

# Area Five: Cognitive Development

## SCIENCE: THE NATURAL AND PHYSICAL WORLD

CD1

### 1 Paying attention to the natural world CD1.1

Early Infancy 0-8 months

- a Reacts with interest to nearby sights and sounds CD1.1A
- b Reaches for and moves toward objects CD1.1B

Later Infancy 6-14 months

- c Explores objects and events with all senses briefly (e.g., watch, listen, touch, smell, taste) CD1.1C

Early Toddler 12-24 months

- d Shows more focus and spends more time when observing or exploring CD1.1D
- e Handles toys and materials in different ways (e.g., filling, dumping, etc.) CD1.1E

Later Toddler 22-36 months

- f Observes and describes items and events in the natural world using words, signs, or gestures CD1.1F
- g Observes and describes natural phenomena using the tools of the arts (e.g., expressions, sounds, movements, drawing) CD1.1G

Early Preschool 34-48 months

- h Notices and talks with adults about similarities and differences among objects and living things CD1.1H
- i Notices and talks with adults about changes in nature and in substances (e.g., water to ice) CD1.1I

Later Preschool 44-60 months

- j Compares and categorizes observable phenomena (e.g., by collecting, organizing, and describing materials according to their physical characteristics) CD1.1J
- k Imitates and uses adults' words and ideas when talking about the physical and natural worlds CD1.1K
- l Shows detail in drawings, constructions, demonstrations to show thinking CD1.1L

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## 2 Testing questions and ideas CD1.2

Early Infancy 0-8 months

- a Repeats actions (e.g., making a noise or expression) to get repeated adult reaction CD1.2A

Later Infancy 6-14 months

- b Looks for verbal, facial and gestural cues from adults about whether to continue or stop an activity CD1.2B
- c Enjoys searching for objects within reach but hidden from view (e.g., under a blanket) CD1.2C
- d Uses adult help to explore toys and materials to discover how they work CD1.2D

Early Toddler 12-24 months

- e Continues to play or explore in spite of distracting sounds or objects CD1.2E
- f Shows more independence and uses “trial and error” when exploring toys and materials CD1.2F

Later Toddler 22-36 months

- g Notices differences among materials such as sand and water CD1.2G
- h Follows adult’s model to use simple tools to manipulate and explore objects CD1.2H
- i Reacts to and comments on changes when mixing or manipulating materials CD1.2I

Early Preschool 34-48 months

- j Answers questions (e.g., “What will happen if..”) to make predictions CD1.2J
- k With adult support, asks a question, gathers information, and makes a prediction CD1.2K
- l Uses mathematical ideas such as counting, weighing, and measuring to understand objects and categories of objects CD1.2L
- m Uses drawing, building, and demonstrating to show thinking about an object or idea CD1.2M

Later Preschool 44-60 months

- n Uses many sources (e.g., pictures, books) to gather information CD1.2N
  - o With adult guidance, plans and conducts investigations CD1.2O
  - p Analyzes results, draws conclusions, and communicates results CD1.2P
  - q Collaborates with others to conduct investigations CD1.2Q
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**Social Science: People,  
Community, and  
Culture** CD2

**1 Learning about ways that people interact** CD2.1

Early Infancy 0-8 months

- a Reacts to, and carefully observes, the actions of adults and peers CD2.1A

Later Infancy 6-14 months

- b Uses expressions, movements, and vocalizations to get attention from adults and older children for play or basic needs CD2.1B

Early Toddler 12-24 months

- c Imitates sounds, gestures, and actions observed in daily interactions and routines CD2.1C

- d Shows preference for a familiar adult over others CD2.1D

Later Toddler 22-36 months

- e Uses props and dramatic play to play out roles (e.g., mother, teacher, baby) and play out relationships and routines such as feeding, shopping, or story time CD2.1E

- f Makes comments, signs, or gestures about family members and friends, including where they are and what they do CD2.1F

- g Helps with daily routines at home or in the classroom CD2.1G

Early Preschool 34-48 months

- h Communicates about family members in terms of relationships (e.g., “Riley is my sister.”) CD2.1H

