EPK Math
Scope and Sequence

Based on the HighScope Curriculum

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Table of Contents

Objectives

Rochester City School District
Early Childhood Department

EPK Math Scope and Sequence
Based on the HighScope Curriculum

Objectives:

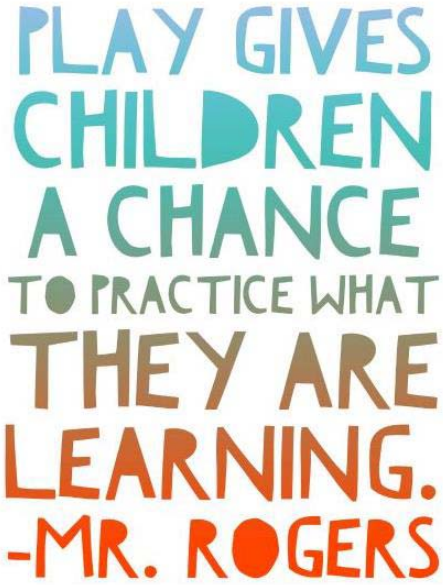
- Develop a Math timeline that supports teachers as they deliver the HighScope Math Curriculum.
- Create a Developmental Continuum for critical Math skills that aligns with the NYS Early Learning Guidelines, COR Advantage and the HighScope Key Developmental Indicators.
- Identify HighScope resources that support Math within the Daily Routine.

Overview

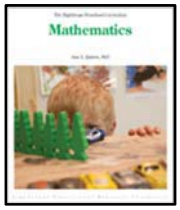
for

EPK Math

Scope and Sequence



Overview for EPK HighScope Math Scope and Sequence



At the start of the year, teachers focus on setting up their learning environment in a way that supports children's math development. Chapter 2 of The HighScope Preschool Curriculum, Mathematics, supports teachers in selecting materials for each of the learning areas.

Teachers follow the **Math Time Line** (Tab 4) as a guide throughout the year.

For planning Small Group Time, teachers will utilize the chart **Math Small Group Activities by Content Area** (Tabs 5, 6, &7). These lessons are taken from the book *Lesson Plans for the First 30 Days, Numbers Plus Preschool Mathematics Curriculum Kit,* and other HighScope sources.

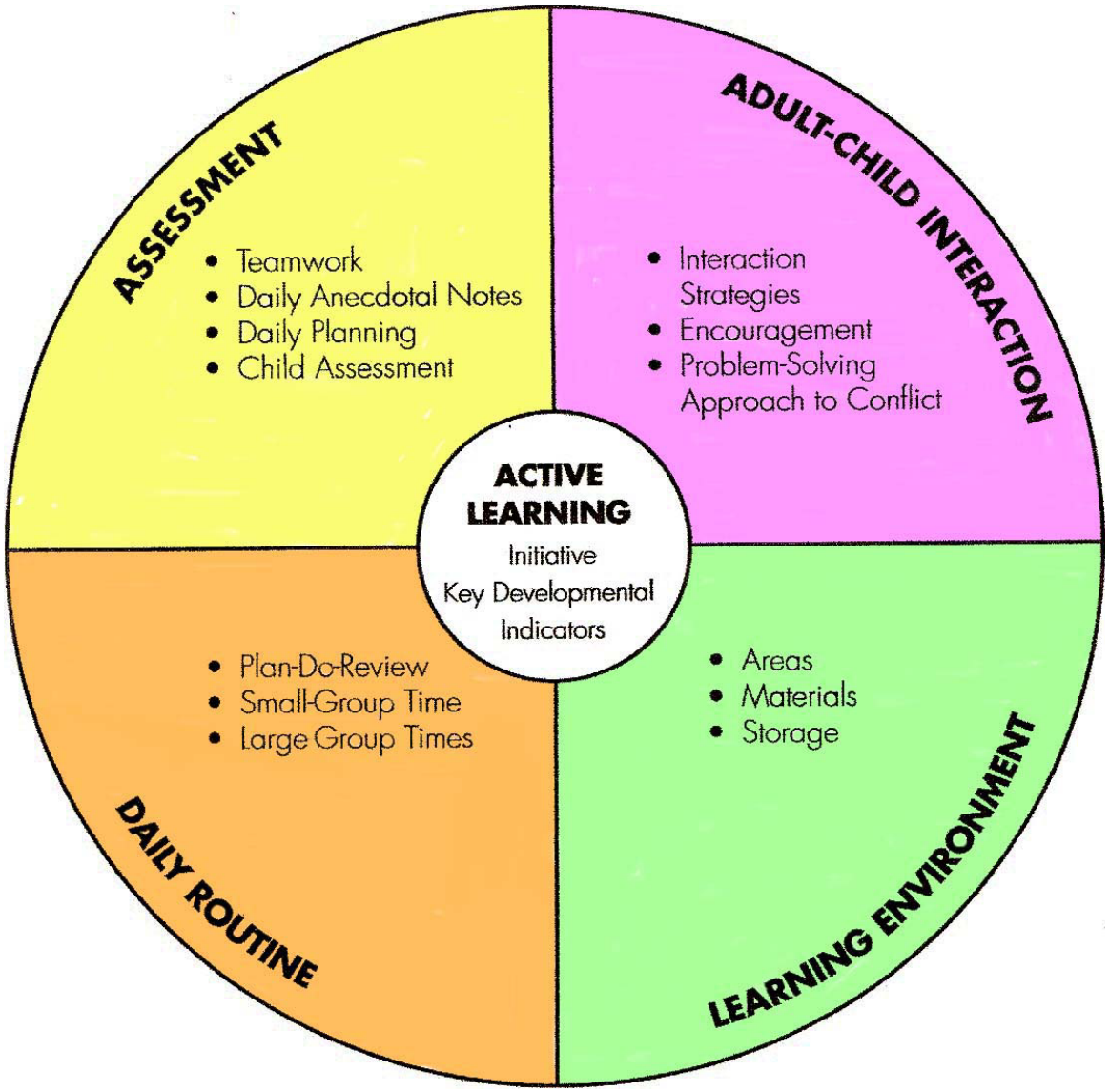
- This document is an alignment of the NYS Early Learning Guidelines, HighScope COR Advantage, and HighScope KDIs by Content Area.
- The colors in the chart align with the content tabs in the 2016 edition of the HighScope Numbers Plus kit. On the back of each Numbers Plus card, you will begin by looking at the "Earlier" developmental descriptors under "Scaffolding Learning at Each Developmental Level."
- For each lesson on the "EPK Math Small Group Activities by Content Area," the color-coding indicates the content area(s) where teachers should be observing and taking anecdotes.

Teachers can use the **Mathematical Developmental Continuum** (Tab 8) in conjunction with COR Advantage to support differentiated lesson plans.

- The **Mathematical Developmental Continuum** was designed using information from the following resources: HighScope COR Advantage, NYS Early Learning Guidelines, HighScope KDIs, RCSD Math Stage Cards, (developed in 1996) and the Common Core Curriculum Map in Mathematics (draft.)
- It identifies the mathematics milestones from beginning development to the kindergarten entry point.
- The COR Advantage levels are identified on the chart, i.e. S-0, S-1. The detailed COR Advantage Scoring Guide for the content area follows each section.
- The goal for teachers will be to move children along the continuum, which aligns with the kindergarten entry point.

The **Math Resource Guide for the Daily Routine** (Tab 10) can be used to infuse math into all the components of the Daily Routine.

The HighScope Preschool Wheel of Learning



The Five Ingredients of Active Learning

Materials: Children are offered an abundance of diverse, age-appropriate materials. The materials are open-ended, lending themselves to be used in a variety of ways. This helps to expand children's experiences and stimulate their thoughts. Since preschool children deal with the world in concrete terms, the materials will help them pose and answer math questions.

Manipulation: Children handle, examine, combine and transform materials and ideas. They make discoveries through hands-on exploration.

Choice: Children make choices about what to do with the materials based on their interests, needs and abilities.

Child Language and Thought: Children are encouraged to describe what they are doing and articulate their understanding of what they observe. They communicate both verbally and nonverbally as they think about their work and modify their exploration.

Adult Scaffolding: Adults support children's current level of thinking and challenge them to advance to the next stage of understanding and reason.

The HighScope Preschool "Wheel"

HighScope Preschool Curriculum Content

Key Developmental Indicators

A. Approaches to Learning

1. **Initiative:** Children demonstrate initiative as they explore their world.
2. **Planning:** Children make plans and follow through on their intentions.
3. **Engagement:** Children focus on activities that interest them.
4. **Problem solving:** Children solve problems encountered in play.
5. **Use of resources:** Children gather information and formulate ideas about their world.
6. **Reflection:** Children reflect on their experiences.

B. Social and Emotional Development

7. **Self-identity:** Children have a positive self-identity.
8. **Sense of competence:** Children feel they are competent.
9. **Emotions:** Children recognize, label, and regulate their feelings.
10. **Empathy:** Children demonstrate empathy toward others.
11. **Community:** Children participate in the community of the classroom.
12. **Building relationships:** Children build relationships with other children and adults.
13. **Cooperative play:** Children engage in cooperative play.
14. **Moral development:** Children develop an internal sense of right and wrong.
15. **Conflict resolution:** Children resolve social conflicts.

Key developmental indicators (KDIs) are the building blocks of thinking, reasoning, and learning at each stage of development.

C. Physical Development and Health

16. **Gross-motor skills:** Children demonstrate strength, flexibility, balance, and timing in using their large muscles.
17. **Fine-motor skills:** Children demonstrate dexterity and hand-eye coordination in using their small muscles.
18. **Body awareness:** Children know about their bodies and how to navigate them in space.
19. **Personal care:** Children carry out personal care routines on their own.
20. **Healthy behavior:** Children engage in healthy practices.

D. Language, Literacy, and Communication[1]

21. **Comprehension:** Children understand language.
22. **Speaking:** Children express themselves using language.
23. **Vocabulary:** Children understand and use a variety of words and phrases.
24. **Phonological awareness:** Children identify distinct sounds in spoken language.
25. **Alphabetic knowledge:** Children identify letter names and their sounds.
26. **Reading:** Children read for pleasure and information.
27. **Concepts about print:** Children demonstrate knowledge about environmental print.
28. **Book knowledge:** Children demonstrate knowledge about books.
29. **Writing:** Children write for many different purposes.
30. **ELL/Dual Language Acquisition:** (If applicable) Children use English and their home language(s) (including sign language).

E. Mathematics

31. **Number words and symbols:** Children recognize and use number words and symbols.
32. **Counting:** Children count things.
33. **Part-whole relationships:** Children combine and separate quantities of objects.
34. **Shapes:** Children identify, name, and describe shapes.
35. **Spatial awareness:** Children recognize spatial relationships among people and objects.
36. **Measuring:** Children measure to describe, compare, and order things.
37. **Unit:** Children understand and use the concept of unit.
38. **Patterns:** Children identify, describe, copy, complete, and create patterns.
39. **Data analysis:** Children use information about quantity to draw conclusions, make decisions, and solve problems.

F. Creative Arts

40. **Art:** Children express and represent what they observe, think, imagine, and feel through two- and three-dimensional art.
41. **Music:** Children express and represent what they observe, think, imagine, and feel through music.
42. **Movement:** Children express and represent what they observe, think, imagine, and feel through movement.
43. **Pretend play:** Children express and represent what they observe, think, imagine, and feel through pretend play.
44. **Appreciating the arts:** Children appreciate the creative arts.

G. Science and Technology

45. **Observing:** Children observe the materials and processes in their environment.
46. **Classifying:** Children classify materials, actions, people, and events.
47. **Experimenting:** Children experiment to test their ideas.
48. **Predicting:** Children predict what they expect will happen.
49. **Drawing conclusions:** Children draw conclusions based on their experiences and observations.
50. **Communicating ideas:** Children communicate their ideas about the characteristics of things and how they work.
51. **Natural and physical world:** Children gather knowledge about the natural and physical world.
52. **Tools and technology:** Children explore and use tools and technology.

H. Social Studies

53. **Diversity:** Children understand that people have diverse characteristics, interests, and abilities.
54. **Community roles:** Children recognize that people have different roles and functions in the community.
55. **Decision making:** Children participate in making classroom decisions.
56. **Geography:** Children recognize and interpret features and locations in their environment.
57. **History:** Children understand past, present, and future.
58. **Ecology:** Children understand the importance of taking care of their environment.

[1]Language, Literacy, and Communication KDIs #21–30 may be used for the child's home language(s) as well as English. KDI #30 refers specifically to ELL/Dual Language Acquisition.

HighScope Infant-Toddler Curriculum Content

Key Developmental Indicators

A. Approaches to Learning

1. **Initiative:** Children express initiative.
2. **Problem solving:** Children solve problems encountered in exploration and play.
3. **Self-help:** Children do things for themselves.

B. Social and Emotional Development

4. **Distinguishing self and others:** Children distinguish themselves from others.
5. **Attachment:** Children form an attachment to a primary caregiver.
6. **Relationships with adults:** Children build relationships with other adults.
7. **Relationships with peers:** Children build relationships with peers.
8. **Emotions:** Children express emotions.
9. **Empathy:** Children show empathy toward the feelings and needs of others.
10. **Playing with others:** Children play with others.
11. **Group participation:** Children participate in group routines.

C. Physical Development and Health

12. **Moving parts of the body:** Children move parts of the body (turning head, grasping, kicking).
13. **Moving the whole body:** Children move the whole body (rolling, crawling, cruising, walking, running, balancing).
14. **Moving with objects:** Children move with objects.
15. **Steady beat:** Children feel and experience steady beat.

D. Communication, Language, and Literacy

16. **Listening and responding:** Children listen and respond.
17. **Nonverbal communication:** Children communicate nonverbally.
18. **Two-way communication:** Children participate in two-way communication.
19. **Speaking:** Children speak.
20. **Exploring print:** Children explore picture books and magazines.
21. **Enjoying language:** Children enjoy stories, rhymes, and songs.

E. Cognitive Development

22. **Exploring objects:** Children explore objects with their hands, feet, mouth, eyes, ears, and nose.
23. **Object permanence:** Children discover object permanence.
24. **Exploring same and different:** Children explore and notice how things are the same or different.
25. **Exploring more:** Children experience "more."
26. **One-to-one correspondence:** Children experience one-to-one correspondence.
27. **Number:** Children experience the number of things.
28. **Locating objects:** Children explore and notice the location of objects.
29. **Filling and emptying:** Children fill and empty, put in and take out.
30. **Taking apart and putting together:** Children take things apart and fit them together.
31. **Seeing from different viewpoints:** Children observe people and things from various perspectives.
32. **Anticipating events:** Children anticipate familiar events.
33. **Time intervals:** Children notice the beginning and ending of time intervals.
34. **Speed:** Children experience "fast" and "slow."
35. **Cause and effect:** Children repeat an action to make something happen again, experience cause and effect.

F. Creative Arts

36. **Imitating and pretending:** Children imitate and pretend.
37. **Exploring art materials:** Children explore building and art materials.
38. **Identifying visual images:** Children respond to and identify pictures and photographs.
39. **Listening to music:** Children listen to music.
40. **Responding to music:** Children respond to music.
41. **Sounds:** Children explore and imitate sounds.
42. **Vocal pitch:** Children explore vocal pitch sounds.

Key developmental indicators (KDIs) are the building blocks of thinking, reasoning, and learning at each stage of development.

Mathematics: A Summary

General teaching strategies for mathematics

- Provide a wide variety of mathematics materials in every area of the classroom.
- Converse with children using mathematics words and terms.
- Encourage children to use mathematics to answer their own questions and solve their own problems.
- Pose challenges that encourage mathematical thinking.

Teaching strategies that support using number words and symbols

- Use numeral words to describe everyday materials and events.
- Call attention to numerals (number symbols) in the environment.
- Encourage children to write numerals.

Teaching strategies that support counting

- Count and compare everything.
- Provide materials to explore one-to-one correspondence.
- Engage children in simple numerical problem-solving.

Teaching strategies that support understanding part-whole relationships

- Provide materials that can be grouped and regrouped.
- Provide materials that can be taken apart and put back together.

Teaching strategies that support naming and using shapes

- Provide shapes for children to see and touch.
- Encourage children to create and transform shapes and observe and describe the results
- Name shapes and the actions children use to transform them.

Teaching strategies that support spatial awareness

- Provide materials and plan activities that encourage children to create spaces.
- Encourage children to handle, move and view things from different perspectives.
- Use and encourage children to use words that describe position, direction and distance.

Teaching strategies that support measuring

- Support children's interest in identifying and comparing measurable attributes.
- Encourage children to estimate quantities
- Use and encourage children to use measurement words.

Teaching strategies that support an understanding of unit

- Support children's use of conventional and unconventional measuring tools.
- Model accurate measuring techniques.

Teaching strategies that support an understanding of patterns

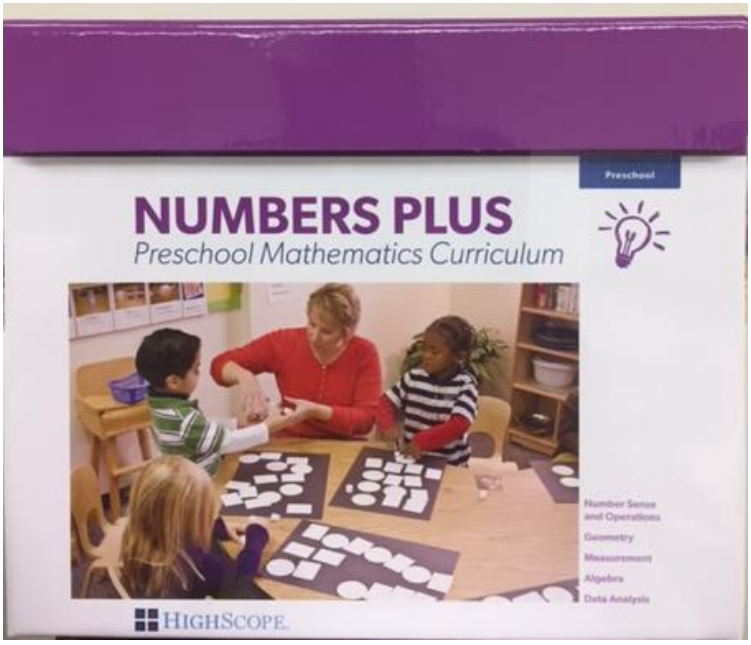
- Provide opportunities for children to recognize and describe patterns in the environment.
- Provide materials and opportunities that lend themselves to creating patterns.
- Look for opportunities to have fun with patterns.

Teaching strategies that support data analysis

- Provide opportunities to sort and count things and to describe and apply the results.
- Help children represent data using lists, tabulation, charts, and graphs.
- Ask and encourage children to ask questions that can be answered by gathering data.

HighScope Preschool Curriculum [i] *Mathematics* Ann S. Epstein PhD

Numbers Plus



"*Numbers Plus,* a content-rich curriculum of primarily small-group activities, is sequenced *within* activities, rather than across. Each math activity is created so that children of all developmental and ability levels can share in the activity and each child can have a successful and valuable learning experience."[1]

[1] Numbers Plus Teacher's Manual, p. 7

Numbers Plus Information

Numbers Plus is a set of 120 developmentally based activities addressing the math content areas: Number Sense and Operation, Geometry, Measurement, Algebra and Data Analysis.

- Each activity is sequenced so that children of different developmental and ability levels can participate together

- Each card identifies
  - The content area
  - A list of materials needed
  - The opening statement
  - Ideas for what to do during the middle of the activity
  - Ideas for bringing the lesson to a close
  - On the back of the card is a description of the developmental range of what children might say and do during these stages, ideas how adults can scaffold, and ideas for follow-up to extend the lesson into all learning areas of the classroom

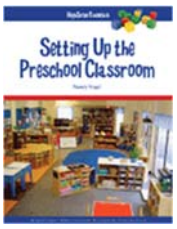
- Please be sure to read pages 2 – 10 in the Teacher's Manual

- Included in the Numbers Plus boxed set, is the parent booklet, "Helping Your Young Child Learn About Mathematics." These can be ordered separately each year for your group of children.

Math Time Line

"Above all, the adult must continually find fresh ways to stimulate the child's activity and be prepared to vary his or her approach as the child raises new questions or imagines new solutions."
--Piaget (1972, pp. 20-21)

EPK MATH TIMELINE



BEFORE THE FIRST DAY

- Use the HighScope book*, Setting up the Preschool Classroom*, as a guide.
  Pay special attention to p. 64 – 66: "Equipment and Materials for the Toy Area"
  - Decide on math materials that will be accessible to children for the first thirty school days
  - Label shelves and containers – This correlates with Math COR Advantage items BB – Observing and Classifying, and GG – Geography. It also correlates with the beginning math skills of identifying same and different, sorting and matching.
- Post HighScope area signs
- Post HighScope Daily routine – This correlates with Math COR Advantage item HH – History (child anticipates the next event in a familiar sequence)
- Gather and familiarize yourself with the following teaching books and resources:
  - *High Scope's Lesson Plans for the First 30 Days*
    - *Also see the Motor Skills Support (Tab 5)*
  - **Mathematics Developmental Continuum** *(Tab 8)*
  - COR Advantage Mathematics Section (Items S,T,U,V,W)
  - Numbers Plus Kit
    - Numbers Plus Teacher's Manual (note the Activity Grid p.25-32 for overview of all cards, and Chapter 4, "Mathematics at Home")
    - Numbers Plus parent booklet, *"Helping Your Young Child Learn About Mathematics"* (distribute to parents during Session 2 – see below)

SESSION 1 (Days 1-30; Pause Days 28-30)

- Use the chart **Math Small Group Activities by Content Area Session 1** to plan your small group activities (Tab 5)
  - It begins with activities from *Lessons Plans for the First 30 Days* and then moves on to lessons from *Numbers Plus*
  - *Also see the Motor Skills Support (Tab 5)*
- Using COR Advantage, note your observations for each child as you complete each small group lesson (see p. 84 in HighScope Lesson Plans for the First 30 Days on how to write an anecdote)
- Adjust activities to fit the individual needs of your particular group of children. Reference the Developmental Continuum (Tab 8) when needed.
- Extend content into parts of the day (see p. 3 in *Numbers Plus Teacher's Manual)*
- Once a child has been in school at least two weeks, you can begin to administer the Brigance screening tool. Noting math items, you can use information gained from the Brigance screening for anecdotes in COR Advantage and developing lesson plans.
- The small group activities are aligned with the **NYS Early Learning Guidelines.**

- Pause and Reflect (days 28-30)
    - What did you learn about your students and yourself?
    - What worked for your group? What needs to be adjusted or tweaked?
    - What action do you need to take to individualize for children's developmental levels?
    - Have you identified any changes that need to be made in the routine, environment or strategies?
    - What items in COR Advantage have you missed? Fill in the gaps.
    - Using COR Advantage, see where your children are and what should come next within the content and topics addressed in Math.

SESSION 2

- Use the chart **Math Small Group Activities by Content Area Session 2** to plan your small group activities (Tab 6)
- Using COR Advantage, note your observations for each child as you complete each small group lesson (see p. 84 in HighScope Lesson Plans for the First 30 Days on how to write an anecdote)
- Adjust activities as needed for your particular group of children
    - Reference the COR Advantage Developmental Range Report to support you in scaffolding your lessons
- Extend content into parts of the day (see p. 3 in *Numbers Plus Teacher's Manual)*
- Begin reading the *HighScope Preschool Curriculum Mathematics* book from the boxed set

- Pause and Reflect (days 28-30)
    - What did you learn about your students and yourself?
    - What worked for your group? What needs to be adjusted or tweaked?
    - What action do you need to take to individualize for children's developmental levels?
    - Have you identified any changes that need to be made in the routine, environment or strategies?
    - What items in COR Advantage have you missed? Fill in the gaps.
    - Using COR Advantage, see where your children are and what should come next within the content and topics addressed in Math.

SESSION 3

- Use the chart **Math Small Group Activities by Content Area Session 3** to plan your small group activities (Tab 7)
- Using COR Advantage, note your observations for each child as you complete each small group lesson (see p. 84 in HighScope Lesson Plans for the First 30 Days on how to write an anecdote)
- Adjust activities as needed for your particular group of children
    - Reference the COR Advantage Developmental Range Report to support you in scaffolding your lessons
- Extend content into parts of the day (see p. 3 in *Numbers Plus Teacher's Manual)*
- Continue reading the *HighScope Preschool Curriculum Mathematics* book from the boxed set

SESSION 4 AND ONGOING

- Thinking of the developmental levels and interests of your children:
    - Decide which cards you will use from the *Numbers Plus Kit*; keep in mind that activities can be repeated and scaffold for children's **current** developmental level
    - Refer to the **Math Resource Guide for the Daily Routine** (Tab 10) for suggested activities
    - Use the COR Advantage's Developmental Range Report to guide your lesson planning
    - At least weekly, input anecdotes in COR Advantage and use the revised Developmental Range Report to scaffold instruction
    - Pause and reflect on children's progress every 30 school days
    - Include in your monthly newsletter a fun math activity you have done in the classroom

- Home School Connection:
    - Send home with each child a copy of the Numbers Plus parent booklet, "Helping Your Young Child Learn About Mathematics" (Please note that additional copies would need to be ordered by your school or site each year.)
    - Include in your monthly newsletter a fun math activity you have done in the classroom and/or put it on your webpage

EPK Math Small Group Activities by Content Area Session 1

Though math learning can be informal, it should not be unplanned or haphazard. Teachers should intentionally and systematically incorporate math into the daily early childhood program routine. [1]

[1] *"I'm Older Than You. I'm Five!" Math in the Preschool Classroom,* p. xi

EPK Small Group Activities by Content Area Session 1

Overview

- The first 25 math small group activities were extracted from *Lesson Plans for the First 30 Days.* The order of these math activities follows the chronological sequence of the book.

