



***Cyberchase* is aligned to the Math TEKS for Kindergarten through Grade 5.**

Math, Kindergarten

- (1) **Number, operation, and quantitative reasoning.** The student uses numbers to name quantities.
The student is expected to:
 - (A) 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
 - (C) use numbers to describe how many objects are in a set (through 20) using verbal and symbolic descriptions
- (2) **Number, operation, and quantitative reasoning.** The student describes order of events or objects.
The student is expected to:
 - (A) use language such as before or after to describe relative position in a sequence of events or objects
 - (B) name the ordinal positions in a sequence such as first, second, third, etc.
- (3) **Number, operation, and quantitative reasoning.** The student recognizes that there are quantities less than a whole. The student is expected to:
 - (A) share a whole by separating it into two equal parts
 - (B) explain why a given part is half of the whole
- (4) **Number, operation, and quantitative reasoning.** The student models addition (joining) and subtraction (separating). The student is expected to model and create addition and subtraction problems in real situations with concrete objects.
- (5) **Patterns, relationships, and algebraic thinking.** The student identifies, extends, and creates patterns. The student is expected to identify, extend, and create patterns of sounds, physical movement, and concrete objects.
- (6) **Patterns, relationships, and algebraic thinking.** The student uses patterns to make predictions.
The student is expected to:
 - (A) use patterns to predict what comes next, including cause-and-effect relationships
 - (B) count by ones to 100

- (7) **Geometry and spatial reasoning.** The student describes the relative positions of objects. The student is expected to:
- (A) describe one object in relation to another using informal language such as over, under, above, and below
 - (B) place an object in a specified position
- (8) **Geometry and spatial reasoning.** The student uses attributes to determine how objects are alike and different. The student is expected to:
- (A) describe and identify an object by its attributes using informal language
 - (B) compare two objects based on their attributes
- (9) **Geometry and spatial reasoning.** The student recognizes attributes of two- and three-dimensional geometric figures. The student is expected to:
- (A) describe and compare the attributes of real-life objects such as balls, boxes, cans, and cones or models of three-dimensional geometric figures
 - (B) recognize shapes in real-life three-dimensional geometric figures or models of three-dimensional geometric figures
 - (C) describe, identify, and compare circles, triangles, rectangles, and squares (a special type of rectangle)
- (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. The student is expected to:
- (C) compare two containers according to capacity (holds more, holds less, or holds the same)
 - (D) compare two objects according to weight/mass (heavier than, lighter than or equal to)
- (12) **Probability and statistics.** The student constructs and uses graphs of real objects or pictures to answer questions. The student is expected to:
- (B) use information from a graph of real objects or pictures in order to answer questions
- (13) **Underlying processes and mathematical tools.** The student applies Kindergarten mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:
- (A) identify mathematics in everyday situations

- (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
 - (C) select or develop an appropriate problem-solving strategy including drawing a picture, looking for a pattern, systematic guessing and checking, or acting it out in order to solve a problem
 - (D) use tools such as real objects, manipulatives, and technology to solve problems
- (14) **Underlying processes and mathematical tools.** The student communicates about Kindergarten mathematics using informal language. The student is expected to:
- (A) communicate mathematical ideas using objects, words, pictures, numbers, and technology
 - (B) relate everyday language to mathematical language and symbols
- (15) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to justify his or her thinking using objects, words, pictures, numbers, and technology.

Math, Grade 1

- (1) **Number, operation, and quantitative reasoning.** The student uses whole numbers to describe and compare quantities. The student is expected to:
- (A) compare and order whole numbers up to 99 (less than, greater than, or equal to) using sets of concrete objects and pictorial models
- (2) **Number, operation, and quantitative reasoning.** The student uses pairs of whole numbers to describe fractional parts of whole objects or sets of objects. The student is expected to:
- (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
 - (B) use appropriate language to describe part of a set such as three out of the eight crayons are red
- (3) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in addition and subtraction situations. The student is expected to:
- (B) use concrete and pictorial models to apply basic addition and subtraction facts (up to $9 + 9 = 18$ and $18 - 9 = 9$)

