

COMPARISON: HEAD START CHILD OUTCOMES FRAMEWORK, MARYLAND MODEL FOR SCHOOL READINESS, AND MARYLAND GUIDELINES FOR HEALTHY CHILD DEVELOPMENT AND CARE

<p align="center">MARYLAND GUIDELINES FOR HEALTHY CHILD DEVELOPMENT AND CARE (MDHCD) Age 3</p>	<p align="center">HEAD START CHILD OUTCOMES FRAMEWORK (HS) For exiting Head Start children</p>	<p align="center">Maryland Model for School Readiness (MMSR) For exiting pre-kindergarten children</p>
<p align="center">Mathematics</p>	<p align="center">Mathematics</p>	<p align="center">Mathematics</p>
<p align="center">Mathematical Thinking Interest in concepts: Matching and sorting according to a single criteria</p> <ul style="list-style-type: none"> • Names several colors • Compares the color of his toy car to that of another child • Easily matches the colors and shapes in a matching puzzle • Helps to put away the silverware, matching the large spoons with the other large spoons 	<p align="center">Patterns</p> <ul style="list-style-type: none"> • Enhances abilities to recognize, duplicate, and extend simple patterns using a variety of materials. • Shows increasing abilities to match, sort, put in a series, and regroup objects according to one or two attributes such as shape or size. 	<p>1.0 Knowledge of Algebra, Patterns, and/or Functions: Students will algebraically represent, model, and analyze, or solve mathematical or real-world problems involving patterns or functional relationships.</p> <p align="center">Patterns and Functions</p> <ol style="list-style-type: none"> 1. Identify, copy, and extend non-numeric patterns <ol style="list-style-type: none"> a. Matches patterns kinesthetically such as clap/snap/clap... b. Recognizes simple patterns c. Represent simple repeating patterns using no more than 2 different objects and continue a simple pattern d. Create a simple pattern of two different objects when given the rule e. Identify patterns in real-world situations <p align="center">Expression, Equations, and Inequalities</p> <ol style="list-style-type: none"> 2. Identify inequalities <ol style="list-style-type: none"> a. Explore relationships by comparing groups no more than 5 objects to determine more or less

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<p>Shows beginning interest in geometry</p> <ul style="list-style-type: none"> • Names the circle and triangle • Finds examples of shapes in the environment • Plays a shape matching game • Draws and names a circle for a head • Makes symmetrical designs with shape blocks 	<p align="center">Geometry and Spatial Sense</p> <ul style="list-style-type: none"> • Begins to recognize, describe, compare, and name common shapes, their parts and attributes • Progresses in ability to put together and take apart shapes. • Begins to be able to determine whether or not two shapes are the same size and shape. • Shows growth in matching, sorting, putting in a series, and regrouping objects according to one or two attributes such as color, shape or size. • Builds an increasing understanding of directionality, order, and positions of objects, and words such as up, down, over, under, top, bottom, inside, outside, in front, and behind. 	<p>2.0 Knowledge of Geometry: Students will apply the properties of one-,two-, or three-dimensional geometric figures to describe reason, or solve problems about shape, size, position, or motion of objects.</p> <p align="center">Plane Geometric Figures</p> <p>1. Recognizes and uses the attributes of plane geometric figures</p> <ol style="list-style-type: none"> a. Sort objects by one attribute such as: shape, color, and size b. Name the attribute of plane figures such as: shape, color, size c. Match triangles, circles, and squares d. Identify triangles, circles, and squares in the environment <p align="center">Solid Geometric Figure</p> <p>1. Recognizes and uses the attributes of solid geometric figures</p> <ol style="list-style-type: none"> a. Sorts objects by one attribute such as size, shape, weight, length b. Finds solid figures in the environment <p align="center">Transformations</p> <p>1. Begin to recognize a transformation</p> <ol style="list-style-type: none"> a. Tell position by using words such as over, under, above, on next to , below, beside, behind b. Recognizes a slide using concrete materials

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<p align="center">Measurement</p> <p>Shows interest in quality, measuring and number relationships</p> <ul style="list-style-type: none"> • Recognizes that a friend has more pretzels than he does, then answers yes when he is given another pretzel and asked if they now both have the same amount • Fills a balance scale with beads, making one side go down and then the other go up • Sings “Five Little Moneys Jumping on the Bed” and knows that the next number is one less than the one before • Tells a friend that he is taller than the tower that he has built 	<p align="center">Measurement</p> <ul style="list-style-type: none"> • Begins to make comparisons between several objects based on a single attribute. • Shows progress in using standard and non-standard measures for length and area of objects. 	<p>3.0 Knowledge of Measurement: Students will identify attributes of measurements or apply a variety of techniques, formulas, tools or technology for determining measurements.</p> <p align="center">Measurement Scales</p> <ol style="list-style-type: none"> 1. Recognizes and uses measurement attributes <ol style="list-style-type: none"> a. Demonstrates an understanding of comparative attributes such as bigger, smaller, longer, shorter, lighter, heavier, taller, hotter, colder b. Compare and describe objects according to a single attribute <p align="center">Measurement Tools</p> <ol style="list-style-type: none"> 1. Measure in non-standard units <ol style="list-style-type: none"> a. Measure length of objects b. Explore the capacity of containers c. Explore the weight of objects by using a two-pan balance

