## Pattern Spatial Parent-Child Play Session Coding Scheme

Should be applied for parent and child separately every 10 seconds in a mutually exclusive (only 1 code selected per type) and hierarchical (co appearing higher on the list should be applied whether or not another code below it could also be applied) manner.

| Type | Abbr <br> ev. | Code Name | Definition | Examples |
| :---: | :---: | :---: | :---: | :---: |
| Number | AR | Arithmetic | Adds/subtracts two numbers or indicates complex operations | "What's one less than eight?" "We'll divide the pile evenly." "Separate it in half." |
|  | MG | Magnitude Comparison | Compares or matches two numbers/quantities | "Is seven bigger than nine?" "Whose is bigger?" / "Who wins?"/"Who takes it?" <br> "They're all the same number." <br> "We tied." |
|  | NI | Numeral ID | Identifies a written numeral | "This is a six." |
|  | CV | Cardinal Values | Labels number of elements in a set or asks about quantity in a set | "Why don't we pick three cards?" <br> "There has to be 2 , in pairs." <br> (while playing Go fish) <br> "How many do you have?" |
|  | CO | Counting Objects | Parent or child counts objects, or discusses counting objects as a strategy | "Count the dots." |
|  | OR | Ordinal Relations | Describes order of numbers, asking before or after questions or emphasizing "then" relations | "What comes after four?" "You're excited to do the third bag." |
|  | RC | Rote Count | Parent or child counts numbers sequentially. | "Let's count to three. One, two, three..." |
|  | NO | Number Other |  | "I hope I get an eight!" |
|  | RM | Relative <br> Magnitude | Makes a general statement about quantity | Quantifying words such as many, a lot, etc. <br> "We have a lot of blocks." <br> "I have all the high cards." <br> "enough," "another", "extra" |
| Spatial | OT |  <br> Transformations | Relative orientation or transformation of objects and people in space (e.g. upside down, right side up, upright, turn, rotate, flip). Rotation gesture with child in mind. | "Let's turn the block this way." |
|  | DM | Spatial | Size of objects, people, and spaces including volume, | "We need a shorter Lego piece." |


|  |  | Dimensions | capacity, and measure (e.g. big, little, long, short, tall) | "Small blue one" |
| :---: | :---: | :---: | :---: | :---: |
|  | FP | Spatial Features and Properties | Features and properties of 2D and 3D objects, spaces, people, and the properties of their features (e.g. border, line, round, bent, straight, flat, corner, ends, this side). | "This Lego is flat." <br> "Ends of string" <br> "Back [side] (e.g., of card)" |
|  | SH | Shapes | Standard or universally recognized form of enclosed twoand three-dimensional objects(e.g. square, circle, polygon) and spaces (e.g., hole). | "This is a triangle." |
|  | LD | Locations \& Directions | Relative position of objects, people, and points in space (e.g. underneath, side, on top of, inside of (make sure use of "in" can be replaced with inside, under, vertical, column, high, low, sideways, end, through). | "And then on top of the yellow, what do we have?" |
|  | CA | Continuous Amount | Amount (including relative amount) of continuous quantities (including extent of an object, space, liquid, etc.). For example, whole, part, | "This part of the castle should be blue." |
| Pattern | PI | Identify Pattern Unit | Explicitly identifies the pattern unit | "This pattern goes green-white, then repeats, green-white." <br> "The part that repeats is greenwhite." "It's a green-white pattern." |
|  | LP | Link <br> Patterns/Abstract ing | Links the individual items from one pattern to another pattern. | "Blue is really like yellow [points to elements] and green is really like orange." |
|  | LI | Label Items in Order | Says characteristic of at least 2 consecutive items in a pattern (after pattern is made or while making a pattern with materials or verbally - as long as it is a pattern) | "Yellow, blue, blue. Yellow, blue, blue." |
|  | ID | Term "pattern" general | Asks what the pattern is or identifies that a pattern is present. | "What is your pattern?" <br> "Hey, you've got a pattern!" |
|  | NX | What comes next/first in pattern | Asking what comes next/first in the pattern, respond with what's next | "What's the next one? <br> "What comes next" |
|  | PC | Pattern creation no verbalization | Creating at least one unit (or two?) of a pattern, without discussing | Child/parent makes pattern on their own |
|  | GP | Gestures to Pattern | Points to or sweeps over their own pattern, but does not provide a verbal explanation. | [Points to each bead on their string] |
|  | SM | Pointing out similarities \& Differences | Determining features that are the same, noticing similarities and differences between objects/images that are present | This doesn't look like that..(e.g., reference to the pictures) |

