

More Than Counting

A Playful Mathematic Approach

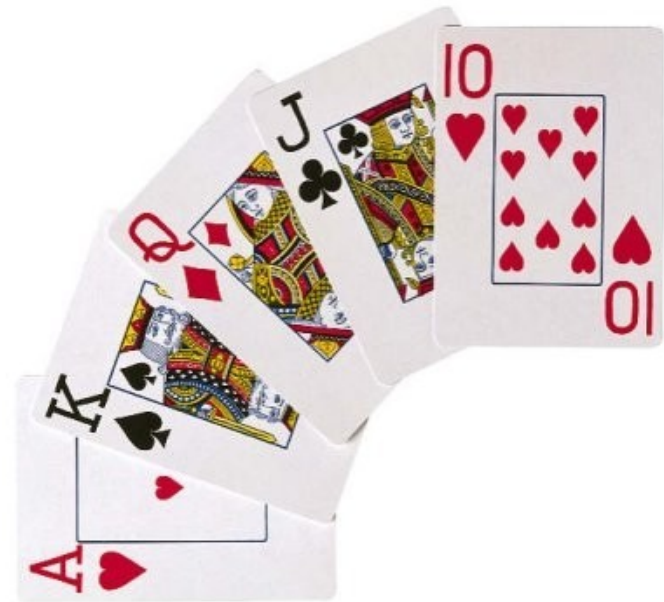
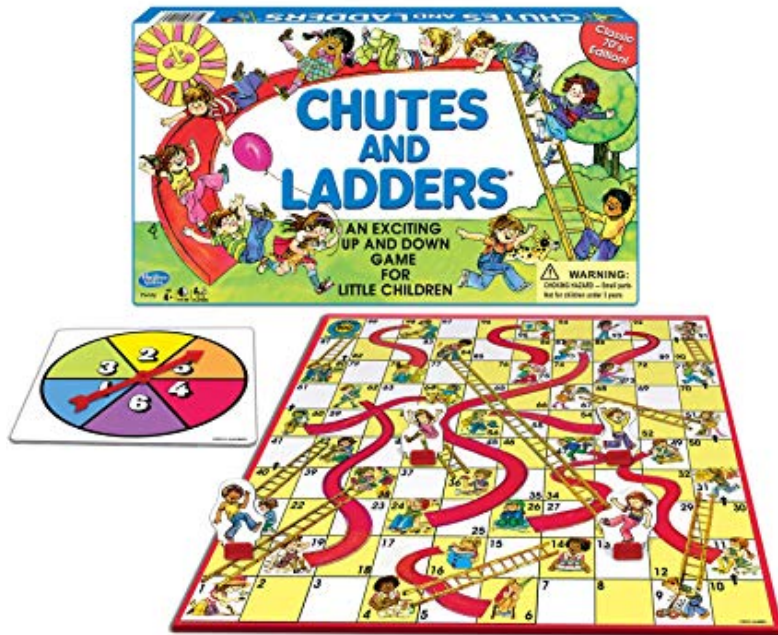


OBJECTIVES

- Identify your strengths and areas for growth
- Know the ERS expectations for Math Area
- Learn ways to incorporate playful math in daily events

What is Your Favorite Math Game?

Why?