- The subsequent activities are from the *Numbers Plus* kit, and were selected to support the beginning skills on the math developmental continuum.
  - "Numbers Plus, a content-rich curriculum of primarily small-group activities, is sequenced *within* activities, rather than across. Each math activity is created so that children of all developmental and ability levels can share in the activity and each child can have a successful and valuable learning experience."[1]
  - Remember to use the scaffolding information on the back of each card to support all children in your room.

- As teachers begin to use the *Numbers Plus* activity cards for Sessions 1, it is suggested that they:
  - Consider their children's current interest and developmental level
  - First, select a *Numbers Plus* content area.
  - Then, select a *Numbers Plus* activity.

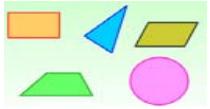
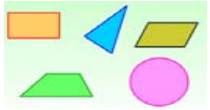
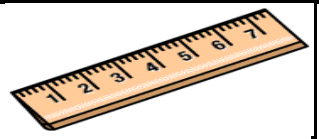
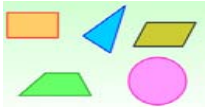
- Although you may pull a *Numbers Plus* card from one particular content area, the color-coded chart shows you the other areas that may be addressed when you do that activity.

- It is important, that within the first 30 days of school that your lessons cover all five content areas.
  - If you choose to use lessons other than the ones listed in the chart, be sure to cover all five content areas by the pausing point.

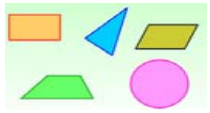
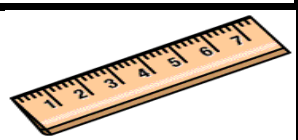
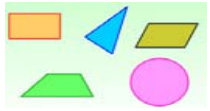
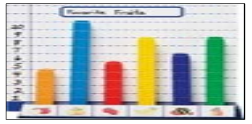
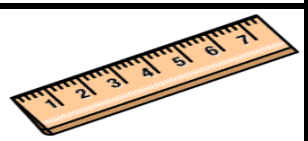
- You should be entering COR anecdotes on a weekly basis

[1] *Numbers Plus Teacher's Guide, p. 7*

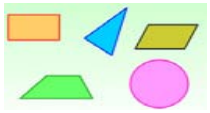
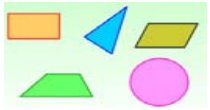
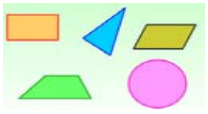
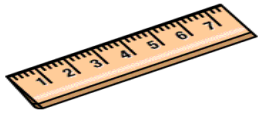
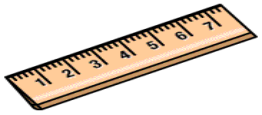
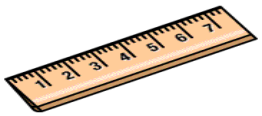
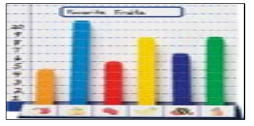
EPK Math Small Group Activities by Content Area-Session 1 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 1	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
** denotes that substitute materials should be used due to choking hazards for 3-year-olds	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: G. Number Sense and Operations P. 74	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: I. Properties of Ordering: Children identify and label shapes P. 76	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: H. Measurement: Children demonstrate knowledge of size, volume, height, weight, and length P. 75	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: J. Properties of ordering: Children sort, classify, and organize objects P. 77	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: K. Scientific Thinking: Children collect information through observation and manipulation P. 78
First 30 Days, SGT, Exploring the Toy Area, p. 26					
First 30 Days, SGT, Exploring the Art Area, p. 26					
First 30 Days, SGT, Exploring the Block Area, p. 32					
First 30 Days, SGT, Exploring the House Area, p. 35					
First 30 Days, SGT, Where's My Lid?, p. 44					

EPK Math Small Group Activities by Content Area-Session 1 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 1	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
First 30 Days, SGT, Play-Doh &Cookie Cutters, p.44					
First 30 Days, SGT, Puzzles, p. 52					
First 30 Days, SGT, Using Funnels, p. 56					
First 30 Days, SGT, Looking at Pebbles, p. 56 **					
First 30 Days, SGT, Bears on a Boat, p. 66 **					
First 30 Days, SGT, Counting Shapes on Pizza, p. 66					
First 30 Days, SGT, Frogs on a Lily Pad, p. 70 **					

EPK Math Small Group Activities by Content Area-Session 1 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 1	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
First 30 Days, SGT, Pattern Block Critters, p. 80					
First 30 Days, SGT, Making Shapes, p. 80					
First 30 Days, SGT, Dressing Babies or Animals, p. 88					
First 30 Days, SGT, Foil Sculptures, p. 96					
First 30 Days, SGT, Bubbles, p.96					
First 30 Days, SGT, Bear Families, p. 115**					
First 30 Days, SGT, Exploring Clay, p. 115					

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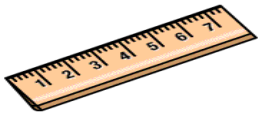
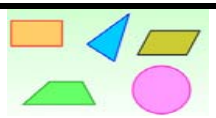
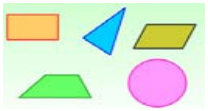
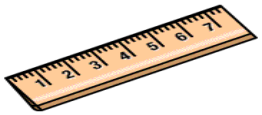
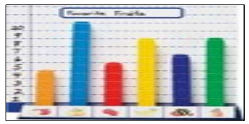
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
First 30 Days, SGT, Fill it Up, p. 118**					
First 30 Days, SGT Shape Caterpillars, p. 118					
First 30 Days, SGT, Collage: Art Material & Glue p. 134					
First 30 Days, SGT, Unexplored Materials, p. 143					
First 30 Days, SGT, Unseen Content Areas, p. 143					
First 30 Days, SGT, Combining Materials, p. 147					
Numbers Plus Kit, Number Sense & Operations, Card 7, "Button Pizza"					

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Small-Group Activities Session 1	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
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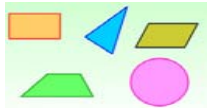
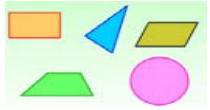
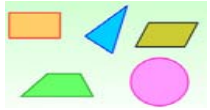
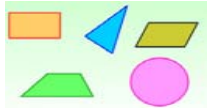
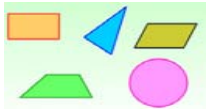
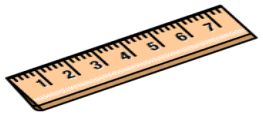
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
Numbers Plus Kit, Number Sense & Operations, Card 11, "Counting Song"					
Numbers Plus Kit, Number Sense & Operations, Card 34, "Ten in the Bed" [1]					
Numbers Plus Kit, Geometry, Card 20, "Shape Pictures"					
Numbers Plus Kit, Geometry, Card 3, "Cookie Cutter Shapes"					
Numbers Plus Kit, Geometry, Card 4, "Feeling Shapes: What Are They?"					
Numbers Plus Kit, Measurement, Card 1, "Building Roads"					
Numbers Plus Kit, Measurement, Card 11, "How Many Spoons"					

EPK Math Small Group Activities by Content Area-Session 1 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 1	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
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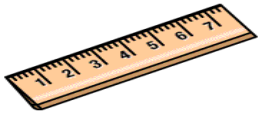
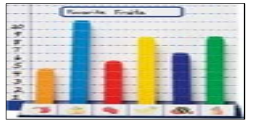
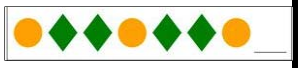
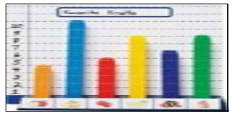
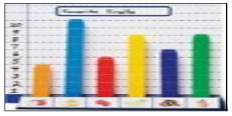
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
Numbers Plus Kit, Measurement, Card 22, "Toy Soup"					
Numbers Plus Kit, Algebra, Card 1, "Animal Parade"					
Numbers Plus Kit, Algebra, Card 11, "Musical Patterns"					
Numbers Plus Kit, Data Analysis, Card 16, "What Are You Wearing?"					
Numbers Plus Kit, Data Analysis, Card 6, "Favorite Colors"					

Text used	Small Group Activity	Materials to Order	Materials from Home
HighScope Lesson Plans for the First 30 Days		Small Group baskets (20)	
The First 30 Days pg. 44	Group 1: "Where's My Lid?"		Empty plastic containers and bottles of various shapes and sizes and their lids
The First 30 Days pg. 44	Group 2: Playdough and Cookie cutters	Variety of cookie cutter shapes (30) Play dough	
The First 30 Days pg. 52	**Group 1** :Puzzles	9 peg puzzles (single inlay)	
The First 30 Days pg. 52	**Group 2**: Using Funnels	Funnels(various sizes,) plastic trays, sand	Plastic bottles (several sizes) spoons or scoops
The First 30 Days pg. 56	**Group 2**: Looking at Pebbles	Magnifying glasses (12) Chart paper, markers	**Choking Alert:** You will need to use materials other than pebbles. Suggested items : **Large**- seashells, pinecones , rocks.
The First 30 Days pg. 66	**Group 1:** Numbers Plus- Number Sense Activity 2, Bears on a Boat	**Choking Alert:** Make sure to check the materials with your choking tube. Suggested Materials: Cars, people, animals. 9 double unit rectangle blocks.	

Text used	Small Group Activity	Materials to Order	Materials from Home
The First 30 Days pg. 66	**Group 2:** Numbers Plus-Activity 10,Counting Shapes on Pizza	**Choking Alert:** Make sure to check the counting material with your choking tube. Shape cookie cutters, rolling pins, play dough.	**Large** bottle caps as an extension material
The First 30 Days page 70	**Group**: Frogs on Lily Pads	**Choking Alert:** Many 2" squares of colored paper, 9 pieces of 8 by 11 construction paper, 9 large animals	
The First 30 Days page 80	**Group 1:** Numbers Plus-Geometry Activity 14, Pattern Block Critters	**Chocking Alert:** You will need to substitute large paper shapes for the pattern blocks, 8 by 11 construction paper to work on, 2-3 empty baskets,	
The First 30 Days page 80	**Group 2:** Numbers Plus-Geometry Activity 10, Making Shapes	2-3 empty baskets, play dough, rolling pins, 9 sets of tagboard shapes.	Plastic knives , cookie sheet

Text used	Small Group Activity	Materials to Order	Materials from Home
The First 30 Days pg. 88	**Group:** Dressing Babies or Animals Materials	10 Dolls Stuffed animals, masking tape, doll clothes	Fabric scraps, string or yarn
The First 30 Days pg. 96	**Group 1**: Bubbles! Bubbles! Bubbles!	Smocks (9) Chart paper	Dish soap (non-toxic) Small bowls 10) straws
The First 30 Days pg. 96	**Group 2**: Foil Sculptures		Aluminum foil pieces
The First 30 Days pg. 115	**Group 1**: Exploring Clay	Clay, tongue depressors	Placemats for each child, small bucket for water
The First 30 Days pg. 115	**Group 2**: Bear Families	**Choking Alert:** Substitue small plastic bears with the jumbo size sorting bears	
The First 30 Days pg. 118	**Group 1:** Number Plus-Measurement Activity 8, Fill It Up	10 large measuring cups and 10 smaller measuring cups, 10 bowls	Shredded paper
The First 30 Days pg. 118	**Group 2:** Numbers Plus-Algebra Activity 15, Shape Caterpillars	10 large measuring cups and 10 smaller measuring cups, 10 bowls, glue sticks	5 paper circles and 5 paper rectangles for each child
The First 30 Days pg. 134	**Group** : Collage Art materials and Glue	Collage materials, tag board, glue sticks	Things to add to collage materials (note size of materials)

Text used	Small Group Activity	Materials to Order	Materials from Home
The First 30 Days pg.143	**Group 1**: Unexplored Material	Duplos, bristle blocks, people figures, farm animals, dinosaur counters, magnatiles, bean bags	trays or cookie sheets divided into two sections using tape (for sorting,) large shells , large wine corks
The First 30 Days pg.143	**Group 2:** Unseen COR items	Duplos, bristle blocks, people figures, farm animals, dinosaur counters, magnatiles, bean bags	trays or cookie sheets divided into two sections using tape (for sorting,) large shells , large wine corks
The First 30 Days pg. 147	**Group**: Combing Materials	Building materials, figures (people or animals)	
Numbers Plus Kit, Number Sense & Operations	**Card 7**: "Button Pizza"	Playdough, rolling pins, Jumbo buttons, tagboard	dot cards: one with one dot and another with two dots, milk jug lids
Numbers Plus Kit Number Sense and Operations	**Card 11**: "Counting Song"	None needed	
Numbers Plus Kit **Number Sense and Operations**	**Card 34**: "Ten in the Bed"	Carpet squares , cushions, or construction paper	Pillows
Numbers Plus Kit **Geometry**	**Card 20**: " Shape Pictures"	Sticky notes, 8 1/2" x11" paper, glue sticks, construction paper, markers, crayons	Collection of shapes cut out: triangles, rectangles and circles (10 or more)

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit **Geometry**	**Card 3**: "Cookie Cutter Shapes"	Shape cookie cutters triangle, rectangle, circle, playdough, rolling pins	Plastic knives with no teeth, smooth edge
Numbers Plus Kit **Geometry**	**Card 4**: "Feeling Shapes: What are They?"	Tag board, crayons, markers	Variety of shapes cut out on tag board (5 or more) Feely bag, 3 paper lunch bags
Numbers Plus Kit **Geometry**	**Card 1**: " Building Roads"	4-5 blocks different lengths same width, 2 cars, rulers, yardstick, tape measure, figures: people, animals	Measuring tools
Numbers Plus Kit **Measurement**	**Card 11**: "How Many Spoons"	tubs, teaspoons, tablespoons, chart paper, writing instrument: pencil, crayon, marker	Rice or water, extra measuring spoons, extra paper cups
Numbers Plus Kit **Measurement**	**Card 22**: "Toy Soup"	manipulative: large counting bears beads, large beads	Measuring spoons, large spoon (for stirring,) large bowl, small bowls, large shells, jumbo buttons
Numbers Plus Kit **Algebra**	**Card 1**: "Animal Parade"	Counting animals, 3 different kinds and 3 of each type: for example large bears, dinosaurs, monkeys	
Numbers Plus Kit **Algebra**	**Card 11**: "Musical Patterns"	CD of instrumental music	
Numbers Plus Kit **Data Analysis**	**Card 16:** "What are you Wearing"	Chart paper, markers and colored pencils	Children's own clothes and shoes

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit **Data Analysis**	**Card 6**: "Favorite Colors"	Chart paper crayons	

New York State Education Department
Elementary, Middle, Secondary and Continuing Education

Suggested List of Mathematical Language

Prekindergarten

Problem Solving
act out
compare
explain
explore
problem

Reasoning and Proof
about
almost
guess

Communication
draw
explain
idea
organize
question
share

Connections
above
after
all
before
below
numeral

Representation
design
show

Number Sense and Operations
add
addition
count
equal
first

group
how many
last
more/most
number
plus
some
subtraction
together

Higher Level words[1]
contrast
compose
count forward
decompose
difference
equal to
estimate
fewer
fewest

[1] Taken from NYS Math Curriculum and other sources

greater than
guess
how many
hundred
least
less
less than
minus
more
most
numeral
opposite
quantity
subitizing
under
zero

Algebra
next
pattern

Higher Level words[2]
alike
classify
different
inside
object
outside
similar
size

Geometry
alike
behind
bottom
circle
down
inside
flat
match
next to
over
same
shape
side
size
solid
square
top
triangle

Higher Level words[3]
beside
between
cone
cube
cylinder
diamond
halves
hexagon
in front of
octagon
oval
parallelogram
pentagon
prism
rectangular prism
sphere
tessellation
trapezoid

Measurement
big/bigger/biggest
day

[2] Taken from NYS Math Curriculum and other sources

[3] Taken from NYS Math Curriculum and other sources

empty
heavy
heavier
lighter
long/longer/longest
measure
night
small/smaller/smallest
tall/taller/tallest

Higher Level words[4]
afternoon
age
clock
equal parts
estimate
height
hour
length
less of
louder
minute
month
morning
ruler
second
short
shorter
softer
temperature
thick
thin
time
today
tomorrow
unit
week
weight

large/larger/largest
light

width
year
yesterday

Statistics and Probability
attribute
chart
color (as an attribute)
different
graph
pictograph
sort

Higher Level words[5]

cent
coin
count
collar
equal
nickel
number line
order
penny
table
tall

[4] Taken from NYS Math Curriculum and other sources

[5] Taken from NYS Math Curriculum and other sources

Motor Skills Support

"By accepting the unity of mind and body, we come one step closer to genuine developmental appropriateness. After all, if we are to truly educate the whole child, we must first recognize children as thinking, feeling, moving human beings."

- *Pica (1977, p. 4)*

HighScope Step by Step – Motor Skills
Lesson Plans for the First 30 Days
Carol Bedenik-Carmel and Andrea Gerhardt
(Accompaniment to book by Beth Marshall)

Week 1

Day 1

Greeting Time

- Place the letter link symbols on a "clothesline" (string/yarn & clothespins), and have child choose a symbol by removing it from the "clothesline".
- Have the children do a movement to get to the books spread out on the floor. For example: have children go through a tunnel / chair tunnel, or jump over a low "wall" constructed from blocks.

Planning Time

Group 1: Train

- Train: Instead of walking and holding hands, try knee walking and holding onto scarves.

Small Group Time

Setting Up a Movement Path

When deciding on a "usual meeting place", see if you can also have a "usual path" to get there. Along this pathway, have children perform a gross motor movement such as jumping, crab walk, broad jump, etc. Movement ideas can be obtained from the Early Childhood website/Embedded Programs/Moving Minds under transition movements and since it will be a small group of children this movement can allow for adult guidance in its performance.

Large Group Time

Use equipment such as a chair tunnel, large barrel, balance beam, etc. placed at the "entrance" to the large group area. This will encourage children to move and plans ways in using the equipment to gain access to the area.

Day 2

Planning Time

Group 2: Train

- Train: Instead of walking and holding hands, try knee walking and holding onto scarves.

Recall Time

Group 2: Train

- Train: Instead of walking and holding hands, try knee walking and holding onto scarves.

Day 3

Planning Time

Group 2: Area Cards & Objects From Areas

Hang area cards on a "clothesline" so child has to pinch a clothespin to remove it and then match it to the object. Instead of the child walking to the clothesline, have them knee walk, crab walk, crawl through a tunnel, jump along a "pathway", etc.

Small-Group Time

Review movement cards or list of developmentally appropriate movements and then apply them when the children need to transition to another area. You can have the children do the same movement for the entire week.

Day 4

Recall Time

Group 1: Mystery Bag

Besides filling the bag with an item that was played with, also fill the bag with rice, beads, beans, etc. and have the child reach into the bag and take out the object. You can even have the child guess what the object is before it is pulled out from the bag.

Large Group Time

Moving Our Bodies

Step 2: After moving in standing, ask the children to kneel and repeat the activity. Change the children's positions to hands & knees (quadruped), laying on their backs (supine), or laying on their stomachs (prone).

Day 5

Planning Time

Group 1: Area Cards & Objects From Areas

Place area cards apart from the objects in order to allow for movement. Children can choose how they want to move, with or without using the movement cards, or the teacher can choose a particular movement for all the children to do.

Group 2: Look Through a Tube

Have child climb up onto a raised surface, (such as a "rocker board"), look through tube, lower tube, and jump down to floor. For safety, adult should stay nearby.

Recall Time

Group 1: Area Cards

Movements can be performed:

- after a child's area card has been identified and discussed what was done there, or
- card is identified, the child whose card it is, does the movement, and then discusses what he did there.

For a lot of children, the anticipation of movement encourages them to talk and for others moving first facilitates talking.

- Cards are placed on a vertical surface. Child identifies which area he worked in and then stands approximately 2' from "his card" scrunches paper into a ball and throws it at the picture.
- After child identifies his work area, place that area card on a cardboard block. Have the child roll and knock down the block with his area card.
- Area cards are placed on the floor, below the raised surface the child is standing on. The child identifies his area card, points to it, and then jumps on the card.

Group 2: Bring Back Something You Played With

This is a good opportunity to do a transition movement because the child is going to get an object to show his group, and then returning to the group, (moving from one area to another).

Second Week

Day 6

Planning Time

Group 2: Camera

Child climbs or steps up onto a raised surface with the camera, takes a "picture", then jumps down from the raised surface. Adult t supervision is required for safety.

Recall Time

Group 1: Name & Letter Link Symbol Cards

While the children are chanting the name & letter link symbol, the adult leading the group can demonstrate different ways to move to the chant. Movements demonstrated **in sitting:** (1) Tailor sit rocking side-to-side, (2)heel-sit tapping with alternating hand taps on the floor in front of the body, (3)alternating foot taps, long sit with alternating leg lifts; **in quadruped (hands & knees position):** (1)keeping hands and knees "fixed" on the floor, rock your body to the (L) & to the (R), (2)alternating between simultaneous (L) arm & leg raise with simultaneous (R) arm & leg raise (rocking side- to -side with slight lifting of extremities)**; in standing:** (1)marching in place, (2)kicking in place using alternating legs, (3)alternating knee taps, alternating toe taps, (4) up & down on tiptoes while staying in 1-place.

Recall Time

Group 2: Large and Small Bags

Use large and small bags which have different closures on them, such as a zippered bag, Velcro closure.

Day 7

Planning Time

Group 2: Camera

Child climbs or steps up onto a raised surface with the camera, takes a "picture", then jumps down from the raised surface. Adult t supervision is required for safety.

Recall Time

Group 1: Large and Small Bags

Use large and small bags which have different closures on them, such as a zippered bag, Velcro closure.

Group 2: Name & Letter Link Symbol Cards

While the children are chanting the name & letter link symbol, the adult leading the group can demonstrate different ways to move to the chant. Movements demonstrated **in sitting**: (1) Tailor sit rocking side-to-side, (2)heel-sit tapping with alternating hand taps on the floor in front of the body, (3)alternating foot taps, long sit with alternating leg lifts; **in quadruped (hands & knees position):** (1)keeping hands and knees "fixed" on the floor, rock your body to the (L) & to the (R), (2)alternating between simultaneous (L) arm & leg raise with simultaneous (R) arm & leg raise (rocking side- to -side with slight lifting of extremities); i**n standing:** (1)marching in place, (2)kicking in place using alternating legs, (3)alternating knee taps, alternating toe taps, (4) up & down on tiptoes while staying in 1-place.

Small-Group Time

Group 2: Where's My Lid?

End: Place all the containers that now have their lids attached in a pile and place the 2-baskets/bins away from the pile. Ask the children to separate the containers and lids. To put them back into the two baskets/bins, the children perform a movement to get to them.

Day 8

Recall Time

Group 1: Magic Wand

Children can climb or step-up onto a raised surface, then point with "magic wand", and then jump down to share what they did.

Small-Group Time

Group 1: Puzzles

<u>To encourage movement,</u> place the puzzle bags in various places within the group space:

- Down on the floor to encourage stand <>squat
- Under the table to encourage stand <>squat <> crawl
- Raised surface to encourage standing foot flat <>tiptoe

<u>To encourage a change in position</u>, place **puzzle board** in various places within the group space:

- On a chair seat, to encourage kneeling
- On the floor to encourage prone prop, side sit, Tailor sit

Group 2: Using Funnels

Middle: If you hear the children counting their scoops, restate what they said and have them lift the sand-filled bottle that many times.

Day 9

Planning Time

Group 1: Write or Draw Plans

Place paper on a vertical surface, (surface may be smooth or "bumpy"= by placing paper over sand paper of varying grit), and vary the writing tools (different sized crayons, different thickness markers).

Recall Time

Group 2: Hats

Incorporate a movement for children to do to get to the hats. The movement can be a transition movement (look at movement cards), children go through a tunnel to get to the hats, crawl under a table to get to the hats, or climb up onto a raised surface to get to the hats, etc.

Small-Group Time

Group 1: Using Funnels

Middle: If you hear the children counting their scoops, restate what they said and have them lift the sand-filled bottle that many times.

Large-Group Time

Musical Carpet Squares

Step 2: Instead of walking from square to square, choose a different movement, refer to movement cards for ideas.

Day 10

Planning Time

Group 2: Write or Draw Plans

Place paper on a vertical surface, (surface may be smooth or "bumpy"= by placing paper over sand paper of varying grit), and vary the writing tools (different sized crayons, different thickness markers).

Recall Time

Group 1: Hats

Incorporate a movement for children to do to get to the hats. The movement can be a transition movement (look at movement cards), children go through a tunnel to get to the hats, crawl under a table to get to the hats, or climb up onto a raised surface to get to the hats, etc.

