Northpoint Horizons

CAVS™ (Content Academic Vocabulary System) Math – K-2
Correlated to the
Texas State Mathematics Standards for Texas Essential Knowledge and Skills

Grade 1

This document provides a correlation to the extensive math directives offered throughout the *CAVS* program that meet the Texas Mathematics Standards for TEKS.

Texas Essential Knowledge and Skills	*CAVS* Math Grades K-2 Teacher's Guide Lessons
Knowledge and Skills	
1.1 Number, operation, and quantitative reasoning. The student uses whole numbers to describe and compare quantities.	
a. compare and order whole numbers up to 99 (less than, greater than, or equal to) using sets of concrete objects and pictorial models	Students use the math content words: *number, numeral,* and *digit* while representing numbers with objects; writing numerals with digits; sequencing numbers from 1 to 10; and using numbers to count how many: Lesson 1 – TG pp. 1-6 *How do you count?* Students use a number line when comparing and ordering numbers 0 through 10: Lesson 3 – TG pp. 13-18 *How do numbers work together?* This standard is also addressed in the *CAVS* Math program Grades 3-5 with higher numbers.
b. create sets of tens and ones using concrete objects to describe, compare, and order whole numbers;	Students use the math vocabulary words: *number line, zero, greater than*, and *less than* to use a number line to order whole numbers (1 to 10); to make a tally sheet for keeping track of game points; to compare numbers, using correct math terms *greater than* and *less than*; and to explore the meaning of zero: Lesson 3 – TG pp. 13-18 *How do numbers work together?*
c. identify individual coins by name and value and describe relationships among them	Lesson 8 – TG pp. 43-48 *How do you use money?*

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d. read and write numbers to 99 to describe sets of concrete objects	Students use the math content words: *number, numeral,* and *digit* while representing numbers with objects; writing numerals with digits; sequencing numbers from 1 to 10; and using numbers to count how many: Lesson 1 – TG pp. 1-6 *How do you count?* Students use the math vocabulary words: *whole number, cardinal number*, and *ordinal number* while using numbers to tell how many; to tell in what position; and by using whole numbers to count from 1 to 10: Lesson 2 – TG pp. 7-12 *What are some kinds of numbers?* Students use the math vocabulary words: *number line, zero, greater than*, and *less than* to use a number line to order whole numbers (1 to 10); to make a tally sheet for keeping track of game points; to compare numbers, using correct math terms *greater than* and *less than*; and to explore the meaning of zero: Lesson 3 – TG pp. 13-18 *How do numbers work together?* Students count to 50: Lesson 8 – TG pp. 43-48 *How do you use money?* This standard is also addressed in the *CAVS* Math program Grades 3-5 with higher numbers.
1.2 Number, operation, and quantitative reasoning. The student uses pairs of whole numbers to describe fractional parts of whole objects or sets of objects.	
a. separate a whole into two, three, or four equal parts and use appropriate language to describe the parts such as three out of four equal parts	This standard is addressed in the *CAVS* Math program Grades 3-5.
b. use appropriate language to describe part of a set such as three out of the eight crayons are red	This standard is addressed in the *CAVS* Math program Grades 3-5.
1.3 Number, operation, and quantitative reasoning. The student recognizes and solves problems in addition and subtraction situations.	

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a. model and create addition and subtraction problem situations with concrete objects and write corresponding number sentences	Lesson 4 - TG pp. 19-24 *Why do you add numbers?* Lesson 5 – TG pp. 25-30 *Why do you subtract numbers*
b. use concrete and pictorial models to apply basic addition and subtraction facts (up to 9 + 9 = 18 and 18 – 9 = 9)	Lesson 4 - TG pp. 19-24 *Why do you add numbers?* Lesson 5 – TG pp. 25-30 *Why do you subtract numbers*
1.4 Patterns, relationships, and algebraic thinking. The student uses repeating patterns and additive patterns to make predictions.	
a. The student is expected to identify, describe, and extend concrete and pictorial patterns in order to make predictions and solve problems	Lesson 7 – TG pp. 37-42 *What makes a pattern?*
1.5 Patterns, relationships, and algebraic thinking. The student recognizes patterns in numbers and operations.	
a. use patterns to skip count by twos, fives, and tens	Increasing numbers by two: Lesson 7 – TG pp. 37 *What makes a pattern?*
b. find patterns in numbers, including odd and even	Lesson 7 – TG pp. 37 *What makes a pattern?* This standard is also addressed in the *CAVS* Math program Grades 3-5 (*even / odd numbers*)
c. compare and order whole numbers using place value	Students use the math vocabulary words: *number line, zero, greater than*, and *less than* when using a number line to order whole numbers (1 to 10); to make a tally sheet for keeping track of game points; to compare numbers, when using correct math terms *greater than* and *less than*; and to explore the meaning of zero: Lesson 3 – TG pp. 13-18 *How do numbers work together?*
d. use patterns to develop strategies to solve basic addition and basic subtraction problems	Lesson 4 - TG pp. 19-24 *Why do you add numbers?* Lesson 5 – TG pp. 25-30 *Why do you subtract numbers*

