Northpoint Horizons

CAVS (Content Academic Vocabulary System)
Correlated to the
New York State Math Assessment Standards

Grade 1

This document provides a sampling of the extensive math directives offered throughout the *CAVS* program that meet the New York State Math Assessment Standards.

New York State Math Assessment Standards	***CAVS* Math Elementary K-2 Teacher's Guide Examples/Lessons**
Problem Solving Strand	
Students will build new mathematical knowledge through problem solving.	
1.PS.1 Explore, examine, and make observations about a social problem or mathematical situation	Each CAVS math lesson is developed around 5 Easy Steps: **Engage, Explore, Explain, Elaborate, and Evaluate.** For each lesson, an Activity Placemat engages students to explore, examine, and make observations for many mathematical situations.
1.PS.2 Interpret information correctly, identify the problem, and generate possible solutions	*How much space does it take up?* Lesson 13 – TG p. 73
Students will solve problems that arise in mathematics and in other contexts.	
1.PS.3 Act out or model with manipulatives activities involving mathematical content from literature and/or story telling	Any of the Concept Posters (1 through 7) will generate discussions involving mathematical content from story telling. Activities from the Activity Placemats (especially Lessons 3, 5, and 7) encourage students to act out and model mathematical content.
1.PS.4 Formulate problems and solutions from everyday situations (e.g., counting the number of children in the class, using the calendar to teach counting).	*When is your birthday?* Lesson 10 – TG p. 55 Concept Poster 1
Students will apply and adapt a variety of appropriate strategies to solve problems.	
1.PS.5 Use informal counting strategies to find solutions	*How do you count?* Lesson 1 – TG p. 1
1.PS.6 Experience teacher-directed questioning process to understand problems	The **Engage** section of Lessons 1 through 24 in the Teacher's Guide (part of the 5 Easy Steps) provides for teacher-directed questioning for all students.
1.PS.7 Compare and discuss ideas for solving a problem with teacher and/or students to justify their	The **Discuss the Activity** section of Lessons 1 through 24 in the Teacher's Guide invites students to discuss activities (Activity

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thinking	Placemats 1 – 24) used in individual/group problem solving. The students are asked to compare their observations.
1.PS.8 Use manipulatives (e.g., tiles, blocks) to model the action in problems	*How do you count?* Lesson 1 – TG p. 1 *How do numbers work together?* Lesson 3 – TG p. 13 *How are objects the same?* Lesson 6 – TG p. 31 *How much space does it take up?* Lesson 13 – TG p. 73 Activity placemats: 6,13,14,19, 20
1.PS.9 Use drawings/pictures to model the action in problems	Make a Bear Parade - Activity placemat 2 Greater Than/Less Than Game - Activity placemat 3 Dot the Dominos - Activity placemat 4 Make A Sorting Chart - Activity placemat 6
Students will monitor and reflect on the process of mathematical problem solving.	
1.PS.10 Explain to others how a problem was solved, giving strategies and justifications	The **Record and Share** section of the Record Sheets used in conjunction with each Activity Placemat (1 through 24) allows all students to explain their strategies for problem solving in order to share with others, including their parents.
Reasoning and Proof Strand	
Students will recognize reasoning and proof as fundamental aspects of mathematics.	
1.RP.1 Understand that mathematical statements can be true or false	*How are objects the same?* Lesson 6 – TG p. 31
1.RP.2 Recognize that mathematical ideas need to be supported by evidence	The **Concept Web** activity provided for each lesson, 1 through 24, allows for mathematical ideas to be supported through the reinforcement of vocabulary, pictures and discussion. Shape Riddle – Activity Placemat 20
Students will make and investigate mathematical conjectures.	
1.RP.3 Investigate the use of knowledgeable guessing as a mathematical tool	Draw a Cube From the Bag - Activity Placemat 23 Bears in a Bag - Activity Placemat 24 Flip Chart - Lesson 23
1.RP.4 Explore guesses, using a variety of objects and manipulatives	Draw a Cube From the Bag - Activity Placemat 23 Bears in a Bag - Activity Placemat 24
Students will develop and evaluate mathematical arguments and proofs.	
1.RP.5 Justify general claims, using manipulatives	Trade Coins to Make 25 Cents – Activity Placemat 8 Make a Clock – Activity Placemat 9
1.RP.6 Develop and explain an argument verbally or with objects	The **Record and Share** activity provided for each lesson encourages students to explain their findings from the accompanying activities

