</i> , pg. 4-8.
K.1.E, 1.5.A	<i>Investigation 1: Counting Noses, Counting Eyes (Focus Time)</i>	Matching items with one to one correspondence; matching items with a two to one correspondence; using concrete materials to record and represent data; making pictures to record and represent data.	<i>Investigations: Counting Ourselves and Others</i> , pg. 16-24.

Standard	Lesson	Description	Resource
K.1.E, 1.5.A 1.5.B	<i>Investigation 1: Counting Chairs (Choice Time)</i>	Counting a set of objects; using one-to-one correspondence to match two sets of objects; keeping track of data; comparing two sets of data.	<i>Investigations: Counting Ourselves and Others</i> , pg. 28-29.
K.1.A, K.1.E, K.1.F, K.4.A	Age Groups (Understand Whole Numbers – KU 1)	Make a classroom display of students’ names (photos). Arrange the names (photos) according to age groups. Students count, write number labels, move their name on their birthday, compare groups, etc.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.E, K.1.F, K.4.A	Teeth (Understand Whole Numbers – KU 1)	Students clap once for how many in the class have (have not) lost teeth. See Sample Lesson 1, pg. 20)	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.E	Collections (Understand Whole Numbers – KU 1)	Students make collections of a given number of things for real tasks; for example, have them choose six beads to make a necklace.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.E	Keeping Fit (Understand Whole Numbers – KU 1)	Students decide each day (week) how many jumps and hops to include in their daily fitness routine and then record the number. Ask students whether they need more or less of each action and to record this new number.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 14.
K.1.E	Labeling Collections (Understand Whole Numbers – KU 1)	Students count and write labels for collections they have sorted and graphed into categories of their own choosing. Have them show how they know there are more in one group than another.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 15.
K.1.E	Counting Cakes (Understand Whole Numbers – KU 1)	Students count a line of objects like play dough ‘cakes’. Ask: “Will there be the same number of cakes if we start counting from the other end? Why? Why not? Students count also from the middle.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 15.
K.1.E	Number Trains (Understand Whole Numbers – KU 1)	Students practice the number sequence when lined up. Ask each student to count in turn from one to determine ‘how many’ students are in line.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 15.
K.1.E, K.1.F	Biggest Number (Understand Whole Numbers – KU 1)	Students choose and use materials to show why seven is less than eight when counting a collection. Focus on the idea that the next number names a quantity which must always be one more than the number before.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 15.

Standard	Lesson	Description	Resource
K.1.E	Grouping (Understand Whole Numbers – KU 1)	Students rearrange a collection of things to make them easier to count.	<i>First Steps in Mathematics: Number Vol. 1, pg. 15.</i>
K.1.E	Choosing Equipment (Understand Whole Numbers – KU 1)	Students set out equipment for an activity by referring to the number of students and collecting enough equipment for each.	<i>First Steps in Mathematics: Number Vol. 1, pg. 15.</i>
K.1.E	Different Totals (Understand Whole Numbers – KU 1)	When the class is counting a collection and some students arrive at different totals for the same amount, have students consider whether or not this is possible.	<i>First Steps in Mathematics: Number Vol. 1, pg. 15.</i>
K.1.E	Everyday Counting (Understand Whole Numbers – KU 1)	Use real counting opportunities to show students how counting is used by people in everyday situations.	<i>First Steps in Mathematics: Number Vol. 1, pg. 16.</i>
K.1.E	Matching (Understand Whole Numbers – KU 1)	Organize the class into different sized groups of students. Select a student in each group to collect and hand out enough sheets of paper to all members of their group. Ask: Have you got the right amount of paper for your group? How could you check? Focus on students' answers that include one to one matching.	<i>First Steps in Mathematics: Number Vol. 1, pg. 16.</i>
K.1.E, K.1.F	Enough for All (Understand Whole Numbers – KU 1)	Invite students to suggest ways that they can check if there will be enough equipment for different groups of people in different situations.	<i>First Steps in Mathematics: Number Vol. 1, pg. 16.</i>
K.1.E	Placing an Order (Understand Whole Numbers – KU 1)	Students use play dough 'food' for a role play. Encourage students to think about whether they will have enough of each thing for their group. How will counting help the delivery person know?	<i>First Steps in Mathematics: Number Vol. 1, pg. 16.</i>
K.1.E	Numbers and Objects (Understand Whole Numbers – KU 4)	Display collections of 13 to 19 objects that are found in the classroom and their matching number. Arrange the objects in ways that highlight the way the number is said (e.g. 14 pencils are arranged as 4 and 10).	<i>First Steps in Mathematics: Number Vol. 1, pg. 42.</i>
K.1.A, K.1.E	Numbers and Actions (Understand Whole Numbers – KU 4)	Ask students to count aloud matching the count to the rhythm of actions, for example skips with a rope, hops with a hoop, or catches of a ball.	<i>First Steps in Mathematics: Number Vol. 1, pg. 42.</i>

Standard	Lesson	Description	Resource
K.1.E	Number Labels (Understand Whole Numbers – KU 5)	Students write temporary number labels to show, for example, how many things are stored in each container in the classroom. Students write new labels when the other labels need replacing.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 54.
K.1.E	Matching (Understand Whole Numbers – KU 5)	Students play card games with a partner to match numbers to collections. Extend numbers into the teens and up to 20 as students are ready.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 54.
K.1.E	Grouping Objects (Understand Whole Numbers – KU 6)	Have students count the number of objects in a container of materials, and record this number on a label that is kept with the materials.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 62.
K.1.A, K.1.E	Counting Device (Calculate – KU 9)	Ask students to use the calculator as a counting device. For example, use the constant function to count collections of things by ones or in groups.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 175.
K.1.F Compare two sets of up to 10 objects, say equal to, greater than or less than the number in the other set (complete comparison)			
K.1.F	Letters in My Name	Children match objects to letters in their name and then count the objects.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 4.
K.1.F	It's a Match!	Children determine whether two number cards are the same quantity. Children will be exposed to many different number representations and will gradually disregard the attributes and focus on the number.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 7.
K.1.F	Number Link Chains	Children compare numbers of links to find out who has the longer link chain.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 12.
K.1.F	Bag It	Children place a number of objects into a bag to match the number of stars on the outside of the bag.	<i>Beginning Processes</i> , ORIGO Education, pg. 24.
K.1.F	Creepy Crawlies	Children match cards that show the same number of insects.	<i>Beginning Processes</i> , ORIGO Education, pg. 25.
K.1.F	Domino Drag	Children match dot pictures using dominoes.	<i>Beginning Processes</i> , ORIGO Education, pg. 26.
K.1.F	Make an Equal Group	Children throw a beanbag onto a target and make an equivalent group of counters to the quantity pictured where the beanbag landed.	<i>Beginning Processes</i> , ORIGO Education, pg. 31.

