

# Math Curriculum Map for Pre School

	September	October	November	December	January	
Unit Name or Theme	Counting	Shapes	Patterns	Symbols	Graphs	Unit Name or Theme
Enduring Understandings and Performance Indicators	<p>Numbers can be recognized, named, compared and organized</p> <p>Numbers are represented by individual symbols</p> <p>Counting expresses a rhythm and pattern</p>	<p>Objects and shapes are everywhere</p> <p>Objects and shapes can be compared by attributes</p> <p>Shapes can be recognized, named, compared and organized</p>	<p>Objects are related to each other</p> <p>Patterns are everywhere</p> <p>Patterns can be represented</p>	<p>Symbols represent specific objects, places, and ideas</p> <p>Symbols help us to understand our world</p>	<p>Numbers, symbols and objects can be compared, organized and ordered with graphs</p> <p>Collecting numbers, symbols and objects develops a data set that can be displayed, compared, graphed, organized, ordered and discussed</p> <p>I can develop predictions based on knowledge and data</p> <p>I can solve problems based on prior knowledge and data</p>	Enduring Understandings and Performance Indicators
Essential Questions	<p>Why do I need to count objects?</p> <p>How do I use numbers every day?</p> <p>How are numbers different from letters?</p> <p>How can I record what I count?</p>	<p>How can I demonstrate an understanding of shapes in school, at home and in the environment?</p> <p>How can I compare and group shapes and objects?</p>	<p>How do I use manipulatives to show relationships?</p> <p>What patterns can I create and describe?</p>	<p>What are differences and similarities among symbols?</p> <p>How can I recognize symbolism in the environment?</p>	<p>Why should I compare, organize and order sets of numbers, symbols and objects?</p> <p>How do I collect data?</p> <p>How can I organize and display data?</p> <p>How can I communicate or report information or data I have collected, organized and compared?</p>	Essential Questions
Assessment Strategies Formative & Summative	<p>Observation</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	Assessment Strategies Formative & Summative

