

MATHEMATICS: KINDERGARTEN

In Kindergarten, instructional time should focus on two critical areas: 1) representing and comparing whole numbers, initially with sets of objects; 2) describing shapes and space. More learning time in Kindergarten should be devoted to number than to other topics.

1. Representing and Comparing Whole Numbers

Students use numbers, including written numerals, to represent quantities and to solve quantitative problems, such as counting objects in a set; counting out a given number of objects; comparing sets or numerals; and modeling simple joining and separating situations with sets of objects, or eventually with equations such as $5+2=7$ and $7-2=5$. (Kindergarten students should see addition and subtraction equations, and student writing of equations is encouraged, but not required.)

Students choose, combine, and apply effective strategies for answering quantitative questions, including quickly recognizing the cardinalities of small sets of objects, counting and producing sets of given sizes, counting the number of objects in combined sets, or counting the number of objects that remain in a set after some are taken away.

2. Describing Shapes and Space

Students describe their physical world using geometric ideas (e.g. shape, orientation, spatial relations) and vocabulary. They identify, name, and describe basic two-dimensional shapes, such as squares, triangles, circles, and rectangles, and hexagons, presented in a variety of ways (e.g., with different sizes and orientations), as well as three-dimensional shapes such as cubes, cones, cylinders, and spheres. They use basic shapes and spatial reasoning to model objects in their environment to construct more complex shapes.

Source: corestandards.org

Illinois Learning Standards: Kindergarten Overview

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| Counting and Cardinality <ul style="list-style-type: none">• Know number names and the count sequence• Count to tell the number of objects• Compare numbers |
| Operations and Algebraic Thinking <ul style="list-style-type: none">• Understand addition as putting together and adding to, and understanding subtraction as taking apart and taking from |
| Number and Operations in Base Ten <ul style="list-style-type: none">• Work with numbers 11-19 to gain foundation for place value |
| Measurement and Data <ul style="list-style-type: none">• Describe and compare measureable attributes• Classify objects and count the number of objects in each category |
| Geometry <ul style="list-style-type: none">• Identify and describe shapes• Analyze, compare, create, and compose shapes |

Source: corestandards.org

Investigations in Number, Data, and Space 3

Scope and Sequence: Kindergarten

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| Unit 1 | Counting People Sorting Buttons Classroom Routines and Materials |
| Unit 2` | Counting Quantities, Comparing Lengths Counting and Measurement 1 |
| Unit 3 | Make a Shape, Fill a Hexagon 2-D Geometry |
| Unit 4 | Collect, Count, and Measure Counting and Measurement 2 |
| Unit 5 | Build a Block, Build a Wall 3-D Geometry |
| Unit 6 | How Many Now? Addition, Subtraction, and the Number System 1 |
| Unit 7 | How Many Noses? How Many Eyes? |

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| | Modeling with Data |
| Unit 8 | Ten Frames and Teen Numbers? Addition, Subtraction, and the Number System 2 |

Source: Investigations in Number, Data, and Space 3 (TERC, 2017)