

Archdiocese of Chicago: Mathematics Curriculum Framework
Pre-School

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 Preschool:</i></p> <p>P.08.01 Begin to order objects in series or rows. (8B)</p> <p>P.08.02 Recognize, duplicate, and extend simple patterns such as sequences of sounds, shapes, and colors. (8B)</p>	<p>Teacher presents students with a monthly number chart with the numbers listed from 1 to 30. Students note the patterns that you see when you look up and down, across, or diagonally. (For example, pick out all the numbers that contain a 2 or a 5). Have similar last digits in the same color.</p> <p>Clap and stomp your foot in a particular sequence (clap, clap, stomp), have the children repeat the same sequence, then create variations of the pattern together. Teach the children simple dances that include repeated steps and movements.</p> <p>The children will find patterns in clothing, in wallpaper, in tiles, and on toys. Encourage the children to describe the patterns they found. Try to identify the features of the pattern that are repeated. Find patterns in the monthly calendar, by using colored paper or numbers. Predict the next number on the sequence by the use of these colors.</p>	<p>Children draw a pattern on a paper and make a card for their grandparent. Place precut dinos in a patter.</p>

Archdiocese of Chicago: Mathematics Curriculum Framework
Preschool

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>Significant to Develop at Preschool Level:</i></p> <p>P.07.01 Demonstrate a beginning understanding of measurement using non-standard units and measurement words. (EC-A)</p> <p>P.07.02 Construct a sense of time through participation in daily activities. (EC-B)</p> <p>P.07.03 Estimate measurements. (EC-B)</p> <p>P.07.04 Show understanding of and use comparative words. (EC-B)</p>	<p>Use activity, “How Many Shoes Long Am I?” Line up several pairs of shoes against the wall. Children lie down beside the shoes and the class counts how many shoes long each child is. Results can be recorded or graphed. Repeat the activity at the beginning and end of the school year to compare results.</p> <p>Periodically use a timer to signal transition times in the classroom. Race against the timer while putting together a puzzle.</p> <p>Use apples and different size containers (e.g., bowl, bucket, bushel) to estimate and then count how many apples will fit in each.</p> <p>Sort objects of different sizes (e.g., teddy bear counters, Lego blocks, paper clips). Build towers that are short and tall. Use a balance scale to demonstrate heavier and lighter.</p>	<p>Connect to science: Unit on dinosaurs (measure objects using paper dinosaur “bones”). Connect to religion: God made us special. Connect to art and small motor development: Trace and cut out student’s shoe and use it to measure “how many steps long” an object is.</p> <p>Connect to science: Use a calendar to name the month and talk about the weather. Discuss seasonal changes.</p> <p>Connect to science: Study of autumn crops. Connect to religion: The wonder and beauty of God’s creation. Connect to life skills/religion: Share the apples with one another.</p> <p>Connect to art: Trace and cut out adult and children’s hands. Arrange them by size from smallest to largest. Connect to language arts: Read <u>Titch</u> by Pat Hutchins.</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>P.07.05 Incorporate estimating and measuring activities into play. (EC-C)</p>	<p>Use rulers, tapes, yardsticks, block, links, etc. in centers for experimenting with measurement.</p>	<p>Connect to physical education: Small and large motor development. Connect to language arts: Read <u>Measuring Penny</u> by Loreen Leedy.</p>

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Learning Standard/Outcome	Sample Assessment	Connections
<p>P.08.03 Describe qualitative change such as measuring to see who is growing taller. (8D)</p> <p><i>Significant to Develop at Preschool:</i></p> <p>P.08.04 Sort and classify objects by a variety of properties. (8A)</p> <p>P.08.05 Participate in situations that involve addition and subtraction using manipulatives. (8C)</p>	<p>Teacher gives students blocks and the student must measure the tallest and the smallest member of the class. Compare the measurements throughout the year.</p> <p>Make a game of sorting objects with the children, such as coins or blocks or toys. Or suggest, “Let’s find all the people with hats” or “I’ll spot red things and you spot things in your favorite color.” Sort objects of the same type but different sizes or colors. (For Example buttons or Teddy Bear Counters)</p> <p>Sing the song, “Ten little monkeys.” Children hold up their hands displaying how many monkeys. Teacher asks “How many monkeys are left,” after each verse. Then teacher relates this to numbers.</p>	<p>Using unifex cubes, measure the growth of a plant.</p> <p>Share raisins one at a time and ask “How Many do you have now?”</p>

Archdiocese of Chicago: Mathematics Curriculum Framework
Preschool

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 Preschool level:</i></p> <p>P.09.01 Recognize and name two- and three-dimensional shapes. (9A)</p> <p>P.09.02 Draw two-dimensional shapes. (9A)</p> <p>P.09.03 Build three-dimensional shapes. (9A)</p> <p>P.09.04 Recognize geometric shapes and structures in the environment. (9A)</p> <p>P.09.05 Identify objects that are the same shape. (9B)</p> <p>P.09.06 Sort and classify familiar shapes. (9B)</p>	<p>Cut out shapes. Teacher says “Bring me a circle.”</p> <p>Use a geoboard to make different shapes.</p> <p>Use connecting blocks to make shapes.</p> <p>Have students find examples of rectangles and circles in the room.</p> <p>Match shapes of attribute blocks</p> <p>Sort building blocks by shape, size and place on different shelves. (big, small, “pointy”, round)</p>	<p>Connect to religious symbols: Cut and paste shapes to fill in an outline of a cross. Color each shape with a different color.</p> <p>Connect to art: Draw a picture of the sun and the moon and stars. Make flowers from shapes cut from construction paper.</p> <p>Look at stained glass windows in church or in pictures and discuss shapes.</p>

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Preschool

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>P.09.07 Find and name locations with simple words, such as “near”. (9B)</p> <p><i>Useful to Work on at Preschool Level:</i></p> <p>P.09.08 Recognize shapes that have symmetry. (9B)</p>	<p>Students line up in a row. Describe who is near and who is far away from student in front. Have students in pairs act out “over”, “under”. Have students in triples act out “near”, “far” and “between”.</p> <p>Collect leaves and look for symmetry.</p>	<p>Build a lego bridge. Ask students to place a figure, below, over, under, etc. the bridge.</p> <p>Group symmetrical leaves.</p>

Archdiocese of Chicago: Mathematics Curriculum Framework
Grade Pre-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><i>Critical for Mastery at Grade</i></p> <p>P.10.01 Construct a simple diagram to illustrate a data display (10A)</p> <p><i>Significant to Develop at Grade</i></p> <p>P.10.02 Identify possible and impossible results of probability events. (10C)</p>	<p>Draw a circle on the playground. Have the students wearing jeans stand inside the circle. The other students should stand outside the circle. Change the attribute and see if the students can position themselves correctly (Type of shoes)</p> <p>In a large paper bag, put four red cubes. Show the students what you are putting in the bag. Ask if a red cube can be drawn for the bag. Ask if a blue cube can be drawn from the bag.</p>	<p>Make a picture graph of those students who helped someone today before coming to school.</p>