

Archdiocese of Chicago: Mathematics Curriculum Framework
Kindergarten

State Goal 6: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations (addition, subtraction, multiplication, division), patterns, ratios, and proportions.

Learning Standard/Outcome	Sample Assessment	Connections
<p><i>Critical for Mastery at Kindergarten:</i></p>		
<p>K.06.01 Recognize “how many” in sets of objects. (6A)</p>	<p>Count number of boys and girls in the class.</p>	<p>Connect to social studies: Group and count members of groups, for example, Pilgrims, Native Americans, or turkeys.</p>
<p>K.06.02 Count with understanding (0-100), including skip counting by 2s, 5s, and 10s from zero. (6A)</p>	<p>Count number of school days using a calendar or 100s pocket chart. Have twos, fives, and tens, a different color on the calendar. Clap on multiples of ten.</p>	<p>Connect to religion: Make a linking chain and count number of days of Advent and Lent leading to Christmas and Easter.</p>
<p>K.06.03 Connect number words (one to ten) and numerals (1 to 10) to the quantities they represent. (6A)</p>	<p>Play a matching game similar to concentration.</p>	<p>Connect to reading and phonics: Sound out the number words. Students should make their own flash cards and practice with the flash cards.</p>
<p><i>Significant to Develop at Kindergarten:</i></p>		
<p>K.06.04 Compare two or more sets, using manipulatives. (6D)</p>	<p>Separate colored links into groups and determine which group has more.</p>	<p>Connect to science: Separate fruits and vegetables into groups and tell which group has more.</p>

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Learning Standard/Outcome	Sample Assessment	Connections
<p>K.06.05 Develop initial understanding of place value (ones, tens, hundreds) and the base ten number system using manipulatives. (6A)</p> <p><i>Useful to Work On at Kindergarten:</i></p> <p>K.06.06 Explore and apply properties of addition and subtraction. (6B)</p>	<p>Use popsicle sticks and cups as visual for place values. A single stick is ones; a bundle with a red rubber band is tens, and a bundle with a blue rubber band is hundreds. Place the sticks in representative cups in the proper order. As students count days of school on the calendar, they also count the number of days using the popsicle sticks.</p> <p>Use links, cubes, plastic dinosaurs, or whatever is handy. Give students two groups of items and have them find the total number of links, etc. Give the students one group of items and tell them to take away a determined amount and find out how much is left. Make up a story using the terms some came or some went away.</p>	<p>Connect with writing skills: Write number of days of school using proper place value.</p> <p>Connect to writing and language skills: Students write a verbal sentence about a math situation. (e.g. On a tree were 3 birds. 2 birds came to the tree. that made 5 birds in the tree.)</p>

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State Goal 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.

Learning Standard/Outcome	Sample Assessment	Connections
<p><i>Critical to Develop at Kindergarten Level:</i></p> <p>K.07.01 Demonstrate a beginning understanding of measurement using non-standard units and measurement words. (EC-A)</p> <p>K.07.02 Compare objects by length. (EC-A)</p> <p>K.07.03 Order objects by size and sort them by shape. (EC-B)</p> <p>K.07.04 Show understanding of and use comparative words. (EC-B)</p>	<p>Measure personal items using linking cubes, candy bars, or paper clips.</p> <p>Put color strips in order from shortest to longest, tell which is longer.</p> <p>Collect different size leaves with the class. Sort by size and then by shape.</p> <p>Identify the leaves (see #3 above) in relation to each other as “larger than” or “smaller than”.</p>	<p>Connect to language arts: Read <u>Miss Nelson is Missing</u>.</p> <p>In science, discuss growth of seeds. Place stages in sequence.</p> <p>Connect to science: Discuss the fact that different trees have different leaves. Connect to religion: We are all different creations of God, but He loves and cares for us all. Connect to language arts: Read <u>Pezzettiono</u>.</p> <p>Draw an object that is larger than you (car), and one that is smaller than you (ant)</p>

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<p>K.07.05 Construct a sense of time through participation in daily activities. (EC-A)</p> <p>K.07.06 Identify the days of the week. (EC-A)</p> <p><i>Significant to Develop at Kindergarten Level:</i></p> <p>K.07.07 Compare objects by weight. (EC-A)</p>	<p>Tell and show time to the hour by relating daily school activities to the time of day on a clock (e.g., time for gym, time for lunch, time to go home).</p> <p>Play the game, “Name the Day” (e.g., “I am the day before (or after) Tuesday. What’s my name?”</p> <p>.</p> <p>Fill six identical containers with different objects of different weights. Give students cards with pictures and/or words of the containers’ contents. Students will arrange the cards, estimating which containers will be the heaviest and which will be the lightest.</p>	<p>Connect to language arts: Reinforce oral presentation skills, for example explain the steps in brushing your teeth. Connect to religion: Discuss Sunday as God’s special day and draw a picture of one thing the student’s family does to make Sunday special.</p> <p>Connect to language arts: Learn and recite the poem, “Monday’s child is fair of face...”; Connect to religion: Learn the meaning of the word “Sabbath”.</p> <p>.</p> <p>Connect to science: Introduce a balance scale and show how it can be used to compare weight. Draw an object heavier than you and lighter than you.</p>

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Learning Standard/Outcome	Sample Assessment	Connections
K.07.08 Estimate and compare capacity. (EC-C)	Demonstrate empty, full, and half-full using containers and colored water.	Connect to science/art: Mix the different colors of water to form new ones. Connect to religion/real life application: As a class, follow a recipe and share it with classmates.