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e. identify patterns in related addition and subtraction sentences (fact families for sums to 18) such as 2 + 3 = 5, 3 + 2 = 5, 5 – 2 = 3, and 5 – 3 = 2	Lesson 4 - TG pp. 19-24 *Why do you add numbers?* Lesson 5 – TG pp. 25-30 *Why do you subtract numbers*
1.6 Geometry and spatial reasoning. The student uses attributes to identify two- and three-dimensional geometric figures. The student compares and contrasts two- and three-dimensional geometric figures or both.	
a. describe and identify two-dimensional geometric figures, including circles, triangles, rectangles, and squares (a special type of rectangle)	Lesson 19 – TG pp. 109-114 *What are some common shapes?*
b. describe and identify three-dimensional geometric figures, including spheres, rectangular prisms (including cubes), cylinders, and cones	3-dimensional shapes are introduced in the *CAVS* Math program Grades 3-5.
c. describe and identify two- and three-dimensional geometric figures in order to sort them according to a given attribute using informal and formal language	Students use the math vocabulary words: *circle, rectangle, square*, and *triangle* to identify common geometric shapes (circle, rectangle, square, triangle): Lesson 19 – TG pp. 109-114 *What are some common shapes?* Students use the math vocabulary words: *corner* and *side* to compare geometric shapes: Lesson 20 – TG pp. 115-120 *How can you describe shapes?* Students use the math vocabulary words: *slide, flip*, and *turn* to describe and use geometric transformations: Lesson 21 – TG pp. 121-126 *How can you change shapes?*
d. use concrete models to combine two-dimensional geometric figures to make new geometric figures	Students use the math vocabulary words: *circle, rectangle, square*, and *triangle* to identify common geometric shapes (circle, rectangle, square, triangle): Lesson 19 – TG pp. 109-114 *What are some common shapes?*
1.7 Geometry and spatial reasoning. The student describes the relative positions of objects.	
a. estimate and measure length using nonstandard units such as paper clips or sides of color tiles	Students estimate standard units (*inch, foot*): Lesson 12 – TG pp. 67-72 *How do you tell how far or how long?*

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b. compare and order two or more concrete objects according to length (from longest to shortest)	Lesson 11 – TG pp. 61-66 *How far? How long?*
c. describe the relationship between the size of the unit and the number of units needed to measure the length of an object	Lesson 11 – TG pp. 61-66 *How far? How long?* Lesson 12 – TG pp. 67-72 *How do you tell how far or how long?*
d. compare and order the area of two or more two-dimensional surfaces (from covers the most to covers the least)	Students use the math vocabulary words: *area, measuring cup*, and *volume* to practice measuring area and volume: Lesson 13 – TG pp.73-78 *How much space does it take up?*
e. compare and order two or more containers according to capacity (from holds the most to holds the least)	Students use the math vocabulary words: *area, measuring cup*, and *volume* to practice measuring area and volume; to understand appropriate uses of a measuring cup; and to compare two types of volume measurements: Lesson 13 – TG pp.73-78 *How much space does it take up?*
f. compare and order two or more objects according to weight/mass (from heaviest to lightest)	Students use the math vocabulary words: *weight* and *pound* to use a balance scale to measure objects and to compare weights of different objects: Lesson 14 – TG pp. 79-84 *How much does it weigh?*
g. compare and order two or more objects according to relative temperature (from hottest to coldest)	Students use the math vocabulary words: *temperature* and *estimate* to discuss ways to keep the body warm or cool; when using background knowledge of temperature to identify appropriate seasonal clothing; and to make a chart: Lesson 15 – TG pp. 85-90 *How hot or cold is it?*
1.8 Measurement. The student understands that time can be measured. The student uses time to describe and compare situations	
a. order three or more events according to duration	During the following lessons students have opportunities to meet this standard: Students use the math vocabulary words: *clock, hour, minute,* and *second* to make a clock; to tell time by using an analog clock; to calculate elapsed time; and to estimate time: Lesson 9 – TG pp. 49-54 *How do you tell time?*