- i Communicates about family members in terms of roles (e.g., “Grandma picks me up from school.”) CD2.1I

- j Communicates about past events and changes over time CD2.1J

- k Communicates about the roles of people encountered in the community (e.g., bus driver, mail carrier) CD2.1K

- l Uses props and dramatic play to dramatize stories from culturally responsive books, movies and shows CD2.1L

- m Uses visual arts such as drawing, sculpting, and building to show thinking CD2.1M

Later Preschool 44-60 months

- n Communicates about the roles of people in the community encountered directly (caregiver or educator) and roles introduced through pictures, books and other media (artists, cooks, cashiers, construction workers) CD2.1N

- o Uses props and dramatic play to show growing awareness of things and events in the larger world (using a computer, driving a bus) CD2.1O

- p Shows more detail in drawings, buildings, models, and performances, reflecting their thinking and understanding about social connections CD2.1P

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## 2 Understanding relationships and connections **CD2.2**

Early Infancy 0-8 months

- a** Shows preference for familiar people with smiles and an open facial expression **CD2.2A**

Later Infancy 6-14 months

- b** Shows awareness of strangers and of separation from parents with hesitation and/or distress **CD2.2B**

Early Toddler 12-24 months

- c** Pays attention to children nearby by watching and possibly imitating their play **CD2.2C**

Later Toddler 22-36 months

- d** Communicates about self and others in terms of physical characteristics (e.g., big/little, curly hair/straight hair) **CD2.2D**

Early Preschool 34-48 months

- e** Communicates about self as member of specific groups (e.g., neighborhood, faith community, team) **CD2.2E**
- f** Participates as a member of the group to work cooperatively, make plans and solves problems **CD2.2F**

Later Preschool 44-60 months

- g** Communicates about self as member of many different groups, such as within a family, classroom, faith community, or sport team **CD2.2G**
- h** Uses positive social behaviors (taking turns, sharing, helping with jobs) to help meet needs of the group **CD2.2H**
- i** With adult help, participates with peers in solving problems, settling conflicts, and negotiating plans and decisions **CD2.2I**

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### 3 Learning about differences CD2.3

Early Infancy 0-8 months

- a Notices an unfamiliar person whose face is near and briefly gazes at that new face CD2.3A

Later Infancy 6-14 months

- b Shows awareness of strangers or less familiar people by showing hesitation or distress CD2.3B

Early Toddler 12-24 months

- c Imitates other children's behavior CD2.3C

Later Toddler 22-36 months

- d Uses words to describe their own physical features (e.g., size, gender, assistive devices, etc.) and those of peers and adults CD2.3D

Early Preschool 34-48 months

- e Follows adult's lead to notice and talk about differences presented in books and other media CD2.3E
- f Follows caregiver or educator's model to talk accurately and respectfully about similarities and differences present in the group CD2.3F

Later Preschool 44-60 months

- g Learns simple vocabulary of other languages spoken in home, classroom, or school community CD2.3G
  - h Represents self and others in drawing with increasing detail and accuracy, including distinguishing features related to physical, racial, and cultural differences CD2.3H
  - i With adult help, notices and communicates about different family structures represented in the group CD2.3I
  - j Communicates about own family's culture and traditions and accepts that children and families are different CD2.3J
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**1 Comparing numbers, counting, and recognizing quantities** CD3.1

Early Infancy 0-8 months

- a After observing a picture or display with one item, pays longer attention to a picture or display with two or three items CD3.1A

Later Infancy 6-14 months

- b Says, signs, or gestures for “more” to request additional food or items CD3.1B

Early Toddler 12-24 months

- c Sings number words in chants or songs CD3.1C
- d Can name and sing/chant some numbers with no sequence CD3.1D

Later Toddler 22-36 months

- e Notices or points to the presence of numbers (as distinct from letters) in the environment such as in books or on buildings or signs CD3.1E
- f Compares quantities of items and indicates “same” or “more” CD3.1F
- g Begins to match numerals to the correct quantity (amount) CD3.1G
- h Uses number words for counting, though not necessarily in order CD3.1H
- i Imitates an adult who is counting along with actions such as clapping CD3.1I