Group 2: Magic Wand

Children can climb or step-up onto a raised surface, then point with "magic wand", and then jump down to share what they did.

Small-Group Time

Group 2: Puzzles

To encourage movement, place the puzzle bags in various places within the group space:

- Down on the floor to encourage stand <>squat
- Under the table to encourage stand <>squat <> crawl
- Raised surface to encourage standing foot flat <>tiptoe

To encourage a change in position, place puzzle board in various places within the group space:

- On a chair seat, to encourage kneeling
- On the floor to encourage prone prop, side sit, Tailor sit

Day 10

Large-Group Time

Rowing Boats

Step 2:

Other positions to "row":

- Sitting facing each other, with legs spread, one child's legs on top of the other's
- Sitting back-to-back, with arms hooked
- Tall kneel facing each other holding hands.

Other Ideas

Outside Time

To collect objects provide children with tongs and tweezers.

To collect grass or flowers, have children use scissors to "snip". This activity requires adult supervision &/or assistance.

To take care of living things, provide children with squirt bottles or a bucket of water to use eye droppers or sponges to remove the water so they can water the grass, flowers, trees, etc.

Provide children with various containers to collect objects: container with a lid that snaps on/off, screws on/off, with a stopper so that child needs to push/pull it, etc.

Week 3

Day 11

Planning Time

Group 2: Puzzle

To remove the puzzle piece, children can do a movement to get to it.

Recall Time

Group 1: Rolling a Ball

Depending on the children's level of abilities, replace rolling a ball with:

- Adult bouncing the ball to the child
- Adult throwing a ball underhand to the child
- Adult throwing a ball overhand to the child

Vary the type & size of balls used:

- playground ball, spikey ball, nerf football, tennis ball, spikey ball, etc.

Day 12

Planning Time

Group 1: Puzzle

To remove the puzzle piece, children can do a movement to get to it.

Recall Time

Group 2: Rolling a Ball

Depending on the children's level of abilities, replace rolling a ball with:

- Adult bouncing the ball to the child
- Adult throwing a ball underhand to the child
- Adult throwing a ball overhand to the child

Vary the type & size of balls used:

- playground ball, spikey ball, nerf football, tennis ball, spikey ball, etc.

Small-Group Time

Group 1: Shades of Paint

Materials:

For each child, provide

- three **squeeze bottles** of paint
- paper & **Q-tips, cosmetic sponges**
- **container in which paint can be shaken to mix**

Group 2: Frogs on Lily Pads

Materials for the Children to "Act-out" the story:

- different colored shelf liner cut into shape of a lily pad
- blue paper for the "pond"
- children to pretend to be frogs

Beginning: Instead of using a plastic frog, an adult demonstrates jumping to a "lily pad" and naming the color landed on.

Middle: Give each child a container of colored shelf liner only. Ask the children to tell their own story about a frog and a lily pad. Watch to see how children arrange the shelf liner on the floor, (each child may need to have their space designated by masking tape), and then the children jump on the "lily pads" just like the frog in their story.

Day 13

Planning Time

Group 1: Hula Hoop

Have children sit in different positions while holding onto the hoop:

- Tailor sit
- Long sit
- Tall kneel
- Heel sit

Change how high or low the hula hoop is held by everyone in the group:

- By your knees
- By your stomachs
- At your shoulders
- By your noses
- Above your heads

Day 13

Planning Time

Group 2: Train & Train Tracks

Lay out the train tracks in a simple oval design. Place sticky notes with area names around the track and a carpet square or shelf-liner next to each area name. The children are the "trains", moving around the track, stopping at the "station" where they would like to work. Children can choose to move around the track by choosing a movement from the movement book or:

- An adult can assist them to wheelbarrow walk
- Child can be given a ball to bounce-catch it along the track
- Child can be given a ball to dribble it along the path.

Recall Time

Group 1: Matching Beads

Materials:

- A string of colored beads
- A bag/container containing additional beads hidden in various "sensory materials" (sand, rice, packing peanuts, cotton balls, placed inside a tennis ball: make a slit in the ball and place beads inside of it, child will have to squeeze the ball to remove a bead).

OR

Materials:

- A string of colored pop beads
- A cloth bag containing additional pop beads in the same colors as those on the string.

Child removes a pop bead from the bag and pulls off the matching colored pop bead from the string. Child then pushes the matching pop beads together, and then shares what they did at work time.

Day 14

Planning Time

Group 1: Flashlight

To encourage different positions for the children to shine their flashlights, place the area cards in the planning space and have the children shine the flashlight on the cards to indicate the area to work in. Positions for the children to shine their flashlights:

- Prone prop: encourage the child to raise his arm, which is holding the flashlight, off the floor.

- Supine, (lying on their backs): pictures are taped to the underside of a table. The table should be high enough for the child to have to slightly raise their arm with the flashlight off their body to shine it on the card.

Recall Time

Group 1: Area Cards and Clothespins

Have a child do a movement, (refer to movement cards), to take his card and clothespin to the corresponding area card.

Small-Group Time

Group 1: Frogs on Lily Pads

Materials for the Children to "Act-out" the story:

- different colored shelf liner cut into shape of a lily pad
- blue paper for the "pond"
- children to pretend to be frogs

Beginning: Instead of using a plastic frog, an adult demonstrates jumping to a "lily pad" and naming the color landed on.

Middle: Give each child a container of colored shelf liner only. Ask the children to tell their own story about a frog and a lily pad. Watch to see how children arrange the shelf liner on the floor, (each child may need to have their space designated by masking tape), and then the children jump on the "lily pads" just like the frog in their story.

Day 14

Small-Group Time

Group 2: Shades of Paint

Materials:

For each child, provide

- three squeeze bottles of paint
- paper & Q-tips, cosmetic sponges
- container in which paint can be shaken to mix

Day 15

Planning Time

Group 1: Train and Train Tracks

Lay out the train tracks in a simple oval design. Place sticky notes with area names around the track and a carpet square or shelf-liner next to each area name. The children are the "trains", moving around the track, stopping at the "station" where they would like to work. Children can choose to move around the track by choosing a movement from the movement book or:

- An adult can assist them to wheelbarrow walk
- Child can be given a ball to bounce-catch it along the track
- Child can be given a ball to dribble it along the path.

Group 2: Hula Hoop

Have children sit in different positions while holding onto the hoop:

- Tailor sit
- Long sit
- Tall kneel
- Heel sit

Change how high or low the hula hoop is held by everyone in the group:

- By your knees
- By your stomachs
- At your shoulders
- By your noses
- Above your heads

Large-Group Time

Silent Moves – Visual Processing

Step 2: More examples of moves to make:

- Place your hands behind your back
- Place 1-arm above your head, and the other arm out to the side
- Place hands on opposite shoulders

Step 3: Examples of ways to walk to next activity:

- Hands on head
- Hands on head while walking on tiptoe
- Hands on shoulders
- Hands on hips
- Hands behind back while “skating” (sliding feet on floor)

Week 4

Day 16

Recall Time

Group 1: Recall Soup

At the end of the activity to remove “ingredients” have the children use tongs.

Large-Group Time

Popcorn!!

Materials:

- Scrunchy balls, bean bags

Step 2: Instead of standing to shake the parachute have the children:

- Tailor sit
- Long sit
- Tall kneel

Day 17

Recall Time

Group 2: Recall Soup

At the end of the activity to remove “ingredients” have the children use tongs.

Other Ideas

Outside Time

Other small balls:

- Ping pong balls
- Children scrunch tissue paper into small balls
- Marbles
- Pebbles

Day 18

Planning Time

Group 1: Magnetic Letters

Materials:

- Area cards
- Cookie sheet
- Magnetic letters
- Toy fishing pole with magnet attached or make a fishing pole using a dowel, string, & magnet. Child finds the letter from his name and picks it up using the "fishing pole" then does a transition movement, (refer to movement cards), to take his letter and place it on the area card.

Group 2: Pegs & Pegboards

Materials:

- Area cards
- Styrofoam & golf tees or pumpkin, golf tees & hammer

Recall Time

Group 1:"Hot Potato"

To pass the "potato" have children:

Sit in a line:

- pass the "potato" over their heads
- twist to pass the "potato"

Stand in a line:

- pass the "potato" over their heads
- twist to pass the "potato"
- pass the "potato" between their legs.

Small-Group Time

Group 1: Bubbles! Bubbles! Bubbles!

Materials:

- Vary the type of straws (straws with small openings, "crazy" straws, etc.).

Large-Group Time

Sliding/Skating to Music

Step 2: The adults present should also do the activity. While the children explore ways to move, the adults are moving forwards, backwards, sideways, in circles, etc. This will encourage the children to try new ways of moving.

Day 19

Planning Time

Group 2: Magnetic Letters

Place area cards and magnetic letters apart from each other in the "group space". Have the children do a transition movement, refer to movement cards, to take their letter to the area cards.

Recall Time

Group 1: Camera

Child climbs or steps up onto a raised surface with the camera, takes a "picture" of where they played. Child jumps down from the raised surface to discuss details. Adult t supervision is required for safety.

Small-Group Time

Group 2: Cutting With Scissors

Materials: Add various types of scissors. (By providing various types of scissors, it will encourage an appropriate grasp pattern for that child who using a standard scissor is too difficult.)

Large-Group Time

Silent Moves – Verbal Processing

Step 2: Include in your verbal directions: "Put your hands behind your back".

"Give yourself a hug".

Vary the children's positions when following the verbal directions: (standing, tailor sit, long sit, kneeling, supine (lying on back)).

Day 20

Planning Time

Group 1: Pegs & Pegboards

Place the pegs and pegboards apart from each other, so that a transition movement can be incorporated into this activity. Child takes a peg and does a transition movement to bring it to the pegboard.

Recall Time

Group 2: "Hot Potato"

To pass the "potato" have children:

Sit in a line:

- pass the "potato" over their heads
- twist to pass the "potato"

Stand in a line:

- pass the "potato" over their heads
- twist to pass the "potato"
- pass the "potato" between their legs.

Day 20

Small-Group Time

Group 2: Cutting With Scissors

Materials: Add various types of scissors. (By providing various types of scissors, it will encourage an appropriate grasp pattern for those children, who using a standard scissor, is too difficult.)

Week 5

Day 21

Planning Time

Group 1: Planning Bus

Materials: Small pieces of paper or light cardboard or card stock to use as "bus tickets", small step stool to use as "bus steps".

Ahead of time, set up the children's chairs in a line like bus seats. Place the step stool towards the front of the "bus". As the children start to get on the "bus", have them step-up onto the stool and jump down, then choose their seat. To take their chair back, encourage the children to push their chair rather than lift.

Group 2: Area Cards and Animal Figures

To set-up the activity, arrange the area cards so they are separated by a distance within the group space from the animal figures. Have the children move like the animal they were given to get to the area card.

Recall Time

Group 1: Write or Draw

Place the paper on:

- the wall at a height where the child has to stand, kneels, lie on his stomach, or sit on the floor.
- A binder with the opening towards the child while he lies on his stomach, sits up, or kneels with the binder on their chair.
- The underside of the table and have the children lay on their backs to write.

Day 21

Recall Time

Group 2: Bell

Materials:

- Cards with children's names & letter link symbols
- A bag
- A bell or shaker; Add: rhythm sticks or triangle instrument

Day 22

Planning Time

Group 1: Area Cards and Animal Figures

To set-up the activity, arrange the area cards so they are separated by a distance within the group space from the animal figures. Have the children move like the animal they were given to get to the area card.

Group 2: Planning Bus

Materials: Small pieces of paper or light cardboard or card stock to use as "bus tickets", small step stool to use as "bus steps".

Ahead of time, set up the children's chairs in a line like bus seats. Place the step stool towards the front of the "bus". As the children start to get on the "bus", have them step-up onto the stool and jump down, then choose their seat. To take their chair back, encourage the children to push their chair rather than lift.

Recall Time

Group 1: Bell

Materials:

- Cards with children's names & letter link symbols
- A bag

- A bell or shaker; Add: rhythm sticks or triangle instrument

Day 22

Recall Time

Group 2: Write or Draw

Place the paper on:

- the wall at a height where the child has to stand, kneels, lie on his stomach, or sit on the floor.
- A binder with the opening towards the child while he lies on his stomach, sits up, or kneels with the binder on their chair.
- The underside of the table and have the children lay on their backs to write.

Small-Group Time

Group 2: Bear Families

Materials:

- **Add:** tongs to pick up bears

Middle:

Change the children's positions to sort to:

- lying on their stomachs, sitting on floor,
- kneeling on a chair with materials on the table,
- kneeling on the floor with the bears placed under the chair seat; the chair seat is used as a "tabletop",
- standing at the table with the bears placed on the floor so the children bend to reach a bear and place it on the table for sorting.

Give children different types of tools to pick-up the bears, such as various types of tongs, clothespins, etc.

Other Ideas

Outside Time

Other materials: squirt bottle for water, food coloring added to water, sponges, small squirt toys & bucket of water for refilling water "toys". The squirt bottles or toys can be used to "erase" the pictures they drew on the ground with chalk.

Day 23

Planning Time

Group 1: Classroom Map

Vary the placement of the map to encourage children to assume various positions to move their car:

- on the wall at eye-level, so children need to stand
- on the wall at knee –level, so children need to kneel
- on the wall at floor-level, so children need to lay on their stomachs
- underside of table, so children need to lay on their backs

To develop children's arm strength: tape coins to the bottom of the "car". This will add some weight to the car.

Group 2: Buckets & Beanbags

Materials:

Add to list: masking tape or spot marker and paper, (tissue, construction, newspaper, etc.).

Tape or a spot marker is placed approximately 2-feet from the bucket by each work area. When the child chooses an area to work, he stands on the tape or spot marker to throw his beanbag (sponge, soft ball), into the bucket. Or instead of providing the child with an object to throw, the child can make his own by providing various types of paper (tissue, construction, newspaper, etc.), and have the child "scrunch" it into a ball. Child then stands at a designated spot to throw it into the bucket.

Large-Group Time

Musical Shapes

Step 1: Refer to the movement book to decide what the children will do standing on a particular shape.

Step 2: To work on directions, vary the cue "Everyone standing on a square, clap your hands" to

- clap your hands above / over your head
- clap your hands to the left
- clap your hands to the right'
- clap your hands behind your back
- clap your hands in front of your stomach
- clap your hands under your chin
- clap your hands between your legs.

Day 24

Planning Time

Group 2: Flashlight

Children stand on a raised surface to shine their flashlight on a work area. After an area is chosen, children hand the flashlight to an adult and jump down from the raised surface. The raised surface height can be varied by using chairs of various heights or other sturdy, safe objects.

Recall Time

Group 2: Area Cards & Clothespins

When setting up, separate the cards with children's name & letter link symbol from the area cards. Children can be asked to choose a movement of their own, choose from the movement cards, or a specific movement can be chosen by the teacher using the movement cards.

Small-Group Time

Group 1: Bear Families

Materials:

- Add: tongs to pick up bears

Middle:

Change the children's positions to sort to:

- lying on their stomachs, sitting on floor,
- kneeling on a chair with materials on the table,
- kneeling on the floor with the bears placed under the chair seat; the chair seat is used as a "tabletop",
- standing at the table with the bears placed on the floor so the children bend to reach a bear and place it on the table for sorting.

Give children different types of tools to pick-up the bears, such as various types of tongs, clothespins, etc.

Group 2: Exploring Clay

Materials:

Add or replace small dish of water with: squirt bottle of water, sponge, wash cloths.

Middle: When the clay needs to be softened with water, let the children use the squirt bottle to make it wet, or give them a damp sponge to squeeze or a damp wash cloth to wring. This will allow them to further use their hands to develop hand strength.

Large-Group Time

Rhyming With "Down By the Bay"

No change in activity, except for ways to encourage the children to set a beat. To set a beat have children:

- sit & stomp with their feet
- sit & "clap" with their feet
- assume crab position and stomp with their feet
- lay on their stomachs and tap hands on floor.

Day 25

Planning Time

Group 1: Buckets & Beanbags

Materials:

Add to list: masking tape or spot marker and paper, (tissue, construction, newspaper, etc.).

Tape or a spot marker is placed approximately 2-feet from the bucket by each work area. When the child chooses an area to work, he stands on the tape or spot marker to throw his beanbag (sponge, soft ball), into the bucket. Or instead of providing the child with an object to throw, the child can make his own by providing various types of paper (tissue, construction, newspaper, etc.), and have the child "scrunch" it into a ball. Child then stands at a designated spot to throw it into the bucket**.** Refer to

Group 2: Classroom Map

Vary the placement of the map to encourage children to assume various positions to move their car:

- on the wall at eye-level, so children need to stand
- on the wall at knee –level, so children need to kneel
- on the wall at floor-level, so children need to lie on their stomachs
- underside of table, so children need to lay on their backs

To develop children's arm strength: tape coins to the bottom of the "car". This will add some weight to the car.

Large-Group Time

Singing Songs

Step 4: Children still choose how they want to move to their next activity; however, give them a specific "path" to move on. For example:

- Tell them they have to move by keeping each foot touching the tape line
- They have to move between the tape lines
- They have to move from 1-cone to another

Week 6

Day 26

Planning Time

Group 1: Little Mouse with a String

Materials: Instead of a string, give each child:

- a clothespin/ clip
- zippered bag such as a lunch bag

- Velcro fastened bag such as a lunch bag

After the child has tied a string, (or used another of the suggested materials), to something, the child brings it back to the table by doing a movement.

Group 2: Planning Path

Refer to movement cards for other ways to move along path.

Recall Time

Group 1: Cups & Figures

Materials:

- Toy figures
- Area cards
- A large cup to go with each area card
- Large ball

Set-up:

Place large cup and area card on the floor in front of the ball. After the child is given a toy figure, have him lay on the ball with his hands on the floor by the cups. (A movement card, "Prone over the Ball", demonstrates this position. It can be used to provide visual instruction). The child then takes his toy figure and places it in the appropriate cup while in this position. Then the child stands to share details of what he did.

Small-Group Time

Group 2: Letter and Number Parts

Materials: Add wikki sticks to the materials given to the children.

Middle: When encouraging children to write or trace the numbers & letters, let them also use the wikki sticks to make the number & letters. The child can look at the number/letter and make it from wikki stick. Or, the child can place the wikki stick on top of the written number/letter and shape it to it.

Day 26

Large-Group Time

Singing Songs

Step 3: Can use the movement cards in the same way as the song book was used. Three sticky notes are placed on the movement cards, each having the child's name and letter link symbol written on it. Today these three children will choose the movement.

Day 27

Planning Time

Group 1: Planning Path

Refer to movement cards for other ways to move along path.

Group 2: Little Mouse With a String

Refer to Day 26 under the Planning Time section. Since the children are pretending to be "little mice" they can travel through a "mouse hole". The "mouse hole" can be a tunnel, 2-3 chairs lined up for the child to crawl under, or place a large hula hoop upright so the child has to crawl or step through it.

Recall Time

Group 2: Cups & Figures

Place the figures in one spot and the cup & area card in another, now the children can do a movement to place the figure in the cup. The movement can be something from the movement cards.

Small-Group Time

Group 1: Letter and Number Parts

Materials: Add wikki sticks to the materials given to the children.

Middle: When encouraging children to write or trace the numbers & letters, let them also use the wikki sticks to make the number & letters. The child can look at the number/letter and make it from wikki stick. Or, the child can place the wikki stick on top of the written number/letter and shape it to it.

*In addition to using wikki sticks, the children can use bingo markers to "trace" the letters and numbers.

Large-Group Time

Nursery Rhyme: "Hickory, Dickory, Dock"

Materials: Spot markers – at least 2 for each child.

Step 3: When you say the phrase "The mouse ran up the clock", replace the children wiggling their fingers to them jumping forward to the spot marker that is placed in front of them. When you say the phrase "The clock struck one" have one child strike the triangle while the other children jump back to their original spot which could also be a spot marker. The child may turn and jump back or jump backwards. Depending on the distance between the starting spot marker and the other, children may make jumps of various sizes (broad jumping).

Day 28

Recall Time

Group 1: Recall Two Things

Place child's paper on a vertical or inclined surface. This will encourage the appropriate position of the wrist as needed for writing.

Group 2: Recall Stories

With any writing task, it is best to place the paper on a vertical or inclined surface. Sitting at a table, each child can be provided with an inclined surface by using large binders to put the paper on. The binder is positioned in front of each child with its

binding facing away from the child. The binder is kept closed with the paper attached to the outside of it. This now creates an inclined surface to write on.

Large-Group Time

Dancing With Letters

Step 2: Change the positions of the children while they move their letter:

- Lying on backs move letter over your head, up high (towards ceiling), & under your legs
- Sitting on the floor (tailor sit, long sit, side sit) to move letter in front, up high, & behind
- Tall kneel to move letter in front, up high, and behind.

Day 29

Planning Time

Group 1: Building Toy

Have the children do a movement to get to the building toy base with their toy piece.

Recall Time

Group 1: Map

Vary the placement of the map to encourage children to assume various positions to move their car:

- on the wall at eye-level, so children need to stand
- on the wall at knee –level, so children need to kneel
- on the wall at floor-level, so children need to lie on their stomachs
- underside of table, so children need to lay on their backs

To develop children's arm strength: tape coins to the bottom of the "car". This will add some weight to the car.

Recall Time

Group 2: Recall Two Things

Place child's paper on a vertical or inclined surface. This will encourage the appropriate position of the wrist as needed for writing.

Day 30

Planning Time

Group 1: Planning Stories

With any writing task, it is best to place the paper on a vertical or inclined surface. Sitting at a table, each child can be provided with an inclined surface by using large binders to put the paper on. The binder is positioned in front of each child with its binding facing away from the child. The binder is kept closed with the paper attached to the outside of it. This now creates an inclined surface to write on.

Group 2: Building Toy

Have the children do a movement to get to the building toy base with their toy piece.

Recall Time

Group 2: Map

Vary the placement of the map to encourage children to assume various positions to move their car:

- on the wall at eye-level, so children need to stand
- on the wall at knee –level, so children need to kneel
- on the wall at floor-level, so children need to lie on their stomachs
- underside of table, so children need to lay on their backs

To develop children's arm strength: tape coins to the bottom of the "car". This will add some weight to the car.

Large-Group Time

Beanbag Toss

Step 2: Encourage children to toss their bean bag using an underhand or an overhand toss. Place the bucket against the wall and mark off distances at which the children need to stand to throw their bean bag. Start with the children standing 1-foot from the wall, 2-feet, etc.

EPK Math Small Group Activities by Content Area Session 2

Though math learning can be informal, it should not be unplanned or haphazard. Teachers should intentionally and systematically incorporate math into the daily early childhood program routine. [1]

[1] *"I'm Older Than You. I'm Five!" Math in the Preschool Classroom,* p. xi

EPK Small Group Activities by Content Area, Session 2 – Overview

- Provided are 28 lessons in Session 2 which were extracted from the *Numbers Plus* kit and other HighScope resource books.

- The lessons have again been organized by Content Area.

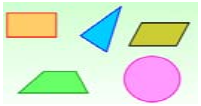
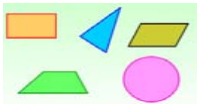
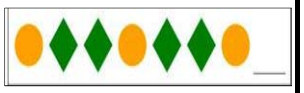
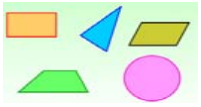
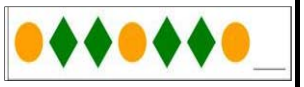
    - To build mastery, children need to experience activities in the same Content Area several days in a row.

- Again, it is important that your lessons cover all five content areas in some way.

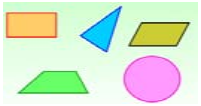
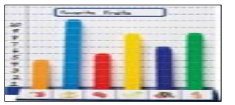
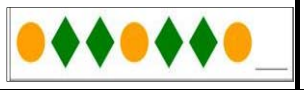
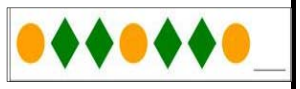
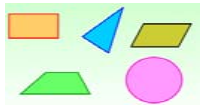
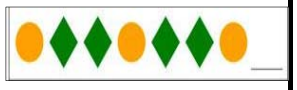
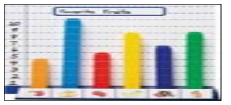
    - If you choose to use lessons other than these, be sure to cover all five content areas by the pausing point.

- At the pausing point, you will be entering anecdotes for each child in each of these five content areas.

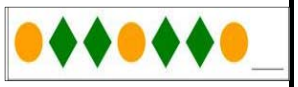
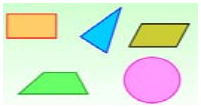
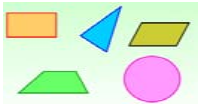
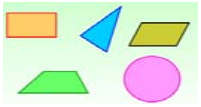
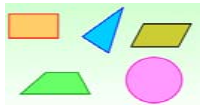
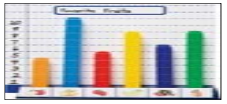
EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
** denotes that substitute materials should be used due to choking hazards for 3-year-olds	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: G. Number Sense and Operations P. 74	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: I. Properties of Ordering: Children identify and label shapes P. 76	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: H. Measurement: Children demonstrate knowledge of size, volume, height, weight, and length P. 75	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: J. Properties of ordering: Children sort, classify, and organize objects P. 77	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: K. Scientific Thinking: Children collect information through observation and manipulation P. 78
Numbers Plus Kit, Number Sense, Card 3, "Birthday Cake"					
"I'm Older Than You I'm Five!" p. 18 "The Ants Go Marching"					
Small Group time to Scaffold Early Learning, p. 39, "Scissors and Play Dough"					
Number Plus Kit, Geometry, Card 2, "Comparing Shapes"					
"I'm Older Than You I'm Five!" p. 76 "Putting Away Blocks?"					

