

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">Science</p>	<p align="center">Science</p>	<p align="center">Science</p>
<p>Scientific Thinking Uses scientific thinking as well as the five senses to discover the world around them</p> <ul style="list-style-type: none"> Asks questions about everything he sees, watching carefully Checks seed cup to determine if there have been changes since his first seed started to sprout Puts the modeling clay in water and finds out that it starts melting color Watches the fish and tells that he likes the biggest one best <p>Seeks information through observation, exploration and investigations with simple tools</p> <ul style="list-style-type: none"> Wants to pick-up and bring home interesting things he finds on a walk Uses senses to observe and gather information Uses tools such as magnifying glass, marble run, gear set, balance scale, measuring cups and spoons Makes and checks predictions before and after investigations 	<p align="center">Science</p> <p>Scientific Knowledge</p> <ul style="list-style-type: none"> Expands knowledge of and abilities to observe, describe, and discuss the natural world, materials, living things, and natural processes. Expands knowledge of and respect for their bodies and the environment. Shows increased awareness of ideas and language related to attributes of time and temperature. Shows increased awareness and beginning understanding of changes in materials and cause-effect relationships. 	<p>1.0 Skills and processes, Students will demonstrate the thinking and acting inherent in the practice of science</p> <p align="center">Scientific Inquiry</p> <ol style="list-style-type: none"> Seeks information through observation and exploration <ol style="list-style-type: none"> Uses their senses to observe and gather information from scientifically accurate resources and investigations Uses descriptive language to discuss scientific information collected from resources and investigations Uses scientific information collected to assist in making further discoveries Explores materials and natural phenomena <ol style="list-style-type: none"> Uses their senses to observe and explore materials and natural phenomena Asks questions about observations and explorations Uses observation to make predictions about what may occur <ol style="list-style-type: none"> Recognizes that information collected from observation and scientific investigations can be used to make a prediction

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		<p align="center">Scientific Inquiry (continued)</p> <ol style="list-style-type: none"> 4. Follows safety rules when participating in investigations or explorations <ol style="list-style-type: none"> a. Observes, describes and uses safe procedures for conducting investigation or exploration <ul style="list-style-type: none"> • Wearing eye protection, plastic gloves, and smocks • Using science equipment and materials appropriately • Following oral directions • Using senses in appropriate and safe ways 5. Uses numbers and units when counting or measuring objects <ol style="list-style-type: none"> a. Uses the appropriate numbers when orally counting objects b. Uses the appropriate non-standards units when measuring an object's weight, length, and height 6. Uses senses and simple tools/equipment to gather data <ol style="list-style-type: none"> a. Uses simple tools, such eyedroppers, balances, simple microscopes and other magnifiers to collect data b. Describes data collected on charts, tables and picture graphs 7. Compares data using observations, charts or graphs <ol style="list-style-type: none"> a. Recognizes likenesses and differences in data collected through observations and investigations b. Recognizes likeness and differences in data displayed on charts or picture graphs

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	<p>Scientific Skills and Methods</p> <ul style="list-style-type: none"> • Begins to use senses and a variety of tools and simple measuring devices to gather information, investigate materials, and observe processes and relationships • Develops increased ability to observe and discuss common properties, differences and comparisons among objects and materials • Begins to participate in simple investigations to test observations, discuss and draw conclusions, and form generalizations • Develops growing abilities to collect, describe, and record information through a variety of means, including discussion, drawings, maps, and charts. • Begins to describe and discuss predictions, explanations, and generalizations based on Past experiences. 	<p align="center">Scientific Inquiry (continued)</p> <p>8. Communicates findings from observations and investigations</p> <p>a. Uses oral language and/or drawing to describe observations and results of investigations</p> <p align="center">Critical Thinking</p> <p>1. Identifies similarities and differences among objects and materials</p> <p>a. Uses their senses to observe and gather information from scientifically accurate resources and investigations</p> <p>b. Recognizes that objects and materials are alike in some ways and different in some ways and different in some ways</p> <p>c. Describes orally the likenesses and differences among objects and materials</p> <p>2. Groups objects according to properties</p> <p>a. Recognizes the attributes and functions of objects</p> <p>b. Uses attributes and functions of objects to group those that are alike</p> <p>c. Uses attributes and functions of objects to classify those that are alike</p> <p>3. Identifies patterns found in the natural environment</p> <p>a. Uses their senses to recognize and describe the repeated sequences found in nature, such as design (stripes on a zebra), sounds (tapping of a woodpecker), and events (day/night)</p>