Early Preschool 34-48 months

- j Names some numbers when they appear in print CD3.1J
- k Continues counting from a running start, as in “What comes after 1, 2, 3, 4...?” CD3.1K
- l Uses own fingers to show a number CD3.1L
- m Instantly recognizes a collection of up to 4 objects (i.e. subitizes) CD3.1M
- n Begins to explore one-to-one correspondence (e.g., setting places at a table), counting up to 10 CD3.1N
- o Counts up to 5 objects in a line CD3.1O
- p Compares sets of objects that range in size from 1-5, as having “more” or “fewer” CD3.1P

Later Preschool 44-60 months

- q Counts forward to 20 by memory CD3.1Q
- r Counts backwards from 5 CD3.1R
- s Shows accuracy in demonstrating one-to-one correspondence for up to 10 objects CD3.1S
- t Counts up to 10 objects in a line CD3.1T
- u Answers the question “How many?” for up to 10 objects CD3.1U
- v Counts out 10-20 objects in a line from a larger group CD3.1V
- w Instantly recognizes a collection of up to 10 objects (i.e. subitizes) CD3.1W

- x Uses words that mean zero such as “nothing” or “none” **CD3.1X**
  - y Shows a quantity to match a numeral by making marks, drawing items, or placing actual objects **CD3.1Y**
  - z Compares sets of objects that range in size from 1-10, as having “more”, “fewer” or “same” **CD3.1Z**
  - aa Arranges images with 3 or more different quantities of objects in correct order **CD3.1AA**
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## **2 Understanding number relationships and solving problems using operations** **CD3.2**

Early Preschool 34-48 months

- a With adult help, adds (joins) two small sets of objects (e.g., “I have two books and you have two books. How many books do we have all together?”) **CD3.2A**
- b With adult help, subtracts (separates) small sets of objects (e.g., “You have four ribbons. If you share three with your friends, how many will you have left?”) **CD3.2B**

Later Preschool 44-60 months

- c Solves addition (joining) problems using manipulatives (e.g., fingers, objects, tally marks) **CD3.2C**
- d Solves subtraction (separating) problems using manipulatives (e.g., fingers, objects, tally marks) **CD3.2D**
- e With adult help, uses “counting on” as a strategy to solve addition (joining) problems (e.g., “I have 3 and 2 more gives me 4, 5”) **CD3.2E**
- f With adult help, uses “counting back from” as a strategy to solve subtraction (separating) problems (e.g., To take away 3 from 5, “5,4,3...leaves 2”) **CD3.2F**

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### 3 Geometric thinking and spatial reasoning CD3.3

Later Infancy 6-14 months

- a Shows interest in space and location by looking in mirrors, noticing what is reflected, and looking for it CD3.3A
- b Explores relationships of things in space by combining objects of different sizes and shapes with containers of different sizes and shapes CD3.3B

Early Toddler 12-24 months

- c Matches simple shapes in a sorting box or puzzle CD3.3C
- e Plays with blocks, found materials (e.g., stones or sticks), or other items by placing them side by side CD3.3E
- d Places one block or an alternative item on another and says or signs “on” CD3.3D
- f Uses blocks or found materials to represent a simple construction such as a road or a room CD3.3F

Later Toddler 22-36 months

- g Imitates adult in calling simple shapes (e.g., circle, square, triangle) by name CD3.3G
- h Sorts items or pictures by shape CD3.3H
- i Recognizes certain shapes (circle or square) in the classroom, home, or neighborhood CD3.3I
- j Responds to and uses words describing a place in space such as “next to”, “inside of”, “under” CD3.3J
- k Stacks 4 or more blocks or items vertically CD3.3K

