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

Small Group Activities by Content Area, Session 1 - Overview

- The first 19 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.
  - Remember to use the scaffolding information on the back of each card to support all children in your room. (Tab 3)

- "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]

- As teachers begin to use the *Numbers Plus* activity cards for Sessions 1 and 2, it is suggested that they:
  - Consider their children's current interest and what they have learned about their math development.
  - 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 that other areas may be addressed when you do that activity.

- It is important within the first 30 days of school 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.

COR Advantage is designed to provide ideas for all parts of the daily routine based on the anecdotes you enter. It also provides scope and sequence for individual children as well as a group of children.

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

Math Small Group Activities by Content Area-Session 1

Aligned with KDI, COR Advantage and NYSFCC

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, 37)	(KDI 38)	(KDI 39)
	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
	NYS FCC - Counting & Cardinality	NYS FCC – Geometry	NYS FCC – Measurement and Data	NYS FCC – Operations and Algebraic Thinking	NYS FCC – Measurement and Data
	• Know number names and count sequence	• Identify and describe shapes	• Describe and compare measurable attributes	• Understanding simple patterns	• sorts objects and count the number of objects in each category
	• Count to tell number of objects	• Analyze, compare and sort objects			
	• Compare numbers				
	NYS FCC – Operations and Algebraic Thinking:				
	• Understand addition is adding to, and understand subtraction is taking from				
First 30 Days, SGT, Exploring the Toy Area, p. 24					
First 30 Days, SGT, Exploring the Art Area, p. 24					
First 30 Days, SGT, Exploring the Block Area, p. 30					

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	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
First 30 Days, SGT, Exploring the House Area, p. 33					
First 30 Days, SGT, Where's My Lid?, p. 42					
First 30 Days, SGT, Play-Doh &Cookie Cutters, p.42					
First 30 Days, SGT, Puzzles, P. 50					
First 30 Days, SGT, Using Funnels, P. 50					
First 30 Days, SGT, Looking at Pebbles, p. 54					
First 30 Days, Shades of Paint, p. 68					
First 30 Days, SGT, Frogs on a Lily Pad, p. 68					

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	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
First 30 Days, SGT, Tube Tunnels, p. 86					
First 30 Days, SGT, Dressing Babies or Animals, p. 86					
First 30 Days, SGT, Foil Sculptures, p. 94					
First 30 Days, SGT, Bubbles, p.94					
First 30 Days, SGT, Bear Families, p. 113					
First 30 Days, SGT, p. 132 Collage: Art Material & Glue					
First 30 Days, SGT, Letter and Number Parts, p. 132					

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	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
First 30 Days, SGT, Combining Materials, p. 145					
Numbers Plus Kit, Number Sense & Operations, Card 7, "Button Pizza" Number Sense &					
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?"					

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	COR Item S	*COR Item T*	*COR Item U*	*COR Item V*	*COR Item W*
Numbers Plus Kit, Measurement, Card 1, "Building Roads"					
Numbers Plus Kit, Measurement, Card 11, "How Many Spoons"					
Numbers Plus Kit, Measurement, Card 22, "Toy Soup"					
Numbers Plus Kit, Algebra, Card 1, "Animal Parade"					
Numbers Plus Kit, Algebra, Card 11, "Movement Patterns"					
Numbers Plus Kit, Data Analysis, Card 16, "What Are You Wearing?"					
Numbers Plus Kit, Data Analysis, Card 6, "Favorite Colors"					

