DRDP-K Fundamental
Observing and Documenting for the DRDP Measures by Level: Cognition, Including Math and Science (COG:MATH)

COG 1: Classification

Child shows an increasing ability to compare, match, and sort objects into groups according to their attributes

Developmental Levels and Descriptors	**Building Earlier** Identifies small quantities without counting, up to three	**Building Middle** Counts up to five objects using one-to-one correspondence; and Recites numbers in order, one through ten	**Building Later** Shows understanding that the last number counted is the total number of objects in the group	**Integrating Earlier** Solves simple everyday problems involving numbers by counting up to 10 objects using one-to-one correspondence; and Recites numbers correctly, up to 20	**Integrating Middle** Recites numbers in order up to 100 by ones and by tens, starting at any given number; and Counts at least 20 objects correctly using one- to-one correspondence; and Demonstrates understanding that teen numbers are composed of ten and additional ones (10-19); and Reads and writes numerals 0 to 20	**Integrating Later** Counts beyond 100, starting at any given number; and Demonstrates understanding that in two- digit numbers the first digit represents the number of tens and the second digit represents the number of ones; and Reads and writes two digit numerals up to 100
Examples from the DRDP	Communicates, "Three dogs," while looking at a picture of three dogs, without counting.	Counts out loud, "One, two, three, four, five," saying the next number as the next cup is placed on the table.	Counts four pencils and says, "Four," when asked how many pencils there are.	Counts accurately to 20 while marching.	Separates 14 flowers into two groups, 10 and 4, and communicates, "All together there are 14."	Count by tens up to 100 and then continues by ones, "101, 102, 103, 104, 105, 106, 107, 108, 109, 110."
Could look like this in virtual interaction	Child holds up fingers to a subitize video and teacher can record observations.	Watch several focus children count objects in their work space.	Counts items in their work space and answers "How many?"	Watch for several focus children to count to 20 while marching in a brain break.	Set up learning tasks with their classification items to count, add together, write the numerals.	Practice counting on from different numbers.
Support learning and development: Ideas to share with families	Kindergartners need to build a solid foundation of counting to be successful in school. Have them count things around the house, then ask them, "How many?" to see if they can answer with the last number counted. Talk about the new number when you add one or two more.					
How to support learning and development at this level: Ideas for teachers	YouTube has a variety of short number sense videos: Subitize Rock (Jack Hartmann), Subitize Country Style, Let's Get Fit Count to 100, Beginning Number Sense (Steven Taugh), and in Counting in Spanish. Have a checklist ready to mark when you notice a child subitizing, rote counting, counting objects, adding					

COG 2: Number Sense of Quantity

Child shows developing understanding of number and quantity

Developmental Levels and Descriptors	**Building Earlier** Demonstrates understanding that adding objects to a group makes more or that taking away objects makes fewer or less	**Building Middle** Identifies the new number of objects after one object is added to or removed from a set of two or three objects	**Building Later** Uses counting to add or subtract one or two objects to or from a group of at least four objects	**Integrating Earlier** Solves simple addition or subtraction word problems by using fingers or objects to represent numbers or by mental calculation	**Integrating Middle** Represents and solves addition and subtraction problems with totals up to 10, by using objects, drawings, or fingers, or by mental calculation; and Demonstrate understanding that numbers (ten or smaller) can be decomposed in more than one way (i.e., 7=5+2; 7=6+1)	**Integrating Later** Represents and solves addition and subtraction word problems with totals up to 20, by using objects, drawings and equations, applying advanced strategies (e.g., count-on), including strategies that reflect understanding of properties of addition and subtraction
Examples from the DRDP	Notices when another child's bowl has more beads than own bowl and asks an adult to add beads to own bowl.	Gives one of two cars to another child, and then communicates, "I have one and you have one."	Watches an adult add two markers to a group of four markers, counts the total number, and communicates that there are six.	Communicates, "I had four hair clips, but I gave one to my sister. Now I have three."	Holds up five fingers on one hand and three fingers on the other hand and counts to self, "1, 2, 3, 4, 5, 6, 7, 8," when presented with a word problem about how many balloons you would have if you were given five balloons and then three more balloons.	Communicates, "7 plus 3 is 10 and then 2 more is …10, 11, 12. There are 12," when solving the equation: "7 plus 2 plus 3." (make a 10 and count–on strategies).
Could look like this in virtual interaction	Teacher is feeding a hungry puppet cubes and sticks and asks students which pile has more.	Singing "5 Little Monkeys Jumping on the Bed" online and asks how many are left, after one fell off.	Children watch the teacher add two markers to her group of four. They all hold up six fingers or teacher calls on them to answer.	Teacher says and demonstrates solving addition and subtraction word problems with fingers or manipulatives.	Using a ten frame, model how to add to 10 in different ways	Child explains how they solved a math problem you have given online with totals up to 20.
Support learning and development – Ideas to share with families	Learning to add and subtract starts small. Add these questions to your daily routines: If I add one more cracker to your plate, how many will you have? If I take away two grapes from your cup, how many will you have?					
How to support learning and development at this level: Ideas for teachers	Add in some simple finger word problem activities when they return from a break. Collect ideas for simple word problems. Use this COG: MATH 3 Checklist to note what you observe some children do.					