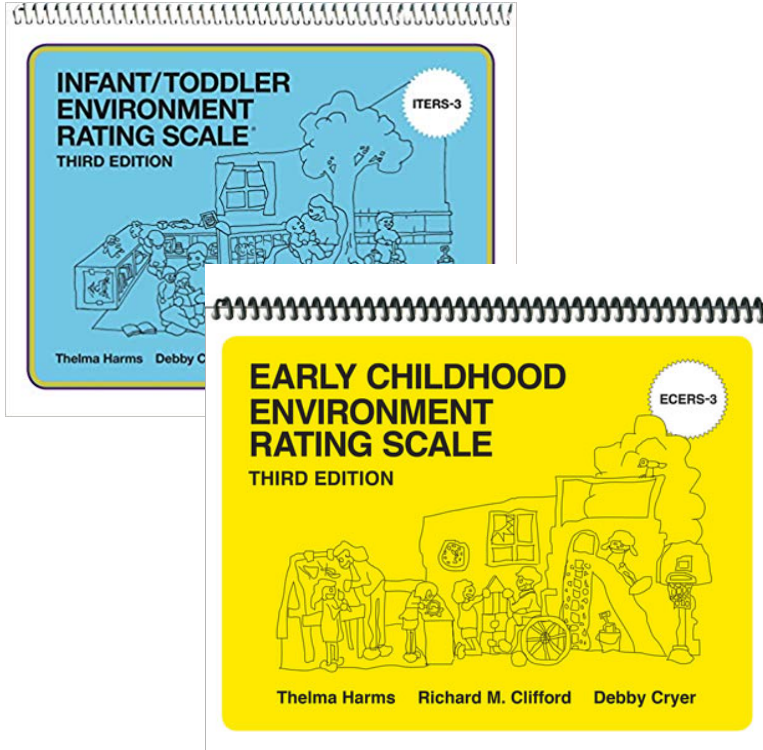
K-W-L Chart

Teaching Math to Young Children

Topic: _____

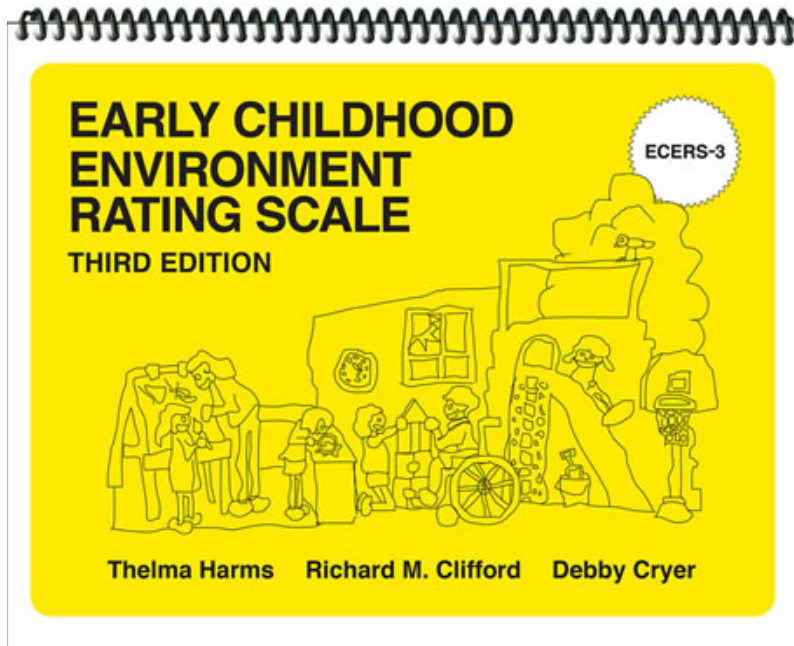
What I K now	What I W ant to Know	What I L earned
<p>Jot down some ideas/knowledge about teaching math to young children.</p> <p>What do you already know?</p> <p>Share your ideas with a partner.</p>	<p>Are there things you want to know more about?</p> <p>What have you tried that didn't work?</p> <p>Are there any things you would like to try, but just don't know how?</p>	