Standard	Lesson	Description	Resource
K.1.F & K.4.A	Keeping Counters	Children roll a die and make a group of that number with counters. Each child then compares their group to another child's group of counters. This activity encourages the use of the associated language 'more' and 'fewer'.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 57.
K.1.F, K.4.A	<i>Investigation 4: Comparing Names (Choice Time)</i>	Comparing two or more quantities to determine which is greater.	<i>Investigations: Collecting, Counting, and Measuring</i> by Muray, Economopoulos, Kliman, TERC, pg. 60-61.
K.1.F	<i>Investigation 4: Grab and Count: Compare</i>	Comparing quantities to determine which has more; using language to describe and compare amounts (<i>least, less, most, more, same, equal</i>)	<i>Investigations: Collecting, Counting, and Measuring</i> by Muray, Economopoulos, Kliman, TERC, pg. 62-63.
K.1.F, K.1.D	<i>Investigation 5: Grab and Count: Least to Most (Choice Time)</i>	Comparing several quantities to determine which is more; using appropriate language to describe and compare amounts (<i>less, least, more, most, same, equal</i>)	<i>Investigations: Collecting, Counting, and Measuring</i> by Muray, Economopoulos, Kliman, TERC, pg. 72-73.
K.1.F, K.1.E	<i>Investigation 2: Grab Two Handfuls (Choice Time)</i>	Counting up to about 20 objects; determining the larger of the two amounts; representing quantities with pictures, numbers, and words.	<i>Investigations: How Many in All?</i> by Kliman, Mainhart, Murray, Economopoulos, TERC, pg. 40-41.
K.1.G Locate numbers from 1 to 31 on the number line (without counting from one).			
K.1.G	Number Ladder	Children move to follow directions on a vertical number track.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 59.
K.1.G, K.1.F, 1.1.E	My Track, Your Track	Children compare the numbers on two number tracks.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 60.
	Kangaroo Jump!	Children read stories and make a kangaroo jump to the relative position	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 61.
K.5 & K.1.G	Tall Stories	Children determine the relative position of a number presented in a vertical format.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 64.
K.1.D, K.1.G	Number Line (Understand Whole Numbers – KU 4)	Invite students to make a number line around the room in chunks of numbers. Begin with 0 to 10, then add 11, 12, 13, to 19, 20 to 29, etc. Ask: What sounds the same about the new number? How does it sound different? See more questions.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 42.

Standard	Lesson	Description	Resource
K.1.G	Number Line (Understand Operations – KU 1)	Students use a number line to compare two different-sized groups and say how many more are in one group. Focus on the smaller number and ask: What would you do to the smaller number to make it the same as the bigger number?	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 15.
K.1.H Describe a number from 1 to 9 using 5 as a benchmark number.			
K.1.H	Five-Frame Fun	Children create a group of cubes on a five-frame to match a number spoken by the teacher.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 27.
K.1.H, 1.1.F	Hands Up (Understand Whole Numbers – KU 2)	Have two students face each other, then clap their hands three times before holding up between five and ten fingers. Have the show all the fingers on one hand and some extra fingers on the second hand.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 27.
K.1.H	Hands (Calculate – KU 2)	Ask students working in pairs to use fingers to show numbers between six and ten as five plus something (see picture). Have one student hold up their hands and then hide them, then their partner says the number shown. Practice until students recognize one to ten immediately.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 108.
K.1.H	More Hands (Calculate – KU 2)	With students working in pairs, ask one student to hold up some fingers on each hand. The partner imagines some fingers from one hand moving over to fill the other hand, and says how many in all.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 108.
K.1.A, K.1.C, K.1.H	Counting On and Back (Calculate – KU 5)	When students have begun to use ‘counting on’, ask: Why did you start from three? Compare ‘counting all’ with ‘counting on’ or ‘back’ when combining and separating small collections.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 134.
<u>K.2.A-D CORE CONTENT</u>			
K.2.A Copy, extend, describe, and create simple repetitive patterns.			
K.2.A	Find the Pattern	Children determine the parts in a pattern by tossing two dice. The children then extend and read the pattern.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 46.
K.2.A	Perfect Patterns	Children select two cards from a bag and make a repeating pattern using objects that match those cards.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 32.

Standard	Lesson	Description	Resource
K.2.A	Patterns are Fun	Children create repeating patterns by pasting objects on a strip of paper and then 'read' the patterns.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 78.
K.2.A	Make the Pattern Grow	Children create a growing pattern showing "one more" by threading beads onto a string.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 79.
K.2.A	Patterns with Shapes	Children create repeating or growing patterns using non-geometric and geometric shapes.	<i>Beginning Processes</i> by Rosemary Reuille Irons, ORIGO Education, pg. 80.
K.2.A	About Classroom Routines: Patterns on the Pocket Chart	Students look for relationships among the pattern elements and explore how the information can be used to predict what comes next.	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 74-77
K.2.A & K.3.A	<i>Investigation 1: Exploring Pattern Blocks</i>	Students explore pattern blocks and their attributes; and use informal language to describe geometric shapes.	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 14-15.
K.2.A, K.2.B	<i>Investigation: Patterns on the Pocket Chart (Classroom Routines)</i>		<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 108-111.
K.2.A, K.2.B	<i>Investigation 1: Watching and Looking</i>	Following a routine or pattern of body movements; creating a routine or pattern involving body motions; predicting what comes next in a routine or pattern.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 4-7.
K.2.A	<i>Investigation 1: Cubes: What Do You Notice?</i>	Predicting what comes next in a color sequence; distinguishing between a random arrangement and a predictable arrangement or pattern	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 8-13.
K.2.A	<i>Investigation 1: Making Patterns</i>	Constructing patterns; thinking about what might come next in a pattern; extending patterns; discriminating between a pattern and an arrangement or design.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 14-15.
K.2.A	<i>Investigation 2: Patterns on the Pocket Chart (Focus Time)</i>	Describing, copying and extending a pattern; predicting what comes next in a pattern; identifying the unit of a pattern.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 26-30.
K.2.A	<i>Investigation 2: What Comes Next? (Choice Time)</i>	Constructing, copying and reading a pattern; predicting and confirming what comes next; continuing a pattern.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 32-33.