COG 3: Number Sense of Math Operations
Child shows increasing ability to add and subtract small quantities of objects

Developmental Levels and Descriptors	**Building Earlier** Shows understanding of some measurable properties (e.g., size, length, weight, capacity) or uses words (e.g., "big," "heavy") to describe some measurable properties	**Building Middle** Identifies differences in size, length, weight, or capacity between two objects, using comparative words (e.g., "bigger," "smaller") or showing understanding of comparative words	**Building Later** Orders three or more objects by directly comparing them using a measurable property (e.g., size, length, weight, capacity)	**Integrating Earlier** Explores the properties of objects (e.g., size, length, weight, capacity) through either the use of measurement tools with standard units (e.g., ruler, scale) or the use of nonstandard units (e.g., footsteps, blocks)	**Integrating Middle** Measures objects (e.g., length, area, volume), using multiple units and counting the number of units, but not always accurately, and may not recognize the need for equal-size units	**Integrating Later** Measures objects (e.g., length, area, volume), using equal-size units, and counting the number of units, avoiding gaps or overlaps between units
Examples from the DRDP	Communicates, "This pumpkin is so heavy."	Chooses the bigger of two buckets when asked to bring the one that will hold more water.	Arranges several leaves by size while working on a fall leaf project.	Fills a measuring cup twice to add two cups of oatmeal during a cooking activity.	Places same-size blocks along the edge of the rug, with some gaps between blocks, when using the blocks to measure the length of the rug.	Fills up two boxes with same-sized cubes placed next to each other and stacked up to the top of each box, and communicates, "The small box has 12 cubes and the large box has 18 cubes."
Could look like this in virtual interaction	Listen for child using basic comparison words during online lessons.	Listen for child using comparison words about size, length, weight during an online lesson.	After a nature walk outside, child arranges items by size.	Ask parents to use the scale at a grocery store to compare weights of objects in the produce department and post to you.	Learning task of measuring objects at their workspace with unifix cubes (notebook, desk, drawer, pencil, etc.)	Measuring objects with unifix cubes and child is putting cubes right next to each other.
Support learning and development: Ideas to share with families	Measurement is all about comparing things: their weight, size, length and volume. Use the words, heavy/light, short/long, short/tall, thick/thin, hot/cold, far/near, etc. You can measure with regular tools, like scales, rulers, yardsticks, thermometer, clocks or even unusual things like hands, feet, blocks. How many of your feet long is your kitchen? How many hands long is a window?					
How to support learning and development at this level: Ideas for teachers	YouTube has videos on measurement: Longer or Shorter (Number Rock), Measurement Song (Mr. R's Songs for Teaching). Do a demo of measuring or arranging objects by size. Ask parents to measure things at home and post to your online portfolio.					

COG 4: Measurement

Child shows an increasing understanding of measurable properties such as size, length, weight, and capacity (volume), and how to quantify those properties

Developmental Levels and Descriptors	**Building Earlier** Matches simple sequences that are seen, heard, or experienced	**Building Middle** Attempts to create simple repeating patterns (with two elements)	**Building Later** Extends a simple repeating pattern (with two elements) by adding one or more repetitions of an existing pattern	**Integrating Earlier** Creates, copies, or extends complex patterns (with three or more elements)	**Integrating Middle** Identifies smallest repeating unit of the pattern; and Translates pattern from one mode of representation to another (e.g., using an ABB pattern with shapes and then with movement)	**Integrating Later** Identifies growing patterns (i.e., patterns that increase with every repetition) by describing their numeric or geometric progressions
Examples the from DRDP	Repeats series of actions of touching head, shoulders, knees and toes, during the song "Head, Shoulders, Knees and Toes."	Claps, stomps, and then repeats.	Builds a fence out of blocks, continuing the pattern begun by a peer: tall block, short block, tall block, short block.	Makes up a rhythmic sequence by clapping, patting, and stomping.	Observes the square, circle, circle pattern on the rug and communicates, "Square, circle, circle, repeats over and over."	Communicates, "Here there is one circle, then there are two more circles and here are three more circles, so the next one will have four more circles.
Could look like this in virtual interaction	Students imitate teacher's patterned movements.	Students take turns making a pattern online.	Teacher: "What comes next?" displaying a simple pattern of objects online. Children answer as a group or individually.	After the Pump up the Pattern video, students offer more ideas of 3 or 4 element patterns.	Observes the square, circle, circle pattern on the screen and communicates, "Square, circle, circle, repeats over and over."	same as above
Support learning and development: Ideas to share with families	Patterns are important in math, reading, science, music and art! Show your child patterns: fork, spoon, fork, spoon and see if they can add to the pattern. With legos, you could do a short, short, long pattern. With food, you could do fry, nugget, fry, nugget as they eat! If your child comes up with a pattern, text your teacher!					
How to support learning and development at this level: Ideas for teachers	YouTube has videos on patterns: Patterns for Kids, Pump up the Pattern (jack Hartmann), Shapes in Spanish (Learning Time Fun). Have them use items they collected for classification on their scavenger hunt to make patterns. Have parents send you a video or photo of a pattern their child made.					