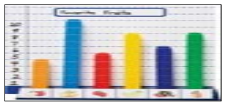
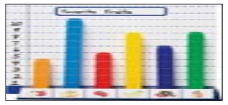
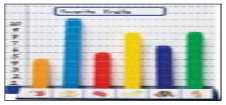
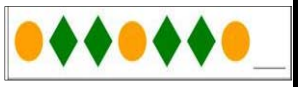
EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
"Shaving Cream Block Building" - see lesson					
Numbers Plus Kit, Measurement, Card 8, "Fill It Up" **					
Song Card "9 Little Muffins in the Bakery Shop" www.rcsdk12.org/prek/blocks					
Song Card "I Can Count to 10" www.rcsdk12.org/prek/blocks					
Numbers Plus Kit, Algebra, Card 9, "Line Them Up"					
"I'm Older Than You I'm Five!" p. 72 "Patterns in Motion"					
"I'm Older Than you I'm Five!" p. 30, "Collage Collection"					

EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
Numbers Plus Kit, Algebra Card 8 "Jump and Clap" and Song Cards "I Can Tap My Head" and "Do as I'm Doing"					
"I'm Older Than You. I'm Five!", p. 34, "Dot Cards" (also Numbers Plus Kit Number Sense #14) **					
Numbers Plus Kit, Geometry, Card 11, "Marshmallow Shapes" **					
"Shape Hokey Pokey" www.rcsdk12.org/prek/blocks					
"I'm Older Than You I'm Five!" p. 86 "Secret Shape Sheets"					
Story Starters, p. 72 "Rescue the Kitty"					
Numbers Plus Kit, Measurement, Card 9, "How Far Can I Jump"					

EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Numbers Plus Kit, Data Analysis, Card 16, " What Are You Wearing?"					
Numbers Plus Kit, Data Analysis, Card 2, "Chocolate Milk"					
Numbers Plus Kit, Data Analysis, Card 5, "Fascinating Fastners"					
Numbers Plus Kit, Number Sense, Card 13, "Dot Cards and Motions"					
"I'm Older Than You I'm Five," p. 28 "Chunky Crayons"					
"I'm Older Than You I'm Five," p. 106 "Then What?"					
50 Large Group Activities for Active Learners, p. 61 "Goldilocks and the Rhythm Sticks"					

EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Cooking with Children - Grilled Cheese, Gingerbread in a Cup, Ice Cream in a Bag, Making Pickles					
First 30 Days, SGT, Unexplored Materials, p. 143					

EPK Math Small Group Activities by Content Area-Session 2 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 2	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***

Materials for Session 2

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit, **Number Sense and Operations**	Birthday Cake, Card 3		For each child, play dough, 1-5 craft sticks for birthday candles (substitue materials: pipecleaners or straws cut into 3 inch section), rolling pins. Back-up materials: Things to decorate the cake like large buttons (Choking Alert)
I'm Older Than You. I'm Five!"	The Ants Go Marching, Page 18	none	Numbers 1-5 written on 9 by 11 paper
Small Group Times to Scaffold Learning	Scissors and Play Dough, page 39	scissors for each child, can add other kinds of cutting tools, craft sticks	None
Numbers Plus Kit, **Geometry**	Card 2: "Comparing Shapes"	Set of triangles, circles, and rectangles in different sizes and colors. Paper, markers or crayons	None
I'm Older Than You. I'm Five!"	Putting Away the Blocks, page 76	4 to 5 different units blocks in each child's basket	none
Shaving Cream Block Building	See lesson plan in Session 2 *	Shaving Cream, tray, craft sticks, foam blocks	String or yarn to measure with
Numbers Plus Kit, **Measurement**	Card 8: "Fill it Up"	For each child: Measuring cups , bowls, sand or large pom poms	variety of materials for filling. Choking Alert

Materials for Session 2

Text used	Small Group Activity	Materials to Order	Materials from Home
Mathematical Song Cards	Song Cars: 9 Little Muffins in the Bakery Shop	Song Card : 9 Little Muffins, www.rcsdk12.org/prek/blocks	None
Mathematical Song Cards	I can count to 20	Song Card: Count to 20, www.rcsdk12.org/prek/blocks	
Numbers Plus Kit, **Algebra**	Card 9: "Line Them Up"	Collection of items: large animals, blocks, shells, pinecones etc. Paper and markers	Short and long sticks or rods
I'm Older Than You. I'm Five!"	"Patterns in Motion", page 72	None	None
"I'm Older than You. I'm Five!"	"Collage Collection", p. 30	Construction paper cardboard or tagboard, glue, collage materials (choking hazard): pieces of aluminum foil, large pom poms, large buttons, craft sticks	Materials to add to collage materials containers for sorting. Make sure that none of your materials are a choking hazard.
Numbers Plus Kit, **Algebra**	Card 8: "Jump, Clap"	Additional extension songs that you can use- Building Blocks CDs: Do as I am Doing (CD 3, track 57) and I Can Tap My Head (CD 4, track 71)	None

Materials for Session 2

Text used	Small Group Activity	Materials to Order	Materials from Home
"I'm Older than You. I'm Five!"	"Dot Cards", page 34	Large bears or large community helpers	Dot Cards, Gallon Milk Bottle Lids
Numbers Plus Kit, **Geometry**	Card 11: "Marshmallow Shapes"	Craft Sticks, 4 inch straws or pipe cleaners as connectors	Bag of Large Marshmallows
Building Blocks Song Card: Shape Hockey Pokey	Song Card: Shape Hockey Pokey	Song Card from www.rcsdk12.org/prek/blocks	18 sets of paper shapes: Triangle,Circles, Square, Rectangle
I'm Older Than You. I'm Five!"	"Secret Shape Sheets", page 86	Poster board Puzzles Pencils	Classroom items to trace
Story Starters for Group Time	Rescue the Kitty, Page 72	Unit or Hollow blocks	
Numbers Plus Kit, **Measurement**	Card 9: "How Far Can I Jump"	Masking tape, sticky notes, unit block, letter Links, chart paper	None
Number Plus Kit, **Data Anaylsis**	Card 16: "What Are You Wearing?"	Paper, markers or pencils, glue sticks, scissors	Extension Material: Photographs of children's shoes
Numbers Plus Kit, **Data Analysis**	Card 2: "Chocolate Milk"	Small paper cups	Milk Instant chocolate mix (may use fruit juice, cut up fruit or veggies and dip)
Numbers Plus Kit, **Data Analysis**	Card 5: "Fascinating Fastners"	Varity of fastners Chart paper Markers	
Number Plus Kit, **Number Sense and Operations**	Card 13: "Dot Cards and Motions"	none	4 dots Cards representing numbers 1-4

Materials for Session 2

Text used	Small Group Activity	Materials to Order	Materials from Home
I'm Older Than You. I'm Five!"	Chunky Crayons, page 28	Electric Fry pan or access to an oven, if you use cup cake papers it makes for easy clean up	old crayons, recipe cards: 1st peel, 2nd sort
I'm Older Than You. I'm Five!"	"Then What", Page 106. Can be used after a field trip or school event.	Camera	Take pictures on a field trip. Select 3 pictures and make enough for each child to have their own set
50 Large-Group Activities for Active Learners	"Goldilocks and the Rhythm Stick"Then What", page 62	2 rhythm sticks for each child, the book The Three Bears	
Cooking with Children: Grilled Cheese, Gingerbread in a Cup, Ice Cream in a Bag, Pick your Pickel	Lessons found in session 2 *	Electric fry pan, food ingridents listed on each recipe	Waxed cups

Assessment Level: COR Advantage
Category: Mathematics
School Year: 2013 / 2014
Period: 3

COR Advantage Sample

Developmental Range by Item Report for Rochester Test Classroom

Date Generated: 06/03/2014

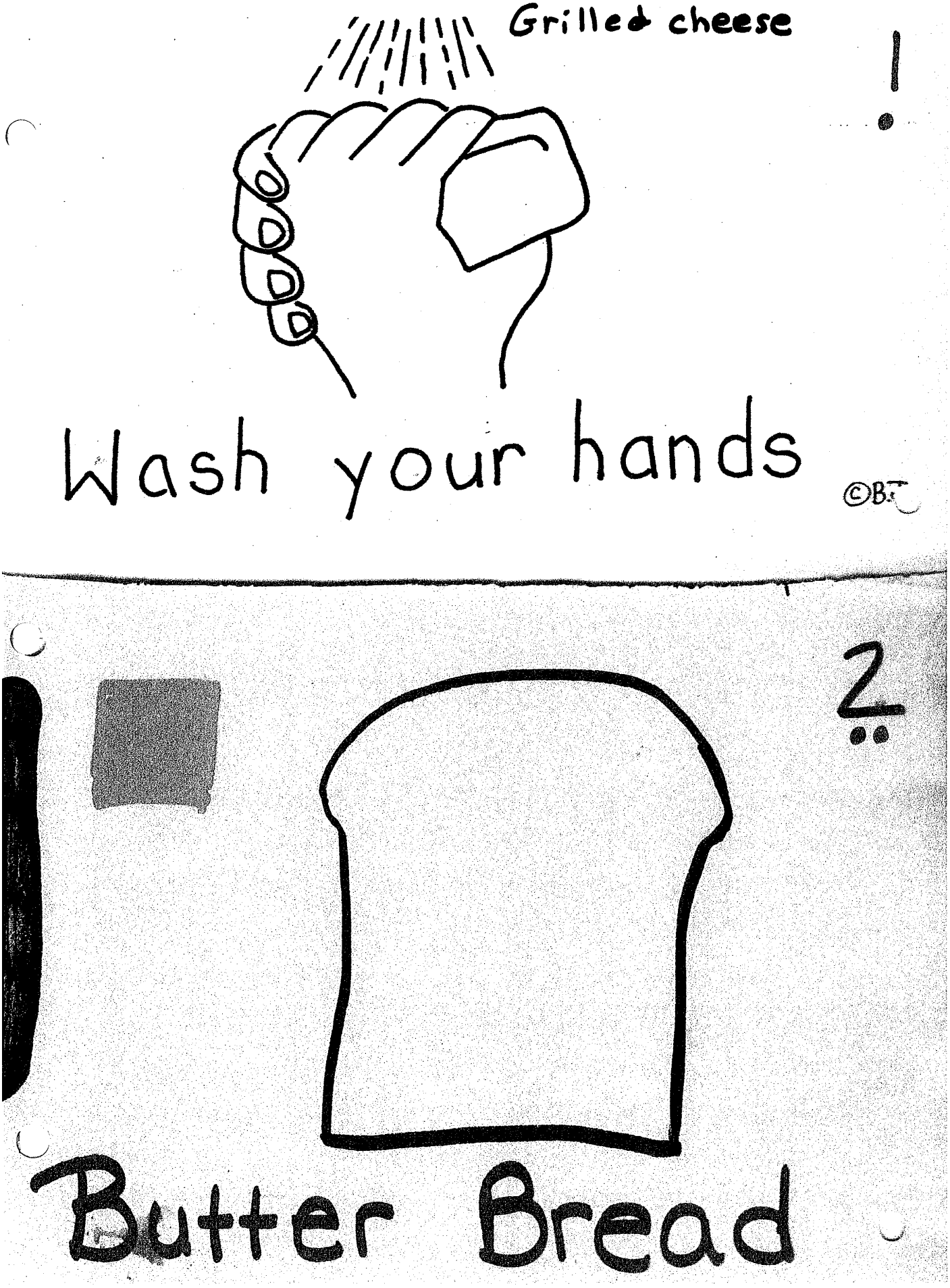
The Developmental Range by Item report groups children who have achieved the same developmental level on the selected item, helping to identify specific objectives to plan curriculum for in the classroom.

5 - Number and counting	
Level 0 - The child begins to develop the concept of "one" by viewing, touching, and/or manipulating single objects, such as a face, a hand or foot, or a rattle.	
Level 1 - The child indicates that he or she wants more of something. Requesting more indicates that the child understands that a quantity can be increased by more or one more.	
Level 2 - The child rote counts but does not yet have an understanding of what number means (that is, does not count with one-to-one correspondence).	
Level 3 - The child is developing a sense of number and counts up to 10 objects, associating one and only one number with each object counted (using one-to-one correspondence). The child may occasionally double-count (for example, 1, 2, 3, 4, 4, 5) or skip a number (for example, 1, 2, 3, 4, 5, 6, 8). He or she may not realize that the last number counted represents the total. [Note: If a child consistently double-counts (counts the same objects over again), score at level 2.]	Melissa A Patty B Abby B Melissa B
Level 4 - The child can identify four or more numerals from 0 to 9. [Note: Check off each numeral at any time you observe the child identifying that numeral, for example, by reading (naming) it, or by pointing to it spontaneously or in response to a comment or question.]	Jen A Patty A
Level 5 - The child correctly counts more than 10 objects and knows that the last number he or she says tells how many objects there are in total (for example, the child counts correctly to 12 and says there are 12 objects).	Amanda A
Level 6 - The child counts two sets of objects and says whether they have the same number (quantity) or, if they are different, how many more or fewer there are in one set than the other. [Note: If a child says one set has more than the other but cannot yet say by "how many more," do not score at this level.]	Abby A
Level 7 - The child puts together or takes apart items in sets of up to nine objects. He or she knows, for example, that five can be put together (composed) of two plus three, four plus one, or two plus two plus one. Likewise, the child knows five can be divided (decomposed) in these same combinations.	

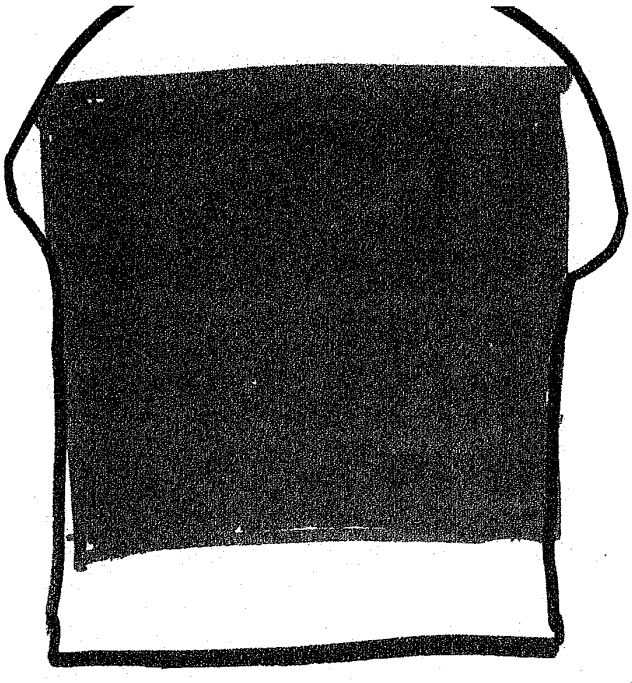
HIGHSCOPE

Small Group Time: Grilled Cheese

Early Learning Guidelines: Domain IV: Cognition and General Knowledge, G-Number Sense and H-Measurement KDI: 31, 32, 36 COR: S and U	
Target Vocabulary	Chef Recipe Spread First, Second, Third, Fourth Between Slices
Materials	• 2 Sticks of margarine or a Can of Shortening (give each child a small cup with the butter in it) • Craft sticks or plastic knives to use as spreaders • Cheese Slices • 2 Pieces of Bread for Each Child • Electric skillet or Fry Pan • Hand Sanitizer • Set of Recipe Cards • Piece of wax paper to work on
Opening Statement	What kind of sandwiches do you like to eat? Today each of you will be chefs. You will be making a sandwich.
Beginning	Today we will be making cheese sandwiches. Show the children the four recipe cards and place them in the middle of the table as you show each step. After each child sanitizes their hands, give them their basket with 2 pieces of bread, one piece of cheese, a cup of margarine, piece of wax paper and a spreading stick.
Middle *Your ideas for scaffolding children at different developmental levels*	Work with the children as they read what to do **first, second, third and fourth.** Talk about how the cheese goes between the 2 slices of bread
Questions	What shapes are you noticing? What do you think it will taste like? What color do you think the bread will be after we cook it? What do you think will happen to the cheese when it gets hot in the pan? What would happen if we did not put the margarine on the bread?
End *warning and transition to next part of routine*	Ask the children if anyone can tell the story of how to make a sandwich. When they are finished cooking ask each child how many pieces they would like their sandwich cut into.
Follow-Up	Do a graph of who like and who did not like the grilled cheese to add data analysis component. Place cook books in your house area. Add Chef hats and mixing bowls to your house area.

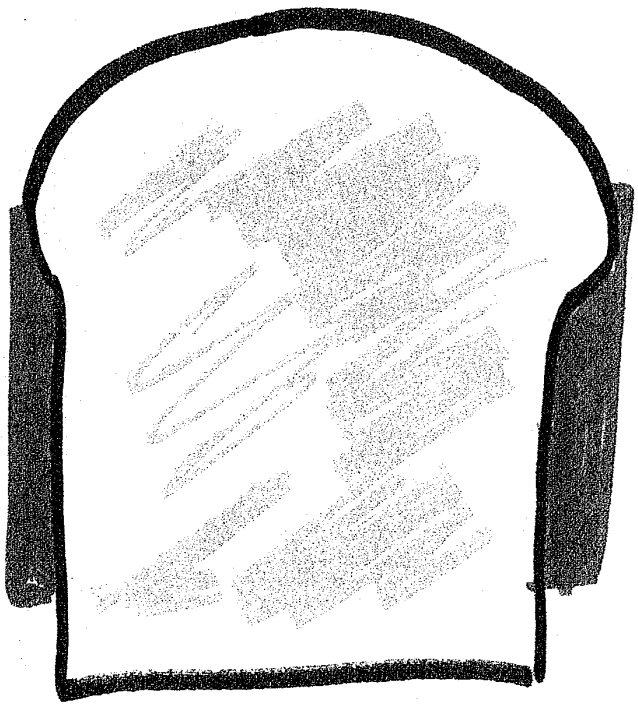

Grilled cheese
!
Wash your hands
©B.T.
2.
Butter Bread

3



Put on 1 piece of Cheese

4



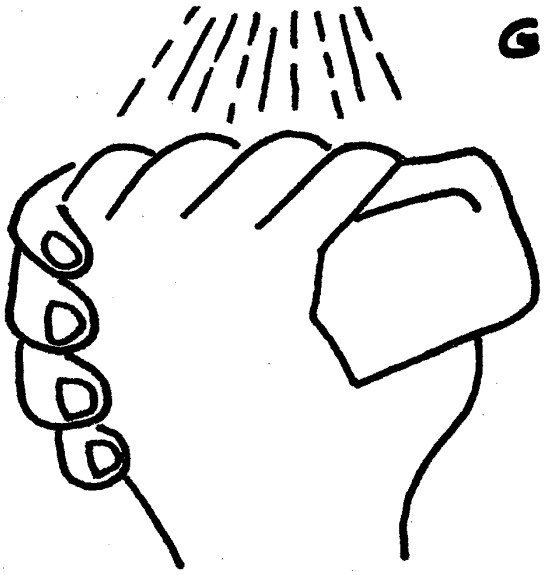
Put Bread on top.


5
Cook in pan.

Small Group Time: Gingerbread in a Cup

Early Learning Guidelines: Domain IV: Cognition and General Knowledge, G-Number Sense and H-Measurement KDI: 31, 32, 36 COR: S and U	
Target Vocabulary	Chef Tablespoon Measuring Spoons Gingerbread Measuring Recipe
Materials	Recipe Cards set up at stations Hand Sanitizer 2 Measuring Tablespoons Craft Stick 5 oz. Waxed Paper Cup Electric Fry Pan Gingerbread Quick Mix (1 box) Bowl of water
Opening Statement	Today each of you will be chefs. You will be measuring and stirring to make a gingerbread cake.
Beginning	Show the 4 recipe cards and demonstrate how to read them and follow the directions. Set the cards out in a line on the table with the materials by each card. After each child cleans their hands, give them a cup with their name written in permanent marker.
Middle *Your ideas for scaffolding children at different developmental levels*	Have each child follow the directions as you support them measuring the gingerbread mix and water. The mixture should be the consistency of mud so children may need to add more than one scoop of water. Once they have the ingredients in the cup they can sit at the table to stir while you see who may need to add more water.
Questions	What does it smell like? How many times did you stir it? What do you think it will taste like? What do you think would happen if we did not add any water?
End *warning and transition to next part of routine*	When the mixture has the right consistency, have the children place the cup in the fry pan and explain it will get very hot. Have the children help you clean up the table (chefs have to keep their workspace clean). Once they cool, adding a little whip cream on top can enhance the experience.
Follow-Up	Do a graph of who liked and who did not like the gingerbread to add data analysis component. Place cook books in your house area. Add Chef hats and mixing bowls to your house area.

Gingerbread in a cup



Wash your hands

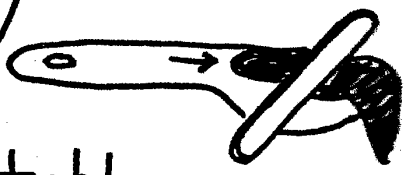
©B.T

Second

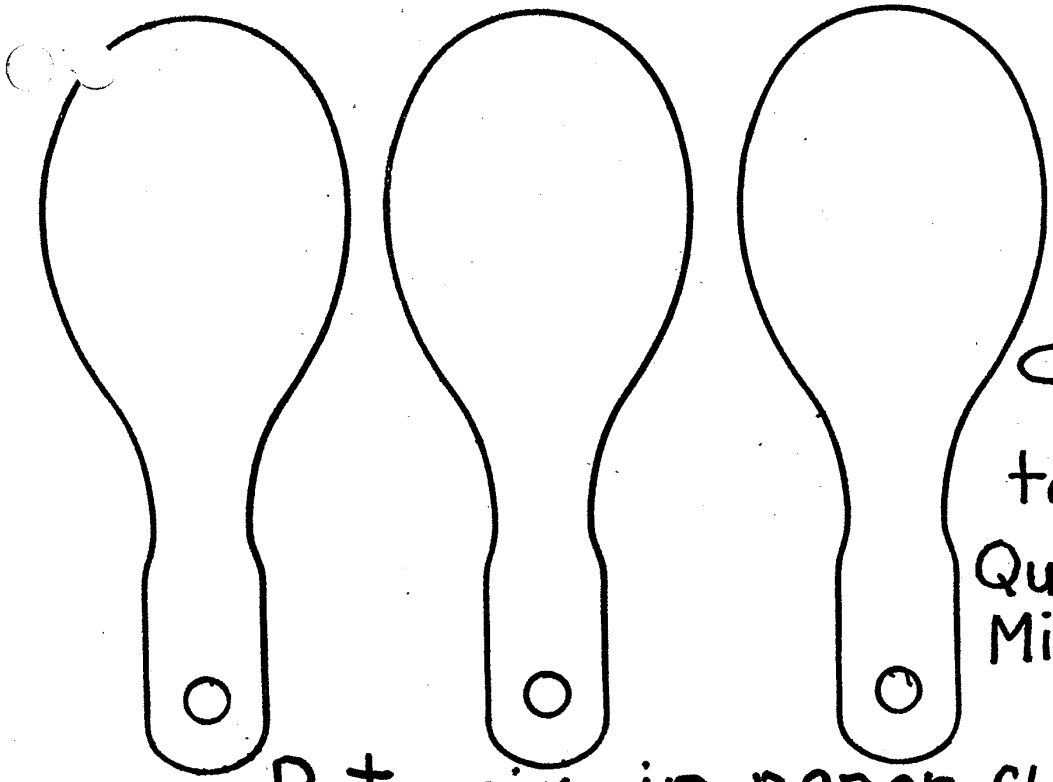
Quick Bread

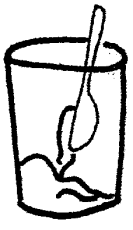
3

Level



tablespoons Quick Bread Mix

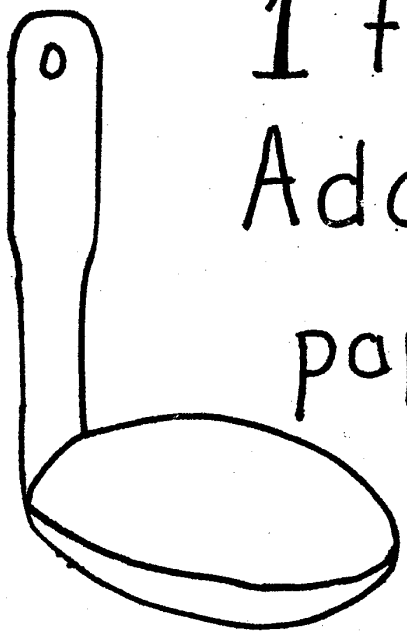




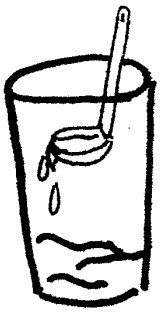
Put mix in paper cup.