Standard	Lesson	Description	Resource
K.2.A	<i>Investigation 2: Pattern Block Snakes (Choice Time)</i>	Creating and extending a pattern; determining what comes next in a pattern; recording a pattern.	<i>Investigations: Pattern Trains and Hopscotch</i> , pg. 34-35.
K.2.A	<i>Investigation 2: Add On (Choice Time)</i>	Constructing the unit of a pattern; creating and extending a pattern; counting 12 objects.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 36-37.
K.2.A	<i>Investigation 2: Break the Train (Choice Time)</i>	Constructing patterns; decomposing patterns; reading patterns, identifying the units of patterns; counting.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 38-39.
K.2.A	<i>Investigation 2: Make a Train (Choice Time)</i>	Identifying the units of a pattern; continuing a pattern by adding units; counting.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 40-42.
K.2.A	<i>Investigation 4: Pattern Borders (Focus Time)</i>	Making and extending a pattern; making a linear pattern in a rectangular frame; making different patterns using only two colors.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 66-72.
K.2.A	<i>Investigation 4: Color Tile Borders (Choice Time)</i>	Making a linear pattern in a rectangular frame.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 74-75.
K.2.A, K.1.E	<i>Investigation 4: 12 Chips (Choice Time)</i>	Making different patterns with only two colors; comparing different patterns by looking at the total number of each color used; considering the unit of pattern; counting a set of objects.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 76-77.
K.2.A, K.1.E, K.1.F	<i>Investigation 4: Staircase Patterns (Choice Time)</i>	Copying, extending, and recording patterns that grow (or shrink) in a regular way; determining the rule for how a staircase pattern grows; counting the number of cubes in a step; comparing the number of cubes in one step to the number in the next step.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 78-79.
K.2.A	Daily Activities (Reason About Number Patterns – KU 1)	Students look for the repeating events in daily routines such as arriving at or leaving school. Ask them to draw the separate events. Encourage students to say what happens over and over again.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 202.
K.2.A	Watching the Line-up (Reason About Number Patterns – KU 1)	Have students look at a line of students pre-arranged in a repeating pattern such as in ‘Lining Up’ (K.2.B). Ask them to decide what the pattern is and what the next several students will need to do to continue the pattern. Focus on the repeating parts.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 203.
K.2.A	Necklaces (Reason About Number Patterns – KU 1)	Ask students to reproduce a string of beads that shows a repeating pattern such as blue, blue, red, blue, blue, red. Draw out the ‘pattern’ by having students chant aloud the sequence of colors.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 203.

Standard	Lesson	Description	Resource
K.2.A	Varied Objects (Reason About Number Patterns – KU 1)	Have students repeat the previous activity (Necklaces) but include several types of objects or beads where the only repetition is in the color.	<i>First Steps in Mathematics: Number Vol. 2, pg. 203.</i>
K.2.A	Necklaces (Reason About Number Patterns – KU 2)	Ask students to thread two colors of beads on a string in a repeating pattern such as ‘blue, blue, red, blue, blue, red’ and record as a number sequence: 2,1,2,1,2,1, ... Later extend to more than two parts repeating.	<i>First Steps in Mathematics: Number Vol. 2, pg. 214.</i>
K.2.A	Isolating the Pattern (Reason About Number Patterns – KU 2)	Have students isolate the repeating section of a sequence. Ask: What is the shortest way to say the pattern? What is the smallest part that is repeated?	<i>First Steps in Mathematics: Number Vol. 2, pg. 214.</i>
K.2.A	Matching Patterns (Reason About Number Patterns – KU 2)	Play games involving matching number patterns to cards with object patterns. Make several object pattern cards for each number pattern. Ask students to find several object patterns for the same number pattern. See examples.	<i>First Steps in Mathematics: Number Vol. 2, pg. 215.</i>
K.2.A	How Many? (Reason About Number Patterns – KU 2)	Ask students to use a number pattern to plan how many objects they will need to make a given number of repeats. Ask them to choose a number pattern from the class chart made previously.	<i>First Steps in Mathematics: Number Vol. 2, pg. 215.</i>
K.2.A, K.2.B	Material Patterns (Reason About Number Patterns – KU 2)	Ask students to choose materials to create a sequence that ‘shows’ a provided number sequence, such as 3, 4, 3, 3, 4, 3, ... Compare displays and draw out that all the displays share the same pattern. Have students then work in groups to use the pattern in other creative ways, body actions and poses, music, dance steps, people.	<i>First Steps in Mathematics: Number Vol. 2, pg. 216.</i>
K.2.A	Pasta Patterns (Reason About Number Patterns – KU 2)	Have students plan a pattern using three types of pasta. After constructing the pattern, ask students to identify and group similar patterns and write the number sequence for each group. Ask students to compare the patterns.	<i>First Steps in Mathematics: Number Vol. 2, pg. 216.</i>
K.2.A	Number Scrolls (Reason About Number Patterns – KU 3)	Extend ‘Number Scrolls’ (K.1.B) by having students use a rule to create and write a number pattern, then leave out part of the sequence and have a partner find the rule to fill in the missing part.	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>

Standard	Lesson	Description	Resource
K.2.A	Variation on Number Scrolls (Reason About Number Patterns – KU 3)	Have students give their partner the missing section of their number scroll for them to work out a rule and generate a sequence of numbers backwards to see if it matches. If it doesn't, both students explain their rule to each other.	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>
K.2.A	What's My Rule (Reason About Number Patterns – KU 3)	Students predict missing parts of a sequence by first working out the pattern, then saying what the missing part must be. For example: One student makes a pattern of four repeating units and cover two of the units. They ask their partner to look at what is not covered and make the hidden part.	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>
K.2.A	What's Next (Reason About Number Patterns – KU 3)	Extend 'What's My Rule' by having students predict what the next object will be in their partner's sequence.	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>
K.2.A	Recording (Reason About Number Patterns – KU 3)	Use activities such as 'Necklaces' (K.2.A) and 'Lining Up' (K.2.B) for students to record all the numbers in a sequence and to say what the rule is that generated the pattern. For example: <i>It's two one.</i>	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>
K.2.A	Story Patterns (Reason About Number Patterns – KU 3)	Have students count objects illustrated in stories to see if there is a pattern, and predict how many will be on the next page. See examples and questions.	<i>First Steps in Mathematics: Number Vol. 2, pg. 226.</i>
K.2.A	How Many? (Reason About Number Patterns – KU 3)	Students use a number pattern to plan how many objects they will need. Ask students to choose a number pattern from the class chart made previously 'Reference Chart' (K.2.B), say 1, 4, 2, and choose from three containers where there are twice as many shells as nuts and straws to make a pattern. Help them plan how many of each of the objects they will need if they make three repeats.	<i>First Steps in Mathematics: Number Vol. 2, pg. 227.</i>
K.2.A	Identifying Patterns (Reason About Number Patterns – KU 4)	Have students identify and record number patterns, e.g. dots arranged in growing patterns on the overhead.	<i>First Steps in Mathematics: Number Vol. 2, pg. 235.</i>
K.2.A	Make a Pattern (Reason About Number Patterns – KU 4)	Use a beginning unit to generate a pattern, e.g. one shell, two leaves, one shell. Students may come up with different rules. They may see the unit as 1,2 and repeat that, or they may repeat the 1, 2, 1 unit. Use this beginning unit several times for students to focus on using different rules to make different patterns.	<i>First Steps in Mathematics: Number Vol. 2, pg. 236.</i>

