MATH & SENSORIAL Number Work Beginning Geometry Measurement	PK.AL.2 Actively engages in problem solving PK.PDH.2. Uses sensory information to plan and carry out movements PK.MATH.1. [NY-PK.CC.1.] Counts to 20 PK.MATH.2. [NY-PK.CC.2.] Represents a number of objects (0-5), with a written numeral 0-5 (with 0 representing a count of no objects) PK.MATH.3. [NY-PK.CC.3.] Understands the relationship between numbers and quantities to 10, connects counting to cardinality PK.MATH.3a. [NY-PK.CC.3a.] When counting objects, says the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. (1:1 correspondence) PK. MATH.3b. [NY-PK.CC.3b.] Explores and develops the concept that the last number name says the number of objects counted, (cardinality). The number of objects is the same regardless of their arrangement or the order in which they were counted. PK.MATH.4b. [NY-PK.CC.4b] Given a number from 1-10, counts out that many objects PK.MATH.6. [NY-PK.CC.5.] Recognizes whether the number of objects in one group is more than, fewer than, or equal to (the	A. Assessments (Kindergarten only) will determine where to start with your Kindergartener; Pre-K will begin based on your observation of their counting and naming skills. Find Kindergarten Assessment Film, Guide and Printables here: https://members.tshanywhere.org/cycle-3-primary/ B. Number Work during Morning Material Time for Pre-K. These are sensorial, introductory materials that lay the foundation for understanding the quantity and symbol of numbers. We give these Sensorial Lessons to the very young Learner, without mentioning numbers at all. These lessons give the first impressions of counting to 10. See AEC Films for the following Lessons here: https://members.tshanywhere.org/curriculum/films-visual-sense/ 1. Pink Tower 2. Brown Stair 3. Knobbed Cylinders 4. Red Rods C. Additional Beginning of the year Math materials include but are not limited to: See AEC 1-10 Number Work Films Here: https://members.tshanywhere.org/curriculum/films-numbers-1-10/ 1. Number Rods: Introduction to Quantity (1–10 using rods), Counting and identifying quantities, Matching numerals with rods (with Number Cards 1–10) 2. Sandpaper Numerals: Tracing and learning symbols (1–9, then 0), Matching symbols to quantities using Number Rods or other objects.

	same as) the number of objects in another group PK.MATH.7. [NY-PK.CC.6.] Identifies first and last related to order or position PK.MATH.9. [NY-PK.OA.2.] Duplicates and extends simple patterns using concrete objects PK.MATH.10. [NY-PK.MD.1.] Identifies measurable attributes of objects, such as length or weight, and describes them using appropriate vocabulary PK.MATH.11. [NY-PK.MD.2.] Sorts objects and shapes into categories; counts the objects in each category. PK.MATH.12. [NY-PK.G.1.] Describes objects in the environment using names of shapes and describes the relative positions of these objects using terms such as top, bottom, up, down, above, below, in front of, behind, over, under, next to PK.MATH.13. [NY-PK.G.2.] Names shapes regardless of size NY-K.CC.1 Count to 100 by ones and by tens. NY-K.CC.2 Count to 100 by ones beginning from any given number (instead of beginning at 1). NY-K.CC.3 Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of	3. Spindle Boxes: Introduction to the concept of 0, Counting spindles and associating with numerals (0–9) 4. Cards and Counters: Reinforcement of 1–10 quantity and numeral association, Odd and Even numbers 5. The Decimal System: See AEC Decimal System Work Films Here: https://members.tshanywhere.org/curriculum/the-decimal-system/ These are concrete materials to introduce the decimal system: units, tens, hundreds, and thousands as your Learner is progressing past the above. a. Golden beads: Introduction to quantities: unit, ten bar, hundred square, thousand cube, Counting quantities (static addition and subtraction), Decimal System layout (1 unit, 1 ten, 1 hundred, 1 thousand) b. Large Number Cards (Hierarchical Numerals 1–9000): Composing numbers (e.g., 3,264) with physical cards, Matching with Golden Beads 6. Continuation of Counting: See AEC Continuation of Counting Work Films Here: https://members.tshanywhere.org/curriculum/films-continuation-of-counting/ a. Teen Board: Introduction to numbers 11–19, Quantity with bead bars and numeral overlay, Matching quantities with symbols b. Ten Board: Numbers 10-99, Quantity using bead bars, Emphasis on place value and understanding "ten and some more"