©B.T

Third.



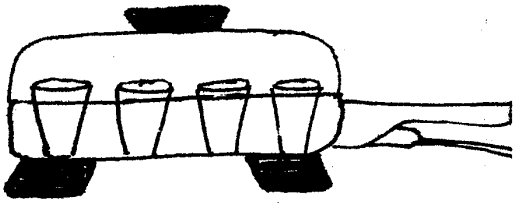
1 tablespoon water.
Add water to
paper cup.



Quick Bread

Fourth:

Stir well, 75
times.



Bake in covered
skillet, 400°(or less)
15 min. or untill done.
Cake springs back from touch and pulls
away from side of cup when baked.

**Invert cup on tray
for cooling.**

yumm...

Small Group Time: Pick Your Pickle

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain IV: Cognition and General Knowledge, G-Number Sense and H-Measurement KDI: 31, 32, 36, 39 COR: S, U, W	
Target Vocabulary	Recipe Chef Cucumber Slice Ingredients Colander First, Second and Third Number Words: 1-10
Materials	For each child: ½ Cucumber Each child will need a small ceramic or glass bowl (plastic bowls will react to the vinegar) Have each of the following in small Dixie cups, already premeasured. Put the cups in the child's small group basket: • ½ Cup of Rice Wine Vinegar • 1 Tablespoon of Sugar • ¼ Teaspoon of Salt Plastic Wrap Jar of pickles Plastic knives or pumpkins carving knives (ones that don't cut fingers) Colander
Opening Statement	Today I have something for you to taste. Give each child a pickle and ask, "What do you think they taste like?" Today we are going to learn how a Chef makes a pickle. Show the children each of the ingredients.
Beginning	First we need to cut up our cucumbers and put them in a bowl. Then I will give you your basket with the other ingredient to add. Have the children work to cut up their cucumber into pieces or slices.
Middle *Your ideas for scaffolding children at different developmental levels*	Once the children have finished cutting their cucumber, give them their baskets and have them pour the rest of the ingredients into their bowl. It does not matter what order. Once they have poured everything in, cover the bowl with plastic wrap and refrigerate for 4 hours
Questions	How many slices did you make? What ingredient are you going to put in the bowl first? How do you think our pickles will taste? How can you tell the salt and the sugar apart?
End *warning and transition to next part of routine*	Drain the pickles in a colander for the children to sample. Make a graph of who liked the pickles and who did not.
Follow-Up	Have a tasting party of different kinds of pickles. Discuss the varying shapes and sizes of pickles.

Small Group: Shaving Cream and Blocks

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain(s) IV-Number Sense and Operations, Children Identify and Label Shapes KDI: 32, 34, 36 COR: S, T	
Target Vocabulary	Cylinder Square Rectangle Stack Taller Wide Numbers one –five sculpture
Materials	Foam blocks-each child should get some cylinders, squares and rectangles Tray Shaving Cream Craft Sticks Smocks
Opening Statement	Have children put on smocks. Today in your basket you will find some blocks and a stick. We are going to use a different kind of "glue" today to help us stick our blocks together so they won't fall down. Since this is soap, remind the children not to rub their eyes with the cream on their hands.
Beginning	Show the can of shaving cream. Have you seen a can like this at your home? What does your family use it for? Today it is our glue I will put come shaving cream on your try and see what you can build with your blocks and shaving cream.
Middle *Your ideas for scaffolding children at different developmental levels*	Go to each child and talk about the shapes they are using and the number of blocks they are able to stack.
Questions	I wonder what would happen if….. How did you get that block there? Can you make your stack taller? Tell me about your sculpture
End *warning and transition to next part of routine*	Have the children put their blocks in the water table where they can be washed, dried and then put back on the shelf. Tell the children where the materials will be if they want to repeat the activity another time
Follow-Up	Put the materials out so they can be used again during work time.

Small Group: Ice Cream in a Bag

Early Learning Guidelines: Domain IV: Cognition and General Knowledge, G. Number Sense, H. Measurement and K. Scientific Thinking KDI: 31, 36, 39, 50 COR: S, U, W, CC	
Target Vocabulary	Recipe Ingredients 1st , 2nd, 3rd, 4th ,5th,6th measure teaspoon tablespoon tightly liquid solid
Materials	**Each student will make their own bag of ice cream. I suggest you have an extra set of measuring tools.** • Visual recipe card. • Pint-sized Ziploc bag/per child • Gallon- sized Ziploc bag/per child • Measuring cup for ½ cup milk • Teaspoon to measure ½ tsp Vanilla • Tablespoon to measure 1 Tbsp. Sugar • Ice (fill ¾ in each gallon Ziploc) • Teaspoon to measure 6 tsp salt
Opening Statement	How many of you like ice cream? Well today we're going to be "ice cream makers!!"
Beginning	Let's first wash our hands. Review and display the visual recipe card, measuring tools and ingredients. Read the directions together. Put the child's name with permanent marker on the Gallon size bag and pint size bag (this may be done ahead of time.)
Middle *Your ideas for scaffolding children at different developmental levels*	Pass out the small pint size bag. Have each child follow the visual directions, as you support them pouring, milk and adding the vanilla. Remember to say "hold your bag tightly, with two hands." Model this. Set the small bag aside. Fill each large bag ¾ full with ice. Add the salt. Place the pint bag inside the large bag and seal. Have each child begin to Shake, Shake, Shake the bag for 5 minutes.
Questions	• What ingredients do you think we will need to make ice cream? • Do you know what it means to measure something? • When do you use measuring spoons? • What do you think will happen when we place the small bag in the big ice bag?

	• How many times did you shake your bag? • Now we are finished with SGT. I wonder what we do next?
Ending *Warning and transition to next part of routine*	After 5 minutes tell the children to stop. Check the consistency. The milk mixture will turn to a solid. Point this out to the children. Open each bag with the child's help and place the ice cream in a container for eating. Have the children support clean-up and transition to the next activity
Follow-Up	• Chart: What is your favorite ice cream? And then tally the results. This gives a Data Analysis component • Parent Activity, Invite parents to a "Homemade" ice cream social! • Add bowls, spoons, measuring cups and measuring spoons to your to the House Area. • Think about saving your vanilla extract bottles, salt containers etc. and display them in the House Area for our cooks!

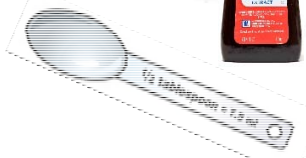
Ice Cream in a Bag

1

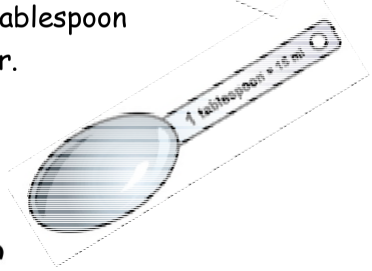
Put ½ cup of milk into a pint size zip-lock bag.

2

Add ½ teaspoon of vanilla..

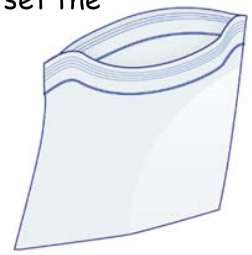


Add 1 tablespoon of sugar.



3

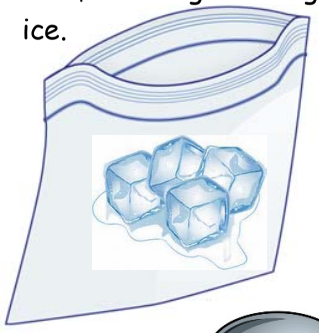
Zip-lock the bag tightly. Try to get most of the air out! Then set the bag aside.



*You may want to tape the bag.

4

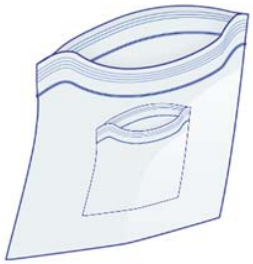
Fill ¾ of the gallon bag with ice.



Add 6 tablespoons of salt to the ice.

5

Place the sealed pint sized bag inside the gallon bag of ice.



Seal and shake for 5 minutes. (You can add "shake" music at this time.)

6

Take the ice cream bag out of the ice.

Carefully take the ice cream out of the bag and put into a bowl.

ENJOY !!

9 Little Muffins in the Bakery Shop

Chant rhythmically as you would do in 5 Little Monkeys Jumpin' on the Bed

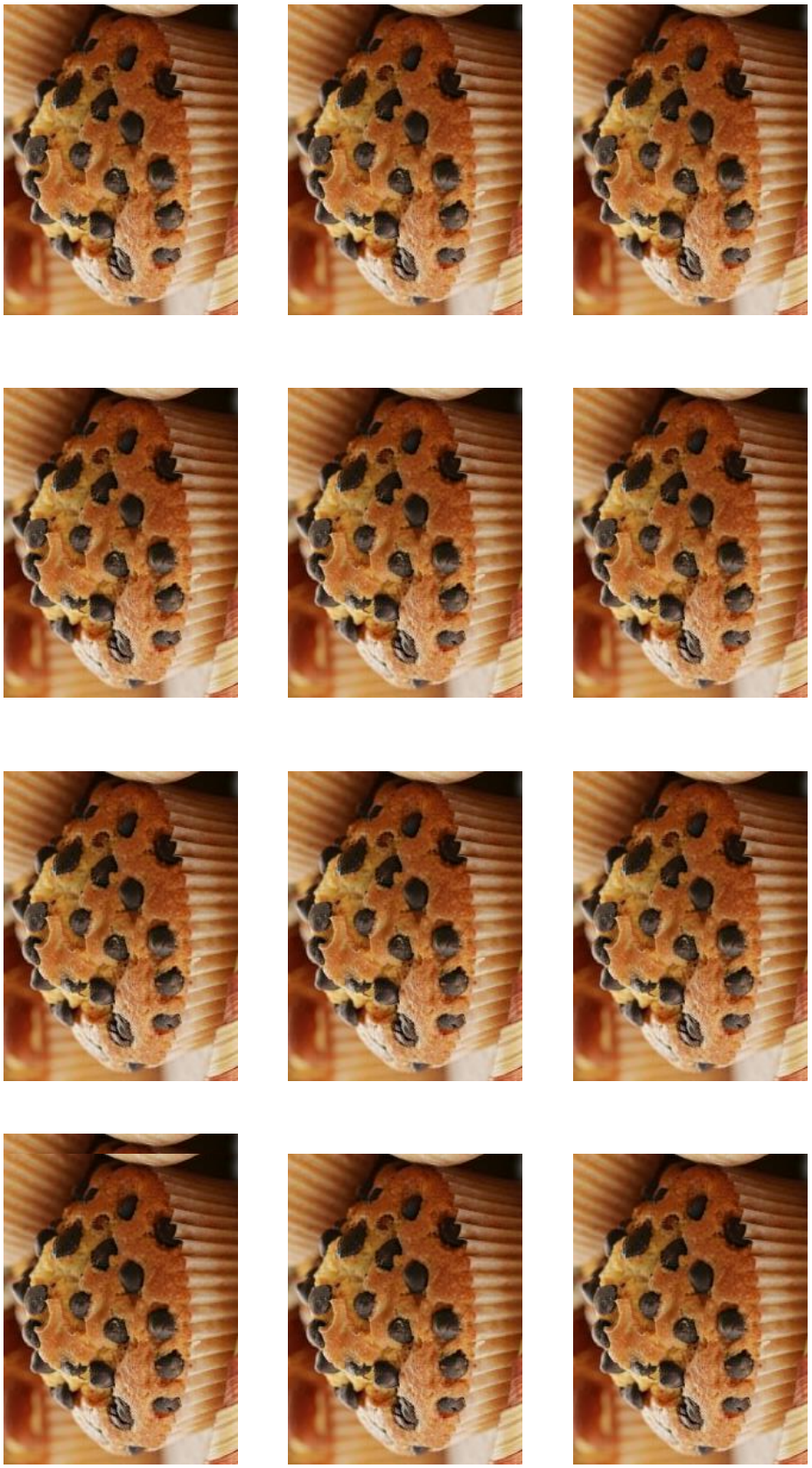
9 Little Muffins in the Bakery Shop

Use muffin cut-outs below and Velcro onto bakery picture. Use children's names, and have them pretend to pay a quarter and take a muffin off the page. Count how many are left each time.

There were 9 little muffins in the bakery shop,
They had chocolate chips on top.
Along came Tony with a quarter to pay,
He bought one muffin and he took it away.

Continue chant with 8, 7, 6. 5. 4, 3, 2, and 1 muffin.

Children can also think of other foods that are sold at a bakery, e.g. donuts, cookies, bagels, and say the chant using their ideas. As an art activity, have the children make their own pictures of food to put into the bakery shop!



I Can Count to 10

Puedo contar hasta el diez

1 2 3 4 5 6 7 8 9 10

I Can Count to 10
Puedo contar hasta diez

Tune: For He's a Jolly Good Fellow
Created by: M'Lou Speranza

Child chooses a movement to do at the end of the verse, counting as he/she does the movement. Of course, the number will vary depending on the child's developmental level. For most 3-year-olds, you might start with the number 3 (since they are very interested in the number that corresponds with their age!) and then work your way up.

Oh, I can count to 10,	Yo puedo contar hasta diez (10)
I can count to 10,	Yo puedo contar hasta diez (10)
I can count to 10,	Yo puedo contar hasta diez (10)
Now I will <u>jump</u>!	¡Y ahora brincaré!

Child counts each jump or other movement. At the end, an adult asks, "So, how many times did you jump?" to see if the child understands that the last number name he/she said tells the number of times jumped. Other possible movements – clap, stomp, hop (on one foot), pat (various parts of body).

Connections to NYS Prekindergarten Foundation for Common Core
Domain 2: Physical Development and Health - Physical Development and Health -Foundational Skills: 3 c.

Domain 5: Cognition and Knowledge of the World – Mathematics - Counting and Cardinality: 1, 2, 3; **The Arts – Music:** 3 a,b,c

Shape Hokey Pokey

Developed by M. Speranza

Give one of each shape (made of construction paper or other material) – circles, squares, triangles, etc. to each child. Begin with the non-specific first verse where children hold all the shapes to help everyone feel successful. As you continue the song, children listen for that shape and follow the actions of the song. Be sure to pause between verses to ask the children to find the next shape, giving them ample time before starting the verse. Also note that it may be challenging for some preschoolers to separate one shape from the others if you use construction paper to make the shapes. If so, try to make the shapes from a thicker material such as foam board.

COR Advantage: J – Fine Motor Skills, T – Geometry, Y - Music

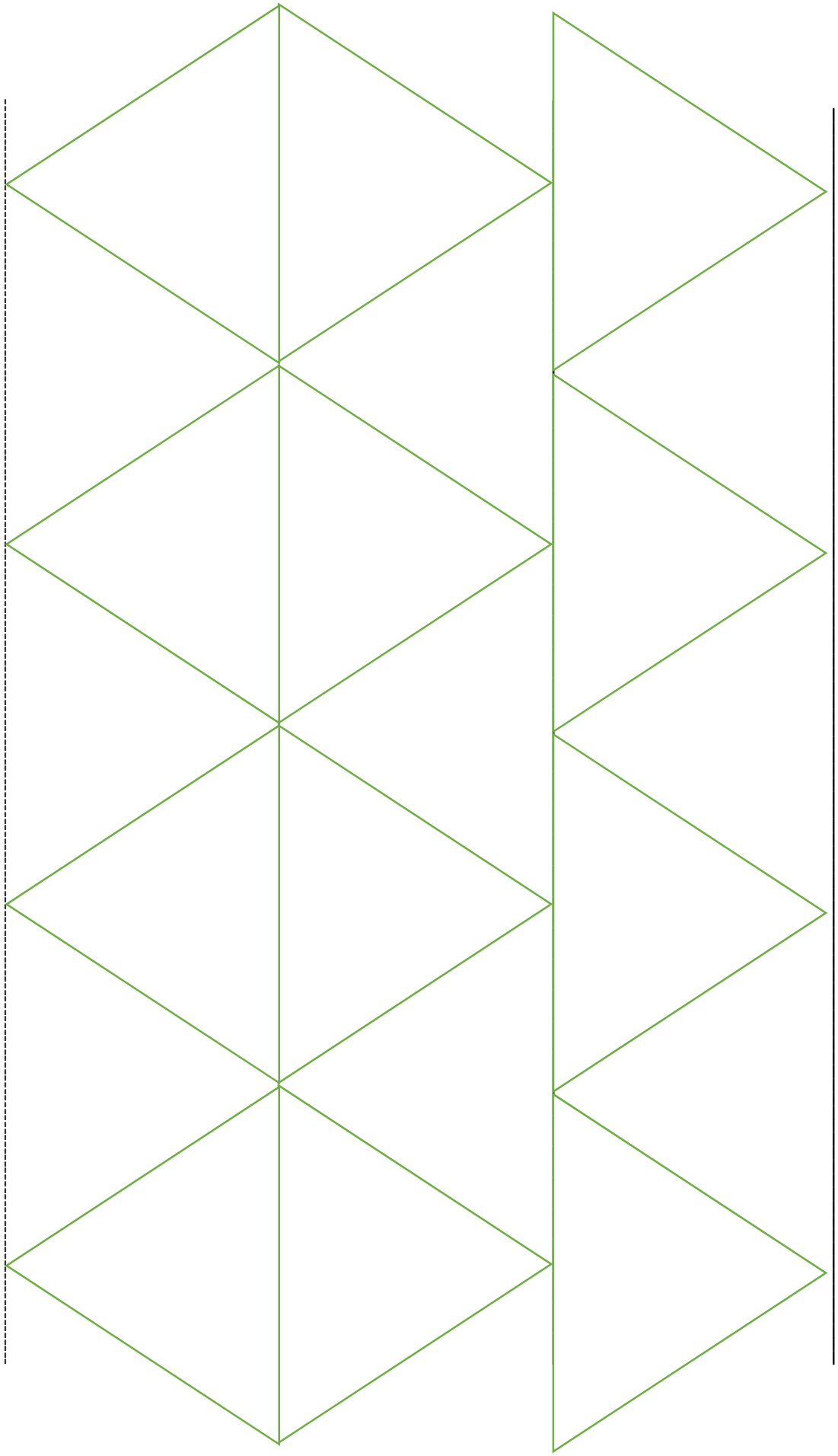
You put your shapes in, you put your shapes out,
You put your shapes in and you shake them all about.
You do the hokey pokey and you turn yourself around,
That's what it's all about!

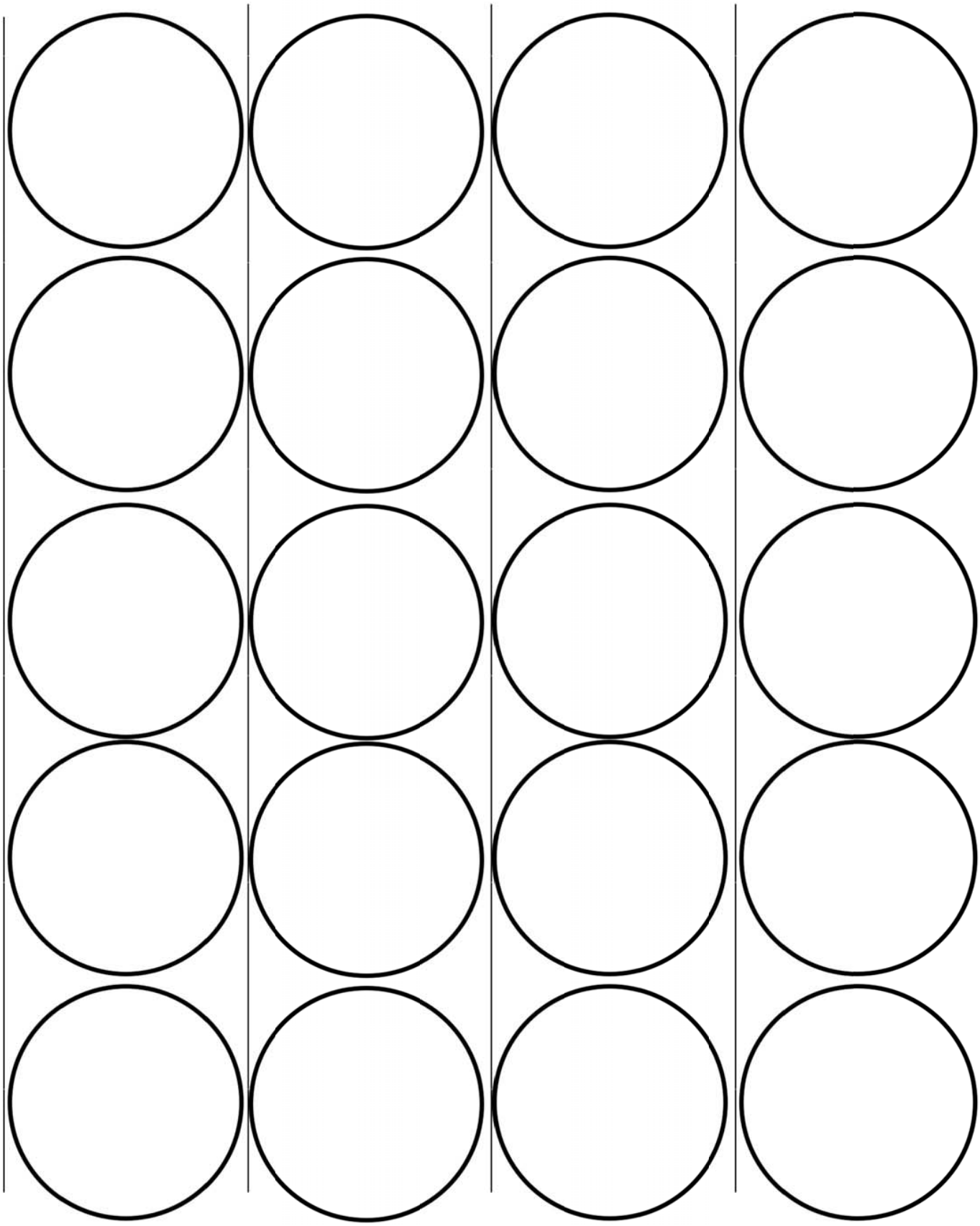
You put your circle in, you put your circle out,
You put your circle in, and you shake it all about.
You do the hokey pokey and you turn yourself around,
That's what it's all about!

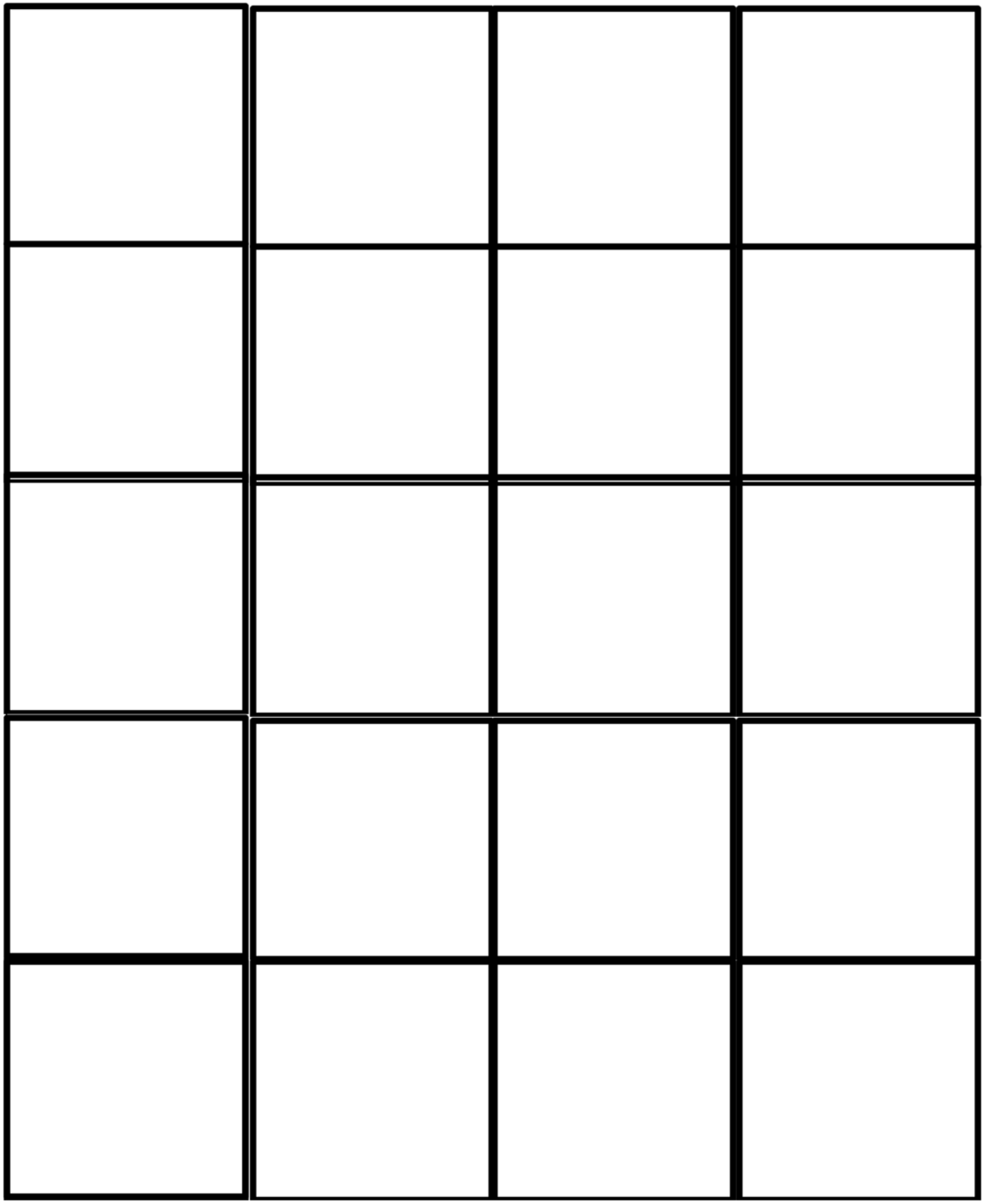
(Continue with other shapes and end the song by repeating the first verse.)