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	verbally as well as with pictures. Wrap and Compare Boxes – Activity Placemat 11
1.RP.7 Listen to and discuss claims other students make	In the Teacher's Guide for Lessons 1 – 24, the **Discuss the Activity** section invites students to discuss the activity and compare observations with guided questions.
Students will select and use various types of reasoning and methods of proof.	
1.RP.8 Use trial and error strategies to verify claims	Compare the Weights of Objects – Activity Placemat 14
Communication Strand	
Students will organize and consolidate their mathematical thinking through communication.	
1.CM.1 Understand how to organize their thought processes with teacher guidance	The **Engage** section of Lessons 1 through 24, in the Teacher's Guide, provides for whole group discussion with teacher guidance.
1.CM.2 Verbally support their reasoning and answer	Draw and Sort Clothes by the Weather – Activity Placemat 15
Students will communicate their mathematical thinking coherently and clearly to peers, teachers, and others.	
1.CM.3 Share mathematical ideas through the manipulation of objects, drawings, pictures, and verbal explanations	Every Activity Placemat (1 – 24) allows students to **Record and Share** their findings and observations with partners and classmates.
Students will analyze and evaluate the mathematical thinking and strategies of others.	
1.CM.4 Listen to solutions shared by other students	In the Teacher's Guide for Lessons 1 – 24, the **Discuss the Activity** section invites students to discuss the activity and compare observations with guided questions.
1.CM.5 Formulate mathematically relevant questions with teacher guidance	The **Building Background** section in the Teacher's Guide for Lessons 1 – 24 supplies various questions for teachers to pose in order to have students formulate their own questions. The Concept Posters and Flip Chart that coincide with these lessons provide additional support.
Students will use the language of mathematics to express mathematical ideas precisely.	
1.CM.6 Use appropriate mathematical terms, vocabulary, and language	Content Academic Vocabulary System (CAVS) stresses vocabulary throughout every lesson with the use of **Vocabulary Cards**, the **Picture Dictionary**, the highlighted words on the **Flip Chart**, and the **Concept Web** pages provide for vocabulary reinforcement with each lesson. Vocabulary words, appropriate for a **Word Wall,** are also provided with each lesson in the Teacher's Guide.
Connections Strand	
Students will recognize and use connections among mathematical ideas.	

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1.CN.1 Recognize the connections of patterns in their everyday experiences to mathematical ideas	*What makes a pattern?* Lesson 7 – TG p. 37
1.CN.2 Understand the connections between numbers and the quantities they represent	*How do you use money?* Lesson 8 – TG p. 43
1.CN.3 Compare the similarities and differences of mathematical ideas	*How are objects the same?* Lesson 6 – TG p. 31
Students will understand how mathematical ideas interconnect and build on one another to produce a coherent whole.	
1.CN.4 Understand how models of situations involving objects, pictures, and symbols relate to mathematical ideas	*How much space does it take up?* Lesson 13 – TG p. 73 Investigating Space – Activity Placemat 13
1.CN.5 Understand meanings of operations and how they relate to one another	*Why do you add numbers?* Lesson 4 – TG p. 19 Flip Book – Lesson 4 *Why do you subtract numbers?* Lesson 5 – TG p. 25 Flip Book – Lesson 5
1.CN.6 Understand how mathematical models represent quantitative relationships	Dot the Dominos – Activity Placemat 4 Compare the Weights of Objects – Activity Placemat 14
Students will recognize and apply mathematics in contexts outside of mathematics.	
1.CN.7 Recognize the presence of mathematics in their daily lives	The **Concept Posters** (1 through 8) model everyday situations that are recognizable to students involving all aspects of mathematics.
1.CN.8 Recognize and apply mathematics to solve problems	*How do you use money?* Lesson 8 – TG p. 43 *How far? How long?* Lesson 11 – TG p. 61
1.CN.9 Recognize and apply mathematics to objects, pictures, and symbols	*How do you use money?* Lesson 8 – TG p. 43 *How do you tell how far or how long?* Lesson 12 – TG p. 67
Representation Strand	
Students will create and use representations to organize, record, and communicate mathematical ideas.	
1.R.1 Use multiple representations including verbal and written language, acting out or modeling a situation, drawings, and/or symbols as representations	Dot the Dominos – Activity Placemat 4 Beanbag Subtraction – Activity Placemat 5 Make a Sorting Chart – Activity Placemat 6 Make an Action Pattern – Activity Placemat 7
1.R.2 Share mental images of mathematical ideas and understandings	Students share mental images of mathematical ideas and understanding by completing the **Activity Record Sheets** that are