Early Preschool 34-48 months

- l Uses words that describe and compare shapes in the environment (e.g., “the cracker is a circle”, “the green square is smaller than the purple square”) CD3.3L
- m Recognizes and names a typical circle, square, and sometimes triangle CD3.3M
- n Matches some shapes that are different sizes or orientations with adult support CD3.3N
- o Describes the spatial features of objects in the classroom, home, or neighborhood (e.g., Pointing to a picture of the sun, child says “It’s a circle.”) CD3.3O
- p Uses words about position – “first”, “last”, “middle” – to describe the placement of a person or thing CD3.3P
- q Uses words about direction and distance (e.g., “run toward the tree”, “my car went farther than your car”) CD3.3Q
- r In outside play, uses and responds to direction (e.g., up, down) or position (e.g., on top of, beside) words CD3.3R

Later Preschool 44-60 months

- s Uses smaller shapes to compose larger and different shapes (e.g., two triangles make one square) **CD3.3S**
- t Correctly names squares, rectangles and triangles regardless of size or orientation **CD3.3T**
- u Describes attributes of two and three dimensional shapes (e.g., “A square has four corners/angles”, “a triangle has three straight sides”) **CD3.3U**
- v Draws and describes pictures that show relative locations and uses terms like “near to” or “closer to” **CD3.3V**

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#### 4 Sorting, classifying, and patterning CD3.4

Early Infancy 0-8 months

- a Shows a beginning alertness to something “different” by holding attention to briefly study the new item or face CD3.4A
- b Anticipates the next move in a game of peeka-boo CD3.4B

Later Infancy 6-14 months

- c Anticipates the next action in a pattern of clapping or bouncing on a caregiver’s knee CD3.4C

Early Toddler 12-24 months

- d Sorts and classifies objects according to one attribute or feature (e.g., sorts socks by color, sorts twigs from leaves) CD3.4D
- e Imitates patterns in movement (e.g., clapping patterns) CD3.4E
- f Imitates adult’s words in naming a pattern (e.g., blue - red - blue - red) CD3.4F

Later Toddler 22-36 months

- g Imitates an adult in naming the elements of a pattern and then predicts the next item in the chain CD3.4G
- h Predicts the next word or phrase in a familiar story CD3.4H
- i Recognizes and follows simple patterns in stories or books such as I Know an Old Lady Who Swallowed a Fly or The Very Hungry Caterpillar CD3.4I

Early Preschool 34-48 months

- j Shows understanding of simple patterns by recognizing and extending simple, repeating, “ABAB” patterns (e.g., of movements such as “tap head, tap knees, tap head...”; or of objects such as “red car, yellow car, red car...”) CD3.4J
- k With adult help, fills in the missing element of a pattern (e.g., red, blue, red, \_\_\_\_, red) CD3.4K

Later Preschool 44-60 months

- l Identifies, duplicates, extends, and creates simple repeating patterns CD3.4L
- m Fills in missing elements of simple, repeating patterns CD3.4M
- n Recognizes, names, and extends simple repeating patterns CD3.4N
- o Describes quantitative changes (e.g., “I am two years older than when I started school.”) CD3.4O

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## 5 Describing, comparing, and measuring CD3.5

Early Infancy 0-8 months

- a Explores familiar and unfamiliar people or objects through touching (handling) or mouthing (oral exploration) CD3.5A

Later Infancy 6-14 months

- b Examines differences between familiar or unfamiliar people or objects with greater focus (e.g., shaking or squeaking different sound producing toys, such as keys, rattles, and noisemakers) CD3.5B

Early Toddler 12-24 months

- c With adult support, begins to match objects by similar or related attributes/ characteristics (e.g. explores matching shapes using a shape sorting box) CD3.5C

Later Toddler 22-36 months

- d With adult support, sorts objects into two groups based on a single attribute/ characteristic (e.g. grouping blocks separately from toy animals or putting red blocks and blue blocks in different piles) CD3.5D

Early Preschool 34-48 months

- e With adult support, makes direct comparisons of objects' volume or length (e.g., standing two students back to back to see which one is taller) CD3.5E
- f With adult support, indirectly compares the length of two objects using a third object (e.g., using a piece of string to measure two objects on the playground and determining which is taller) CD3.5F