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		<p>4.0 Knowledge of Statistics: Students will collect, organize, display, analyze, or interpret data to make decisions or predictions.</p> <p align="center">Data Displays</p> <p>1. Explore and display data</p> <ol style="list-style-type: none"> a. Explore data by answering yes/no questions b. Display data on real graphs c. Display data on picture graphs <p align="center">Data Analysis</p> <p>1. Analyze data</p> <ol style="list-style-type: none"> a. Talk about data from real graphs to answer a question such as: Which category has the most?
<p align="center">Number and Operations Shows beginning interest in numerals and counting</p> <ul style="list-style-type: none"> • Proudly shows that he can count three objects • Recognizes and names the numerals in a counting book 1 -5 • Easily counts out the four cookies that the snack menu says he can take • Counts the name cards to see if there is room for him in a given play center where only four children may play at a time 	<p align="center">Number and Operations</p> <ul style="list-style-type: none"> • Demonstrates increasing interest and awareness of numbers and counting as a means for solving problems and determining quantity. • Begins to associate number concepts, vocabulary, qualities, and written numerals in meaningful ways. • Develops increasing ability to count in sequence to 10 and beyond. • Begins to make use of one-one correspondence in counting objects and matching groups of objects. • Begins to use language to compare numbers of objects with terms such as more, less, greater than, fewer, equal to. • Develops increased abilities to combine, separate and name “how many” objects 	<p>6.0 Knowledge of number relationships or computations: Students will describe, represent, or apply numbers or their relationships or will estimate or compute using mental strategies, paper/pencil or technology.</p> <p align="center">Knowledge of Number and Place Value</p> <p>1. Apply knowledge of whole numbers</p> <ol style="list-style-type: none"> a. Builds concept of number b. Shows an understanding of quality c. Constructs relationships based on quality d. Uses classroom experiences to indicate same, more, or less e. Counts and discusses quantity f. Uses concrete materials to build sets 0 to 5 g. Matches a numeral to build a set 0 to 5 h. Counts to 10 i. Uses ordinal words to indicate position such as: first, next, last

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<p style="text-align: center;">Mathematical Thinking Use Mathematical Thinking to Solve Real Problems</p> <ul style="list-style-type: none"> • Counts out three crackers from the snack basket when it is passed to him • Tells the teacher that his cup is full of sand and hers is empty • Sorts objects by color or shape 	<p style="text-align: center;">Approaches to Learning Reasoning and Problem Solving</p> <ul style="list-style-type: none"> • Develops increasing ability to find more than one solution to a question, task or problem • Grows in recognizing and solving problems through active exploration, including trial and error, and interactions and discussions with peers and adults • Develops increasing abilities to classify, compare, and contrast objects, events, and experiences. 	<p>7.0 Process of Mathematics: Students demonstrate the process of mathematics by making connections and applying reasoning to solve and to communicate findings.</p> <p style="text-align: center;">Problem Solving</p> <ol style="list-style-type: none"> 1. Apply a variety of concepts processes and skills to solve problems <ol style="list-style-type: none"> a. Identify the question in the problem b. Decide if enough information is present to solve the problem c. Make a plan to solve a problem d. Apply a strategy, i.e. draw a picture, guess and check, finding a pattern, writing an equation e. Select a strategy, i.e. draw a picture, guess and check, finding a pattern, writing an equation f. Identify alternative ways to solve problems g. Show that a problem might have multiple solutions or no solution h. Extend the solution of a problem to a new problem situation <p style="text-align: center;">Reasoning</p> <ol style="list-style-type: none"> 1. Justify ideas or solutions with mathematical concepts or proofs <ol style="list-style-type: none"> a. Use inductive or deductive reasoning b. Make or test generalizations c. Support or refute mathematical statement or solutions d. Use methods of proof, i.e. direct, indirect, paragraph, or contradiction

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		<p>Process of Mathematics (continued)</p> <p style="text-align: center;">Communication</p> <p>1. Present mathematical ideas using words, symbols, visual displays, or technology</p> <ul style="list-style-type: none"> a. Use multiple representations to express concepts or solutions b. Express mathematical ideas orally c. Explain mathematical ideas in written form d. Express solutions using concrete materials e. Express solutions using pictorial, tabular, graphical, or algebraic methods f. Explain solutions in written form g. Ask questions about mathematical ideas or problems h. Give or use feedback to revise mathematical thinking <p style="text-align: center;">Connections</p> <p>1. Relate or apply mathematics within the discipline to other disciplines, and to life</p> <ul style="list-style-type: none"> a. Identify mathematics within the discipline, to other disciplines, and to life b. Identify mathematical concepts in relationships to other disciplines c. Identify mathematical concepts in relationships to life d. Use the relationship among mathematical concepts to learn other mathematical concepts

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