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	provided for all lessons (1 through 24).
1.R.3 Use standard and nonstandard representations	*How can you show facts?* Lesson 22 – TG p. 127
Students will select, apply, and translate among mathematical representations to solve problems.	
1.R.4 Connect mathematical representations with problem solving	*How do numbers work together?* Lesson 3 – TG p. 13
Students will use representations to model and interpret physical, social, and mathematical phenomena.	
1.R.5 Use mathematics to show and understand physical phenomena (e.g., estimate and represent the number of apples in a tree)	*How do we Solve Problems?* Lesson 24 – TG p. 139 Bears in a Bag – Activity Placemat 24
1.R.6 Use mathematics to show and understand social phenomena (e.g., count and represent sharing cookies between friends)	*How do you count?* Lesson 1 – TG p. 1 *How do numbers work together?* Lesson 3 – TG p. 13 Concept Poster 1
1.R.7 Use mathematics to show and understand mathematical phenomena (e.g., draw pictures to show a story problem, show number value using fingers on your hand)	*Why do you add numbers?* Flip Book – Lesson 4 *Why do you subtract numbers?* Flip Book – Lesson 5
Number Sense and Operations Strand	
Students will understand numbers, multiple ways of representing numbers, relationships among numbers, and number systems.	
1.N.1 Count the items in a collection and know the last counting word tells how many items are in the collection (1 to 100)	*What are some kinds of numbers?* Lesson 2 – TG p. 7
1.N.2 Count out (produce) a collection of a specified size (10 to 100 items), using groups of ten	
1.N.3 Quickly see and label with a number, collections of 1 to 10	*What are some kinds of numbers?* Lesson 2 – TG p. 7
1.N.4 Count by 1's to 100	*How do you count?* Lesson 1 – TG p. 1 Concept Poster 1
1.N.5 Skip count by 10's to 100	
1.N.6 Skip count by 5's to 50	
1.N.7 Skip count by 2's to 20	

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1.N.8 Verbally count from a number other than one by 1's	*Why do you add numbers?* Lesson 4 – TG p. 19
1.N.9 Count backwards from 20 by 1's	*How do numbers work together?* Lesson 3 – TG p. 13
1.N.10 Draw pictures or other informal symbols to represent a spoken number up to 20	*How do you count?* Lesson 1 – TG p. 1 Concept Poster 1
1.N.11 Identify that spacing of the same number of objects does not affect the quantity (conservation)	Make Number Cards – Activity Placemat 1 Flip book Lesson 1
1.N.12 Arrange objects in size order (increasing and decreasing)	*What makes a pattern?* Lesson 7 – TG p. 37 Transparency 7
1.N.13 Write numbers to 100	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1
1.N.14 Read the number words one, two, three…ten	*How do you count?* Lesson 1 – TG p. 1 Concept Poster 1
1.N.15 Explore and use place value	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1
1.N.16 Compare and order whole numbers up to 100	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1
1.N.17 Develop an initial understanding of the base ten system: 10 ones = 1 ten 10 tens = 1 hundred	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1 Concept Poster 1
1.N.18 Use a variety of strategies to compose and decompose one-digit numbers	*How do you count?* Lesson 1 – TG p. 1
1.N.19 Understand the commutative property of addition	*How can math rules help you solve equations?* **CAVS 3 – 5** Lesson 9
1.N.20 Name the number before and the number after a given number, and name the number(s) between two given numbers up to 100 (with and without the use of a number line or a hundreds chart)	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1
1.N.21 Use before, after, or between to order numbers to 100 (with or without the use of a number line)	*How can you put numbers in order?* **CAVS 3 – 5** Lesson 1 Weather Report – Activity Placemat 1 **CAVS 3 - 5**
1.N.22 Use the words higher, lower, greater, and less to compare two numbers	*How do numbers work together?* Lesson 3 – TG p. 13
1.N.23 Use and understand verbal ordinal terms, first	*What are some kinds of numbers?*

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to twentieth	Lesson 2 – TG p. 7
Students will understand meanings of operations and procedures, and how they relate to one another.	
1.N.24 Develop and use strategies to solve addition and subtraction word problems	*Why do you add numbers?* Lesson 4 – TG p. 19 Flip Book – Lesson 4 *Why do you subtract numbers?* Lesson 5 – TG p. 25 Flip Book – Lesson 5
1.N.25 Represent addition and subtraction word problems and their solutions as number sentences	*Why do you add numbers?* Lesson 4 – TG p. 19 Flip Book – Lesson 4 *Why do you subtract numbers?* Lesson 5 – TG p. 25 Flip Book – Lesson 5
1.N.26 Create problem situations that represent a given number sentence	Concept Poster 1
1.N.27 Use a variety of strategies to solve addition and subtraction problems with one- and two-digit numbers without regrouping	Dot the Dominos – Activity Placemat 4 Beanbag Subtraction – Activity Placemat 5
1.N.28 Demonstrate fluency and apply addition and subtraction facts to and including 1	*Why do you add numbers?* Lesson 4 – TG p. 19 Flip Book – Lesson 4 *Why do you subtract numbers?* Lesson 5 – TG p. 25 Flip Book – Lesson 5
1.N.29 Understand that different parts can be added to get the same whole	*Why do you add numbers?* Lesson 4 – TG p. 19 Flip Book – Lesson 4 Picture Dictionary p. 56
Students will compute accurately and make reasonable estimates.	
1.N.30 Estimate the number in a collection to 50 and then compare by counting the actual items in the collection	*How do you count?* Lesson 1 – TG p. 1 Concept Poster 1 Flip Book Lesson 1
Algebra Strand	
Students will recognize, use, and represent algebraically patterns, relations, and functions.	
1.A.1 Determine and discuss patterns in arithmetic (what comes next in a repeating pattern, using numbers or objects)	*What makes a pattern?* Lesson 7 – TG p. 37
Geometry Strand	
Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric	