ERS 3 Math Items



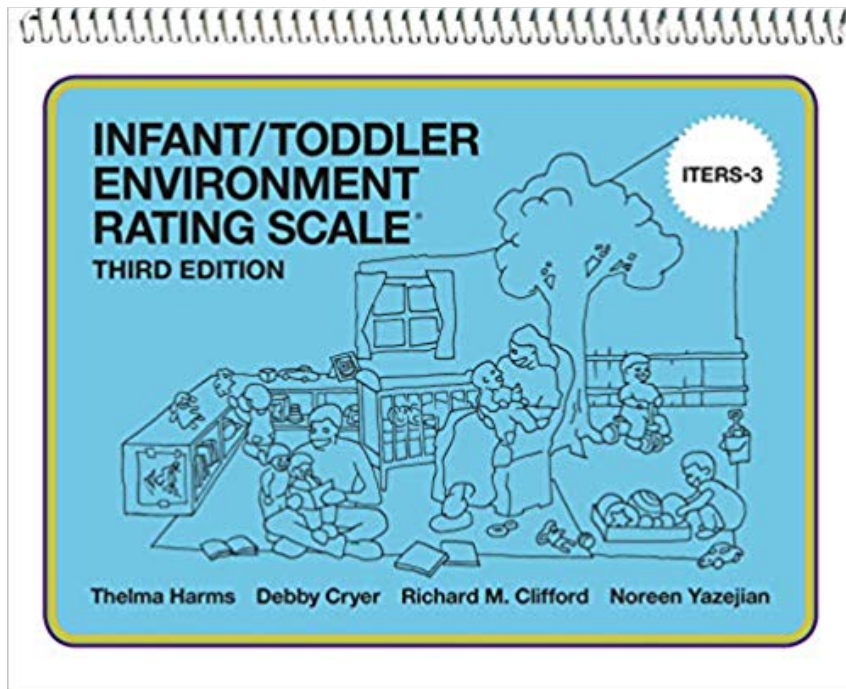
1. Counting/comparing quantities
2. Measuring/comparing sizes and parts of wholes
3. Familiarity with shapes

ECERS-3



- At least 3 different materials in math items:
 - number, measurement, and shape
- Accessible for at least 1 hour
- Staff joins in and plays with materials
- Staff encourage use and help children use them successfully

ITERS-3



- Appropriate math/number play materials that show size, shape, or number
- Accessible
- Staff Engagement/Talk

ERS Common Issues

- 1) Not enough math materials
- 2) No number/math books
- 3) No numerals & quantities examples
- 4) Not being used
- 5) Not referring to them
- 6) Not engaging in math play/talk (*staff not showing children how to use materials and talk about how to use them successfully*)
- 7) Opportunities missed in daily events to encourage math thinking