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Instructional Skills and Strategies	<p><b>Calendar Activities:</b> Rhythm, counting, repetition, name activities, songs, days of the week, month of the year, Pledge of Allegiance, morning message, “yes”/ “no” questions</p> <p><b>Instructional Skills and Strategies:</b> Use counting and numbers as a part of play</p> <p>Determine quantities of sets, objects, drawings, visuals, shapes</p> <p>Count to 20</p> <p>Use one-to-one correspondence</p> <p>Use vocabulary to order numbers and compare numbers of objects</p> <p>Count in sequence using fingers, blocks, objects</p> <p>Apply numbers to daily routine</p> <p>Match a number to a set of objects 0-5</p>	<p><b>Calendar Activities:</b> Weather, AB patterns, graphing, morning message extended, manners, songs, colors</p> <p><b>Instructional Skills and Strategies:</b> Match shapes (e.g. circle, square, rectangle, diamond, triangle, oval)</p> <p>Identify and name shapes</p> <p>Group shapes by attributes</p> <p>Classify shapes</p> <p>Reproduce shapes</p> <p>Create, draw, paint, construct and lace shapes</p>	<p><b>Calendar Activities:</b> Extensions on previous skills</p> <p><b>Instructional Skills and Strategies:</b> Copy and extend rhythm and movement patterns (i.e. clap, snap, clap, snap)</p> <p>Identify patterns in the environment (i.e. stripes on the flag)</p> <p>Identify and extend 2 element color, shape and size patterns</p> <p>Guess and check to find missing parts of a pattern</p> <p>Describe and extend growing patterns</p> <p>Develop patterns with a variety of materials, shapes and objects</p> <p>Translate patterns from one mode to another</p>	<p><b>Calendar Activities:</b> Extensions on previous skills</p> <p><b>Instructional Skills and Strategies:</b> Recognize and find symbols in the classroom, outdoors, in literature, and at home</p> <p>Understand the meaning or importance of symbols in my life</p> <p>Identify, match, draw, recreate and sort symbols</p> <p>Represent holiday symbols in artwork</p>	<p><b>Calendar Activities:</b> AAB patterns, counting syllables activities</p> <p><b>Instructional Skills and Strategies:</b> Use collections of objects, numbers or shapes to create a graph</p> <p>Form tally marks to communicate answers (i.e. “yes” or “no”) to posed questions</p> <p>Graph answers to posed questions</p> <p>Add input to graphs (e.g. names, colors, “yes”, “no”, X, shading, etc.)</p> <p>Sort, count, compare, display and discuss data in graphs</p> <p>Draw conclusions from data in graphs</p>	Instructional Skills and Strategies
Primary Resources	<p>Blocks CDs Magnetic numbers and games Objects Number line Trade books Literature:</p>	<p>Manipulatives Paints Games Groups of objects Trade books Geoboards Literature:</p>	<p>Manipulatives Trade books Literature:</p>	<p>Manipulatives Trade books Symbol visuals Decorations/signs Literature:</p>	<p>Manipulatives Large graphs Overhead graphs Calendar graphs Trade books Literature:</p>	Primary Resources
PA Learning Standards for Early Childhood	<p>2.1.Numbers, Number Systems and Number Relationships 2.1.1, 2.1.2, 2.1.3 2.2.Computation and Estimation 2.2.1, 2.2.2, 2.2.3 2.8.Algebra and Functions 2.8.1, 2.8.2</p>	<p>2.1.Numbers, Number Systems and Number Relationships 2.1.6 2.5. Mathematical Problem Solving and Communication 2.5.1, 2.5.2 2.9 Geometry 2.9.1, 2.9.3</p>	<p>2.8.Algebra and Functions 2.8.1, 2.8.2, 2.8.3</p>	<p>2.5. Mathematical Problem Solving and Communication 2.5.1, 2.5.2</p>	<p>2.6.Statistics and Data Analysis 2.6.1, 2.6.2, 2.6.3, 2.6.5 2.7.Probability and Predictions 2.7.3</p>	PA Learning Standards for Early Childhood

# Math Curriculum Map for Pre School

	February	March	April	May	June	
Unit Name or Theme	Comparisons	Measurement	Positions	Classifying	Culminating	Unit Name or Theme
Enduring Understanding and Performance Indicators	<p>Objects and shapes have common properties</p> <p>Objects and shapes can be compared according to number, size and weight</p> <p>I can communicate differences and similarities</p>	<p>Some attributes of objects and shapes can be measured and described</p> <p>Objects and shapes can be measured according to distance, weight, length, height, time and temperature</p> <p>I use different tools to measure</p> <p>Math is everywhere</p>	<p>Numbers have sequence and represent values</p> <p>Numbers can be compared, ordered and communicated using mathematical terms and conditions</p>	<p>Mathematical situations can be represented by different attributes</p> <p>Attributes of objects and shapes can be classified</p> <p>I can use inductive or deductive reasoning to make, check and verify predictions</p> <p>I can make mathematical connections with my environment</p>	<p>I can solve problems</p> <p>I can interpret results in a variety of ways</p> <p>I can communicate in mathematical terms</p>	Enduring Understandings and Performance Indicators
Essential Questions	<p>How can I compare and shapes and objects?</p> <p>How can I communicate what I see, hear, taste, touch and smell?</p> <p>How can I practice using comparisons in everyday situations?</p>	<p>How can I use non-standard units to measure objects (i.e. hands, shoe lengths)?</p> <p>How can I communicate mathematical terms to describe my observations?</p> <p>What do clocks and thermometers measure?</p> <p>What does time of day represent?</p> <p>Why is it important for me to sort and compare objects and shapes?</p>	<p>What is the relationship among numbers?</p> <p>How can I identify and communicate number values and position?</p> <p>How can I combine, separate, name, and match numbers to sets?</p>	<p>How can I sort objects and shapes?</p> <p>How can I predict and verify the use of environmental objects?</p>	<p>How do I apply a variety of concepts, processes and skills to solve problems?</p> <p>How do I present mathematical ideas using words, symbols, visual displays or technology?</p>	Essential Questions
Assessment Strategies Formative & Summative	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	<p>Observations</p> <p>Anecdotal records</p> <p>Self-reflection and discussion</p> <p>Participation checks</p>	Assessment Strategies Formative & Summative