Standard	Lesson	Description	Resource
K.2.A	Teens (Reason About Number Patterns – KU 5)	Students chant and sing counting rhymes involving one to nine. Extend to the teens. Record the numbers in order and draw out that the digits zero to nine are repeated in the same order.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 244.
K.2.A	Decades (Reason About Number Patterns – KU 5)	Record the counting sequence as students count aloud up, over and through the decades. Draw out that the digits (zero to nine) repeat within each decade and that the decades (tens) also repeat the digits in order.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 244.
K.2.A	Number Sequence (Reason About Number Patterns – KU 5)	Have ten sets of ten different colored squares for students to make a number sequence from one to 100 to display around the room. They write one number per square, keeping the sequence of colors the same for every set of ten. (e.g. 2, 12, 22, 32, 42, etc. are all on yellow.) Display the first ten and work out which number and color come next.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 244.
K.2.B Translate a pattern among sounds, symbols, movements, and physical objects.			
	Copycat	Children copy movements to create a pattern	<i>Beginning Processes</i> , ORIGO Education, pg. 30.
K.2.A, K.2.B	<i>Investigation 3: Hopscotch Paths (Focus Time)</i>	Arranging squares to create a pattern; looking at a pattern and creating a hopping or jumping sequence to match the pattern.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 48-53.
K.2.A, K.2.B	<i>Investigation 3: Hopscotch Paths (Choice Time)</i>	Arranging squares to create a pattern; interpreting a pattern using physical (hopping) movements.	<i>Investigations: Pattern Trains and Hopscotch Paths</i> , pg. 56-57.
K.2.A, K.2.B	<i>Investigation 3: Tile Paths (Choice Time)</i>	Constructing a pattern; interpreting a pattern using physical movements	<i>Investigations: Pattern Trains and Hopscotch Path</i> , pg. 58-59.
K.2.B	Sound and Movement (Reason About Number Patterns – KU 1)	Have students follow sequences of movements and sounds, comparing those that are patterned with those that are not. See examples.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 202.
K.2.B	Lining Up (Reason About Number Patterns – KU 1)	Invite students to use the repeating pattern in the actions of a line of students to predict what comes next and what they will have to do.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 202.
K.2.B	Decades (Reason About Number Patterns – KU 1)	Count in rhythm with students as they go up, over and through the decade numbers. Use variations in pitch and volume of voice to emphasize one to nine repeating within a decade, and the decades (tens) also following this pattern. Stop periodically and ask: How do you know what comes next? What is the pattern? How does it help?	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 203.

Standard	Lesson	Description	Resource
K.2.B	Lining Up (Reason About Number Patterns – KU 2)	Extend ‘Lining up’. Have students use numbers to describe the repeating pattern in the line of students. Model the process. Ask students to use the same pattern to make other arrangements or movements.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 214.
K.2.B	Sound and Action (Reason About Number Patterns – KU 2)	Invite students to create sound or action patterns for other to follow, based on a single number pattern. Copy and continue the pattern, then create other steps the same pattern.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 215.
K.2.B	Reference Chart (Reason About Number Patterns – KU 2)	Make a chart of the number patterns generated during activities for students to refer to when using patterns to create art or dances.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 215.
K.2.C Model addition by joining sets of objects that have 10 or fewer total objects. Model subtraction by separating a set of 10 or fewer objects			
K.2.C	How Many are Hiding?	Children determine how many objects are “hidden” when the beginning number is known.	<i>Number</i> , ORIGO Education, pg. 32.
K.2.C, K.3.C	<i>Investigation 2: Six Tiles in All</i>	Becoming familiar with combinations of six; describing position of and spatial relationships among objects; recording strategies for counting six things grouped in different ways.	<i>Investigations: How Many in All?</i> , pg. 30-37.
K.2.C	<i>Investigation 2: Books of Six in All</i>	Becoming familiar with combinations of six; recording strategies for counting six things grouped in different ways.	<i>Investigations: How Many in All?</i> , pg. 38-39.
K.2.C, K.1.B (K.1.H if lesson modified to use 5 frame)	<i>Investigation 2: Towers of Six (Choice Time)</i>	Finding combinations of six; using objects to model number combinations; recording solutions with pictures, numbers, and words.	<i>Investigations: How Many in All?</i> , pg. 42-44.
K.2.C, K.5.D	<i>Investigation 3: Story Problems (Focus Time)</i>	Making sense of combining and separating stories by acting them out and retelling them.	<i>Investigations: How Many in All?</i> , pg. 54-62.
K.2.C, K.1.F	<i>Investigation 3: Double Compare (Choice Time)</i>	Finding the total of two quantities up to 6; finding the larger of two quantities up to 12.	<i>Investigations: How Many in All?</i> , pg. 63-64.
K.2.C	<i>Investigation 3: Counters in a Cup (Choice Time)</i>	Finding combinations of numbers up to 6; using objects to model number of combinations; using numbers to record how many.	<i>Investigations: How Many in All?</i> , pg. 65-67.
K.2.C, K.1.E	<i>Investigation 3: Racing Bears (Choice Time)</i>	Counting out amounts up to 6; becoming familiar with combinations of numbers up to 6.	<i>Investigations: How Many in All?</i> , pg. 68-69.
K.2.C, K.1.B, K.5.E	<i>Investigation 4: Six Crayons in All(Choice Time)</i>	Finding combinations of 6; using pictures, numbers, and words to record solutions to a problem; beginning to recognize that some problems have more than one solutions.	<i>Investigations: How Many in All?</i> , pg. 82-83.

Standard	Lesson	Description	Resource
K.2.C	<i>Investigation 4: Total of Six (Choice Time)</i>	Finding combinations of 6; finding the total of two or more single-digit numbers.	<i>Investigations: How Many in All?</i> , pg. 84-85.
K.2.C	Constant Addition (Understand Whole Numbers – KU 1)	Ask students to use the constant function on a calculator to count groups of things.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 16.
K.2.C	Separating Collections (Understand Whole Numbers – KU 2)	Students working with a partner investigate how a collection can be separated into parts.	<i>First Steps in Mathematics: Number Vol. 1</i> , pg. 16.
K.2.C	Separating Objects (Understand Operations – KU 1)	Ask students to describe the different ways a group of objects can be separated. Use toy animals, counters, play dough to represent a story such as: Five birds in a tree. Three flew away. How many birds left in a tree?	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 15.
K.2.D Describe a situation that involves the actions of joining (addition) or separating (subtraction) using words, pictures, objects or numbers.			
K.2.D	Role Play (Understand Operations – KU 1)	Students act out the characters in a story. Each time people come or go a child records the number and the operation/action or sign on the board, e.g. +2, -1. At the end of the story, ask: Which part of the story was the '+2' for? Could it have been when the wolf ran away? Why? Which part of the story could '3+1' be about?	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 14.
K.2.D, 1.2.A	Plus or Minus (Understand Operations – KU 1)	Retell a favorite story to students and have them hold up a card showing either the '+' or '-' each time a character joins or leaves the scene.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 14.
K.2.C, K.2.D	How Many? (Calculate – KU 1)	Students use materials such as buttons to model an addition story involving change and then compare their answers. For example, four emus are in your paddock. If three more come home, how many will there be?	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 100.
K.2.C, K.2.D	Counting Chickens (Calculate – KU 1)	Ask students to model stories. For example, Mother Hen gathered four of her chicks. If three more come back, how many will there be? Continue with different examples using the same numbers until students confidently claim it will always be seven. Ask those who claim this to justify to others.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 100.