- (4) **Patterns, relationships, and algebraic thinking.** The student uses repeating patterns and additive patterns to make predictions. The student is expected to identify, describe, and extend concrete and pictorial patterns in order to make predictions and solve problems.
- (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. The student is expected to:
- (A) describe and identify two-dimensional geometric figures, including circles, triangles, rectangles, and squares (a special type of rectangle)
 - (B) describe and identify three-dimensional geometric figures, including spheres, rectangular prisms (including cubes), cylinders, and cones
 - (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
 - (D) use concrete models to combine two-dimensional geometric figures to make new geometric figures
- (7) **Measurement.** The student directly compares the attributes of length, area, weight/mass, capacity, and temperature. The student uses comparative language to solve problems and answer questions. The student selects and uses nonstandard units to describe length. The student is expected to:
- (E) compare and order two or more containers according to capacity (from holds the most to holds the least)
 - (F) compare and order two or more objects according to weight/mass (from heaviest to lightest)
- (9) **Probability and statistics.** The student displays data in an organized form. The student is expected to:
- (A) collect and sort data
- (10) **Probability and statistics.** The student uses information from organized data. The student is expected to:
- (A) draw conclusions and answer questions using information organized in real-object graphs, picture graphs, and bar-type graphs
 - (B) identify events as certain or impossible such as drawing a red crayon from a bag of green crayons

- (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. The student is expected to:
- (A) identify mathematics in everyday situations
 - (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
 - (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;
 - (D) use tools such as real objects, manipulatives, and technology to solve problems
- (12) **Underlying processes and mathematical tools.** The student communicates about Grade 1 mathematics using informal language. The student is expected to:
- (A) explain and record observations using objects, words, pictures, numbers, and technology
 - (B) relate informal language to mathematical language and symbols
- (13) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to justify his or her thinking using objects, words, pictures, numbers, and technology.

Math, Grade 2

- (2) **Number, operation, and quantitative reasoning.** The student describes how fractions are used to name parts of whole objects or sets of objects. The student is expected to:
- (A) use concrete models to represent and name fractional parts of a whole object (with denominators of 12 or less)
- (3) **Number, operation, and quantitative reasoning.** The student adds and subtracts whole numbers to solve problems. The student is expected to:
- (A) recall and apply basic addition and subtraction facts (to 18)
 - (B) model addition and subtraction of two-digit numbers with objects, pictures, words, and numbers
- (6) **Patterns, relationships, and algebraic thinking.** The student uses patterns to describe relationships and make predictions. The student is expected to:

(C) identify, describe, and extend repeating and additive patterns to make predictions and solve problems

(7) **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. The student is expected to:

(A) describe attributes (the number of vertices, faces, edges, sides) of two- and three-dimensional geometric figures such as circles, polygons, spheres, cones, cylinders, prisms, and pyramids, etc.

(B) use attributes to describe how 2 two-dimensional figures or 2 three-dimensional geometric figures are alike or different

(9) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and uses comparative language to solve problems and answer questions. The student selects and uses nonstandard units to describe length, area, capacity, and weight/mass. The student recognizes and uses models that approximate standard units (from both SI, also known as metric, and customary systems) of length, weight/mass, capacity, and time. The student is expected to:

(C) select a non-standard unit of measure such as a bathroom cup or a jar to determine the capacity of a given container

(D) select a non-standard unit of measure such as beans or marbles to determine the weight/mass of a given object

(11) **Probability and statistics.** The student organizes data to make it useful for interpreting information. The student is expected to:

(A) construct picture graphs and bar-type graphs

(B) draw conclusions and answer questions based on picture graphs and bar-type graphs

(C) use data to describe events as more likely or less likely such as drawing a certain color crayon from a bag of seven red crayons and three green crayons

(12) **Underlying processes and mathematical tools.** The student applies Grade 2 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:

(A) identify the mathematics in everyday situations

(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

- (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
 - (D) use tools such as real objects, manipulatives, and technology to solve problems
- (13) **Underlying processes and mathematical tools.** The student communicates about Grade 2 mathematics using informal language. The student is expected to:
- (A) explain and record observations using objects, words, pictures, numbers, and technology
 - (B) relate informal language to mathematical language and symbols
- (14) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to justify his or her thinking using objects, words, pictures, numbers, and technology.