Small Group Time Planning Form

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain(s) KDI: COR: Lesson Objective:	
Target Vocabulary	
Materials	
Opening Statement	
Beginning	.
Middle *Your ideas for scaffolding children at different developmental levels*	
Questions	
End *warning and transition to next part of routine*	
Follow-Up	







EPK Math Small Group Activities by Content Area Session 3

Scaffolding children's learning also includes purposefully "encouraging children to describe their actions and explain their reasoning, with thought-provoking comments such as 'I wonder what would happen if…'". [1]

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[1] Meaningful Math in Preschool, Making Math Count Throughout the Day, p. 59

EPK Small Group Activities by Content Area, Session 3 – Overview

- Provided are 32 lessons in Session 3 which were extracted from the *Numbers Plus* kit, other HighScope resource books and team-developed lessons.

- The lessons have again been organized by Content Area.

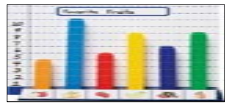
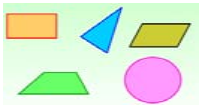
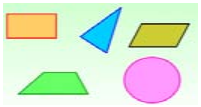
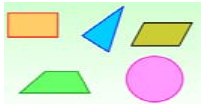
    - To build mastery, children need to experience activities in the same Content Area several days in a row.

- Again, it is important that your lessons cover all five content areas in some way.

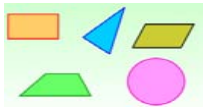
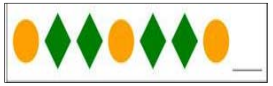
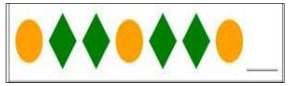
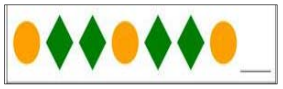
    - If you choose to use lessons other than these, be sure to cover all five content areas by the pausing point.

- You will be entering anecdotes for each child in each of these five content areas.

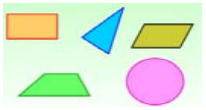
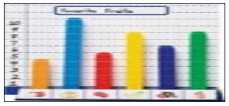
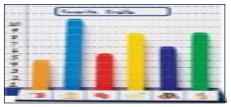
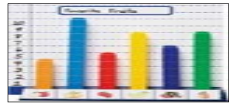
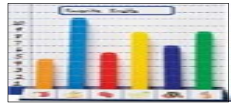
EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
** denotes that substitute materials may be needed due to choking hazards for certain children	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: G. Number Sense and Operations P. 74	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: I. Properties of Ordering: Children identify and label shapes P. 76	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: H. Measurement: Children demonstrate knowledge of size, volume, height, weight, and length P. 75	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: J. Properties of ordering: Children sort, classify, and organize objects P. 77	NYS Early Learning Guidelines - Domain IV Cognition and General Knowledge: K. Scientific Thinking: Children collect information through observation and manipulation P. 78
Number Plus Kit, Number Sense, Card 1, "Basket Toss"					
Number Plus Kit, Number Sense, Card 10, "Counting Shapes on a Pizza"					
Number Plus Kit, Number Sense, Card 12, "Dinosaur Hunt" **	v 				
Number Plus Kit, Geometry, Card 5, "Feeling Shapes: Which Ones Match?"					
Number Plus Kit, Geometry, Card 12, "Shape Puzzles"					

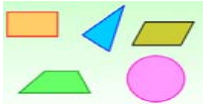
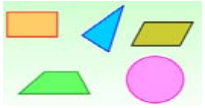
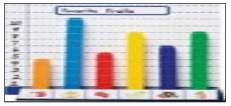
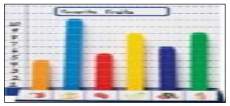
EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Number Plus Kit, Geometry, Card 14, "Pattern Block Critters"					
Number Plus Kit, Measurement, Card 19, "Skyscraper"					
Number Plus Kit, Measurement, Card 5, "Construction Zone: Height"					
Number Plus Kit, Measurement, Card 6, "Construction Zone: Width"					
Numbers Plus Kit, Algebra, Card 15 "Shape Caterpillars"					
Numbers Plus Kit, Algebra, Card 13 "Rhythm Stick Patterns"					
Numbers Plus Kit, Algebra, Card 10 "Movement Patterns"					

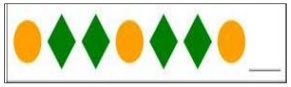
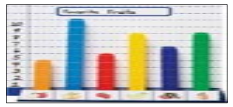
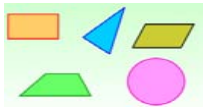
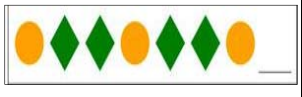
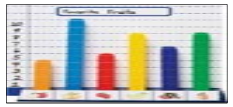
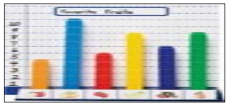
EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Numbers Plus Kit, Data Analysis, Card 12 "Play Dough Snowmen"					
Numbers Plus Kit, Data Analysis, Card 10 "Laundry Lessons"					
I'm Older Than you I'm Five!, p. 44, "Guess Who"					
Numbers Plus Kit, Number Sense, Card 17 "Hickory Dickory Dock"					
Numbers Plus Kit, Number Sense, Card 26 "Numeral Hopscotch"					
Numbers Plus Kit, Number Sense, Card 27 "Numeral Hunt"					
Numbers Plus Kit, Number Sense, Card 34 "Ten in the Bed"					

EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Numbers Plus Kit, Geometry, Card 12 "Musical Shapes"					
Numbers Plus Kit, Geometry, Card 8 "I Spy Shapes"					
Numbers Plus Kit, Measurement, Card 4 "Color Recipes"					
I'm Older Than you I'm Five!, p. 96, "Slicing Up the Daily Routine"					
I'm Older Than you I'm Five!, p. 99, "Snack Sort"					
Recipe: Silly Putty					
Small-Group Times to Scaffold Early Learning, p. 56 "How Much Does it Hold?"					

EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	Numbers and Counting	Geometry and Spatial Awareness	Measurement	Algebra/ Patterns and Sequences	Data Analysis
	(KDI 31, 32, 33)	(KDI 34, 35)	(KDI 36)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Small-Group Times to Scaffold Early Learning, p. 72 "Strike up the Band?"					
Recipe: Fruit Crisp					
50 Large Group Activities for Active Learners, "The Noble Duke of York" p.102, Substitute scarves for dusters					
Recipe: Fruit Kabobs					
Animal Habitat Graphing Song; www.rcsdk12.org/prek/blocks					
Five Little Hot Dogs Song; www.rcsdk12.org/prek/blocks					
Noodle Plate Chant; www.rcsdk12.org/prek/blocks					

EPK Math Small Group Activities by Content Area-Session 3 - Aligned with KDI, COR Advantage and NYS Early Learning Guidelines

Small-Group Activities Session 3	**Numbers and Counting**	**Geometry and Spatial Awareness**	**Measurement**	**Algebra/ Patterns and Sequences**	**Data Analysis**
	(KDI 31, 32, 33)	**(KDI 34, 35)**	**(KDI 36)**	**(KDI 38)**	**(KDI 39)**
	COR Item S	***COR Item T***	***COR Item U***	***COR Item V***	***COR Item W***
First 30 Days, SGT, Unexplored Materials, p. 143					

Materials for Session 3

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit, Number Sense	Card 1, "Basket Toss"	Beanbags, Chart Paper labeled with children's name and letter link, Markers	Small containers to hold bean bags, Large basket
Numbers Plus Kit, Number Sense	Card 10, "Counting Shapes on a Pizza"	Collection of felt or plastic circles, triangles and rectangles, Rolling pins, Shape cookie Cutters	Play Dough
Numbers Plus Kit, Number Sense	Card 12, "Dinosaur Hunt"	Containers large enough to hold 10 dinos, 40-50 Small plastic dinosaur counters Choking Alert	
Numbers Plus Kit, Geometry	Card 5, "Feeling Shapes: Which Ones Match?"		2- sets of 3-4 tag board shapes (triangle, circle, rectangle) - put one shape in each feeling bag, 18 feeling bags (socks or paper bags)
Numbers Plus Kit, Geometry	Card 12, "Shape Puzzles""		Adaptation: Glue 18 pictures onto tag board (wonderful to use photos of student's faces). Then cut the tag board into 4 triangles (corner to corner), 18 zip lock storage bags for the puzzles
Numbers Plus Kit, Geometry	Card 14, "Pattern Block Critters"	5-8 pattern blocks for each child, 2-3 empty sorting baskets, Index cards,	Camera
Numbers Plus Kit, Measurement	Card 19, "Skyscraper"	10 small 1 inch cube blocks for each child	Pictures of skyscrapers
Numbers Plus Kit, Measurement	Card 5, "Construction Zone: Height"	15-20 duplo blocks for each student, chalk	2 sizes of drinking straws
Numbers Plus Kit, Measurement	Card 6, "Construction Zone: Width"	15-20 duplo blocks for each child, Chalk, Tape, Rulers, String, Pencils	2 sizes of drinking straws
Numbers Plus Kit, Algebra	Card 15, "Shape Caterpillars"	5-10 small construction paper circles for each child, 2-10 small construction paper rectangles for each child, Piece of construction paper, Glue sticks	

Materials for Session 3

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit, Algebra	Card 13, "Rhythm Stick Patterns"	Pair of rhythm sticks for each child, 2 different colored blocks for each child	
Numbers Plus Kit, Algebra	Card 10, "Movement Patterns"	none	none
Numbers Plus Kit,Data Analysis	Card 12, "Play Dough Snowmen"	3 cookie cutters in different shapes (triangle, rectangle, circle), Chart paper, Small paper triangles, rectangle and circles (25 of each shape)	Play dough-enough for each child to have a large ball, Plastic knives
Numbers Plus Kit,Data Analysis	Card 10, "Laundry Lessons"	Drying rack or clothes line, Clothes pins	Basket of clothing for dolls and some dress-up clothing, water table that will accommodate a small group OR small wash tubs for 2
I'm Older Than You. I'm Five!" Math in the Preschool Classroom	15-Guess Who Lesson, page 44	Photos of children in your classroom for an extension	none
Numbers Plus Kit, Number Sense	Card 17, "Hickory Dickory Dock"		Sheets of 8 1/2 by 11 inch paper on which a numeral from 1-5 is written (enough for every child to have one and then a teacher set)
Numbers Plus Kit, Number Sense	Card 26, "Numeral Hopscotch"	Tape or chalk to make a hopscotch board on the carpet or floor	15 small dot-and-number cards for numerals 1-5 (3 cards for each numeral)
Numbers Plus Kit, Number Sense	Card 27, "Numeral Hunt"	Index cards	Paper lunch bags-one for each child and then 5 more, Numerals 1-5 written on index cards(at least 15 of each number),
Numbers Plus Kit, Number Sense	Card 34 "Ten in the Bed"	None	10 small carpet squares or mats. You could also use pieces of construction paper or pillows

Materials for Session 3

Text used	Small Group Activity	Materials to Order	Materials from Home
Numbers Plus Kit, Geometry	Card 12 "Musical Shapes"	CD player, CD with lively marching music	Large geometric shapes (circle rectangle, triangle) cut out of heave paper arranged in a circle on the floor
Numbers Plus Kit, Geometry Card 8 "I Spy Shapes"	Card 8 "I Spy Shapes"	none	Collection of felt circles, rectangles, and triangles
Numbers Plus Kit, Measurement Card 4 "Color Recipes"	Card 4 "Color Recipes"	Teaspoons or Tablespoons, 3 white pieces of paper or clear plastic cups, popsicle sticks, 3-5 index cards, Pencil, Crayons, Measuring Spoons	3 buckets of colored water (red, blue yellow), Large tube for emptying mixtures
I'm Older Than You. I'm Five!" Math in the Preschool Classroom	40-Slicing Up the Daily Routine, page 96	Daily routine cards	
I'm Older Than You. I'm Five!" Math in the Preschool Classroom	41- Snack Sort, page 99	Chart paper, markers	Mixed snack items, Serving containers
Scope and Sequence Binder, Session 3	Recipe: Silly Putty	Gallon of Elmer's Glue	1 quart of Liquid Starch
Small-Group Time to Scaffold Early Learning	19-How Much Does it Hold?, page 56	Turkey Basters, Measuring cups or sponges, Paper, Markers, Smocks, Markers, Measuring cups	Plastic cups, Other small containers
Small-Group Time to Scaffold Early Learning	25-Strike up the Band, page 72	Various instruments, Containers to hold instruments	Picture cues for loud or soft, Other things that can be used to make a noise
Scope and Sequence Binder, Session 3	Recipe: Fruit Kabobs		Two kinds of fruit, kabob sticks
	Animal Habitat Graphing Song		Song card from: https://www.rcsdk12.org/Page/630
	Five Little Hot Dogs Song		Song card from: https://www.rcsdk12.org/Page/630

Materials for Session 3

Text used	Small Group Activity	Materials to Order	Alternative Materials
Numbers Plus Kit, Number Sense	Card 1, "Basket Toss"	Beanbags	Example:Wadded paper balls
Numbers Plus Kit, Number Sense	Card 10, "Counting Shapes on a Pizza"	Rolling pins and shape cookie cutters	
Numbers Plus Kit, Number Sense	Card 12, "Dinosaur Hunt"	40 - 50 Small Plastic dinosaurs	
Numbers Plus Kit, Geometry	Card 14, "Pattern Block Critters"	5-8 pattern blocks for each child	
Numbers Plus Kit, Measurement	Card 19, "Skyscraper"	10 small 1 inch cube blocks for each child	
Numbers Plus Kit, Measurement	Card 5, "Construction Zone: Height"	15-20 duplo blocks for each student, chalk	

Materials for Session 3

Text used	Small Group Activity	Materials to Order	Alternative Materials
Numbers Plus Kit, Algebra	Card 13, "Rhythm Stick Patterns"	2 different colored blocks for each child	
Numbers Plus Kit,Data Analysis	Card 12, "Play Dough Snowmen"	3 cookie cutters in different shapes (triangle, rectangle, circle)	
Numbers Plus Kit,Data Analysis	Card 10, "Laundry Lessons"	Drying rack or clothes line, Clothes pins	
Small-Group Time to Scaffold Early Learning	19-How Much Does it Hold?, page 56	Turkey Basters, Measuring cups or sponges	

Small Group Time: Silly Putty

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain(s) Domain IV, H-Measurement, L-Scientific Thinking KDI: 36 and 45 COR: BB. Observing and classifying, U. Measurement Lesson Objective: Measuring and Comparing changes in matter	
Target Vocabulary	Liquid Solid Stretch Measure Long Short
Materials	Elmer's Glue StaFlo Liquid Starch (must be this brand) Popsicle or craft sticks 20 Small cups or containers Storage bag or container ¼ cup measuring cup ½ cup measuring cup
Opening Statement	Today we are going to combine two liquids (things that we can pour) and see what happens.
Beginning	Have the children measure out 1/2 cup of white Elmer's glue and pour it into their container. Support children measuring out a ¼ cup StaFlo Liquid Starch. Have them use their sticks to stir and talk about the change that happens.
Middle *Your ideas for scaffolding children at different developmental levels*	When it's formed, take it out of the cup and shape it with your hands. Children can stretch it and shape it. Talk about the length as they stretch the putty. As an extension, children can use markers and color on the putty. Children can then stretch it and talk about what they observe.
Questions	Which did we add more of the, the glue or starch? How did you know that? What happened to the glue and starch when we began to stir? How does it feel? What could we use with the putty?
End *warning and transition to next part of routine*	Place in a clear, plastic, resalable container or bag when you're finished using it. Safety warning: though Elmer's is non-toxic, liquid starch, such as StaFlo, shouldn't be consumed.
Follow-Up	Add the putty to your art area. Have glitter and scissors available for further extension activities.

Apple Pie in a Cup

Ingredients:
Apples
Cinnamon
Sugar
Graham
Crackers
Whipped Cream

Directions:

1. Cut up apples and sprinkle with cinnamon and sugar.

2. Place in crockpot to cook on low for two hours.

3. Crush up graham crackers and put them in the bottom of the cup.

4. Put one scoop of apples on top of the graham crackers.

5. Add whipped cream on top.

6. Eat and enjoy ☺

Small Group Time: Fruit Kabob

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain(s) IV Cognition and General Knowledge, B. Critical and Analytic Thinking, J. Properties of Ordering, K. Scientific Thinking KDI:17,35,38 COR: B. Problem-solving with materials, J. Fine motor skills, V. Patterns	
Target Vocabulary	Kabob Skewer Fruit names chosen Pattern Choose Start Next Repeat
Materials	Visual recipe card Small bowls for fruit; spoons Paper plates or trays for each child Skewers (may use coffee stirs) Choose fruit sturdy enough to place on skewer Examples: choice of two for AB pattern Seedless Grapes Strawberries (sliced in medallions) Blueberries Melon Pineapple
Opening Statement	Today we are going to make something very special! Hold up the skewer and show the fruit.
Beginning	Let's first wash our hands. Review and display the recipe card and ingredients. Explain that the tray or paper plate is their workspace. Today we are going to make a pattern. Let me show you. First I take the skewer and look for the pointy end. Now I'm going to choose two fruits. First, I'm going to take one grape and place it on the skewer. What do you think I'm going to do next? Yes, I'm going to choose another fruit and put it on the skewer. Place the second fruit on the skewer. Together you repeat the pattern Grape, strawberry. Hmm… What do you think comes next? Repeat grape …strawberry … grape… strawberry. I made a pattern! Now it's your turn to make one. Let's get started!

Middle *Your ideas for scaffolding children at different developmental levels*	Pass out to each child the skewer and their own bowl of fruits and place in their workspace. I wonder which fruit you will start with? Guide the children with each step. Which fruit will you put on the skewer next? Observe what fruit the children chooses. Give the children the opportunity to continue at their own developmental level. Remember to note COR Advantage Item V with anecdotes.
Questions/ Comments	I wonder which fruit will come next? Tell me about your fruit pattern… Let me try out your pattern… Oh, I see you lined up all the grapes one after another… Look you made a pattern Grape…Strawberry…
End *warning and transition to next part of routine*	You all worked very hard today making a pattern! Using your example pattern, have each child repeat the pattern and then dismiss to wash hands. It is your choice to save the kabob for snack or allow them to eat their pattern before transitioning to the nexy activity.
Follow-Up	Learning patterns requires a lot of repetition. Have available pattern materials thorough out the day. Example: In the block area, align the unit blocks, square…rectangle during worktime. At transistion, lining up boy…girl…boy…girl You may also do a Data analysis component, What is your favorite fruit?

RECIPE CARD FOR FRUIT KABOB

1. Wash your hands and select a skewer.

2. Put on a strawberry.

3. Put on a slice of banana.

4. Repeat your pattern, strawberry-banana.

RECIPE CARD FOR FRUIT KABOB

5. 

Eat and enjoy your pattern.

Animal Habitat (Graphing Song)

Tune: “Mary had a Little Lamb”

Directions: Cut out the labeled pictures on the pages below. Make a graph by putting the words and pictures of “Farm” and “Jungle” on construction paper or flannel board. Place animal pictures under correct column as you sing the song.

COR Advantage: W – Data Analysis, Y – Music, BB – Observing and Classifying, DD – Natural and Physical World, HH - History

Some animals live on a farm, on a farm, on a farm.
Some animals live on a farm, can you guess which ones!

Some animals live in the jungle, in the jungle, in the jungle,
Some animals live in the jungle, can you guess which ones!

Child choose an animal from the pile, and group decides where it lives and what sound it makes, i.e.:

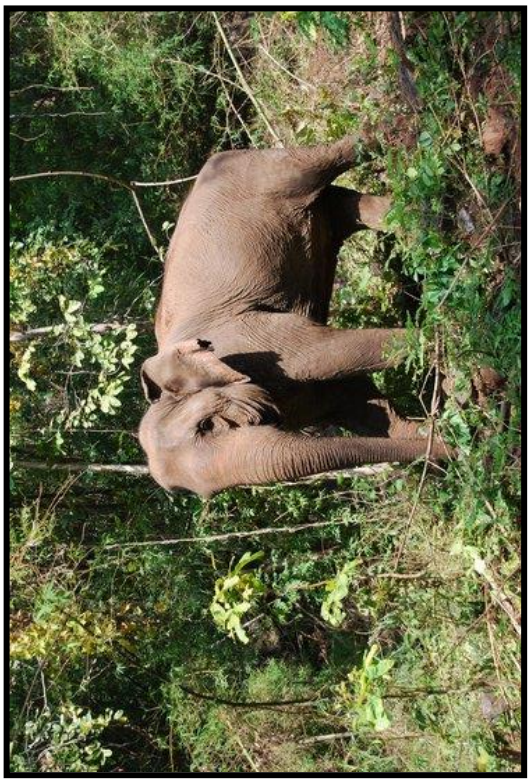
Cows live on a farm, on a farm, on a farm,
Cows live on a farm, and they say, “mooooo.”

Gorillas live in the jungle, in the jungle, in the jungle,
Gorillas live in the jungle, they say “eeh eeh eeh.”

(continue with other animals)

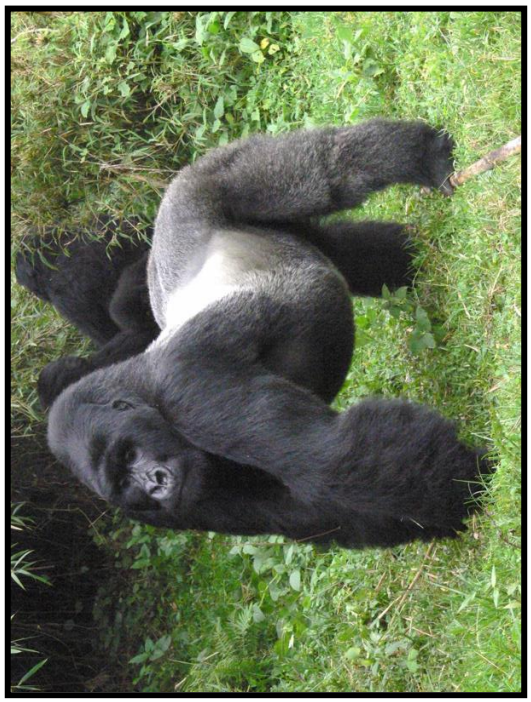
Jungle

Farm

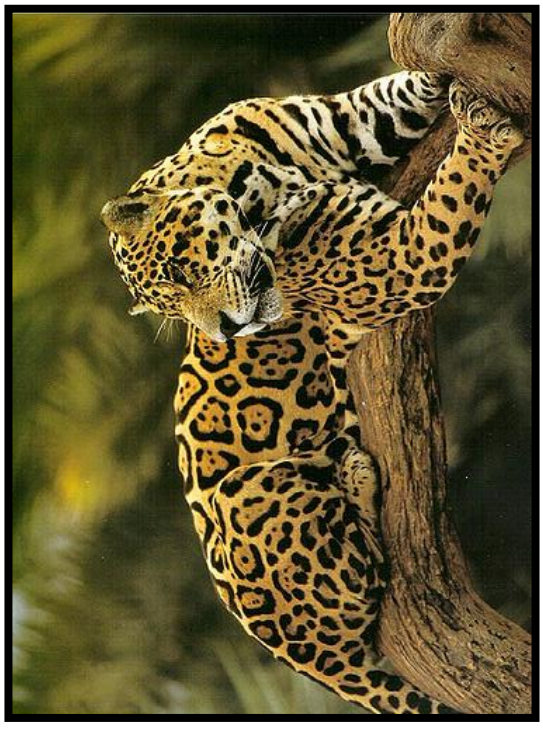


Elephant

Tiger



Gorilla



Jaguar

Pigs

Chickens

Horses

Cows

5 Little Hot Dogs
(or Sausages!)

Finger play - Chant rhythmically

You can cut out the hot dogs and put them into a pan from the family center or Velcro them onto the frying pan!

5 little hot dogs sizzling in the pan, *(show 5 fingers then rub hands together,)*
The pan got hot and one went "BAM!" *(clap hands on "Bam")*

(continue with 4 little hot dogs, etc., ending with:

No little hot dogs sizzlin' in the pan,
The pan hot hot and IT went BAM!