Standard	Lesson	Description	Resource
K.3.A-C CORE CONTENT			
K.3.A Identify, name, and describe circles, triangles, rectangles (squares as special rectangles), cubes and spheres.			
K.3.A	Puzzle Pieces	Children match different geometric shapes to their outlines.	<i>Beginning Processes</i> , ORIGO Education, pg. 19.
K.3.A	Clowning Around	Children match geometric felt shapes to shape pictures.	<i>Beginning Processes</i> , ORIGO Education, pg. 20.
K.3.A	Overlaps (extension)	Children sort attribute blocks into two sets and identify a part of each set that is the same.	<i>Beginning Processes</i> , ORIGO Education, pg. 44.
K.3.A & K.4.A	Shape Shuffle	Children select shapes from a bag in order of size. They make the selection by feeling the size of the shapes.	<i>Beginning Processes</i> , ORIGO Education, pg. 66.
K.3.A	<i>Investigation 1: Exploring Geoblocks (Choice Time)</i>	Students explore Geoblocks and their attributes and use informal language to describe geometric shapes.	<i>Investigations: Mathematical Thinking in Kindergarten</i> , pg. 16-21.
K.3.A & 1.3.A	Investigation 1: Focus Time Looking At 2-D Shapes	<ul style="list-style-type: none"> ▪ Observing and describing shapes ▪ Developing vocabulary to describe shapes ▪ Becoming familiar with the names of shapes ▪ Relating 2-D shapes to real world objects ▪ Using shapes to make a picture 	<i>Investigations: Making Shapes and Building Blocks; K; pg 5-11.</i>
K.3.A	Teacher Note: How Young Children Learn About Shapes		<i>Investigations: Making Shapes and Building Blocks; K; pg 22-25.</i>
K.3.A & 1.3.A	Investigation 1: Choice Time Book of Shapes	<ul style="list-style-type: none"> ▪ Observing and describing shapes ▪ Developing vocabulary to describe shapes ▪ Becoming familiar with the names of shapes ▪ Relating 2-D shapes to real world objects ▪ Using shapes to make a picture 	<i>Investigations: Making Shapes and Building Blocks; K; pg 12-13.</i>
K.3.A	Investigation 1: Choice Time Pattern Block Pictures	<ul style="list-style-type: none"> ▪ Exploring pattern blocks and their attributes ▪ Using informal language to describe geometric shapes ▪ Making a 2-D representation 	<i>Investigations: Making Shapes and Building Blocks; K; pg 14-16.</i>
K.3.A & K.3.B 1.3.A, 1.3.B, & 1.3.C	Investigation 1: Choice Time Shape Mural	<ul style="list-style-type: none"> ▪ Using shapes to design a picture ▪ Relating 2-D shapes to real-world objects ▪ Putting shapes together to make other shapes ▪ Developing vocabulary to describe and name shapes 	<i>Investigations: Making Shapes and Building Blocks; K; pg 17-20.</i>

Standard	Lesson	Description	Resource
K.3.A 1.3.A & 1.3.C	Investigation 2: Choice Time Pattern Block Puzzles	<ul style="list-style-type: none"> ▪ Finding combinations of shapes that fill an area ▪ Building knowledge about the relationships among pattern block shapes ▪ Developing vocabulary to describe 2-D shapes 	<i>Investigations: Making Shapes and Building Blocks; K; pg 34-37.</i>
K.3.A	Investigation 4: Making Shapes and Building Blocks – Clay Shapes	<ul style="list-style-type: none"> ▪ Describing and becoming familiar with the attributes of 2-D shapes ▪ Constructing 2-D shapes 	<i>Investigations: Making Shapes and Building Blocks; K; pg 60-69.</i>
K.3.A 1.3.A	Investigation 5: Choice Time Matching Faces	<ul style="list-style-type: none"> ▪ Observing similarities and differences between the faces of different 3-D shapes ▪ Observing similarities and differences between the different faces of a single 3-D shape ▪ Developing vocabulary to describe the different faces of 3-D shapes 	<i>Investigations: Making Shapes and Building Blocks; K; pg 88-89.</i>
K.3.A 1.3.B	Investigation 1: Session 1 What Shapes Do You See?	<ul style="list-style-type: none"> ▪ Noticing shapes in their environment ▪ Using informal language to describe geometric shapes ▪ Becoming familiar with the names of 2-D and 3-D shapes 	<i>Investigations: Quilt Squares and Block Towns; grade 1; pg. 5-12.</i>
K.3.A	Investigation 2: Sessions 1 & 2; Describing and Comparing Shapes	<ul style="list-style-type: none"> ▪ Constructing and describing 3-D shapes ▪ Comparing size, shape, and orientation of objects ▪ Developing vocabulary to describe 3-D shapes ▪ Looking at 3-D objects as wholes and as having parts 	<i>Investigations: Quilt Squares and Block Towns; grade 1; pg. 65-72.</i>
(Teacher Note)	Investigation 1: Teacher Note Identifying Pattern Blocks and Terminology		<i>Investigations: Shapes, Halves, and Symmetry; grade 2; pg. 22.</i>
(Dialogue Box)	Investigation 2: Triangles and Quadrilaterals	Are All Three-Sided Polygons Triangles? Are All Squares Rectangles?	<i>Investigations: Picturing Polygons; grade 5; pgs 44-45.</i>
K.3.A	Assessment: What is a Triangle? And Assessment: What is a Triangle? Revisited	Assesses what children know about triangles	<i>Math By All Means: Geometry Grades 1-2; pg. 19-23 & 148-151.</i>
K.3.A	Triangles on the Geoboard	Students create eight different triangles so that none are congruent	<i>Math By All Means: Geometry Grades 1-2; pg. 49-58.</i>
K.3.A	Shapes from Shapes	Students explore and draw different designs that can be created from the same shapes and look at how smaller shapes can be use to cover larger ones.	<i>Navigating through Geometry in Prekindergarten – Grade 2, pg.14-16.</i>