Math, Grade 3

- (2) **Number, operation, and quantitative reasoning.** The student uses fraction names and symbols (with denominators of 12 or less) to describe fractional parts of whole objects or sets of objects. The student is expected to:
- (B) compare fractional parts of whole objects or sets of objects in a problem situation using concrete models
 - (C) use fraction names and symbols to describe fractional parts of whole objects or sets of objects
- (3) **Number, operation, and quantitative reasoning.** The student adds and subtracts to solve meaningful problems involving whole numbers. The student is expected to:
- (B) select addition or subtraction and use the operation to solve problems involving whole numbers through 999
- (4) **Number, operation, and quantitative reasoning.** The student recognizes and solves problems in multiplication and division situations. The student is expected to:
- (A) learn and apply multiplication facts through 12 by 12 using concrete models and objects
- (5) **Number, operation, and quantitative reasoning.** The student estimates to determine reasonable results. The student is expected to:
- (A) round whole numbers to the nearest ten or hundred to approximate reasonable results in problem situations

(B) use strategies including rounding and compatible numbers to estimate solutions to addition and subtraction problems

(8) **Geometry and spatial reasoning.** The student uses formal geometric vocabulary. The student is expected to identify, classify, and describe two- and three-dimensional geometric figures by their attributes. The student compares two- dimensional figures, three-dimensional figures, or both by their attributes using formal geometry vocabulary.

(11) **Measurement.** The student directly compares the attributes of length, area, weight/mass, and capacity, and uses comparative language to solve problems and answer questions. The student selects and uses standard units to describe length, area, capacity/volume, and weight/mass. The student is expected to:

(D) identify concrete models that approximate standard units of weight/mass and use them to measure weight/mass

(E) identify concrete models that approximate standard units for capacity and use them to measure capacity

(F) use concrete models that approximate cubic units to determine the volume of a given container or other three

(13) **Probability and statistics.** The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is expected to:

(A) collect, organize, record, and display data in pictographs and bar graphs where each picture or cell might represent more than one piece of data

(B) interpret information from pictographs and bar graphs

(C) use data to describe events as more likely than, less likely than, or equally likely as

(14) **Underlying processes and mathematical tools.** The student applies Grade 3 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:

(A) identify the mathematics in everyday situations

(B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness

(C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

(D) use tools such as real objects, manipulatives, and technology to solve problems

- (15) **Underlying processes and mathematical tools.** The student communicates about Grade 3 mathematics using informal language. The student is expected to:
- (A) explain and record observations using objects, words, pictures, numbers, and technology
 - (B) relate informal language to mathematical language and symbols
- (16) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to:
- (A) make generalizations from patterns or sets of examples and non-examples
 - (B) justify why an answer is reasonable and explain the solution process

Math, Grade 4

- (2) **Number, operation, and quantitative reasoning.** The student describes and compares fractional parts of whole objects or sets of objects. The student is expected to:
- (A) use concrete objects and pictorial models to generate equivalent fractions
 - (B) model fraction quantities greater than one using concrete objects and pictorial models
 - (C) compare and order fractions using concrete objects and pictorial models
- (3) **Number, operation, and quantitative reasoning.** The student adds and subtracts to solve meaningful problems involving whole numbers and decimals. The student is expected to:
- (A) use addition and subtraction to solve problems involving whole numbers
- (4) **Number, operation, and quantitative reasoning.** The student multiplies and divides to solve meaningful problems involving whole numbers. The student is expected to:
- (D) use multiplication to solve problems (no more than two digits times two digits without technology)
- (5) **Number, operation, and quantitative reasoning.** The student estimates to determine reasonable results. The student is expected to:
- (A) round whole numbers to the nearest ten, hundred, or thousand to approximate reasonable results in problem situations
 - (B) use strategies including rounding and compatible numbers to estimate solutions to multiplication and division problems