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State Goal 8: Use algebraic and analytical methods to identify and describe patterns and relationships in data, solve problems, and predict results.

Learning Standard/Outcome	Sample Assessment	Connections
<p><i>Critical for Mastery at Kindergarten:</i></p> <p>K.08.01 Classify and sort objects by common attributes (e.g., color, shape, and size). (8A)</p> <p>K.08.02 Model the concepts of equal and unequal groups using concrete objects. (8C)</p> <p>K.08.03 Make up and solve a story problem that could be derived from a picture. (8D)</p> <p><i>Significant to Develop at Kindergarten:</i></p> <p>K.08.04 Locate numbers on a number line. (8B)</p> <p>K.08.05 Demonstrate “more than one” or “less than one.” (fractions) (8B)</p>	<p>Students will sort different objects like colored shapes, animals, chips into bowls according to a stated attribute.</p> <p>Using a balance, students will show when groups of teddy bear counters are equal or unequal.</p> <p>A picture relating to an event that is special to the child is displayed. Each student must make up a story about that picture and share with the class.</p> <p>Using a number line rug have students stand on a particular number on the rug. For example, to locate 6 have a student go and stand on the 6 on the rug.</p> <p>Show pictures of pizzas (whole pizzas and some with pieces missing). Students should circle “more than one” or “less than one”.</p>	<p>Students will sort different articles of clothing into piles for a rummage sale.</p> <p>Connect this to a discussion about equality among all different people.</p> <p>Share food. Give each student three halves of cookies. They should show less than one, more than one, and equal to one.</p>

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State Goal 9: Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.

Learning Standard/Outcome	Sample Assessment	Connections
<p><i>Significant to Develop at Kindergarten Level:</i></p>		
<p>K.09.01 Recognize and name two- and three-dimensional shapes. (9A)</p>	<p>Name shapes of attribute blocks by appearance. Name shapes of attribute blocks by feel.</p>	<p>Use shapes to make a card with a picture of a house for someone in your family.</p>
<p>K.09.02 Draw and build two- and three-dimensional shapes. (9A)</p>	<p>Use connecting cubes, count how many different shapes can be made with 5 cubes.</p>	<p>Connect to science: Make shapes of animals and plants.</p>
<p>K.09.03 Recognize geometric shapes and structures in the environment. (9A)</p>	<p>Find different shapes in the school.</p>	<p>Make a picture using precut shapes.</p>
<p>K.09.04 Identify objects that are the same shape. (9B)</p>	<p>Name shapes in an area. Go on a safari to find “How many objects in the classroom have the same shape as the door?” Make a shape museum.</p>	<p>Find shapes in stained glass windows.</p>
<p>K.09.05 Sort and classify familiar shapes. (9B)</p>	<p>Make a shape puzzle</p>	
<p>K.09.06 Find and name locations with simple words, such as “near”. (9B)</p>	<p>Make a map of the classroom using near, far, between to describe locations.</p>	<p>Read <u>Guess How Much I Love You</u>. Complete a sentence booklet: “I love you as (far as the moon, near as my heart, etc.)</p>

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Learning Standard/Outcome	Sample Assessment	Connections
<p><i>Useful to Work on at Kindergarten Level:</i></p> <p>K.09.07 Recognize shapes that have symmetry. (9A)</p>	<p>Find symmetry in nature. Look at flowers and leaves. “Is the leaf the same on both sides?” Find shapes in classroom that exhibit symmetry.</p>	<p>Make snowflakes from paper cutting.</p>

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Grade K

State Goal 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability

Learning Standard/Outcome	Sample Assessment	Connections
<p>Critical for Mastery at Grade</p> <p>K.10.01 Organize, describe and label simple data displays such as pictographs, and tallies. (10A)</p> <p>K.10.02 Identify possible and impossible results of probability events using concrete materials (10C)</p>	<p>Have each student count the type of shoes that they are wearing. Display this information in a pictograph and/or using tallies. Make a pictograph for the monthly weather.</p> <p>Place several picture books on the table. Ask the students to choose a book from the table. Ask if this is possible. Ask the students to select a block from the table. Ask if this is possible. Name something that is possible. Name something that is impossible.</p>	<p>Students may wish to make a graph of how many days they attend Mass in a given time period.</p> <p>Pose a question such as “Will Christmas come this year?” (Possible) Pose a question such as “ What is the probability that a cow will fly by the window?” (Impossible) Ask students to make up questions to ask each other demonstrating that an event is possible or impossible. Read <u>Mother Goose</u> and discuss whether the stories are possible.</p>