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<p align="center">Advanced Problem Solving</p> <p>Uses advanced problem solving skills, testing his understanding and ideas in real situations</p> <ul style="list-style-type: none"> • Offers to bring a screwdriver from home to fix a broken toy • Gets a toy broom and uses the handle to get a ball from under a shelf • Gets a ruler from the art center to use as a pointer for pointing to the ABCs • Asks for flour for his hands when the gingerbread is sticking to them • Suggests that the class use the fishnet to put the fallen fish tank cave upright 		<p>Students will demonstrated the thinking and acting inherent in the practice of science. (continued)</p> <p align="center">Applications of Science</p> <ol style="list-style-type: none"> 1. Uses scientific knowledge to solve everyday, science-related problems <ol style="list-style-type: none"> a. Uses prior knowledge and investigations to solve a given problem, such as determining appropriate clothing-based on weather observations <p align="center">Technology</p> <ol style="list-style-type: none"> 1. Identifies models of real objects <ol style="list-style-type: none"> a. Identifies and describe models of real objects, such as toy trucks, toy kitchen appliances, dolls and stuffed animals b. Matches models of objects to the real object that they represent 2. Identifies tools used to observe and measure <ol style="list-style-type: none"> a. Recognizes and explores tools that are used to make observations, such as hand lenses, binoculars, simple microscopes, other magnifiers and stethoscopes b. Recognizes and explores tools that are used to make measurements, such as rulers, tape measures, bathroom scales, balances, and measuring cups 3. Constructs objects with simple tools using a variety of materials <ol style="list-style-type: none"> a. Demonstrates skills such as cutting, pouring, and fastening necessary to make things b. Describes orally, objects they constructed

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		<p>1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science</p> <p style="text-align: center;">History of Science</p> <p>1. Recognizes that everyone can do science and invent things</p> <p style="padding-left: 20px;">a. Investigates and explores science concepts</p>
		<p>2.0 Earth/Space Science: Students will use scientific skills and processes to explain the chemical and physical interactions (i.e. natural forces and cycles, transfer of energy of the environment, Earth, and the universe occur over time.</p> <p style="text-align: center;">Materials and Processes That Shape the Planet</p> <p>1. Identifies and describes Earth materials based on their physical properties</p> <p style="padding-left: 20px;">a. Observes and describes soils, rocks, and water by using their senses of sight and touch and magnifying instruments.</p> <p style="padding-left: 20px;">b. Identifies similarities and differences in the Earth materials they observed</p> <p style="padding-left: 20px;">c. Describes types of soil and various rocks by using physical properties of texture, size and color.</p>

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		<p align="center"> Materials and Processes That Shape a Planet, Earth History Plate Tectonics Astronomy* *(Relates to prekindergarten – grade 8 Voluntary School Curriculum topics) </p> <p align="center">Astronomy</p> <p> 1. Identifies celestial objects that are visible in the sky a. Identifies and describes the sun, moon and stars </p> <p align="center">Interaction of Hydrosphere and Atmosphere</p> <p> 1. Describes the weather using observations a. Observes and describes the weather using their senses </p> <p> 2. Describes weather changes a. Observes and compares weather changes from day to day using their senses b. Observes and compares weather changes from month to month using their senses </p>

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		<p>3.0 Life Science: The students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.</p> <p>Cellular, Genetics, Evolution, Biochemistry, Ecology and Properties of Mater (Relates to prekindergarten –grade 8 Voluntary State Curriculum)</p> <p style="text-align: center;">Cellular</p> <ol style="list-style-type: none"> 1. Recognizes living and non-living things <ol style="list-style-type: none"> a. Recognizes and describes living and non-living things b. Recognizes and describes non-living things <p style="text-align: center;">Genetics</p> <ol style="list-style-type: none"> 1. Observes and describes familiar animals and their offspring <ol style="list-style-type: none"> a. Observes and describes the similarities and differences among familiar animals and their offspring b. Describes how offspring are like their parents

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		<p>4.0 Chemistry: Students will use scientific skills and processes to explain the composition, structure, and interactions of matter in order to support the predictability of structure and energy transformations.</p> <p style="text-align: center;">Properties of Matter</p> <ol style="list-style-type: none"> 1. Uses senses to identify the similar and different physical properties of familiar objects <ol style="list-style-type: none"> a. Uses their senses to identify similarities of objects, such as size, shape, color, texture and weight b. Uses their senses to identify differences of objects, such as size, shape, color, texture and weight <p style="text-align: center;">Physical and/or Chemical Changes Classification and Structure of Matter</p> <p>5.0 Physics: Students will use scientific skills and processes to explain the interactions of matter and energy and the transformations that occur.</p> <p style="text-align: center;">Mechanics</p> <ol style="list-style-type: none"> 1. Identifies the different ways that objects move <ol style="list-style-type: none"> a. Observes and describes various ways that objects move – straight round and round b. Identifies and describes the changes in direction of an object – back and forth, zig- zag.

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		<p align="center">Physics (continued)</p> <p align="center">Thermodynamics</p> <p>1. Recognizes that the sun warms the land, air, and water</p> <p>a. Recognizes and describes changes in temperature of the land, air, and water before and after the sun warms them</p> <p align="center">Electricity and Magnetism</p> <p align="center">Wave Interactions</p> <p>1. Recognizes that different objects make different sounds</p> <p>a. Identifies sounds made by objects such as drums, bells, rhythm sticks, and their voices</p>
		<p>6.0 Environmental Science: Students will use scientific skills and processes to explain the interactions of environmental factor (living and non-living) and analyze their impact from a local to a global perspective.</p> <p align="center">Flow of Matter and Energy*</p> <p align="center">Interdependence of Organisms*</p> <p align="center">Natural Resources and Human Needs*</p> <p align="center">Environmental Issues*</p> <p><small>*(Relates to prekindergarten – grade 8 Voluntary State Curriculum</small></p>