Vertical Alignment Document

Mathematics

Kindergarten, First, Second

2009-2010

Mathematics Chapter 111 TEKS K-2 Introduction

Kindergarten 111.12	First Grade 111.13	Second Grade 111.14
(1) Within a well-balanced mathematics curriculum, the primary focal points at Kindergarten are developing whole-number concepts and using patterns and sorting to explore number, data, and shape.	(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 1 are building number sense through number relationships, adding and subtracting whole numbers, organizing and analyzing data, and working with two and three-dimensional geometric figures.	(1) Within a well-balanced mathematics curriculum, the primary focal points at Grade 2 are developing an understanding of the base-ten place value system, comparing and ordering whole numbers, applying addition and subtraction, and using measurement processes.
(2) Throughout mathematics in Kindergarten-Grade 2, students build a foundation of basic understanding in number, operation, and quantitative reasoning; patterns, relationships, and algebraic thinking; geometry and spatial reasoning; measurement; and probability and statistics. Students use numbers in ordering, labeling, and expressing quantities and relationships to solve problems and translate informal language into mathematical language and symbols. Students use objects to create and identify patterns and use those patterns to express relationships, make predictions, and solve problems as they build an understanding of number, operation, shape, and space. Students progress from the informal to formal language to describe two and three-dimensional geometric figures and likenesses in the physical world. Students begin to develop measurement concepts as they identify and compare attributes of objects and situations. Students collect, organize, and display data and use information from graphs to answer questions, make summary statements, and make informal predictions based on their experiences.		
(3) Throughout mathematics in Kindergarten-Grade 2, students develop numerical fluency with conceptual understanding and computational accuracy. Students in Kindergarten-Grade 2 use basic number sense to compose and decompose numbers in order to solve problems requiring precision, estimation, and reasonableness. By the end of Grade 2, students know basic addition and subtraction facts and are using them to work flexibly, efficiently and accurately with numbers during addition and subtraction computation.		
(4) Problem solving, language and communication, connections within and outside mathematics, and formal and informal reasoning underlie all content areas in mathematics. Throughout mathematics in Kindergarten-Grade 2, students use these processes together with technology and other mathematical tools such as manipulative materials to develop conceptual understanding and solve meaningful problems as they do mathematics.		

KINDERGARTEN		FIRST		SECOND	
K.1	***Number, operation, and quantitative reasoning. The student uses numbers to name quantities.***	***1.1***	***Number, operation, and quantitative reasoning. The student uses whole numbers to describe and compare quantities.***	***2.1***	***Number, operation, and quantitative reasoning. The student understands how place value is used to represent whole numbers.***

K.1A	**Use one-to-one correspondence and language such as more than, same number as, or two less than to describe relative sizes of sets of concrete objects.**
	
	Use, Describe
	
	ONE-TO-ONE CORRESPONDENCE AND COMPARATIVE LANGUAGE
	
	Including, but not limited to:
	• proportional counting manipulatives and objects
	• sets up to 20
	• counting with understanding and recognition of value represented in the set
	• a collection of number relationships:
	  • spatial relationships - recognition of sets of objects in pattern arrangements and the ability to tell how many without counting
	  • one-more or two-less relationships - involves the ability to count forward two and back two
	  • part-part-whole relationships - understanding that numbers can be made up of two or more parts
	  • comparative language only
	  • ex: greater than, same as, less than, (no symbols such as >,<,=)
	
	Note:
	• Kindergarten uses comparative language only. Comparative symbols are not used until 2nd grade.
		1.1A	**Compare and order whole numbers up to 99 (less than, greater than, or equal to) using sets of concrete objects and pictorial models.**
			
			Use, Compare, Order
			
			WHOLE NUMBERS UP TO 99
			
			Including, but not limited to:
			• whole numbers (0-99)
			• proportional and pre-bundled concrete and pictorial models
			• construction of sets with manipulatives or objects to model comparisons or order of sets
			• comparative language to record or recite (less than, greater than, or equal to) ex: 74 is greater than 49
			• standard form to expanded notation
			  • ex: 37=30+7
			
			Note:
			• 1st grade uses comparative language only. Comparative symbols are not used until 2nd grade.
				2.1A	**Use concrete models of hundreds, tens, and ones to represent a given whole number (up to 999) in various ways.**
					
					Use, Represent
					
					CONCRETE MODELS TO REPRESENT A GIVEN WHOLE NUMBER UP TO 999
					
					Including, but not limited to:
					• whole numbers (0-999)
					• proportional and pre-bundled concrete and pictorial models
					• knowledge of how numbers are written and spoken
					• models to connect numerals to develop understanding of place value
					• comparisons and descriptions using verbal language and written number form
					• a number developed by an understanding of the position of a digit and how that position determines the value it represents
					• three digit numbers involving no tens, such as 307
					• standard form to expanded notation
					  • ex: 234 = 200+30+4
					
					Note:
					• Kindergarten and 1st grade used comparative language only. Comparative symbols are not used until 2nd grade.

TEXT— *TEKS: Bolded Black and Italics Knowledge Statement (TEA);* Bolded Black – Student Expectations (TEA); Blue – Supporting Information Clarifications from CSCOPE