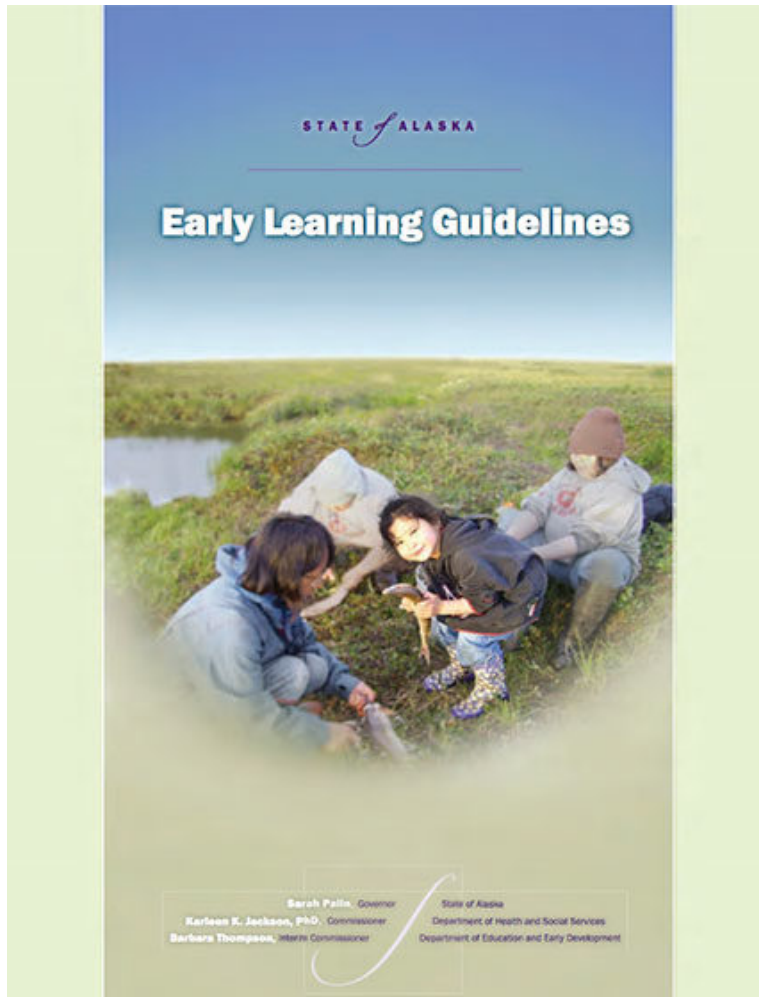


Create Your List

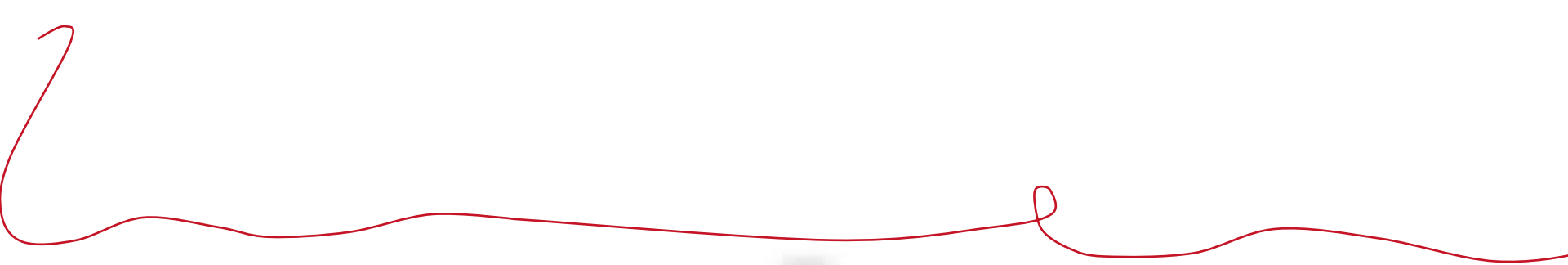


1. Counting/comparing quantities
2. Measuring/comparing sizes and parts of wholes
3. Familiarity with shapes

Critical Stages of Development:



- 18 Months
- 36 Months
- 60 Months
- Kindergarten



Counting/Comparing: Birth to 18 Months



Some Indicators:

- Understands the concept of “more” in reference to food or play
- Uses gestures to request “more”
- Imitates rote counting using some names of numbers

Counting/Comparing: 36 Months



- Counts to at least five from memory in home language
- Imitates counting rhymes or songs
- Recognizes some quantities (e.g., sees two blocks and says “two”)
- Identifies quantity and comparisons of quantity (e.g., all, some, none, more, less) p.120

Counting Books & Counting Songs



Song Share

Have fun teaching
your neighbor your
favorite
counting/math
song



Counting/Comparing: 36 to 60 Months

- Names some numerals
 - Recognizes that a single object is “one” regardless of size, shape, or other attributes
 - Understands that numbers represent quantity (e.g., gets three apples out of the box)
 - Applies numbers and counting concepts to daily life (e.g., counts number of children who have raised their hand)
 - Differentiates some letters from numerals
 - Recognizes, names, and writes some numerals
- Names the numbers in order to ten or more from memory
 - Counts at least five objects in one-to-one correspondence, without assistance
 - Understands that the last count represents the quantity of what has been counted
 - Understands the quantity is not affected by the order of counting
 - Groups objects and counts the number of groups (how many groups of 5?)
 - Applies counting to new situations (e.g., counting objects, counting groups)
 - Uses numbers to predict and make realistic guesses (e.g., “I think there are about twenty marbles in that jar.”)
 - Tells what number comes before or after a given number up to five

Numbers Represent Quantity

- How many sets of two people at your table?
- How many wearing clothes with a zipper?
- How many have been teaching for more than fifteen years?
- How many men in your group?