Standard	Lesson	Description	Resource
K.3.A	Assessment: What is a Triangle? And Assessment: What is a Triangle? Revisited	Assesses what children know about triangles	<i>Math By All Means: Geometry Grades 1-2; pg. 19-23 & 148-151.</i>
K.3.B Sort shapes using a sorting rule and explain the sorting rule.			
K.3.B	Sorting Circles (extension)	Children use their sense of touch to learn the characteristics of geometric shapes, such as triangles, squares, ovals and rectangles.	<i>Beginning Processes, ORIGO Education, pg. 34.</i>
K.3.B	Sense of Shape	Children sort fabric by the two attributes of texture and shape.	<i>Beginning Processes, ORIGO Education, pg. 36.</i>
K.3.B	Big and Little	Children sort objects by size.	<i>Beginning Processes, ORIGO Education, pg. 37.</i>
K.3.B	Money Matters	Children sort coins by their picture, size , or country of origin.	<i>Beginning Processes, ORIGO Education, pg. 39.</i>
K.3.B	All Sorts	Children sort pictures that they have drawn according to a category.	<i>Beginning Processes, ORIGO Education, pg. 45.</i>
K.3.B	Fabric Fun	Children sort pieces of fabric according to their designs. This activity requires careful observation of detail, which is a basic prerequisite for patterning activities.	<i>Beginning Processes, ORIGO Education, pg. 46.</i>
K.3.B	Matching Mittens	Children sort pairs of mittens by design.	<i>Beginning Processes, ORIGO Education, pg. 47.</i>
K.3.B	Sea Creatures	Children find two halves of pictures of sea creatures. Then they place the sea creatures in order by size.	<i>Beginning, ORIGO Education, pg. 67.</i>
K.3.B, K.4.A	Pretty Presents	Children order boxes by size. This activity highlights the following language: big, bigger, biggest, middle, small, smaller, and smallest.	<i>Beginning Processes, ORIGO Education, pg. 69.</i>
K.3.B	17.1 Shape Sort	Students sort shapes and describe how their shapes are alike or different.	<i>Elementary and Middle School Mathematics: Teaching Developmentally, 4th Edition by John Van de Walle; pg312.</i>
(Describing Geoblocks)	Investigation 2: Session 1 & 2 Describing and Comparing Shapes	<ul style="list-style-type: none"> ▪ Comparing size, shape, and orientation of objects ▪ Developing vocabulary to describe 3-D objects 	<i>Investigations: Quilt Squares and Block Towns; grade 1; pg. 65-66. Also 71-72.</i>

Standard	Lesson	Description	Resource
K.3.C Describe the location of one object relative to another object using words such as <i>in, out, over, under, above, below, between, next to, behind, and in front of.</i>			
K.3.C	Building Blocks	Children construct buildings with blocks. They then compare the shapes of buildings.	<i>Beginning Processes</i> , ORIGO Education, pg. 4.
K.3.C	Opposite Antics	Children perform actions to show positional language relating to opposites, such as: up, down; under, over; high, low; in front, behind; top, bottom; front, back; and above, below.	<i>Beginning Processes</i> , ORIGO Education, pg. 50.
K.3.C	Investigation 4: Choice Time Quick Images on the Computer	<ul style="list-style-type: none"> ▪ analyzing visual images ▪ describing position of a spatial relationships among objects 	<i>Investigations: Making Shapes and Building Blocks; K</i> ; pg 75-81.
K.3.C	Ins and Outs	Students learn positional vocabulary by following and giving directions using positional terms.	<i>Navigating through Geometry in prekindergarten – grade 2</i> , pg 33-35.
K.3.C	Match My Grid	Students work in pairs; one student arranges three to five shapes on a piece of paper that has been separated into four sections. Using positional and geometric vocabulary, the student describes the arrangement of the shapes to the partner.	<i>Navigating through Geometry in prekindergarten – grade 2</i> , pg 36-38.
K.3.C	From Here to There	The students determine a variety of paths to get from one point to another on a grid, describing the moves using the words <i>up, down, right, and left.</i>	<i>Navigating through Geometry in prekindergarten – grade 2</i> , pg 39-41.
K.3.C	Map Maker	Students create and interpret maps of familiar areas.	<i>Navigating through Geometry in prekindergarten – grade 2</i> , pg 42-44.
K.3.C	Way to Go! (extension)	Children follow random directions generated from dice to navigate a given path. Use the game board to develop directional language. Ask a child to place a counter at the start and describe how they would move along the path to a specified place. Encourage them to use language such as forward, backward, right and left.	<i>Beginning Processes</i> , ORIGO Education, pg. 68.
K.3.C & K.4.A	Partner Pictures	Partners use two identical set of stickers to create matching scenes or “twin” pictures. Partners attempt to position their stickers in exactly the same places on their papers and then use some measurement tools to help them determine if they have done so.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 26-29.

Standard	Lesson	Description	Resource
K.3.C, K.4.A, 1.4.E	Decorative Tiles	This lesson focuses on area in the context of decorative floor tiles. Students are given the task of covering the area of a paper square “tile” with smaller squares. When everyone has made a tile, students compare and sort the tiles in different ways.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg.80-82.
<u>K.4.A ADDITIONAL KEY CONTENT</u>			
K.4.A Make direct comparisons using measurable attributes such as length, weight, and capacity. Longer than, shorter than, taller than, heavier than, lighter than, holds more than, or holds less than (make sure the comparison is complete)			
K.4.A	Funny Faces	Children describe lengths of hair as being the same or different.	<i>Beginning Processes</i> , ORIGO Education, pg. 5.
K.4.A	Clumsy Clowns	Children match clowns by height.	<i>Beginning Processes</i> , ORIGO Education, pg. 21.
K.4.A	Balancing Buckets	Children fill an empty bucket to match the mass of a closed bucket filled with objects.	<i>Beginning Processes</i> , ORIGO Education, pg. 22.
K.4.A	It’s About Time	Children sort pictures of activities that take a short time or a long time. This activity develops an awareness of time duration and encourages the use of associated language.	<i>Beginning Processes</i> , ORIGO Education, pg. 38.
K.4.A	Sort the Patterns	Children sort pattern strips and then describe their sorting decisions.	<i>Beginning Processes</i> , ORIGO Education, pg. 48.
K.4.A	Playdough Partners	Children make shapes that are bigger, smaller, longer, taller, shorter, wider, and thinner than a picture model.	<i>Beginning Processes</i> , ORIGO Education, pg. 51.
K.4.A	Ponder the Path	Children compare objects to written descriptions. These descriptions are placed as road signs along a path that the children have to follow.	<i>Beginning Processes</i> , ORIGO Education, pg. 52.
K.4.A	Compare a Pair	Children compare and discuss the length, size, or sound of two objects. In making their comparisons, children will use language such as longer, shorter, bigger, smaller, louder, and softer.	<i>Beginning Processes</i> , ORIGO Education, pg. 53.
K.4.A	Creature Features	Children compare features of pictorial creatures. They use the following comparing language: long, longer; tall, taller; short, shorter; small, smaller; and big, bigger.	<i>Beginning Processes</i> , ORIGO Education, pg. 54.
K.4.A	Paper Cuts	Children cut scrap paper to be longer, shorter, wider, narrower, bigger, or smaller than a given object.	<i>Beginning Processes</i> , ORIGO Education, pg. 55.

