

.MATH FOR ME- SCOPE AND SEQUENCE OF MATH CONTENT AND CONCEPT LEARNING PROGRESSIONS

CORE CONSTRUCT = THE OVERALL GOAL FOR THE YEAR THAT APPLIES TO ALL UNITS

UNIT 3-HIGHLIGHTED

MELDS COMPONENT CORE CONSTRUCT Concept	UNIT 1 FAMILY	UNIT 2 FRIENDS	UNIT 3 WIND & WATER	UNIT 4 WORLD OF COLOR	UNIT 5 SHADOWS AND REFLECTIONS	UNIT 6 THINGS THAT GROW
MATHEMATICAL PRACTICES CHILDREN ARE COMPETENT MATHEMATICIANS Attitudes/Approach	Learning math starts with discovery and exploration.	Participating in Math Activities with friends.	Using math to observe the weather.	Playing games = engaging with math concepts & skills.	Science and math concepts help us understand shadows.	Math is energizing and useful in many contexts: school, home, and the surrounding environment.
Usefulness (Mathematizing)	We use math every day: Connecting number to real world situations.	Math in our Classroom- Routines and activities	Math helps us describe and make sense of the physical world.	Math ideas relate to games and outdoor play (comparisons, quantity, subitizing)	Math is embedded in learning projects (Uses math in STEM activities)	
Problem Solving MATH HELPS SOLVE PROBLEMS	What is a problem? Introducing math into problem solving.	People work together to solve math problems	Gathering Information (data) to help solve problems	Finding patterns in data to help solve problems.	Generating and testing solutions to problems [STEM]	Solving practical problems using geometry and measurement data: Planning a garden.
Communication (Mathematizing) MATH = COMMUNICATION	Naming our math center and math activities	Math has special vocabulary. (e.g. 3D and 2D shapes/comparison words)	Math words and math ideas appear in storybooks, outdoors and home.	Identifying math words and math ideas in storybooks, outdoors and home: subitizing, patterns, etc.	Growing accuracy and expanding use of language of math (verbal and non-verbal).	Applying the many "languages" of math in multiple contexts.
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COUNTING & CARDINALITY CLUSTER COUNTING DETERMINES QUANTITY Counting	Practicing the number word list through words & action.	Practicing the number word list through words & action.	Rote Counting Strategies: Numbers have an order. Correcting errors.	Rote: Expanding the number word list to 20 and beyond.	Rote Counting Strategies: Finding patterns in counting above 10.	Counting the same group of objects results in the same result. [Stability of

Rote & Rational		Transition from rote to rational counting strategies: One object has only one name	Transition from rote to rational counting strategies: Counting dissimilar objects	Transition from rote to rational counting strategies; Connecting groups to number names	Transition from rote to rational counting strategies– Order irrelevance; Keeping track of numbers counted	sets and/or order irrelevance] Using and applying rational counting to questions of quantity
Numerals NUMERALS AND MATH SYMBOLS REPRESENT MATH IDEAS	Some writing marks are called numbers (numerals) and others are letters.	Identifying/naming number symbols in the environment.	Matching numerals with their names (0-5). Exploring writing numerals	Matches numerals with their names (0-10). Exploring Writing numerals with intent.	Writing number symbols up to 10.	We communicate math ideas using number symbols.
Cardinality SEEING, SAYING AND REPRESENTING CARDINALITY INVOLVES MULTIPLE CONCEPTS. Subitizing	Grouping objects of 1 or 2 (arbitrary or attribute-based)	Grouping of objects and describing likes and differences	“Seeing” groups of numbers automatically up to 5. (perceptual subitizing)	“Seeing” groups (up to 5) and sometimes using them as a counting strategy	Exploring the “5” group in activities.	Relating counting and cardinality with increasing accuracy: labeling groups with various arrangements/arrays.
Cardinality		Using a number word or some form of Counting to answer <i>How Many?</i>	Counting groups of objects or persons and assigns a number name (1-2)	Counting groups of objects or persons and assigns a number name (Increasing accuracy)	Showing understanding that <i>How many</i> means the last number counted & represents amount in entire group.	
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OPERATIONS AND ALGEBRAIC THINKING Quantity DETERMINING HOW MANY? IS THE GOAL OF EARLY MATH	Introducing Number Questions	Responding to Number Questions with Demonstration or Words.(1, 2)	Beginning to count from 1 onward when asked how many. Gives an answer. Number words refer to quantity	Showing understanding that <i>How many</i> means the last number counted represents the entire group.	Showing understanding that <i>How many</i> means the last number counted represents amount in entire group.	Combining ideas of 1:1 correspondence, cardinality and number stability to understand quantity.
Relationships MATH = FINDING RELATIONSHIPS AND PATTERNS. 1:1 Correspondence & Other math relationships ($< > + - =$)	Demonstrating perceptive (intuitive) number in play or other daily activities	1:1 Correspondence is a special type of relationship—one name, one object. (See rational counting)	Beginning comparison of groups for more or less (visual estimating/ counting).	Beginning to compare groups using counting strategies (up to 10). Beginning to recognize parts/wholes of number groups.	Counts groups and begins to compare numbers($< > + =$) (up to 10) Finding number partners: number within numbers (up to 5).	Comparing groups of numbers ($< > + - =$) using word, actions or objects. Beginning to compose/decompose numbers (up to 5)