Learning Count in Mandarin

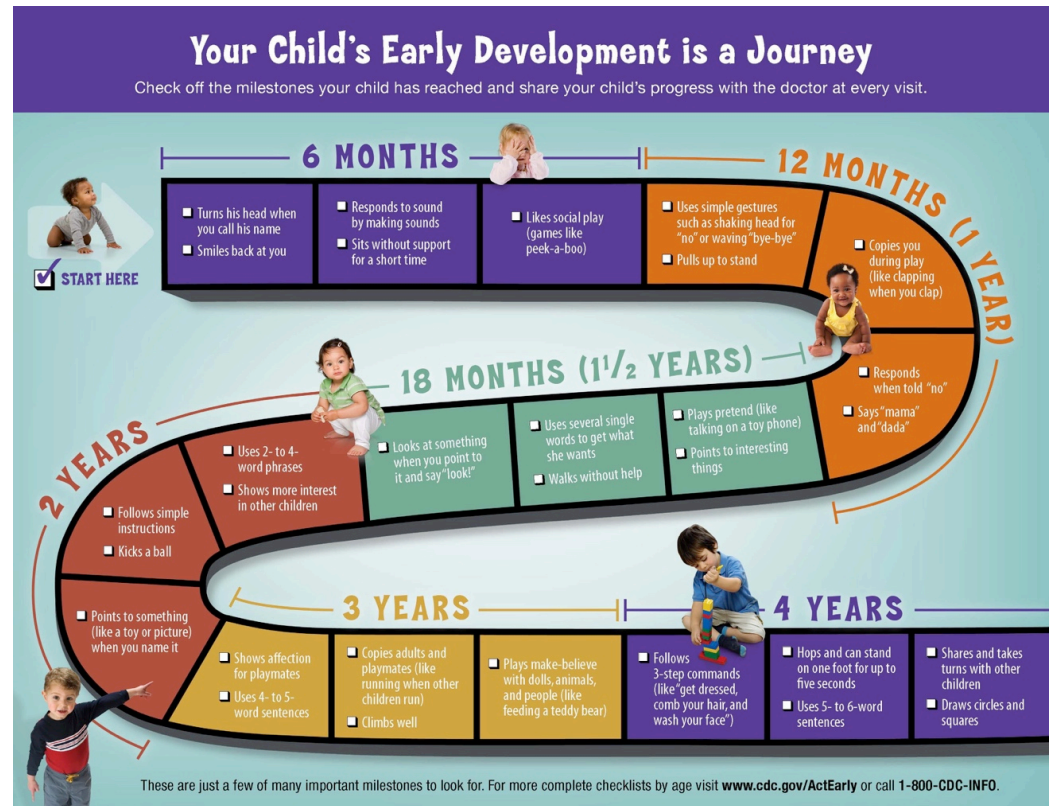


Learning to Count in Mandarin

五 四 八 三 七

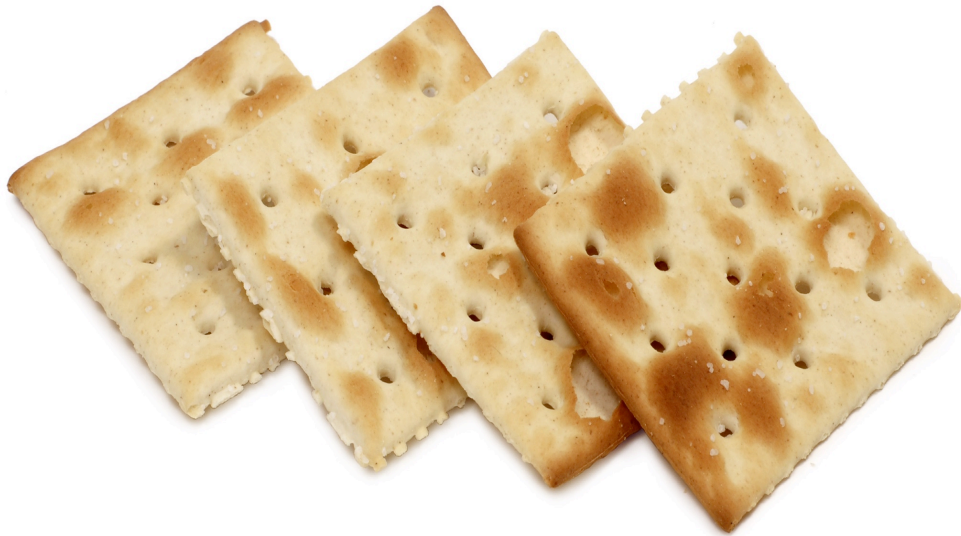
六 十 二 九 一

Knowledge vs. Development



Everyday Counting/Comparing Moments











Three Bears Cottage



cottage

bed

bed

bed





Measurement Birth to 18 months



Some Indicators:

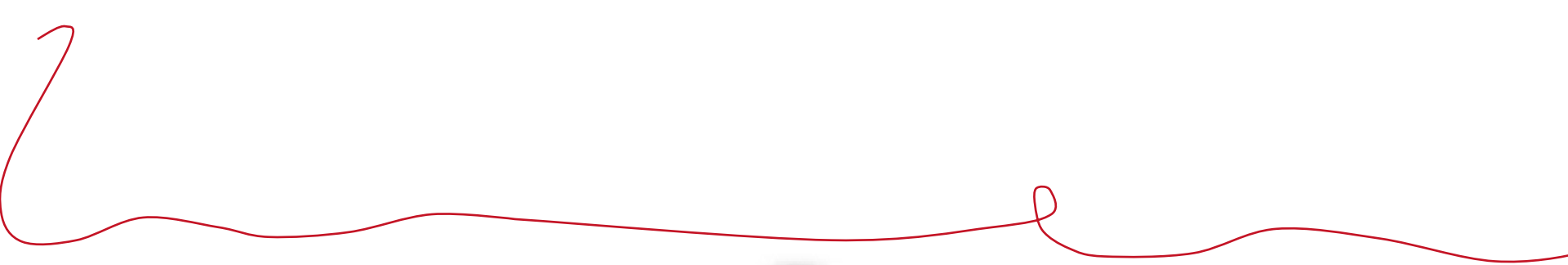
- Plays with toys/objects of different shapes and sizes
- Orders a few objects by size, with assistance

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Mathematics and Numeracy: Measurement

GOAL 39

CHILDREN DEMONSTRATE SOME KNOWLEDGE OF SIZE,
VOLUME, HEIGHT, WEIGHT AND LENGTH





Measurement: 18 to 36 Months

Some Indicators

- Uses size words
- Fills & empties
- Compares sizes
- Identifies big/small, heavy/light, tall/short
- Explores measuring tools
- Orders objects by size, volume, weight, height, with assistance



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Mathematics and Numeracy: Measurement

GOAL 39

CHILDREN DEMONSTRATE SOME KNOWLEDGE OF SIZE, VOLUME, HEIGHT, WEIGHT AND LENGTH



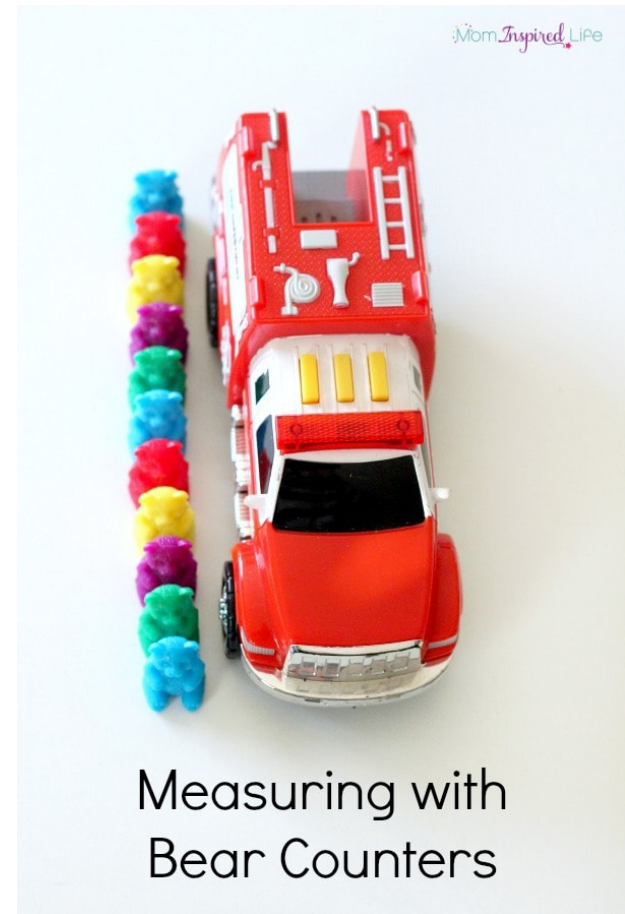
Measurement: 36 to 60 months

Some Indicators:

- Explores and develops vocab for length & weight
- Uses measuring tools in play activities
- Estimates size
- Exhibits spontaneous comparison by ordering objects by size, volume, height, weight, and length



