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

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

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

MATHEMATICS CD3

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-toone 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 oneto-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

d Places one block or an alternative item on another and says or signs "on" CD3.3D

e Plays with blocks, found materials (e.g., stones or sticks), or other items by placing them side by side CD3.3E

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

FINE ARTS CD4

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