<p>Representation MATH IDEAS APPEAR IN MANY MODES AND CONTEXTS.</p> <p>Physical/verbal Modeling</p>	Objects can represent other objects.	Representing number with words signs or gestures.	Number can be represented by manipulatives (unit blocks, counters) and symbols and people.	Drawing, describing or showing with manipulatives how number names relate to groups.	Beginning concepts of Adding and Taking (up to 5) Away (varying ways of representing)	Communicating addition and subtraction with fingers and manipulatives. (up to 5)
<p>Visual Tools for Representing Number & Relationships</p>		Exploring number matching puzzles and manipulatives to represent relationships	Using number matching puzzles and manipulatives to represent relationships	Introducing number paths. Identifying a story problem.	Using number paths and grid games as a counting tool. Using story problems to visualize operations	Beginning to use number paths and grid games to communicate math ideas. Acting out story problems to visualize operations up to 10.
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<p>GEOMETRY (INCLUDES CLASSIFICATION) FORMING AND APPLYING IDEAS OF SHAPES AND SPATIAL RELATIONSHIPS</p> <p>Shape 3D-2D Attributes</p>	Manipulating and building with 3-D Shapes	Finding 3-D and 2-D shapes in the environment and using words to describe geometrical figures.	3D and 2D shapes have different attributes and uses. Discovering and describing some attributes of shapes.	Classifying shapes by describing and comparing some attributes.	Copies or represents shapes using manipulatives or drawing.	Growing accuracy in discovering, describing and comparing attributes of shape: Exploring grouping shapes by characteristics.
<p>Parts/Wholes</p> <p>COMPOSING & DECOMPOSING FIGURES</p>	Taking apart and putting together toys, puzzles & manipulatives	Taking apart and putting together toys, puzzles and manipulatives and sometimes describing parts and wholes	Identifying the parts of objects in the classroom and outside world and relating those parts to whole.	Using shape puzzles and shape manipulatives for parts/whole understandings	Putting a variety of shapes together to make objects or pictures. Identifying words for part/whole concepts.	Taking apart shapes and reassembling. May identify parts.
<p>Space (Spatial relations)</p> <p>Orientation Directionality</p>	Informal spatial movement: Moving our bodies in many different directions	Recognizing and responding to Directionality and Orientation words or commands	Moving objects and our bodies and describing relative positions in space.	Playing games and initiating activities that involve directionality and orientation.	Orientation: Shapes are still the same shape, despite their orientation (Intro to slides, flips and turns).	Orientation: Manipulating and describing 2-D Shapes y Slides flips and turns Integrating shape and space concepts in

			(Movement patterns or models such as maps)		Identifying shape and space concepts in STEM activities	class projects and problem solving.
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<u>MEASUREMENT & DATA</u> <u>(INCLUDES CLASSIFICATION AND PATTERNS)</u> FINDING MEASURABLE PROPERTIES AND EXPLORING MEASUREMENT METHODS Measurement Tools		Exploring measurement tools indoors and outdoors.	Matching measurement tools to their purposes: measuring water; temperature	Mixing and creating colors using measurement tools.	Using tools to measure and compare shadows.	Solving problems using some form of measurement method and tools.
Measurement Methods & Attributes		Exploring and describing Measurable Attributes in everyday activities.	Experimenting with measurement: Directly comparing 2 or more items on an attribute.	Experimenting with measurement methods Using measurable attributes to organize materials.	Experimenting with measurement methods Non-standard measurement	
Specific Language & Concepts PRACTICAL APPLICATION OF MEASUREMENT	Everyday use of measurement words in play, at school and at home.	Growing use of accurate measurement terms: Exploring the Language of Time in classroom routines	Growing use of accurate measurement terms: Exploring temperature and capacity/volume	Growing use of accurate measurement terms: Exploring weight and mass. Describing past, present & future events.	Growing use of accurate measurement terms: Exploring length and distance: Continuous and discrete measurement	Demonstrating the practical use of measurement (including data skills) to solve problems in everyday life
Data GATHERING, ORGANIZING AND USING INFORMATION TO MAKE MEANING AND SOLVE PROBLEMS	Matching and grouping (Attribute recognition)	Describing, sorting and classifying collections (Self-described or in response to questions	Growing use of discrete attributes for classification sorting strategies to organize collections Discovering patterns in movement song or materials.	Organizing data: Recording data graphically in charts & graphs. Describing patterns.	Growing abilities to recognize, copy describe and create patterns.	