- (8) **Geometry and spatial reasoning.** The student identifies and describes attributes of geometric figures using formal geometric language. The student is expected to:
- (A) identify and describe right, acute, and obtuse angles
 - (C) use essential attributes to define two- and three-dimensional geometric figures
- (9) **Geometry and spatial reasoning.** The student connects transformations to congruence and symmetry. The student is expected to:
- (A) demonstrate translations, reflections, and rotations using concrete models
- (13) **Probability and statistics.** The student solves problems by collecting, organizing, displaying, and interpreting sets of data. The student is expected to:
- (A) use concrete objects or pictures to make generalizations about determining all possible combinations of a given set of data or of objects in a problem situation
 - (B) interpret bar graphs
- (14) **Underlying processes and mathematical tools.** The student applies Grade 4 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:
- (A) identify the mathematics in everyday situations
 - (B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness
 - (C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem
 - (D) use tools such as real objects, manipulatives, and technology to solve problems
- (15) **Underlying processes and mathematical tools.** The student communicates about Grade 4 mathematics using informal language. The student is expected to:
- (A) explain and record observations using objects, words, pictures, numbers, and technology
 - (B) relate informal language to mathematical language and symbols
- (16) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to:
- (A) make generalizations from patterns or sets of examples and non-examples

(B) justify why an answer is reasonable and explain the solution process

Math, Grade 5

- (2) **Number, operation, and quantitative reasoning.** The student uses fractions in problem-solving situations. The student is expected to:
- (A) generate a fraction equivalent to a given fraction such as $\frac{1}{2}$ and $\frac{3}{6}$ or $\frac{4}{12}$ and $\frac{1}{3}$
- (3) **Number, operation, and quantitative reasoning.** The student adds, subtracts, multiplies, and divides to solve meaningful problems. The student is expected to:
- (A) use addition and subtraction to solve problems involving whole numbers and decimals
 - (B) use multiplication to solve problems involving whole numbers (no more than three digits times two digits without technology)
 - (E) model situations using addition and/or subtraction involving fractions with like denominators using concrete objects, pictures, words, and numbers
- (4) **Number, operation, and quantitative reasoning.** The student estimates to determine reasonable results. The student is expected to use strategies, including rounding and compatible numbers to estimate solutions to addition, subtraction, multiplication, and division problems.
- (7) **Geometry and spatial reasoning.** The student generates geometric definitions using critical attributes. The student is expected to identify essential attributes including parallel, perpendicular, and congruent parts of two- and three-dimensional geometric figures.
- (12) **Probability and statistics.** The student describes and predicts the results of a probability experiment. The student is expected to:
- (A) use fractions to describe the results of an experiment
 - (B) use experimental results to make predictions
 - (C) list all possible outcomes of a probability experiment such as tossing a coin
- (14) **Underlying processes and mathematical tools.** The student applies Grade 5 mathematics to solve problems connected to everyday experiences and activities in and outside of school. The student is expected to:
- (A) identify the mathematics in everyday situations
 - (B) solve problems that incorporate understanding the problem, making a plan, carrying out the plan, and evaluating the solution for reasonableness

(C) select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem

(D) use tools such as real objects, manipulatives, and technology to solve problems

(15) **Underlying processes and mathematical tools.** The student communicates about Grade 5 mathematics using informal language. The student is expected to:

(A) explain and record observations using objects, words, pictures, numbers, and technology

(B) relate informal language to mathematical language and symbols

(16) **Underlying processes and mathematical tools.** The student uses logical reasoning. The student is expected to:

(A) make generalizations from patterns or sets of examples and non-examples

(B) justify why an answer is reasonable and explain the solution process