Materials for Session 1

Text used	Small Group Activity	Materials to Order	Materials from Home
HighScope Lesson Plans for the First 30 Days	One for each child	Small Group baskets (18)	
The First 30 Days pg. 42	**Group 1**: "Where's My Lid?" **Group 2:** Playdough and Cookie cutters	Variety of cookie cutter shapes (30) Play dough	Empty plastic containers and bottles of various shapes and sizes and their lids.
The First 30 Days pg. 50	**Group 1** :Puzzles **Group 2**:Using Funnels	Funnels(various sizes,) plastic trays, sand	Plastic bottles (several sizes) spoons or scoops
The First 30 Days pg. 54	**Group 1**:Using Funnels **Group 2**: Looking at Pebbles	Magnifying glasses (12) Chart paper, markers, funnels (various sizes)	Pebbles and small rocks
The First 30 Days pg. 68	**Group 1:** Shades of Paint **Group 2**: Frogs on Lily Pads	Tempra paint (primary colors,) paintbrushes pipettes, wooden craft sticks, 2" squares of colored paper, plastic frogs, felt squares	
The First 30 Days pg. 74	**Group 1**: Area Cards and Clothespins **Group 2**:Listen to Our Plans	HighScope Area Cards Cassette player	Clothespins
The First 30 Days pg. 86	**Group 1**: Tube Tunnels **Group 2**: Dressing Babies or Animals Materials	Matchbox cars (20) Dolls (10) Stuffed animals, masking tape	Tubes, paper towel, toilet paper, wrapping paper, fabric scraps, string or yarn

Materials for Session 1

Text used	Small Group Activity	Materials to Order	Materials from Home
The First 30 Days pg. 94	**Group 1**: Bubbles! Bubbles! Bubbles! **Group 2**: Foil Sculptures	Smocks (12) Chart paper	Dish soap (non-toxic) Small bowls (10) Aluminum foil pieces, straws
The First 30 Days pg. 98	**Group 1**: Foil Sculptures **Group 2**:Cutting with Scissors	Scissors, construction paper	Paper scraps
The First 30 Days pg. 113	**Group 1**:Exploring Clay **Group 2**: Bear Families	Clay, tongue depressors, plastic bears (3 sizes and colors,) unit blocks	Placemats for each child, small bucket for water
The First 30 Days pg. 132	**Group 1**: Collage Art materials and Glue **Group 2**: Letter and Number Parts	Collage materials, tag board, glue sticks, large letters (upper and lower case) numbers stencils	Things to add to collage materials
The First 30 Days pg. 141	**Group 1**: Unexplored Material **Group 2:** Unseen COR items	Duplos, bristle blocks, people figures, small farm animals, small dinosaur counters, magnatiles, bean bags	Rubber bands, ice cube trays and muffin tins (for sorting,) shells
Numbers Plus Kit **Number Sense and Operations**	**Card 7**: "Button Pizza"	Playdough	Buttons (10) Small rolling pin
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	Pillows (5) (may use paper for pillows)

Materials for Session 1

Text used	Small Group Activity	Materials to Order	Materials from Home
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)
Numbers Plus Kit **Geometry**	**Card 3**: "Cookie cutter Shapes"	Shape cookie cutters triangle, rectangle, circle, playdough	Plastic knives, small rolling pin
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 **Measurement**	**Card 1**: " Building Roads"	4-5 blocks different lengths same width, 2 matchbox size cars, rulers, yardstick, tape measure, small figures: people, animals	Measuring tools
Numbers Plus Kit **Measurement**	**Card 11**: "How Many Spoons"	4-5 blocks different lengths same width, 2 matchbox size cars, rulers, yardstick, tape measure, small figures: people and animals	Rice, measuring spoons, paper cups
Numbers Plus Kit **Measurement**	**Card 22**: "Toy Soup"	Small manipulatives Counting bears beads	Measuring spoons, large spoon (for stirring,) large bowl, small bowls, shells, buttons, pebbles, broken crayons
Numbers Plus Kit **Algebra**	**Card 1**: "Animal Parade"	Counting animals, 3 different kinds bears, dinosaurs, monkeys	

Materials for Session 1

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

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

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.

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.

[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.

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.

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

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.