	no objects). NY-K.CC.4 Understand the relationship between numbers and quantities up to 20; connect counting to cardinality. NY-K.CC.4a When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. (1:1 correspondence) NY-K.CC.4b Understand that the last number name says the number of objects counted, (cardinality). The number of objects is the same regardless of their arrangement or the order in which they were counted. NY-K.CC.4c Understand the concept that each successive number name refers to a quantity that is one larger. NY-K.CC.4d Understand the concept of ordinal numbers (first through tenth) to describe the relative position and magnitude of whole numbers. NY-K.CC.5a Answer counting questions using as many as 20 objects arranged in a line, a rectangular array, and a circle. Answer counting questions using as many as 10 objects in a scattered configuration. e.g., "How many _____ are there?" NY-K.CC.5b Given a number from 1–20, count out that many objects. NY-K.CC.6 Identify whether the number of objects in one group is greater than (more than), less than (fewer than), or equal to (the same as) the number of objects in another	c. Hundred Board: Counting 1–100, Placing tiles in order, Skip counting, patterns, number recognition It is important throughout the year that we assess through observation and Oral Mastery Practice and adjust Morning Material Time accordingly. Oral Mastery Practice is very effective throughout the year and in the beginning: Ask a child to present a younger child the lesson either by using materials or on paper. Make sure that we are staying with a concept until fully understood but do not restrain Learners from more difficult material if they are not proficient. They will achieve a higher learning progression if given BOTH opportunities. C. Beginning Geometry We are giving the Learner their first impressions of Geometry for future experiences. AEC Films for the following lessons can be found in our Sensorial Section: https://members.tshanywhere.org/curriculum/sensorial/ • The Binomial Cube • The Trinomial Cube • The Triangular Box • The Small Hexagon Box • The Large Hexagon Box • Combine the Boxes: Two Boxes • The Box of Blue Triangles D. Measurement

	group. NY-K.CC.7 Compare two numbers between 1 and 10 presented as written numerals. NY-K.OA.1 Represent addition and subtraction using objects, fingers, pennies, drawings, sounds, acting out situations, verbal explanations, expressions, equations or other strategies. NY-K.OA.2a Add and subtract within 10. NY-K.OA.2b Solve addition and subtraction word problems within 10. NY-K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way. NY-K.OA.4 Find the number that makes 10 when given a number from 1 to 9. NY-K.OA.5 Fluently add and subtract within 5. NY-K.OA.6 Duplicate, extend, and create simple patterns using concrete objects.	1. Read Is a Blue Whale the Biggest Thing There Is? By Robert E. Wells 2. Learners gain the understanding of the concept of length through use of the Red Rods. Give this presentation in a group setting - but now in a different light - for the purpose of Measurement. 3. After the presentation, invite one Learner at a time to take a piece from the red rods and find an object in the classroom with a matching length. Once all 10 pieces have been matched, return them to the rug in size order. 4. Follow up exercise: have pieces of the red rod mixed around the classroom. Invite Learners one at a time to find the next piece by size until the red rods are all in place in the center of the circle. We like to use something called a ruler to measure (show), but we can measure with anything JUST AS LONG AS WE ALL AGREE ON THE MEASUREMENT. Compare different ways we can measure with Learners. a. Have Learners collect different objects to bring to the rug and use a paperclip as the unit of measurement, and then a ruler. b. How many paperclips does it take? How many inches on the ruler? America has agreed that we will all use inches! c. LEARNER WORK: How many paperclips does it take? Is a work you can create in a basket with other objects. Learners can count (or log) how many paper clips for a number of objects: a pencil, a figurine, a banana? If they like, they can follow up by measuring with a ruler.