Length



Measuring with
Bear Counters

Height



Weight





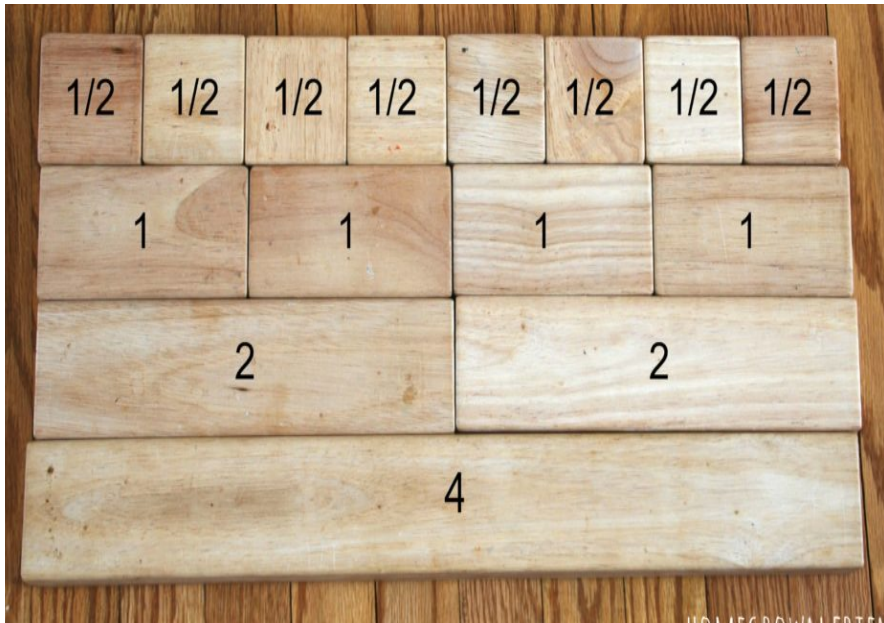
MAKE a DIY BALANCE



Volume & Capacity

Wholes & Parts

Wooden Blocks





Shape: Birth to 18 Months



Indicator:

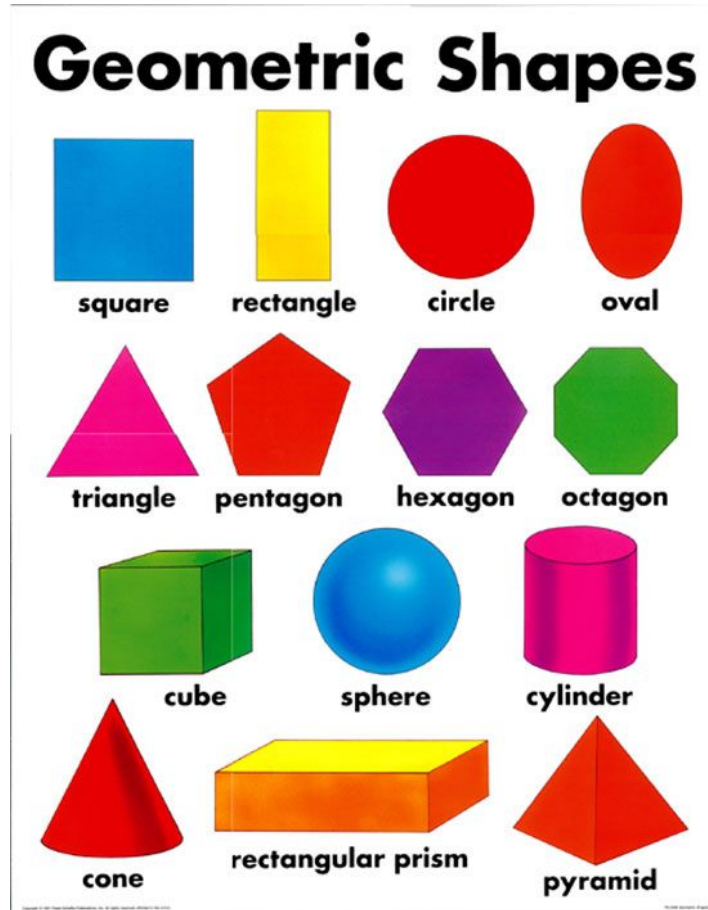
- Groups a few objects by color, shape, or size, with assistance