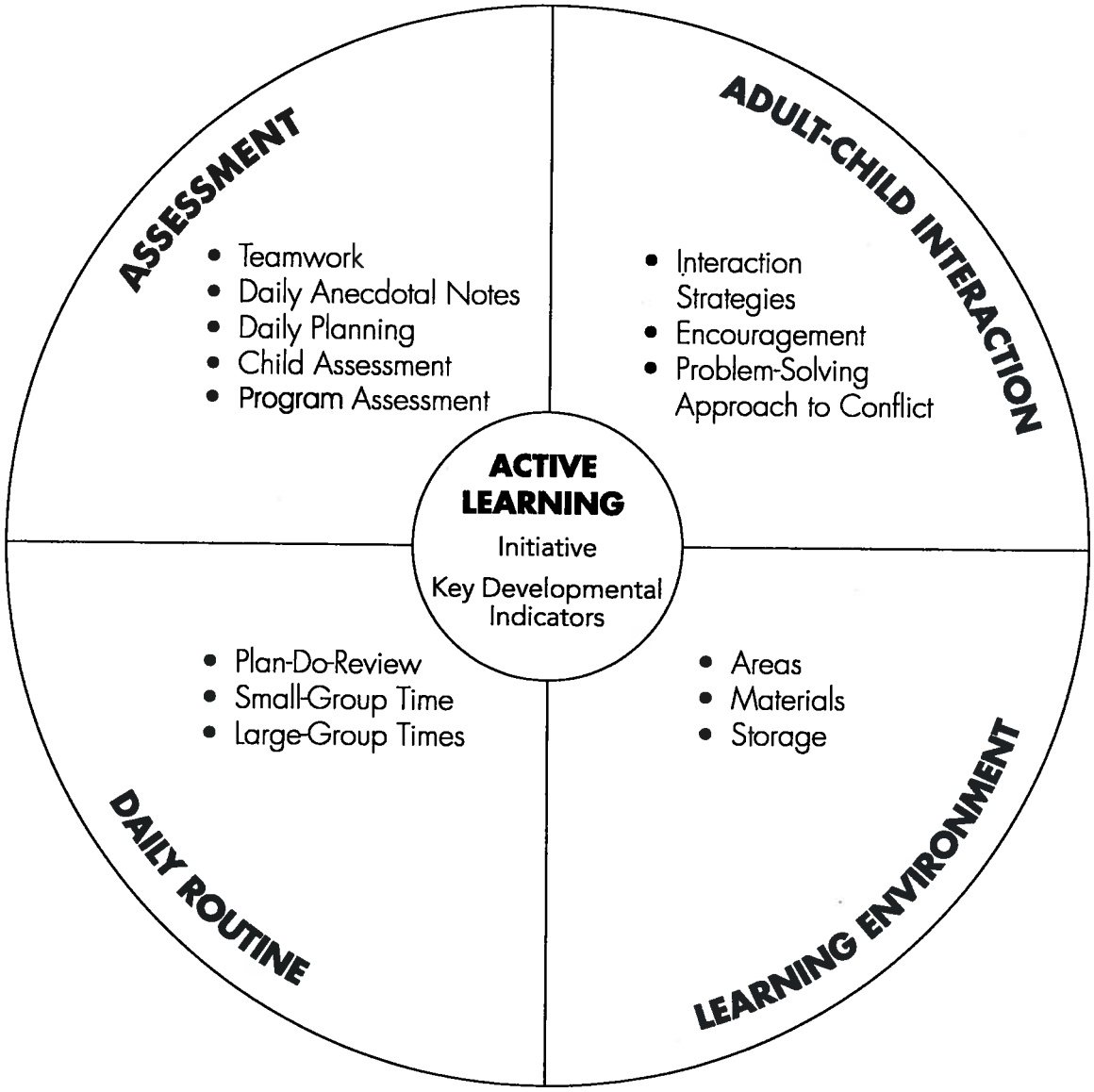
G. SCIENCE AND TECHNOLOGY

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.

HighScope Preschool Wheel of Learning



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