Later Preschool 44-60 months

- g Directly compares the length or volume of two objects CD3.5G
  - h Uses comparative language to describe and compare objects using attributes (e.g., longer, shorter, lighter, heavier, etc.) CD3.5H
  - i With adult support, measures using the same non-standard unit, such as putting together snap cubes to see how tall a book is CD3.5I
  - j With adult support, compares or orders up to 5 objects based on their measurable attributes, such as height or weight CD3.5J
  - k With adult support, recognizes that different attributes such as weight, height, and volume require different tools to measure CD3.5K
  - l With adult support, demonstrates "size seriation" by comparing and ordering objects according to measured attribute/ characteristic (e.g., places books on shelf according to measured size) CD3.5L
  - m With adult support, explores tools of measurement such as rulers, scales, and measuring cup, using the appropriate tool for the attribute/characteristic being measured CD3.5M
  - n With instruction, shows an awareness of time by talking about events with words such as before, after, and later CD3.5N
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**1 Exploring and expressing ideas through movement and dance** CD4.1

Early Infancy 0-8 months

- a With feet on a flat surface, and with adult support, pushes down with legs CD4.1A

Later Infancy 6-14 months

- b Stands alone very briefly with adult supporting nearby CD4.1B
- c Takes a step or more while holding on to adult or other supports CD4.1C
- d Responds to music by bouncing CD4.1D

Early Toddler 12-24 months

- e Keeps a steady beat by tapping on legs or shaking or tapping a simple instrument while seated on the floor CD4.1E
- f With adult help, practices moving through space and exploring different movements such as jumping, walking, bouncing, and turning CD4.1F

Later Toddler 22-36 months

- g Follows adult's guidance for recognizing personal space CD4.1G
- h Adjusts movements to match the music or beat when adult introduces varied types of music to invite kinds and rates of movement CD4.1H
- i Repeats short rhythm patterns CD4.1I

Early Preschool 34-48 months

- j Imitates adult's model of moving body parts in isolation or coordination CD4.1J
- k Uses words that describe movement (e.g., roll, gallop, etc.) CD4.1K
- l Follows adult's guidance to recognize other children's personal space, as suggested by the cultures of the children in the group CD4.1L
- m Repeats longer rhythm patterns CD4.1M
- n Imitates dance movements or patterns of movement CD4.1N
- o Contributes ideas to create dance movements CD4.1O

Later Preschool 44-60 months

- p Imitates adult model of walking in a circle or circular fashion, walking on tiptoe and balancing on one foot during guided movement experiences CD4.1P
- q Follows directions or demonstrations of moving forward, backwards, sideways, or in a turning motion CD4.1Q
- r Changes tempo of movements in response to changes in tempo or beat of music CD4.1R
- s Follows directions or example to stop moving on cue CD4.1S
- t Reproduces dance steps or movements several times CD4.1T
- u Uses dance to communicate ideas or feelings CD4.1U

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## 2 Learning about and through music CD4.2

Early Infancy 0-8 months

- a Responds to adult by copying sounds CD4.2A
- b Engages in a “conversation” with adult by taking turns making sounds CD4.2B
- c Responds to music by either quieting or becoming more active CD4.2C

Later Infancy 6-14 months

- d Imitates adults sounds including multiple syllables (e.g., “mamama”, “dadada”) CD4.2D
- e Responds to music by changing expression, moving head or limbs, swaying, nodding, bouncing or clapping CD4.2E

Early Toddler 12-24 months

- f Directs attention to the source of sound and shows interest or pleasure when provided music CD4.2F
- g Imitates a steady beat with body parts or simple “instruments” (e.g., hitting a metal bowl with a spoon, drumming on a table top) CD4.2G

Later Toddler 22-36 months

- h Asks with words, signs, or gestures to hear music again CD4.2H
- i Participates in group musical experiences CD4.2I
- j Echoes short phrases as sung by an adult CD4.2J
- k Changes the tempo of a beat between fast and slow CD4.2K
- l Repeats short rhythm patterns CD4.2L
- m Responds to and follows changes in tempo CD4.2M