Shape: 18 to 36 Months

Indicators:

- Collects items that have common characteristics
- Arranges objects in lines
- Sorts objects by one characteristic
- Matches simple two-dimensional shapes
- Identifies two geometric shapes (circle, square)
- Creates and copies simple shapes made by others

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Shape: 36 to 60 Months

Indicators:

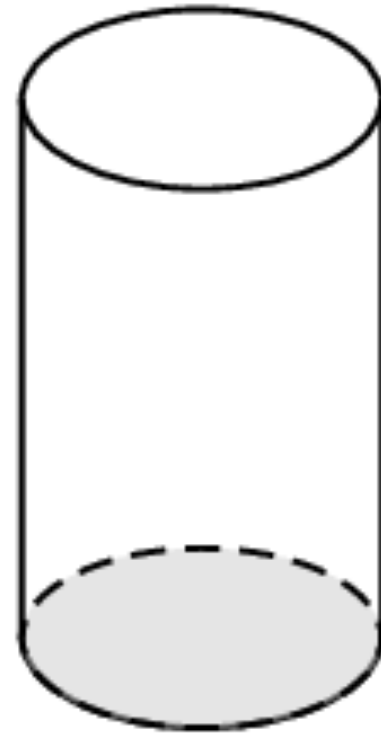
- Orders several Objects by one characteristic
- Systematically explores pattern
- Classifies everyday objects
- Creates, builds, or draws shapes

p.125

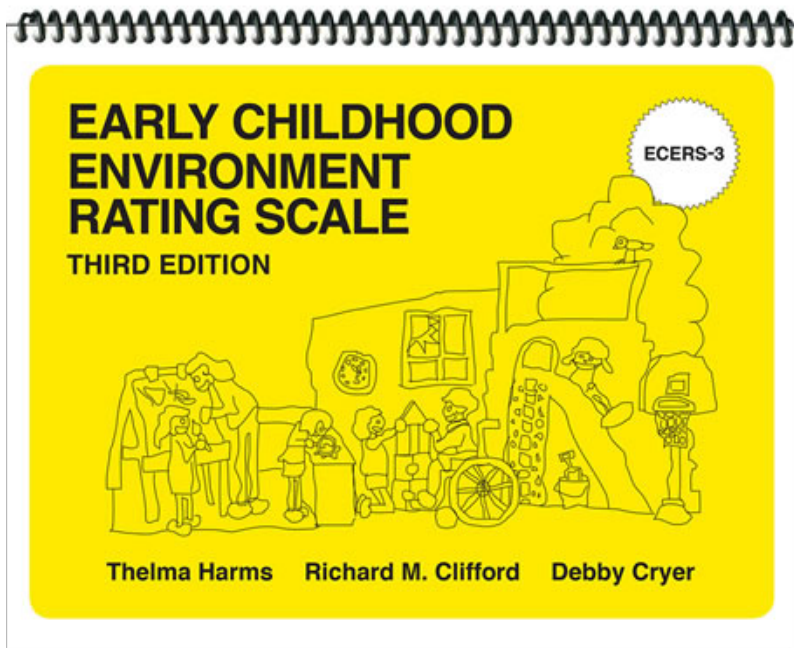


Shape Brain Teaser?

Which 3
dimensional
shape has 3
sides?



ECERS-3



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Kindergarten Ready?



1. Understand size, shape, and patterns
2. Ability to count verbally (*first forwards, then backwards*)
3. *Recognizing numerals*
4. Identifying more and less
5. Understand one-to-one correspondence (*matching sets, or knowing which group has four and which has five*)

K-W-L Chart

Topic: _____



What I **K**now

What I **W**ant to Know

What I **L**earned

What you did
learn?

What you are
looking forward to
trying?

What you think
your kids might
enjoy?

Questions?

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907.



BOYS & GIRLS CLUBS
A L A S K A

Counting/comparing quantities	Measuring/comparing sizes and parts of wholes	Familiarity with shapes

K-W-L Chart

Topic: _____

What I **K**now

What I **W**ant to Know

What I **L**earned