Standard	Lesson	Description	Resource
K.4.A	More or Less	Children fill a container to show more or less than another amount and build a group of concrete objects to show more or fewer than a given group.	<i>Beginning Processes</i> , ORIGO Education, pg. 56.
K.4.A	What Toys Weigh?	Children collect, display, and interpret information about the mass of different objects.	<i>Beginning Processes</i> , ORIGO Education, pg. 59.
K.4.A	Ribbons and Rows	Children match an equivalent length of ribbon to rows of cubes. This experience gives children opportunities to work with continuous and discrete materials.	<i>Beginning Processes</i> , ORIGO Education, pg. 63.
K.4.A	Make It Balance	Children place cubes on a set of balance scales to make the balance scales even.	<i>Beginning Processes</i> , ORIGO Education, pg. 64.
K.4.A & 1.4.D	Which Weigh?	Children order boxes by mass.	<i>Beginning Processes</i> , ORIGO Education, pg. 70.
K.4.A & 1.4.D	Place Your Order	Children order closed containers by mass.	<i>Beginning Processes</i> , ORIGO Education, pg. 71.
K.4.A	<i>Investigation 3: Measurement Towers (Focus Time)</i>	Lining up two objects to determine which is longer	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 38-41.
K.4.A, K.1.E, K.3.B	<i>Investigation 3: Measuring Table (Choice Time)</i>	Lining up two objects to determine which is longer; creating a set of given size; sorting objects into two categories, according to length.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 42-43.
K.4.A, K.1.E, K.3.F	<i>Investigation 3: Grab and Count: Which Has More?</i>	Comparing two amounts (arranged in towers) to determine if one is larger; counting a set of objects.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 44-45.
K.4.A, K.1.B, K.1.E, K.1.F	<i>Investigation 3: Compare (Choice Time)</i>	Counting and comparing two numbers or quantities to find which is more; connecting numerals and number names with the quantities they represent.	<i>Investigations: Collecting, Counting, and Measuring</i> , pg. 46-47.
K.4.A, K.1.B, K.1.E, 1.4.B	<i>Investigation 1: Counting and Measuring (Focus Time)</i>	Describing lengths that fall between two whole numbers; recording measurements with pictures, numbers and words; counting up to about 10 objects; repeating a nonstandard unit to quantify length.	<i>Investigations: How Many in All?</i> , pg. 4-11.
K.4.A, K.1.B,	<i>Investigation 1: Measuring</i>	Describing lengths that fall between two whole numbers;	<i>Investigations: How Many in</i>

Standard	Lesson	Description	Resource
K.1.E	with Sticks (Choice Time)	recording measurements with pictures, numbers and words; counting up to about 10 objects; repeating a nonstandard unit to quantify length; counting objects up to about 10 objects.	<i>All?</i> , pg. 12-13.
K.4.A & 1.4.B	Length: Rod Towers	In this lesson children build and then determine the height of Cuisenaire rod towers. Student build a tower with a partner, decide the measurement tool to use, measure their tower, and then the whole class make comparisons between towers.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 1-3.
K.4.A	Length: Yarn-Length Hunt	In this activity children use pieces of yarn to develop concepts and vocabulary related to length comparisons.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg.3-6.
K.4.A & 1.4.B	Length: Ordering Bears and Things	This lesson uses the familiar bear characters from the favorite story <i>Goldilocks and the Three Bears</i> , but instead of just three bears, children work with 12 bears, each a different size, along with a corresponding set of bowls, chairs, and beds.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 6-9.
K.4.A	Length: Name Trains	In this lesson each child uses Snap Cubes and letter stickers to create a name train. Students compare the lengths of their name trains and determine how much longer some trains are than others.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 10-11.
K.4.A	Ordering Familiar Objects by Weight	Students use common classroom objects to clarify the language that is used to describe weight. Students order a series of objects by weight and discuss their results with a partner. The children also consider whether the order remains the same if size is the criteria, rather than weight.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 104-106.
K.4.A, 1.4.B, 2.3.A, 2.3.C & 2.4.A	Length: Dots	In this activity children have an opportunity to develop geometric and measurement skills. After drawing and connecting four dots with a straightedge to create a quadrilateral, children measure and compare the lengths of its sides.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 15-18.
K.4.A, 1.4.C & 1.5.A	Length: Growing Things	In this lesson students learn about the process of planting seeds. The class keeps track of the length of time it takes for seeds to germinate and then of the weekly growth of the seedlings.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms</i> , pg. 18-20.

Standard	Lesson	Description	Resource
K.4.A	Round and Round	Students measure the circumference of lids with string and compare the lengths of the strings.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg. 22-24.</i>
K.4.A, 2.3.A	Inch by Inch	Students use color tiles to measure pictures of birds. Students may measure pictures of birds with standard units in inches or centimeters.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg. 24-26.</i>
K.4.A	Handprint Wreath	Children make and collect a variety of cutout handprints. They compare the handprints, count them, and order them by size.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg.77-79.</i>
K.4.A & 1.4.D	Pockets, Pockets	Children imagine that they are taking a very long walk and along the way are filling the pockets on their clothing with goodies such as coins, feathers, and rocks. Individually they choose what to put in their pockets, keeping in mind that the longer they walk, the heavier the items will seem.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg. 120-121.</i>
K.4.A & 1.4.A	Scoops of Rice and Beans	Students explore the meaning of volume. They predict and then find the number of scoops of rice that will fill a jar. Then they repeat with beans and compare the results.	<i>Sizing Up Measurement: Activities for Grades 3-5 Classrooms, pg. 96-98.</i>
K.4.A	Hot and Cold	Students identify things that are hot and things that are cold.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg. 122-123.</i>
K.4.A	Temperatures of Food	Students reflect on grocery shopping and cooking experiences to think about temperatures of food.	<i>Sizing Up Measurement: Activities for Grades K-2 Classrooms, pg. 123-124.</i>
K.4.A	Storing or Selecting Materials (Understand Units – KU 1)	Students compare and order by attribute when storing or selecting equipment.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 14.</i>
K.4.A	Hefting Objects (Understand Units – KU 1)	Students heft objects ranging from large and light to small and heavy.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 14.</i>
K.4.A	Jellies (Understand Units – KU 1)	Students order containers by different attributes.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 14.</i>
K.4.A	Play Dough (Understand Units – KU 1)	Students use play dough to make snakes ranging from short and fat through to long and thin, then order them by length.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 14.</i>
K.4.A	Length (Understand Units – KU 1)	Students explore using different lengths of string in construction and collage activities.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 15.</i>
K.4.A	Hefting Closed Tubs (Understand Units – KU 1)	Students heft tubs and guess what each is holding based on its weight.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 15</i>