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	Students use the vocabulary words: *calendar, year, month, week,* and *day* to sequence days of the week; to understand whole-to-part relationships; and to understand the length of a day, a week, a month, and a year: Lesson 10 – TG pp. 55-60 *When is your birthday?*
b. read time to the hour and half-hour using analog and digital clocks	Students use the math vocabulary words: *clock, hour, minute,* and *second* to make a clock; to tell time by using an analog clock; to calculate elapsed time; and to estimate time: Lesson 9 – TG pp. 49-54 *How do you tell time?*
1.9 Probability and statistics. The student displays data in an organized form.	
a. collect and sort data	Students use the math vocabulary words: *set, table,* and *graph* to collect data; to use a table to represent data; and to describe parts of the data as a whole to determine what the data show: Lesson 22 – TG pp. 127-132 *How can you show facts?*
b. use organized data to construct real-object graphs, picture graphs, and bar-type graphs	Students use the math vocabulary words: *set, table,* and *graph* to collect data; to use a table to represent data; and to describe parts of the data as a whole to determine what the data show: Lesson 22 – TG pp. 127-132 *How can you show facts?*
1.10 Measurement. The student directly compares the attributes of length, area, weight / mass, capacity, and / or relative temperature. The student uses comparative language to solve problems and answer questions.	
a. draw conclusions and answer questions using information organized in real-object graphs, picture graphs, and bar-type graphs	Students use the math vocabulary words: *set, table,* and *graph* to collect data; to use a table to represent data; and to describe parts of the data as a whole to determine what the data show: Lesson 22 – TG pp. 127-132 *How can you show facts?*
b. identify events as certain or impossible such as drawing a red crayon from a bag of green crayons	Lesson 23 – TG pp. 133-138 *What do you think will happen?*
1.11 Underlying processes and mathematical tools. The student applies Grade 1 mathematics to solve problems connected to everyday experiences and activities in and outside of school.	
a. identify mathematics in everyday situations	In the *CAVS* program there are many examples of using mathematics for everyday situations to help students apply their math skills and solve problems. Some examples:

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	Lesson 8 – TG pp. 43-48 *How do you use money?* Lesson 9 – TG pp. 49-54 *How do you tell time?* Lesson 13 – TG pp. 73-78 *How much space does it take up?*
b. solve problems with guidance that incorporates the processes of understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness;	During each *CAVS* Math lesson, the teacher helps students determine the approach, materials, and strategies to be used to solve problems using the *5-E* Instructional Approach while highlighting math content academic vocabulary. The *5-E* Approach: *Engage*: Concept Posters and Math Vocabulary Cards are used to introduce the math concept and vocabulary as a whole group activity. *Explore* and Learn: Students use hands-on Activity Placemats with manipulatives as a small group inquiry activity. Students complete the Record Sheet – many times, by drawing pictures, and then discuss the activity and compare observations with classmates. *Explain* Concepts and Vocabulary: The teacher leads a discussion and models the use of academic vocabulary words through the Flip Book. Oral Language activities are provided as extensions and for differentiated instruction. *Elaborate*: Students apply newly learned concepts when working with a partner to complete the Concept Webs. As a small group activity, students practice listening to, reading, writing, and speaking each academic vocabulary word with the Radius Audio System™. *Evaluate*: Teachers review the lesson's academic vocabulary words through Interactive Transparencies (whole group activity) and assess each lesson through the Lesson Review sheets (individual activity). Some examples: Lesson 7 – TG pp. 37-42 *What makes a pattern?*
c. select or develop an appropriate problem-solving plan or strategy including drawing a picture, looking for a pattern, systematic guessing and checking, or acting it out in order to solve a problem	

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	Lesson 6 – TG pp. 31-36 *How are objects the same?* Lesson 24 – TG pp. 139-144 *How do we solve problems?*
d. use tools such as real objects, manipulatives, and technology to solve problems	In the *CAVS* Math program, students use real objects, manipulatives, and technology in each lesson. During the *Explore and Learn* section of each lesson, children use real objects and manipulatives such as crayons, pencils, beans, coins, stickers, interlocking cubes, bear counters, etc. in hands-on, small group, inquiry activities. During the *Elaborate* section of each lesson, students practice listening to, reading, writing, and speaking each academic vocabulary word with the Radius Audio System™. Children then complete one or more of the small group activities in their Math Journals using the lesson's math vocabulary. Some examples: Lesson 1 – TG pp. 1-6 *How do you count?* Lesson 5 – TG pp. 25-30 *Why do you subtract numbers?* Lesson 9 – TG pp. 49-54 *How do you tell time?*
1.12 Underlying processes and mathematical tools. The student communicates about Grade 1 mathematics using informal language.	
a. explain and record observations using objects, words, pictures, numbers, and technology	Students explain and record observations in each *CAVS* lesson. They have opportunities to communicate in whole group, small group, and individual/teacher activities. Each section of the lesson includes the following materials: *Engage*: Concept Posters and Math Vocabulary Cards. *Explore* and Learn: Activity Placemats with manipulatives, Record Sheet (Students complete the Record Sheet – many times, by drawing pictures to record their observations, and then discuss the activity and compare observations with classmates). *Explain* Concepts and Vocabulary: Flip Book and Math Content
b. relate informal language to mathematical language and symbols	

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	Picture Dictionary *Elaborate*: Concept Webs. And Radius Audio System™ and Math Journals *Evaluate*: Interactive Transparencies and Lesson Review sheets Some examples: Lesson 3 – TG pp. 13-18 *How do numbers work together?* Lesson 18 – TG pp. 103-108 *Which way do you go?* Lesson 22 – TG pp. 127-132 *How can you show facts?*
1.13 Underlying processes and mathematical tools. The student uses logical reasoning.	
a. The student is expected to justify his or her thinking using objects, words, pictures, numbers, and technology	Lesson 23 - TG pp. 133-138 *What do you think will happen?*