COG 5: Patterning
Child shows an increasing ability to recognize, reproduce, and create patterns of varying complexity

Developmental Levels and Descriptors	**Building Earlier** Matches similar shapes and distinguishes them from dissimilar shapes without necessarily naming them	**Building Middle** Identifies or names several shapes in the environment (e.g., circles, squares, triangles)	**Building Later** Recognizes shapes when they are presented in different orientations or as parts of other objects	**Integrating Earlier** Describes several shapes and the differences between them	**Integrating Middle** Names, describes and compares a variety of two- dimensional shapes in different sizes and orientations (including rectangle and hexagon), and some three- dimensional shapes (e.g., cylinder, cubes)	**Integrating Later** Identifies or distinguishes shapes using defining attributes (e.g., number of sides, angles); and Creates representations of shapes based on knowledge of defining attributes
Examples from DRDP	Uses ink stamps to make a row of circles and a row of squares.	Communicates, "My sandwich is a square," while holding up a sandwich at lunch.	Communicates that the face in a figure drawing is a circle.	Communicates, "This one has a pointy part. This one is curvy," when examining a triangle and a circle.	Points to the door and then to a rectangle block laying on its side and communicates, "The door is a big rectangle and the block is a small rectangle," while playing a shape-finding game.	Sorts ovals from circles and communicates, "These are round, but they are not circles because here it is long and here it is short."
Could look like this in virtual interaction	Student sorts paper circle, squares and triangles and tilts camera down to show it.	Scavenger Hunt to find shapes in their house.	Students can raise their hand and label a shape in a book read to them online: "the plate is a circle."	same as above	Teacher holds up 2 shapes and calls on students to name and describe them.	Teacher: "Draw something that has 4 straight sides." Child draws a square or rectangle or diamond.
Support learning and development: Ideas to share with families	Point out shapes all around the house and neighborhood: a clock is a circle, sandwich is a square, egg is an oval, stop sign is a hexagon, etc. Use description words when you talk about shapes, circles are curvy, triangles have pointy corners, hexagons have 6 straight lines. Send a video of your child describing shapes they find around the house or of them describing the differences between a circle and square.					
How to support learning and development at this level: Ideas for teachers	YouTube has videos on Shapes (The Kiboomers) Name the Shape game (Jack Hartmann), 3D Shapes (The Singing Walrus) to show, then later children can unmute and don't play the sound, having them say the shape they see. Use attribute blocks if they were sent home as materials. Send children on a shape hunt to bring back to the virtual meeting.					

COG: MATH 6: Shapes
Child shows an increasing knowledge of shapes and their characteristics

Developmental Levels and Descriptors	**Building Earlier** Matches similar shapes and distinguishes them from dissimilar shapes without necessarily naming them	**Building Middle** Identifies or names several shapes in the environment (e.g., circles, squares, triangles)	**Building Later** Recognizes shapes when they are presented in different orientations or as parts of other objects	**Integrating Earlier** Describes several shapes and the differences between them	**Integrating Middle** Names, describes and compares a variety of two- dimensional shapes in different sizes and orientations (including rectangle and hexagon), and some three- dimensional shapes (e.g., cylinder, cubes)	**Integrating Later** Identifies or distinguishes shapes using defining attributes (e.g., number of sides, angles) and Creates representations of shapes based on knowledge of defining attributes
Examples from DRDP	Uses ink stamps to make a row of circles and a row of squares.	Communicates, "My sandwich is a square," while holding up a sandwich at lunch.	Communicates that the face in a figure drawing is a circle.	Communicates, "This one has a pointy part. This one is curvy," when examining a triangle and a circle.	Points to the door and then to a rectangle block laying on its side and communicates, "The door is a big rectangle and the block is a small rectangle," while playing a shape-finding game.	Sorts ovals from circles and communicates, "These are round, but they are not circles because here it is long and here it is short."
Could look like this in virtual interaction	Student sorts paper circle, squares and triangles and tilts camera down to show it.	Scavenger hunt to find shapes in their house.	Students can raise their hand and label a shape in a book read to them online, "The plate is a circle."	Same as above	Teacher holds up two shapes and calls on students to name and describe them.	Teacher: "Draw something that has four straight sides." Child draws a square or rectangle or diamond.
Support learning and development: Ideas to share with families	Point out shapes all around the house and neighborhood: a clock is a circle, sandwich is a square, egg is an oval, stop sign is a hexagon, etc. Use description words when you talk about shapes, circles are curvy, triangles have pointy corners, hexagons have 6 straight lines. Send a video of your child describing shapes they find around the house or of them describing the differences between a circle and square.					
How to support learning and development at this level: Ideas for teachers	YouTube has videos on Shapes (The Kiboomers) Name the Shape game (Jack Hartmann), 3D Shapes (The Singing Walrus) to show. Then later, children can unmute and not play the sound, having them say the shape they see. Use attribute blocks if they were sent home as materials. Send children on a shape hunt to bring back to the virtual meeting.					