Standard	Lesson	Description	Resource
K.4.A	Pour to Decide (Understand Units – KU 1)	Students place cups in order of those that hold the most to those that hold the least.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 15.</i>
K.4.A	Describing and Comparing Quantity (Understand Units – KU 1)	Students follow directions and answer questions involving language that describes and compares quantities.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 22.</i>
K.4.A	More Stories	Using literature students use language to describe attributes of characters in a story.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 22.</i>
K.4.A	Short and Tall Posters (Understand Units – KU 1)	Students make posters to show ‘what is short to a giraffe’ and ‘what is tall to a mouse’.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 23.</i>
K.4.A	Colloquial Terms (Understand Units – KU 1)	Teachers model the correct work when students use colloquial terms to describe order.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 23.</i>
K.4.A	What Am I? (Understand Units – KU 1)	Students play ‘What Am I?’ using measurement language.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 23.</i>
K.4.A, K.1.F	Trains (Understand Units – KU 3)	Students make trains from blocks and count how many carriages long their train is.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 30.</i>
K.4.A	Using a Balance Scale (Understand Units – KU 3)	After students have hefted two objects, ask them to place the first object in one side of a balance scale. Students place units in the other side one at a time and count how many units.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 30.</i>
K.4.A	Balancing Tools (Understand Units – KU 3)	Extend ‘Using a Balance Scale’ by making other balancing tools.	<i>First Steps in Mathematics: Measurement – Vol. 1, pg. 30.</i>
K.4.A	Trains (Direct Measure-KU 1)	Vary Trains (KU 3) by having students line their trains up to compare the lengths. Ask them to make their trains the same length.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 96.</i>
K.4.A	Showing and Telling (Direct Measure-KU 1)	When directly modeling quantities, model how you do it, and talk about what you do. For example, when comparing lengths, say: First I need to check that the lengths are lined up at the base, then I look at the tops.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 96.</i>
K.4.A, 1.4.C	Who is Tallest? (Direct Measure-KU 1)	Invite small groups of students to order themselves from the shortest to the tallest.	<i>First Steps in Mathematics: Measurement – Volume 1, pg.96.</i>
K.4.A	Imitative Play (Direct Measure-KU 1)	During imitative play, have students directly compare pieces of equipment ranging in number and size.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 96.</i>
K.4.A	Sorting Equipment (Direct Measure-KU 1)	Students sort equipment by size. Discuss which attribute they are using to compare each type.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 97.</i>

Standard	Lesson	Description	Resource
K.4.A	Using a Balance Scale (Direct Measure-KU 1)	Extend ‘Using a Balance Scale’ (KU3) by asking: How can you make both sides of the scale be halfway up and halfway down? Encourage the students to heft the objects to directly compare the mass and experience the fact that they are the same.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 97.</i>
K.4.A	Sports Day (Direct Measure-KU 1)	Cut ribbons into a number of different lengths and mix them together. Have students sort the ribbons by length and put them into boxes. Ask: How can you be sure all the ribbons in each box are the same length?	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 99.</i>
K.4.A	Weighing with Elastic (Direct Measure-KU 1)	Students use two pouches sewn to the end of two strips of elastic to compare the weight of objects. Ask: How is this different from using a balance scale? How can we tell which object is heavier?	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 100.</i>
K.4.A	Washer in the Drink Carton (Direct Measure-KU 1)	Students use a balance scales to directly compare the mass of nine sand filled drink containers. To prepare for the following problem solving puzzle, add a metal nut or washer to one of the cartons after balancing, then seal them all. Students find out which carton has the extra mass.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 103.</i>
K.4.A	Olympic Sports (Direct Measure-KU 1)	Students sort situations into those where direct comparisons are made those where direct comparisons cannot be made.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 103.</i>
K.4.A, 1.4.B	Trains (Direct Measure-KU 2)	Vary ‘Trains’ by asking students to cut a length of string to match the length of their train. Ask: How many carriages long is your train?	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 110.</i>
K.4.A, 1.4.B	Trains (Direct Measure-KU 3)	Vary ‘Trains’ by helping students notice when two trains with the same number of matching blocks are different lengths. See picture.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 118.</i>
K.4.A, 2.3.E	Races (Direct Measure-KU 6)	Involve students in different types of races in order to directly compare the duration of time for various events. Ask: Do you all have to start at the same time? Focus on the language of comparison.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 152.</i>
K.4.A	Water Timer (Direct Measure-KU 6)	Invite students to make and use a water timer to compare the time they take to do a task that cannot be performed simultaneously.	<i>First Steps in Mathematics: Measurement – Volume 1, pg. 152.</i>

Standard	Lesson	Description	Resource
K.4.A, K.5.G	Numbers in Literature (Calculate – KU 10)	Have students think about numbers in literature and say if they make sense. At times change the numbers to focus them on the reasonableness of the numbers. See examples.	<i>First Steps in Mathematics: Number Vol. 2</i> , pg. 184.
<u>K.5.A-G CORE CONTENT</u>			
K.5.A Identify the question(s) asked in a problem.			
K.5.A, K.5.B, K.5.C, K.5.D, K.5.E, K.5.F, K.5.G, K.1.E	<i>Investigation: Today's Question</i> (Classroom Routine)		<i>Investigations: Collecting, Counting, and Measuring</i> by Muray, Economopoulos, Kliman, TERC, pg. 106-107.
K.5.B Identify the given information that can be used to solve the problem.			
K.5.C Recognize when additional information is required to solve the problem.			
K.5.D Select from a variety of problem-solving strategies and use one or more strategies to solve a problem.			
K.5.D	Jumping Crickets!	Children follow directions from stories to determine 'how many'.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 31.
K.5.D, K.1.D	Find the Ages	Children solve problems to determine the relative position of a number.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 63.
K.5 & K.1.G	Tall Stories	Children determine the relative position of a number presented in a vertical format.	<i>Number</i> by Rosemary Reuille Irons, ORIGO Education, pg. 64.
K.5.E Answer the question(s) asked in a problem.			
K.5.F Describe how the problem was solved.			
K.5.G Determine whether a solution to a problem is reasonable.			

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