

Mathematics Kindergarten: Knowledge and skills.

- (K.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;
 - (B) use sets of concrete objects to represent quantities given in verbal or written form (through 9); and
 - (C) use numbers to describe how many objects are in a set (through 20).
- (K.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; and
 - (B) name the ordinal positions in a sequence such as first, second, third, etc.
- (K.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 equal parts; and
 - (B) explain why a given part is half of the whole.
- (K.4) **Number, operation, and quantitative reasoning.** The student models addition and subtraction.
- The student is expected to:
- model and create addition and subtraction problems in real situations with concrete objects.
- (K.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.
- (K.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; and
 - (B) count by ones to 100.

- (K.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; and
 - (B) place an object in a specified position.
- (K.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; and
 - (C) sort objects according to their attributes and describe how those groups are formed.
- (K.9) **Geometry and spatial reasoning.** The student recognizes characteristics of shapes and solids.
- The student is expected to:
- (A) describe and compare real-life objects or models of solids;
 - (B) recognize shapes in real-life objects or models of solids; and
 - (C) describe, identify, and compare circles, triangles, and rectangles including squares.
- (K.10) **Measurement.** The student uses attributes such as length, weight, or capacity to compare and order objects.
- The student is expected to:
- (A) compare and order two or three concrete objects according to length (shorter or longer), capacity (holds more or holds less), or weight (lighter or heavier); and
 - (B) find concrete objects that are about the same as, less than, or greater than a given object according to length, capacity, or weight.
- (K.11) **Measurement.** The student uses time and temperature to compare and order events, situations, and/or objects.
- The student is expected to:
- (A) compare situations or objects according to temperature such as hotter or colder;
 - (B) compare events according to duration such as more time than or less time than;
 - (C) sequence events; and
 - (D) read a calendar using days, weeks, and months.

(K.12) **Probability and statistics.** The student constructs and uses graphs of real objects or pictures to answer questions.

The student is expected to:

- (A) construct graphs using real objects or pictures in order to answer questions; and
- (B) use information from a graph of real objects or pictures in order to answer questions.

(K.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) use a problem-solving model, with guidance, that incorporates 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; and
- (D) use tools such as real objects, manipulatives, and technology to solve problems.

(K.14) **Underlying processes and mathematical tools.** The student communicates about Kindergarten mathematics using informal language.

The student is expected to:

- (A) explain and record observations using objects, words, pictures, numbers, and technology; and
- (B) relate everyday language to mathematical language and symbols.

(K.15) **Underlying processes and mathematical tools.** The student uses logical reasoning to make sense of his or her world.

The student is expected to:

reason and support his or her thinking using objects, words, pictures, numbers, and technology.