Now have children choose other foods to put in the frying pan. Remember, nothing is off limits - We have even fried strawberries!

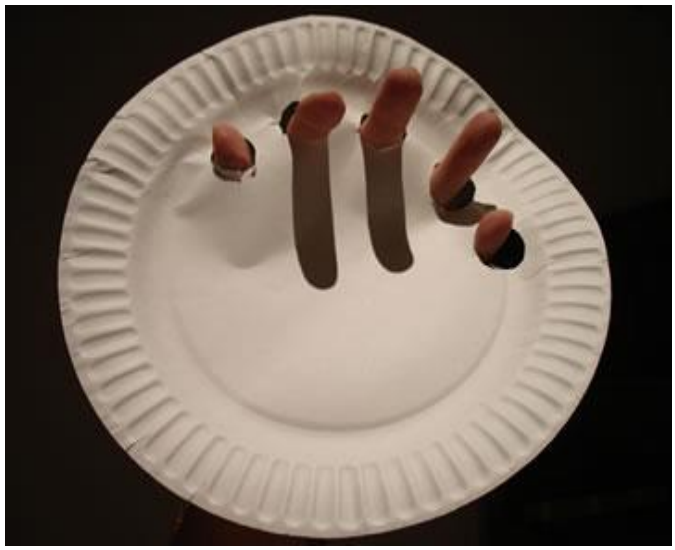
5 Little Hot Dogs
(or Sausages!)

Cut-outs to use in a frying pan or Velcro onto song card, taking one off at a time!

Noodle Plate Chant (no melody)

Origin unknown

Take a paper plate and cut out five holes as shown. Stick fingers in the holes to match number of noodles in the rhyme. After children learn the chant, they can choose other foods besides noodles, i.e. hot dog, pickle; they can also choose other condiments, i.e. mustard and catsup; Children also might choose to change "mother" to another person who shops in their family.Listen to children talking about their own experiences with various foods. Draw attention to the rhyming words in the phrases.



COR Advantage: J – Fine motor skills, L – Speaking, N – Phonological awareness, S – Numbers and Counting, Y – Music, FF – Knowledge of self and others

One little noodle (Stick one finger through hole)
On my plate,
Salt and pepper, (Pretend to shake papper on it with other hand)
Tastes just great!
Mother's going to the store.
Mother, mother, get some more.

Continue with Two…Three…Four…, then end with the following:

Five little noodles (Hold up five fingers)
On my plate.
Salt and pepper, (Pretend to shake pepper)
Tastes just great.
Mother, mother, I am stuffed.
I think that I have had enough!

Small Group Time Planning Form

NYS Foundations for the Common CORE or Early Learning Guidelines: Domain(s) KDI: COR: Lesson Objective:	
Target Vocabulary	
Materials	
Opening Statement	
Beginning	.
Middle *Your ideas for scaffolding children at different developmental levels*	
Questions	
End *warning and transition to next part of routine*	
Follow-Up	

Mathematics Developmental Continuums

Preschool children's mathematics abilities are an important predictor of their later school success in all areas of the curriculum[1]

[1] Duncan et al., 2007

Early Childhood Mathematics Developmental Continuum - Overview

- The **Mathematical Developmental Continuum** was designed using information from the following resources: HighScope COR Advantage, NYS Pre-K FCC, HighScope KDIs, RCSD Math Stage Cards, (developed in 1996) and the Common Core Curriculum Map in Mathematics (draft.)
- It identifies the mathematics milestones from beginning development to the kindergarten entry point. This document reads as columns; left column top to bottom, then right column top to bottom.
- As the child moves along the developmental continuum, he/she will reach milestones that are COR Advantage levels. These levels are identified on the chart, i.e. S-0, S-1, S-2. When a level is reached, remember to enter the anecdote into COR Advantage. The detailed COR Advantage Scoring Guide for the content area follows each section.
- The goal for teachers will be to move children along the continuum, which aligns with the kindergarten entry point.
- After each Content Area, you will find the corresponding COR Advantage Scoring Guide page.

Mathematics Developmental Continuum - Numbers and Counting

Child looks at, touches, or handles a single object (S-0)		Child consistently counts (with 1:1 correspondence) up to 10 objects (S-3)	
Child uses a word, sign or phrase to ask for "more" (S-1)		Child identifies four or more single-digit numbers (S-4)	
Child explores numbers through the use of manipulatives and real life experiences		Child says that one number is "more" than another (i.e. "Four is more than three.")	
Child uses number words or rote counts (not necessarily without skipping a number) (S-2)		Child identifies the number of objects in a group are "more" or "less" than the number of objects in another group	
Child rote counts consistently 1-5 (S-2)		Child counts with 1:1 correspondence more than 10 objects and says the last number counted tells how many (S-5)	
Child identifies "first" and "last "related to order or position		Child identifies the number of objects in a group are "greater than," "less than " or "equal to" the number of objects in another group	
Child rote counts to 10 (S-2)		Child says how many more or fewer are in one set than in another set (S-6)	
Child counts 1:1, 5 objects knowing that the last number counted says "how many"		Child subitizes up to 6 objects	

Mathematics Developmental Continuum - Numbers and Counting

Child counts with 1:1 correspondence 15 objects			
Child counts with 1:1 correspondence 20 objects			
Child begins writing numbers			
Child demonstrates an understanding of addition and/or subtraction			
Child composes and/or decomposes a number in two or more ways (S-7)			
Child represents a number of objects with a written numbers 0-5			
Child writes the numbers 1-10 (may have some reversals)			

MATHEMATICS

S Number and counting

Children learn to count by counting things — objects, people, and events. For infants, developing number sense is as basic as grasping the "oneness" of an object. Toddlers learn number words. Through everyday experiences, preschoolers learn that number words (*one, two, three*) refer to quantity and gradually realize that the last number counted tells "how many" there are. Later, children begin to compare quantities and combine and separate numbers into their components.

LEVEL 0

Child looks at, touches, or handles a single object.

The child begins to develop the concept of "one" by viewing, touching, and/or manipulating single objects, such as a face, a hand or foot, or a rattle.

- 8/3 Lying on the mat, CJ looked at the ball next to him.
- 7/22 Outside, Blake held a pine cone, turning it over and over.

LEVEL 1

Child uses a word, sign, or phrase to ask for "more."

The child indicates that he or she wants more of something. Requesting more indicates that the child understands that a quantity can be increased by more or one more.

- 2/13 At lunch, Maria held her empty bowl toward the bowl with the corn in it and said "More."
- 7/11 During choice time in the block area, Joshua said "Mo'" and went to get more blocks.

LEVEL 2

Child uses a number word or rote counts.

The child rote counts but does not yet have an understanding of what number means (that is, does not count with one-to-one correspondence).

- 1/14 While sitting on her teacher's lap and looking at a number book, Elizabeth spontaneously said the words "three" and "one" as the teacher turned the pages.
- 10/29 During choice time in the block area, Mikey counted his cars, saying "1, 2, 3, 5, 3, 4, 5, 7!" while counting the same three cars over and over.

LEVEL 3

Child consistently counts (with one-to-one correspondence) up to 10 objects.

The child is developing a sense of number and counts up to 10 objects, associating one and only one number with each object counted (using one-to-one correspondence). The child may occasionally double-count (for example, 1, 2, 3, 4, 4, 5) or skip a number (for example, 1, 2, 3, 4, 5, 6, 8). He or she may not realize that the last number counted represents the total. [*Note:* If a child consistently double-counts (counts the same objects over again), score at level 2.]

- 5/30 At work time in the toy area, Cheyenne counted out toy monkeys — "1, 2, 3, 3, 4, 5" — and gave them to her teacher.
- 8/19 At snacktime, Keira counted seven goldfish crackers on her plate. She touched each cracker as she counted (and there were seven crackers).

LEVEL 4

Child identifies four or more single-digit numerals.

The child can identify four or more numerals from 0 to 9. [*Note:* Check off each numeral *at any time* you observe the child identifying that numeral, for example, by reading (naming) it, or by pointing to it spontaneously or in response to a comment or question.]

- 5/18 At choice time in the house area, Samuel called the doctor. He said, "3, 7, 5, 2" as he punched those numbers into the cell phone.
- 6/19 At work time in the toy area, while playing a board game, Anyna spun the number spinner (with numerals 1–9 on it). She said the numeral when the spinner stopped on it and moved her game piece that many spaces. She did this for the numerals 4, 1, 5, and 8.

LEVEL 5

Child counts (with one-to-one correspondence) more than 10 objects and says the last number counted tells how many.

The child correctly counts more than 10 objects and knows that the last number he or she says tells how many objects there are in total (for example, the child counts correctly to 12 and says there are 12 objects).

- 4/14 At work time in the toy area, Maggie counted 13 pegs. She said, "I've got 13!"
- 7/23 Upon arrival, Akio counted each child's cubby symbol. He turned to his uncle and said, "There are 18 kids in my room!" (He was correct.)

LEVEL 6

Child says how many more or fewer are in one set than in another set.

The child counts two sets of objects and says whether they have the same number (quantity) or, if they are different, how many more or fewer there are in one set than the other. [*Note:* If a child says one set has more than the other but cannot yet say by "how many more," do not score at this level.]

- 1/28 During center time, Anton counted the black cubes and Michaela counted the blue cubes. "I have 15!" Anton said. "There's 14 blues," replied Michaela. "Mine are one more," said Anton. [Anecdote is for Anton]
- 9/22 During math time, Naomi passed out papers to two table groups. She counted eight children at the red table. Then she counted five children at the yellow table and said, "There's three more kids at the red table."

LEVEL 7

Child composes and/or decomposes a number in two or more ways.

The child puts together or takes apart items in sets of up to nine objects. He or she knows, for example, that five can be put together (composed) of two plus three, four plus one, or two plus two plus one. Likewise, the child knows five can be divided (decomposed) in these same combinations.

- 2/10 During center time, Jonathan rolled the big dice to make sums. He rolled 3 and 1. He said, "Hey, that's 4. Know what else is 4? — 2 and 2, and 0 and 4."
- 5/19 During math workshop, Gretchen made tally marks on her whiteboard for the ways to make 7. She tallied 1 and 6, 3 and 4, and 2 and 5.

Mathematics Developmental Continuum - Geometry and Spatial Awareness

Child tracks a moving object (T-0)		Child accurately names a square	
Child fits an object into an opening that is the correct size (T-1)		Child accurately names a rectangle (Child recognizes and names two-dimensional shapes - circle, traingle, square, rectangle) (T-3)	
Child explores shapes and makes a picture using them		Child recognizes shapes in the environment	
Child creates and builds shapes from components		Child uses position words ("on" and "under," "up" and "down," "in" and "out," "in front of," "behind," and "next to")	
Child moves self or objects in response to a simple position or direction word (T-2)		Child transforms (composes and decomposes) shapes into another shape and identifies the resulting shape (T-4)	
When asked, child points to a circle		Child describes what makes a shape a shape (identifies shape attributes) (T-5)	
When asked, child points to a triangle		Child names a cube (T-6)	
When asked, child points to a square		Child names a cylinder (T-6)	
When asked, child points to a rectangle		Child names a pyramid (T-6)	
Child accurately names a circle		Child describes three-dimensional shapes to compare their similarities and differences (T-7)	
Child accurately names a triangle			

MATHEMATICS

T Geometry: Shapes and spatial awareness

Infants look at shapes, and toddlers instinctively match and sort them, long before they learn the names of shapes. Infants and toddlers move their bodies and objects, eventually attaching simple position, direction, and distance words to them. Preschoolers begin to recognize what makes a shape a shape (triangles have three sides and three corners) and compare shapes. Older children master a variety of shape and spatial concepts and use them to solve spatial problems.

LEVEL 0

Child tracks a moving object.

The child follows an object or person with his or her eyes. As the child's focus improves, he or she can better distinguish the outlines of objects. This eventually allows the child to become aware of the contours of distinct shapes.

- 12/6 As Kristin sat in her bouncy seat, her eyes followed Kimmy (her caregiver) when she walked back and forth across the room.
- 6/12 Outside, while sitting on Jessa's (the caregiver's) lap, Mario watched the swing moving back and forth.

LEVEL 1

Child fits an object into an opening that is the correct size.

The child fits an object into an opening of the appropriate size. If the child discovers an opening is too small, he or she may look for something with a bigger opening.

- 3/16 During choice time in the toy area, Aiden put the shapes into the correct slots of the shape sorter.
- 10/11 During outside time, Juana placed rubber balls into a tennis ball canister.

LEVEL 2

Child moves him- or herself or objects in response to a simple position or direction word.

The child moves his or her own body or an object to demonstrate an understanding of basic spatial words such as *on* and *under, up* and *down,* and *in* and *out.*

- 4/16 During cleanup time, when her caregiver told her to put the ball in the basket, Avery did so.
- 9/27 During choice time, when Cody called "Sue?" Sue (his caregiver) said, "Cody, I'm here, under the loft." Cody walked to the loft and looked underneath it to find her.

LEVEL 3

Child recognizes and names two-dimensional shapes (circle, triangle, square, rectangle).

The child can say the names of basic two-dimensional shapes. The child may recognize and name shapes from everyday objects in the classroom environment.

- 4/30 During work time, Braden looked up at the clock on the wall and said, "Hey, the clock is a circle!"
- 3/19 During small-group time, Ashley named both the triangle and the rectangle sticker as she put them on her picture.

LEVEL 4

Child transforms (composes and decomposes) shapes into another shape and identifies the resulting shape.

The child puts together (composes) and takes apart (decomposes) shapes to make another shape, aligning and rotating them as needed, and says the name of the resulting shape.

- 3/10 During small-group time, while working with the Magna-Tiles, Lucas put two triangles together and said, "I made a square."
- 11/2 During work time at the sand table, Olinda filled two square molds with sand and dumped them out next to each other. She said, "Look, I made a rectangle!"

LEVEL 5

Child describes what makes a shape a shape (identifies shape attributes).

The child describes the characteristics of a shape, for example, that triangles have three sides, rectangles have four edges and four corners, squares are like rectangles but all the sides are the same, and/or circles are round.

- 10/7 During work time in the toy area, Payton put a rubber band on the geoboard and said, "I made a square. It has four sides."
- 2/16 During work time in the toy area, while working with the pattern blocks, Adam fit many pattern blocks together in a mosaic-type design. He pointed to an opening and said, "I'm looking for one with three points. I need a triangle."

LEVEL 6

Child names a three-dimensional shape (cube, cylinder, pyramid).

The child identifies basic three-dimensional shapes. These shapes may include cube, cylinder, or pyramid.

- 9/20 At center time, Jaden said, "These are blocks, but I can call them cubes." (They were cube shaped.)
- 4/19 During art, Prema chose a tube to create her sculpture. "I need the cylinder to make the neck," she said.

LEVEL 7

Child describes three-dimensional shapes to compare their similarities and differences.

The child identifies the characteristics of three-dimensional shapes and says what is the same and/or different about them. For example, the child compares the number of sides in a cube versus a pyramid and/or notes whether their sides are "flat" or "slanted."

- 2/12 During a meeting on the carpet, Juan explained that "cylinders have circles on the top and bottom, but cubes have squares."
- 3/5 During math workshop while working with geometric solids, Kahn said, "This pyramid has four triangles and one square. This box has four rectangles and two squares."

Mathematics Developmental Continuum - Measurement

Child explores (looks at, touches, handles) one or more objects with measurable attributes (size, weight) (U-0)		**Child measures using non-standard unit**	
Child fills a container (U1)		**Child uses standard measuring procedures (U-5)**	
Child nests or stacks three objects by size (U-2)		**Child fills a container 1/2 full and states that**	
Child uses a measurement term - (For example "big "and "little") (U-3)		**Child measures something using two different units and explains why the outcome is different (U-6)**	
Child uses terms "full" and "empty"		**Child, on his/her own, correctly measures using a standard measuring unit and says what the unit measures (U-7)**	
Child uses terms "long" and "short"		**Child uses a scale to weigh objects using the terms heavier and lighter**	
Child directly compares or orders things based on measurable attributes using the word "same."		**In conversation uses the measurement words of time: yesterday, today and tomorrow, accurately**	
Child uses the terms "before" and "after"		**Child uses a scale to weigh objects using the terms heavier and lighter**	
Child directly compares or orders things based on measurable attributes using the word "same" and words with er and est endings (U-4)		**In conversation uses the measurement words of time: yesterday, today and tomorrow, accurately**	

MATHEMATICS

U Measurement

The motivation to measure comes from children's interest in comparing things: Who is older? Whose road is longer? Infants explore one object at a time but as children handle two or more things, they become aware of measurable properties that differentiate them (for example, this one feels heavier). As language develops during toddlerhood and preschool, children learn basic measurement terms and explore the tools used to measure. Children gradually learn how to measure correctly by using the same unit, starting at the baseline, and not leaving gaps or overlaps while measuring.

LEVEL 0

Child explores (looks at, touches, handles) one or more objects with measurable attributes (size, weight).

As the child uses all the senses to investigate objects, he or she gradually becomes aware of properties that are measurable. The child has no labels for these properties; he or she simply experiences these differences (for example, something that is big, something that is heavy).

- 6/17 Natima handled both the beanbag filled with rice and the beanbag filled with cotton batting.
- 2/4 Outside, Dev's eyes gazed up and down the large oak tree.

LEVEL 1

Child fills a container.

Size is an attribute the child often pays attention to. He or she enjoys putting things in containers of various sizes.

- 4/6 During choice time, Asia filled a large wooden bowl with pine cones.
- 12/19 During outside time at the water table, Tayshon used a cup to put water in a bucket.

LEVEL 2

Child nests or stacks three objects by size.

The child nests or stacks three objects (such as nesting cups) from the biggest to the smallest and/or the smallest to the biggest.

- 11/3 During choice time, Jerry put the small bowl inside the medium bowl and then placed them both in the large bowl.
- 2/8 During choice time, Aleena stacked four nesting blocks from largest to smallest.

LEVEL 3

Child uses a measurement term.

The child uses a measurement term to describe one thing but does not compare it to another thing. The term is simply used to name or identify a specific characteristic. For example, at this level, a child may use the words *big, bigger,* and *biggest* all to describe something as big, without comparing it to the size of something else. [*Note:* If a child describes something using the word endings *er* or *est,* determine whether this is a true comparison. If so, score at level 4. If not, score at level 3.]

- 2/7 Outside, when going down the hill on a sled, Jinhai said, "My sled is the fastest too."
- 10/7 During work time in the block area, Ayla said, "Look, my barn is really big."

LEVEL 4

Child directly compares or orders things based on measurable attributes using the word *same* and words with *er* and *est* endings.

The child orders things by directly comparing them with each other and describes them by using the word *same* and the word endings *er* and *est*. [*Note:* If a child describes something using *er* or *est* word endings, it is important to determine whether or not this is a true comparison. If so, score at level 4. If not, score at level 3.]

- 1/18 During small-group time, Zachary stacked pegs and compared them to Ian's stack. He said, "Ours are the same." He added several more pegs and said, "Mine is taller now."
- 4/11 During work time in the art area, Regina cut lengths of yarn. She laid them out on the table next to one other and said, "The red one is the longest."

LEVEL 5

Child uses standard measuring procedures.

When measuring, the child follows standard procedures, that is, measures using the same unit, begins measuring at the baseline, and neither leaves gaps nor overlaps units while measuring.

- 2/26 At small-group time, Carla measured her tape line with inch cubes. She started at the beginning of the tape and lined up her inch cubes one after another. She said, "My line is 18 blocks long."
- 8/4 At work time in the block area, Justin wanted to see how tall his "castle" was. He stacked pegs next to his castle. He counted them and said, "My castle is 15 pegs and a little bit of this extra one."

LEVEL 6

Child measures something using two different units and explains why the outcome is different.

At this level, the child knows that measuring something with two different units will result in two different outcomes, even though the size of the object stays the same. For example, he or she may anticipate that measuring something with a smaller unit (a paperclip) will result in a larger outcome (number of units) than measuring the same object with a longer unit (a pencil).

- 6/2 At center time, Moira lined up the Unifix cubes along her notebook. She counted the cubes and said, "It's 10." When Mrs. Kim wondered what else she could use to measure, Moira said "Crayons." She measured her notebook with crayons and said, "It only took four. The crayons are bigger."
- 11/7 Outside on the playground, Jessa counted the bricks on the low wall. She said, "This wall is 34 bricks long." She measured the wall with a jump rope and said, "It takes three and a bit more jump ropes. The jump rope is way bigger than the bricks."

LEVEL 7

Child, on his or her own, correctly measures using a standard measuring unit and says what the unit measures.

The child uses standard units when measuring and says what each type of unit measures. The units include those for length, weight, and volume and are appropriate to what is used in that country (for example, inches and feet in the US versus centimeters and meters in Canada).

- 12/8 During math workshop, Sara added scoops of beans to the balance scale. She carefully added more. When Mr. Thompson asked what she was doing, she said, "I want it to be 20 ounces. I think I need one or two more beans to make it right."
- 2/22 At recess, Cecilia used a yardstick to measure how far she jumped. She jumped, drew a line in the dirt to mark where she landed, and measured the line. She said, "I jumped 15 inches!"

Mathematics Developmental Continuum - Algebra/Patterns and Sequences

Child looks at or handles one object and then another (V-0)		**Child copies a complex pattern (AABBAABB)**
Child gathers three or more objects (V-1)		**Child creates own complex pattern with 3 repeats (AABBAABBAABB) (V-5)**
Child lines up three or more objects one after another (V-2)		**Child translates a written pattern into sounds, symbols, movements and physical objects on own (V-6)**
Child looks at 2 or more objects and says they are the same and why		**Child explains how increasing and decreasing patterns work (V-7)**
Child sorts by 2 attributes		**Child sees the pattern in a number line**
Child looks at 2 or more objects and says they are different and why		
Child copies a simple pattern (ABABAB) (V-3)		
Child recognizes a simple pattern (ABABAB) (V-3)		
Child extends a simple pattern (ABABAB) (V-3)		
Child recognizes, copies, or extends an existing simple pattern (V-3)*		
Child creates a unique simple pattern with 3 repeats (V-4)		

*Please note: This is the actual wording of V-3. Since it uses the word "or," a child can technically be marked at V-3. if he/she does only one of the skills.

MATHEMATICS

V Patterns

Children become aware of patterns in objects, movements, sounds, and events. They do this through their own observations and when adults call their attention to them. This awareness grows as children progress from handling single objects, to lining up and ordering objects, to noticing regularities in the arrangement of objects. For example, some patterns repeat (for example, red-blue-red-blue-red-blue), while others change in predictable ways (for example, as age increases, so does height). Working with patterns and relationships is the basis for studying algebra later in school.

LEVEL 0

Child looks at or handles one object and then another.

At this level, the child works with single objects (looking at or touching one object and then another, transferring something from hand to hand), rather than attending to more than one object at time. When the child is finished exploring one object, he or she may move on to another object.

- 1/19 Lucy looked at the rattle that Justine (her caregiver) had placed in her hand and then looked back at Justine.
- 6/7 Dante picked up a large metal jar lid, turned it around in his hands, and looked at it. He dropped it and picked up a different lid.

LEVEL 1

Child gathers three or more objects.

The child now works with more than one object at a time. He or she groups objects into sets of three or more. Although the child does not yet explore the relationship between objects, just seeing them together lays the foundation for organizing them later on.

- 2/17 During choice time, Armondo carried a pail and put a cup, a toy horse, and a Mason jar ring in it.
- 9/16 Outside, Augustina found a stick, a rock, and several leaves. She put them all in a pile.

LEVEL 2

Child lines up three or more objects one after another.

The child lines up objects (not necessarily in a straight line). Although the objects are not arranged in order, seeing them beside one another helps the child become aware of their properties so he or she can later spot patterns and relationships.

- 2/6 At group time, Anna took the rocks from her basket and placed them in a line.
- 11/19 At choice time in the house area, Hakim lined up the cups on the table.

LEVEL 3

Child recognizes, copies, or extends an existing simple pattern (such as ABABAB or AABBAABBAABB).

The child attends to simple alternating patterns (such as ABABAB or AABBAABBAABB). The child demonstrates his or her awareness by naming the pattern (for example, red-blue-red-blue-red-blue), copying the pattern, and/or extending an existing pattern.

- 3/8 At work time in the book area, Sophia looked at the striped fabric on the pillow. She said, "Look, it goes yellow-green-yellow-green."
- 9/28 At work time in the toy area, Caleb noticed that Beth had created a pattern with the pegs. He handed her a red peg and said, "This comes next." [Anecdote is for Caleb]

LEVEL 4

Child creates a unique (not copied) simple pattern with at least three repeats.

The child makes up a simple pattern that repeats at least three times. The pattern might be visual (such as alternating red and blue beads) or based on movement (such as alternating pats to nose and shoulders). To be scored at this level, it must be an original pattern of the child's, not one copied from someone or somewhere else.

- 12/9 During work time in the art area, Hayden made a bracelet for her sister, stringing the beads in a red-blue-red-blue-red-blue pattern.
- 5/9 During large-group time, Isaac had an idea for a movement pattern. He demonstrated a shoulders-head-shoulders-head-shoulders-head sequence.

LEVEL 5

Child creates his or her own (not copied) complex pattern (such as AABAABAAB or ABCABCABC) with at least three repeats.