Early Preschool 34-48 months

- n Shows preferences for music by requesting songs CD4.2N
- o Participates in conversations about music dynamics, including sound qualities and pitch (high or low) CD4.2O
- p Repeats longer rhythm patterns CD4.2P
- q Creates beats, patterns or simple melodies using the voice or simple materials in the environment CD4.2Q
- r Sings alone and with others CD4.2R

Later Preschool 44-60 months

- s Creates original lyrics and songs CD4.2S
- t Keeps a steady beat for 8-16 counts by patting body parts or using small instruments CD4.2T
- u Draws to represent patterns in sound (e.g., “clap, clap, stomp, stomp” drawn as “dot, dot, dash, dash”) CD4.2U

- v Uses songs, simple instruments and found materials to create music that expresses mood, story, or relationships [CD4.2V](#)

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### **3 Building understanding, empathy, and relationship skills through drama and theatre arts** [CD4.3](#)

Early Infancy 0-8 months

- a Responds to people whose faces are nearby by smiling and copying basic facial expressions [CD4.3A](#)
- b Protests with expression or vocalization when playful interactions stop [CD4.3B](#)

Later Infancy 6-14 months

- c Explores materials by using them in different ways such as shaking, banging, throwing [CD4.3C](#)
- d Copies simple gestures such as waving goodbye [CD4.3D](#)

Early Toddler 12-24 months

- e Recognizes and demonstrates actual uses of objects (e.g., combing hair with comb) [CD4.3E](#)
- f Interacts with an adult in role play (e.g., acting out the characters and story in a familiar book) [CD4.3F](#)

Later Toddler 22-36 months

- g Shows imagination by substituting items to represent actual items (e.g., using a block as a cell phone) [CD4.3G](#)
- h Uses figures (e.g., dolls, action figures) to role play interactions and relationships, including differences related to culture, gender, race, age, and ability [CD4.3H](#)
- i Transitions between imagination and reality in dramatic play or in a guided drama experience [CD4.3I](#)
- j Uses props and dramatic play to explore roles in their circle of family and friends (e.g., holding and patting a baby doll on the back to demonstrate care) [CD4.3J](#)

Early Preschool 34-48 months

- k Uses props and dramatic play to act out emotions related to fear, excitement, happiness, sadness and anger [CD4.3K](#)
- l When engaged in role play, contributes dialogue, gesture, and facial expressions to convey meaning, ideas and feelings [CD4.3L](#)
- m With adult guiding dramatic play, explores character, plot and setting [CD4.3M](#)

Later Preschool 44-60 months

- n Uses props and dramatic play to explore roles and events in the larger community and world [CD4.3N](#)
- o Negotiates roles and dialogue with peers and adapts to the needs of the group in dramatic play [CD4.3O](#)

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#### **4 Using visual arts media to express thoughts and feelings** CD4.4

Early Infancy 0-8 months

- a** Responds to visual elements in the environment by gazing at light, color, and patterns CD4.4A

Later Infancy 6-14 months

- b** Watches faces and responds to presence of familiar figures CD4.4B
- c** Pays attention to and studies own face in a mirror CD4.4C
- d** Participates in a variety of tactile/sensory experiences such as feeling different fabrics and textures or playing with water under close adult supervision CD4.4D
- e** Shows interest in certain images or objects by vocalizing or reaching CD4.4E

Early Toddler 12-24 months

- f** Begins to use materials (e.g., crayons, chalk) to leave marks on paper CD4.4F
- g** Begins to make controlled marks and drawings on paper CD4.4G

Later Toddler 22-36 months

- h** Explores a variety of media including paper, tape, glue, clay, watercolor, etc. CD4.4H

Early Preschool 34-48 months

- i** Begins to transition drawings from spontaneous loops and lines to intentional shapes, including ovals, circles, and rectangles CD4.4I
- j** Shows control and coordination with scissors CD4.4J

Later Preschool 44-60 months

- k** Begins to draw with planning and purpose to show or tell a story about something in their experience CD4.4K
- l** Draws the human form with more accuracy and detail CD4.4L
- m** Begins to describe art and the story it tells CD4.4M
- n** With adult help, chooses media to match the intention of the art (e.g., clay vs. paint vs. 3-D vs. collage) CD4.4N