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shapes.	
1.G.1 Match shapes and parts of shapes to justify congruency	*What are some common shapes?* Lesson 19 – TG p. 109 Transparency 19
1.G.2. Recognize, name, describe, create, sort, and compare two-dimensional and three-dimensional shapes	Create a Creature – Activity Placemat 19 Shape Riddle - Activity Placemat 20
Students will apply transformations and symmetry to analyze problem-solving situations.	
1.G.3. Experiment with slides, flips, and turns of two-dimensional shapes	*How can you change shapes?* Lesson 21 – TG p. 121 A Slide, a Flip, and a Turn - Activity Placemat 21
1.G.4. Identify symmetry in two-dimensional shapes	Picture Dictionary p. 56 *How do we draw different shapes?* Lesson 18 **CAVS 3 – 5**
Students will apply coordinate geometry to analyze problem solving situations.	
1.G.5 Recognize geometric shapes and structures in the environment	*What are some common shapes?* Lesson 19 – TG p. 109 Transparency 19 Concept Poster 7
Measurement Strand	
Students will determine what can be measured and how, using appropriate methods and formulas.	
1.M.1 Recognize length as an attribute that can be measured	*How far? How long?* Lesson 11 – TG p. 61 Math Vocabulary Cards 34 - 39
1.M.2 Use non-standard units (including finger lengths, paper clips, students' feet and paces) to measure both vertical and horizontal lengths	*How do you tell how far or how long?* Lesson 12 – TG p. 67
1.M.3 Informally explore the standard unit of measure, inch	Make an Inch Book and a Foot Book – Activity Placemat 12
Students will use units to give meaning to measurements.	*How do you tell how far or how long?* Lesson 12 – TG p. 67 Flip Book Lesson 12
1.M.4 Know vocabulary and recognize coins (penny, nickel, dime, quarter)	*How do you use money?* Lesson 8 – TG p. 43
1.M.5 Recognize the cent notation as ¢	*How do you use money?* Lesson 8 – TG p. 43
1.M.6 Use different combinations of coins to make money amounts up to 25 cents	Trade coins to make 25 cents - Activity Placemat 8

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1.M.7 Recognize specific times (morning, noon, afternoon, evening)	*How do you tell time?* Lesson 9 – TG p. 49
1.M.8 Tell time to the hour, using both digital and analog clocks	Make a Clock - Activity Placemat 9 Flip Chart Lesson 9
1.M.9 Know the days of the week and months of the year in sequence	*When is your birthday?* Lesson 10 – TG p. 55 Put the Months in Order - Activity Placemat 10
1.M.10 Classify months and connect to seasons and other events	Put the Months in Order - Activity Placemat 10
Students will develop strategies for estimating measurements.	
1.M.11 Select and use non-standard units to estimate measurements	*How far? How long?* Lesson 11 – TG p. 61 Wrap and Compare Boxes - Activity Placemat 11
Statistics and Probability Strand	
Students will collect, organize, display, and analyze data.	
1.S.1 Pose questions about themselves and their surroundings	Concept Poster 4,5,6,8
1.S.2 Collect and record data related to a question	Make a Sorting Chart – Activity Placemat 6 Draw and Sort Clothes by the Weather - Activity Placemat 15
Organization and Analysis	
1.S.3 Display data in simple pictographs for quantities up to 20 with units of one	Make Number Cards - Activity Placemat 1
1.S.4 Display data in bar graphs using concrete objects with intervals of one	Gather Data and Show Data - Activity Placemat 22
1.S.5 Use Venn diagrams to sort and describe data	*Why do you need information?* **CAVS 3 – 5** Lesson 21
1.S.6 Interpret data in terms of the words: most, least, greater than, less than, or equal to	How do numbers work together: Lesson 3 – TG p. 13 Greater Than/Less Than Game - Activity Placemat 3
1.S.7 Answer simple questions related to data displayed in pictographs (e.g., category with most, how many more in a category compared to another, how many all together in two categories)	*How can you show facts?* Lesson 22 – TG p. 127 Flip Book Lesson 22
Students will make predictions that are based upon data analysis.	
1.S.8 Discuss conclusions and make predictions in	*What do you think will happen?*

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terms of the words likely and unlikely	Lesson 23 – TG p. 133
1.S.9 Construct a question that can be answered by using information from a graph	Flip Book Lesson 22 Concept Poster 8