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Instructional Skills and Strategies	<p><b>Calendar Activities:</b> Songs, rhymes, counting on</p> <p><b>Instructional Skills and Strategies:</b> Sort and compare objects; identifying “longest and shortest”, “big, bigger, biggest” etc.</p> <p>Observe and solve problems; sorting objects by size, ordering numbers, comparing objects</p> <p>Use senses to compare and distinguish between objects in the environment (i.e. apples v. oranges)</p>	<p><b>Calendar Activities:</b> AABB patterning</p> <p><b>Instructional Skills and Strategies:</b> Following steps in a process/sequencing (ingredients/cooking)</p> <p>Explore concept of length, height, weight and distance using a variety of tools and non-standard units</p> <p>Explore capacity through cooking and ingredient measurements</p> <p>Adult assistance in identifying units of measurement (whole, half, full, empty, cup, half of a cup, teaspoon, tablespoon)</p> <p>Examine, compare, and order objects and shapes</p> <p>Solve word problems with real-world situations involving time of day and routine</p> <p>With assistance from an adult, use standard measuring items to explore (e.g. ruler, yardstick, height charts)</p>	<p><b>Calendar Activities:</b> Songs, rhymes, counting on</p> <p><b>Instructional Skills and Strategies:</b> Use one-to-one correspondence</p> <p>Use mathematical vocabulary to describe sets</p> <p>Count, match, create sets of objects</p> <p>Order objects from first to fourth position</p> <p>Group objects into equal or defined numerical groups</p> <p>Join and separate sets of objects</p> <p>Match numbers to a set 0-10</p> <p>Estimate a given number of objects based on observation and knowledge</p>	<p><b>Calendar Activities:</b> Songs, rhymes, counting on</p> <p><b>Instructional Skills and Strategies:</b> Use models, sorts, clues and knowledge to relate classifications</p> <p>Use containers to hold, sort, quantify objects or liquids</p> <p>Ask questions</p> <p>Use appropriate terminology</p>	<p><b>Calendar Activities:</b> Songs, rhymes, counting on</p> <p><b>Instructional Skills and Strategies:</b> Ask questions</p> <p>Explain how or why</p> <p>Use pictures or objects to represent a process</p> <p>Communicate findings from problem solving process using math vocabulary</p> <p>Solve problems (e.g. guess and check, trial and error, describe steps in a process, prior knowledge)</p> <p>Use mathematical vocabulary</p>	Instructional Skills and Strategies
Primary Resources	Trade books Manipulatives Literature	Trade books Manipulatives Non-standard units of measurement Standard units of measurement Literature	Manipulatives Trade books Literature	Manipulatives Containers Trade books Literature	Manipulatives Trade books Literature	Primary Resources
PA Early Learning Standards	2.1.Numbers, Number Systems and Number Relationships 2.1.6 2.2.Computation and Estimation 2.2.1, 2.3.1, 2.3.2	2.1.Numbers, Number Systems and Number Relationships 2.1.6 2.3.Measurement and Estimation 2.3.1, 2.3.2	2.1.Numbers, Number Systems and Number Relationships 2.1.1,2.1.2,2.1.3,2.1.6 2.2.Computation and Estimation 2.2.1,2.2.2,2.2.4	2.4.Mathematical Reasoning and Connections 2.4.1	2.5.Mathematical Problem Solving and Communication 2.5.1, 2.5.2	PA Early Learning Standards