The child makes up a more complex pattern (such as AABAABAAB or ABCABCABC) that repeats at least three times. As with the previous level, the pattern might be visual or based on movement, and it must be original rather than copied.

- 7/18 During work time in the art area, Lydia used a marker to create a striped border around her picture. She did red-green-blue-red-green-blue-red-green-blue all the way around.
- 8/12 Outside, Juan showed another child his "fun way" to get to the slide. He went hop-hop-jump-hop-hop-jump-hop-hop-jump all the way to the slide.

LEVEL 6

Child translates a pattern into sounds, symbols, movements, and physical objects on his or her own.

The child uses a pattern in one form (such as a visual pattern) to create a pattern in another form (such as a sound pattern). For example, the child might translate the written pattern 122122122 into a sound pattern that goes soft-loud-loud-soft-loud-loud-soft-loud-loud. The child must originate the idea, and the pattern must be repeated at least three times.

- 10/12 In music class, Cole created a pattern using the bongos to match the symbol pattern on the wall. He hit the drums soft-hard-soft-hard-soft-hard to match the XOXOXO pattern.
- 12/14 During math workshop, Serena looked at the AAABAAABAAAB pattern on the whiteboard and lined up her blocks red-red-red-blue-red-red-red-blue-red-red-red-blue.

LEVEL 7

Child explains how increasing and decreasing patterns work.

An increasing or decreasing pattern (algebraic function) is one in which there is a systematic relationship between one thing going up and another going up or down (for example, as age increases, so does height; for each scoop of cereal added to the bowl, the level in the box goes down). The child at this level recognizes these connections, which sets the stage for further algebraic understanding in later years.

- 4/1 During morning meeting, after Mrs. White pulled two children's name sticks from the helper jar, Justine said, "Every day the helper jar loses two kids and the helped jar gets two more kids. Pretty soon, the helper jar will be empty and the helped jar will be full."
- 3/31 During free play, Tyrone fed the class guinea pig (Sniffy) one scoop of food. He said, "Miss Lockhart, we're going to have to buy more food. Every time we feed Sniffy, the food in the container goes down some more."

Mathematics Developmental Continuum - Data Analysis

Child shows interest in (looks at, touches, handles) one object from a collection of objects (W-0)					
Child collects objects (W-1)					
Child can generate a list (pg. 115, Mathematics HighScope)					
Child groups things into two or more collections (W-2)					
Child uses the comparison words more or less					
Child represents information (data) in concrete ways (W-3)					
Child represents information (data) in abstract ways (W-4)					
Child interprets information (data) from a representation (W-5)					
Child applies information (data) from a representation (W-6)					
Child poses a question of interest and collects and interprets information (data) to figure out the answer (W-7)					

MATHEMATICS

W Data analysis

Although they do not go about this process as systematically as adults, children nevertheless enjoy gathering and recording quantitative (numerical) information. As with other areas of early mathematics, infants focus on single objects or events. By toddlerhood, children group things into collections that they later learn to quantify and compare. Preschoolers can begin to represent this information on simple charts and make sense of the data. Gradually, children begin to ask their own questions that can be answered by gathering and interpreting data.

LEVEL 0

Child shows interest in (looks at, touches, handles) one object from a collection of objects.

The child, when presented with a set of objects (such as a basket of small blocks or a mobile with several hanging parts), focuses his or her attention on one of the items. He or she might look at the item of interest, reach for or touch it, attempt to grasp it, and so on.

- 11/21 While lying on his blanket, Lucas reached for the shiny ring that was among several toys next to him.
- 1/15 While lying under the animal mobile, Alexis watched the zebra swing back and forth.

LEVEL 1

Child collects objects.

The child gathers objects into a pile. He or she may gather all of them together from a loose arrangement and/or pick out objects from a bigger collection to gather into a smaller pile. [*Note:* The objects the child gathers do not need to be similar or related to one another.]

- 10/25 At choice time in the toy area, Javier took several cars from the car box and put them on the floor next to him.
- 5/16 At free play, Rachel crawled around the rug, picking up yarn balls and putting them in her basket.

LEVEL 2

Child groups things into two or more collections.

The child gathers objects into at least two piles. The child may divide an entire set of objects into two or more sets and/or select only some objects from the set to include in his or her piles. [*Note:* The objects the child groups do not need to be similar or related to one another.]

- 2/19 At group time at the water table, Ellie gathered fish figures. She put some in her cup and some in Evan's cup.
- 6/8 At outside time, Marley made three piles of gravel on the blacktop.

LEVEL 3

Child represents information (data) in *concrete* ways.

The child organizes simple information using concrete objects (for example, a toy, a block, him- or herself) to show what group or category the information belongs in.

- 5/16 Before leaving for a field trip, Miss Johnson asked all the children in Mr. Scott's group to stand on the blue rug and all the children in her group to stand on the red rug so they could be in groups to get on the vans. Annalee went to the red rug (she was in Miss Johnson's group).
- 2/7 At recall time, Dewei put a teddy bear counter on the block area sign to show where he played at work time.

LEVEL 4

Child represents information (data) in *abstract* ways.

The child records simple information in a less direct way (such as making a tally mark or writing his or her name) on a list, chart, or simple graph.

- 12/4 At snacktime, Josie made a tally mark under the picture of the goldfish on the chart to indicate that she liked the goldfish crackers in the trail mix.
- 6/19 At recall time, Zoey wrote the letter *Z* under the art area, house area, and water table columns on the recall chart to show where she had played that day.

LEVEL 5

Child interprets information (data) *from a representation.*

The child makes sense of the data recorded on a list, chart, or simple graph. For example, the child looks at the number of tally marks and concludes that more children like apples than pears.

- 11/9 At the end of work time, Tomas looked at the sign-up list for the three computers and said, "Man, lots of kids used Computer 2 today."
- 6/19 At recall time, Kevin looked at the recall chart, counted where Zoey wrote her *Z,* and said, "Zoey went to three areas today."

LEVEL 6

Child applies information (data) *from a representation.*

After interpreting the information recorded on a list, chart, or simple graph, the child uses that information to answer a question or solve a problem. For example, after seeing that there are more tally marks next to apples than pears on a chart of children's favorite fruits, the child concludes that the class should buy more apples at the farmers' market.

- 2/2 During morning message, after the class tallied which rainforest animal they wanted to study, Jackson said, "Lots of kids want to do jaguars, but kids didn't pick tapir. Maybe they don't know what it is; that's why they didn't pick it."
- 3/9 During center time, Alexis looked at the bar graph and said, "More kids like chocolate than vanilla. I guess I should bring chocolate cupcakes on my birthday!"

LEVEL 7

Child poses a question of interest and collects and interprets information (data) to figure out the answer.

The child identifies the type(s) of quantitative (countable) data needed to answer a question of interest to him or her. To be scored at this level, the child must do more than ask a question. The child must also collect and interpret the information.

- 1/18 During morning meeting, Dustin asked how many kindergartners rode the bus. Mary said it was a lot. Dustin said he was going to count all the kids that stood in the bus line and all the kids that stood in the walker line. At the end of the day, he did so and told Mrs. Albright that there were "a lot of bus riders — 18," and "not so many walkers, only 4."
- 12/6 At lunchtime, Jasmine wondered how many children received the school lunch and how many children brought their own lunch. When Mrs. Gainsley asked her how she could find out, she said, "I know, I could make a chart." At choice time, she made a chart and tallied what each child in the class did for lunch. She excitedly brought the chart to Mrs. Gainsley and said, "It's almost even. Twelve kids bring their lunch and 11 kids get school lunch."

NYS Early Learning Guidelines

Domain IV

G. Number and Sense Operations: Children demonstrate knowledge of numbers and counting

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	**Some Indicators for Children:**	**Some Indicators for Children:**
1. Understands the concept of "more" in reference to food or play 2. Uses gestures to request "more" 3. Imitates rote counting using some names of numbers	1. Counts to at least five from memory (e.g., recites, "one, two, three...") 2. Imitates counting rhymes or songs (e.g., "Three Little Monkeys") 3. Recognizes some quantities (e.g., sees 2 blocks and says "two") 4. Begins to quantify and make comparisons of quantity (e.g., all, some, none, more, less)	1. Names some numerals 2. Recognizes that a single object is "one" regardless of size, shape, or other attributes 3. Understands that numbers represent quantity (e.g., gets three apples out of the box) 4. Applies numbers and counting concepts to daily life (e.g., counts number of children who have raised their hand) 5. Differentiates some letters from numerals 6. Recognizes, names, and writes some numerals 7. Counts to at least 20 from memory 8. Counts at least five objects in one-to-one correspondence, without assistance (e.g., places one plate at each chair when setting table) 9. Increasing understanding of duration of time (e.g., "all the time,""all day") 10. Begins to recognize and identify coins to count money (e.g., penny, nickel, dime, quarter) 11. Uses numbers to predict and make realistic guesses (e.g., "I think there are about 20 marbles in that jar.") 12. Tells what number comes before or after a given number up to ten
Sample Strategies to Promote Development and Learning:	**Sample Strategies to Promote Development and Learning:**	**Sample Strategies to Promote Development and Learning:**
• Count "out loud" objects in child's environment. • Demonstrate, explain, and engage child in activities that show "more" versus "less." • Sing songs and read books with numbers and counting.	• Use numerical concepts in everyday routines (e.g., ask child if he/she would like "One more or two more pieces of something."). • Pair objects during daily activities (e.g., "One child gets one snack."). • Provide child with math-related toys and objects from own and other cultural backgrounds.	• Talk aloud while doing simple math computations (e.g., number of snacks for the number of children). • Provide opportunities for child to count objects during daily routines. • Demonstrate to child that numbers have meaning (e.g., speed limits, temperature).

H. Measurement: Children demonstrate knowledge of size, volume, height, weight, and length

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	**Some Indicators for Children:**	**Some Indicators for Children:**
1. Plays with toys and objects with different sizes and shapes 2. Nests smaller object inside larger one (e.g., puts block in cup) 3. Orders a few objects by size, with assistance	1. Uses size words, such as "many," "big," and "little," appropriately 2. Fills and empties containers (e.g., with sand or water) 3. Compares the size of various everyday objects (e.g., puts different people's shoes side by side to see which is longest) 4. Identifies things that are big or small, heavy or light, and tall or short, with assistance 5. Looks at two objects and identifies which one is bigger or smaller 6. Explores measuring tools (e.g., measuring cup, ruler) 7. Nests up to five cups	1. Uses activities that explore and develop vocabulary for length and weight 2. Uses measuring tools in play activities (e.g., measuring tape, measuring cups) 3. Estimates size (e.g., "I'm as tall as the yellow bookshelf.") 4. Labels objects using size words
Sample Strategies to Promote Development and Learning:	**Sample Strategies to Promote Development and Learning:**	**Sample Strategies to Promote Development and Learning:**
• Provide opportunities to develop an understanding of volume (e.g., filling, emptying). • Describe the size, volume, weight, and length of people, toys, and objects. • Provide child with toys that have incremental sizes (e.g., nesting cups, stackable rings) from own and other cultural backgrounds.	• Provide sand and water play, giving child opportunities to pour, fill, scoop, weigh, and dump. • Provide opportunities for child to measure (e.g., during cooking, art projects, grocery shopping). • Help child to arrange blocks, toys, or objects from smallest to largest or longest to shortest.	• Engage child in measuring tasks (e.g., measuring ingredients, weighing a pet). • Model use of conventional measuring tools and methods in everyday situations. • Demonstrate, explain, and engage child in activities that use nonstandard measurement (e.g., using handfuls to measure rice; using footsteps to measure distance).

I. Properties of Ordering: Children identify and label shapes

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	**Some Indicators for Children:**	**Some Indicators for Children:**
1. Plays with shape toys, though often does not match correctly (e.g., the round beanbag goes in the round hole; the square beanbag goes in the square hole)	1. Matches simple two-dimensional shapes in form boards and puzzles (e.g., circles, squares, triangles) 2. Identifies two geometric shapes (e.g., circle, square) 3. Creates and copies simple shapes made by others	1. Identifies and labels different kinds of two-dimensional shapes (e.g., circle, rectangle, triangle) 2. Compares shape and size of objects 3. Creates, builds, or draws shapes 4. Recognizes non-geometrical shapes in nature (e.g., clouds or other things that are not circles, squares, triangles) 5. Orders shapes from smallest to largest (e.g., orders various circle sizes)
Sample Strategies to Promote Development and Learning:	**Sample Strategies to Promote Development and Learning:**	**Sample Strategies to Promote Development and Learning:**
• Provide child with toys that involve shapes (e.g., blocks and play dough). • Sing songs and read books with child about shapes. • Identify different shapes in child's environment.	• Use shape words in daily life (e.g., "Let's cut the cornbread into squares."). • Identify the features of shapes when child plays with them. • Provide opportunities for child to look for shapes during daily activities (e.g., "Where do you see circles?").	• Provide opportunities for child to recognize shapes in the environment (e.g., octagonal stop sign). • Provide materials that can be connected and combined to create new shapes. • Take child to observe murals or other community artwork, exploring together the variety of shapes used.

J. Properties of ordering: Children sort, classify, and organize objects

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	**Some Indicators for Children:**	**Some Indicators for Children:**
1. Groups a few objects by color, shape, or size, with assistance 2. Helps clean up environment by putting materials away (e.g., puts books in basket, blanket in cubby)	1. Collects items that have common characteristics (e.g., red blocks, shells, leaves) 2. Arranges objects in lines (e.g., makes a row of blocks) 3. Sorts objects by one characteristic (e.g., color) 4. Recognizes objects arranged in series (e.g., small, medium, large) 5. Identifies categories of objects (e.g., dogs, cats, and cows are all animals), with assistance	1. Orders several objects on the basis of one or more characteristics through trial and error (e.g., puts 4 blocks of same color in a row from smallest to largest) 2. Creates own patterns with a variety of materials 3. Classifies everyday objects that go together (e.g., shoe/sock, pencil/paper, comb/brush) 4. Places objects in specific position (e.g., first, second, third)
Sample Strategies to Promote Development and Learning:	**Sample Strategies to Promote Development and Learning:**	**Sample Strategies to Promote Development and Learning:**
• Sing songs and read books that name colors or identify shapes and objects with similarities. • Demonstrate, explain, and provide opportunities for child to sort and classify (e.g., "Pick up all of the toys that are animals."). • Provide child with objects in a variety of shapes, colors, and sizes (e.g., plastic containers, jar lids).	• Provide different materials and objects of the same shape and color (e.g., blocks, crayons). • Provide opportunities for child to notice patterns in nature (e.g., types of leaves). • Play matching games with child, incorporating familiar patterns from child's cultural background, neighborhood, and community (e.g., artwork, murals, clothing, utensils).	• Demonstrate and explain examples of patterns for child to create and recreate. • Provide opportunities for child to look for patterns in the house, classroom, or nature. • Play classification games with child (e.g., gather a group of items that include pairs of objects that go together – shoe/sock, flower/ vase – find the items that go together).

K. Scientific Thinking: Children collect information through observation and manipulation

Birth to 18 months	18 to 36 months	36 to 60 months
Some Indicators for Children:	**Some Indicators for Children:**	**Some Indicators for Children:**
1. Turns head toward sounds or voices 2. Gathers information through the senses (e.g., mouthing, grasping, reaching) 3. Uses more than one sense at one time (e.g., uses sight, touch, taste, and hearing by examining and shaking a toy) 4. Observes objects in the environment for a brief period of time 5. Uses another object or person as a tool (e.g., expresses the desire to be picked up to reach something, uses block to push buttons on a toy)	1. Uses all five senses to examine different objects with attention to detail 2. Observes and manipulates objects to identify similarities or differences 3. Observes and examines natural phenomena through senses (e.g., notices different types of insects)	1. Identifies and distinguishes between senses (e.g., tastes, sounds, textures) 2. Uses nonstandard tools (e.g., blocks, paper tubes) to explore the environment 3. Uses standard tools (e.g., magnets, magnifying glass) to explore the environment 4. Participates in experiments provided by adults and describes observations (e.g., mixing ingredients to bake a cake)
Sample Strategies to Promote Development and Learning:	**Sample Strategies to Promote Development and Learning:**	**Sample Strategies to Promote Development and Learning:**
• Show child self in the mirror. • Demonstrate and explain how things can be manipulated to make them different and/or more useful. • Provide objects that invite exploration with multiple senses (e.g., rattle with bright colors and different textures).	• Provide opportunities for child to explore natural objects and events. • Explore the environment with child and show interest in objects found and observed. • Provide opportunities for child to examine things in detail by asking open-ended questions.	• Provide opportunities for child to learn through all of the senses (e.g., provide active and large motor strategies to support scientific thinking). • Provide opportunities for child to share observations through pictures and words. • Help child represent his/her observations using charts and graphs.

Math Resource Guide for the Daily Routine

"Mathematical experiences for very young children should build largely upon their play and the natural relationships between learning and life in their daily activities, interests, and questions."
--Clements (2004b, p. 59)

Math Resource Guide for the Daily Routine – Overview

- Children use math every day without realizing it.
- Simple age-appropriate activities such as putting puzzles together or asking, "Who is older?" is emerging math.
- The following documents will support teachers in setting the stage for math to be occurring in all components of the daily routine.

Comments and Questions for Posing Mathematical Challenges

HighScope Preschool Curriculum – Mathematics p. 23

I wonder what would happen if…

How do you know…?

Why do you think…?

What makes you sure?

How could you find out?

Perhaps it was because….

What else can you find that works like this?

I wonder why that happened.

…..tried something like that at snack time today. What happened?

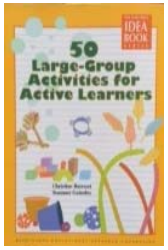
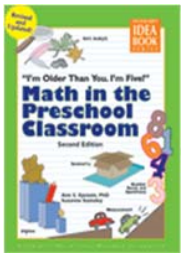
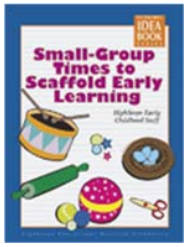
Let's try out your idea and see what happens.

Something doesn't seem right. Let's see if we can fix it.

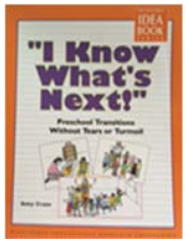
What would I need to do?

We don't have…..What else might work?

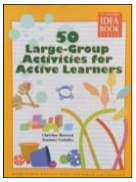
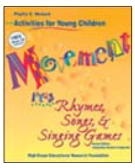
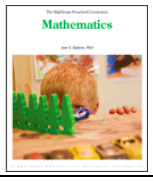
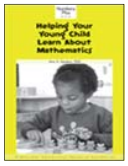
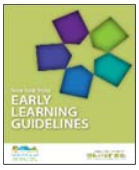
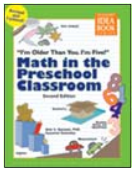
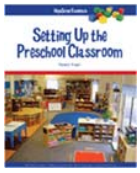
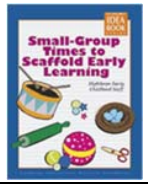
Math Resource Guide for the Daily Routine

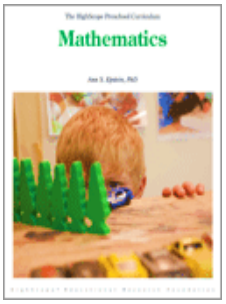
DAILY ROUTINE	New HighScope Curriculum, Mathematics *Reference for Math Development and Strategies*						
Arrival/Greeting Time			p. 6-9, 36-37, 52-54		p. 96		
Meal Times					p. 78, 99		
Planning and Recall					p. 46, 70	p. 208 – 223 (note Math ideas)	
Small Group		p. 59 - 77			p. 16, 24, 38, 42, 82, 110, 112, 114, 116,		p. 47, 50, 56, 59, 62, 65, 67, 72
Large Group				p. 16, 18, 28, 38, 56, 20, 80, 86, 94, 96, 100, 102, 108	p. 18, 60, 66, 72, 93, 104,		p. 141
Work Time					p. 82		
Clean up Time					p. 40, 48, 76, 78		
Outside					p. 26, 32, 36, 38, 64, 66, 78, 80, 93, 110		p. 69
Transitions					p. 78		
All Parts of Day					Field trip/SGT p. 106		

Math Resource Guide for the Daily Routine

DAILY ROUTINE			
Arrival/Greeting Time	p. 14, 21, 22, 23		
Message Board	p. 40		
Meal Times	p. 70		
Small Group	p. 49-50		p. 6, 12, 18, 22, 64-65, 68-69, 70-71, 72-73, 80-81, 86-87, 92-93, 94-95
Large Group		p. 16-17, 20-21, 37-38, 40-42, 85-87	p. 6, 12, 18, 22, 64-65 68-69, 70-71, 72-73, 80-81, 86-87, 92-93, 94-95
Clean up Time	p. 95-103		
Outside	p. 51-52		
Rest Time	p. 52-59		
All Parts of Day	p. 70-74, 78-82		

EPK Math Scope and Sequence
HighScope Resources

	50 Large Group Activities For Active Learners		Movement in Steady Beat
	Arts Smart, The Creative Arts in Preschool		Movement Plus Rhymes, Songs and Singing Games
	From Meaning to Message		(The) New HighScope Preschool Curriculum - Mathematics
	Helping Your Young Child Learn About Mathematics		New York State Early Learning Guidelines
	"I Know What's Next!" Preschool Transitions Without Tears or Turmoil		Numbers Plus Preschool Mathematics Curriculum Kit
	"I'm Older Than You. I'm Five!" Math in the Preschool Classroom		Setting Up the Preschool Classroom
	Lesson Plans for the First 30 Days		Small-Group Times to Scaffold Early Learning
	Making the Most of Plan, Do, Review		Story Starters for Group Times



Highlights from: ***The HighScope Preschool Curriculum, Mathematics***

Children's Books with Math Content

Title	Author
10 Minutes till Bedtime	Peggy Rathmann
10 Little Rubber Ducks	Eric Carle
26 Letters and 99 Cents	Tana Hoban
123 NYC A Counting Book of New York City	Joanne Dugan
A Pair of Socks	Matthew Stewart
A String of Beads	Margarette Reid
Anno's Counting Book	Mitsumasa Anno
Bear in a Square	Stella Blackstone
Beep Beep Vroom Vroom	Stuart Murphy
Benny's Pennies	Pat Brisson
Big Bigger Biggest	Nancy Coffelt
Big Fat Hen	Keith Baker
Brown Rabbits Shape Book	Alan Baker
Can You Count Ten Toes	Lezlie Evans
Captain Invincible and the Space Shapes	Stuart Murphy
Chicka Chicka 1 2 3	Bill Martin
Color Farm	Lois Ehlert
Color Zoo	Lois Ehlert
Count and See	Tana Hoban
Counting Crocodiles	Judy Sierra
Cubes, Cones, Cylinders & Spheres	Tana Hoban
Dog's Colorful Day	Emma Dodd
Every Buddy Counts	Stuart J. Murphy
Fish Eyes: A Book You Can Count On	Lois Ehlert
Five Little Monkeys Sitting in a Tree	Eileen Christelow
Goldilocks and the 3 Bears	Paul Galdone
Good Night Moon 1 2 3	Margaret Wise Brown
Hannah's Collections	Marthe Jocelyn
How many Snails	Paul Giganti
I Spy Numbers	Jean Marzollo
Inch by Inch	Leo Lionni
Is it Larger? Is it Smaller?	Tana Hoban
Jack the Builder (Math Start)	Stuart J. Murphy
Just Enough Carrots	Stuart J. Murphy

Children's Books with Math Content

Title	**Author**
Let's Count	Tana Hoban
Let's Count It Out, Jesse Bear	Nancy Carlstrom
Max Found Two Sticks	B. Pinkney
Miranda's Day to Dance	Jackie Jasina Schaefer
More, Fewer, Less	Tana Hoban
More or Less a Mess	Sheila Keenan
Mouse Went Out to Get a Snack	Lyn Rossiter McFarlind
Mouse Shapes	Ellen Stoll Walsh
Norman Rockwell's Counting Book	Glorina Taborin
One Duck Stuck	Phyllis Root
Over in the Meadow	Ezra Jack Keates
Pizza Counting	Christina Dobson
Quack and Count	Keith Baker
Rabbit's Pajama Party	Stuart J. Murphy
Roar! A Noisy Counting Book	Pamela Edwards
Round is a Mooncake	Roseanne Thong
Shape of Things	Dayle Ann Dodds
So Many Circles, So Many Squares	Tana Hoban
Shapes, Shapes, Shapes	Tana Hoban
Ten Black Dots	Donald Crews
Ten Nine Eight	Molly Bang
Ten Red Apples	Pat Hutchins
The Best Bug Parade	Stuart J. Murphy
The Button Box	Margarette S. Reid
The Cheerios Counting Book	Barbara McGrath
The Doorbell Rang	Pat Hutchins
The Line Up Book	Marisabrina Russo
The Shape of Things	Dayle Ann Dodds
The Quilt	Ann Jonas
There Were Ten in the Bed	Karen Young
Tough Boris	Mem Fox
Under, Over, and Through	Tana Hoban
When a Line Bends A Shape Begins	Rhonda Gowler Green
Who Sank the Boat	Pamela Allen