



Math/Number

ECERS-R Indicator	Why is this important?
<ul style="list-style-type: none"> Some math/number materials accessible daily for at least an hour. Definition: Accessible – Children don't have to ask the teacher to get/open materials. 	<ul style="list-style-type: none"> Young children become interested in numbers and mathematics, if their match experiences have a purpose and match their abilities. To begin to understand math and to build the foundation for later abstract math, preschoolers need many hands-on opportunities to explore quantity, size, and shape.
<ul style="list-style-type: none"> At least 3-5 examples from each of the 5 types of math/number categories must be available for a substantial portion of the day. The categories include: <i>counting</i>, (money, counting bears, beads and patterns), <i>measuring</i>, (balances, cups/spoons, thermometers) <i>comparing quantities</i>, (nested cups, chart/graph activities, playing cards) <i>recognizing shapes</i>, (geometrical shaped puzzles, geoboards, magnetic shapes) <i>and written numbers</i> (play phones, clocks, calendar, play money). <p>Definition: Substantial portion of the day – One-third of the program's daily operating hours. Operating hours begin with the earliest time children are allowed to arrive and continue until the latest time children are allowed to stay in care.</p>	<ul style="list-style-type: none"> By offering a variety of materials, it allows children to use concrete objects to experiment with quantity, size, and shape. These skills build concepts for things later in life such as adding/subtracting and completing math problems. The materials should be interesting and developmentally appropriate for the children so the children can and want to engage with the materials without too much frustration
<ul style="list-style-type: none"> Math materials need to be well organized and in good condition 	<ul style="list-style-type: none"> In order for the materials to be meaningful to children, the materials need to be sorted by type and all the pieces to games need to be stored together.
<ul style="list-style-type: none"> Provider talks about math/number concepts throughout the day during routine care and free play. More than one instance needs to be observed. 	<ul style="list-style-type: none"> Linking language about math, shape, and numbers throughout practical life events and experiences helps children understand the concepts. Examples of opportunities: <ul style="list-style-type: none"> Hand washing (counting with the child to ensure that proper handwashing time is occurring) During transition warnings- offer time limit on clean up Counting children and talking about birthdays During mealtime, talk about cut up food (whole, half, quarter)

<ul style="list-style-type: none">• Math/number activities that require more input from staff are offered to children at least every 2 weeks.	<ul style="list-style-type: none">• By offering additional input with activities, it allows children more experiences to help develop an understanding of the skills.• Examples of additional input:<ul style="list-style-type: none">○ Graphing the collections of objects in the nature area○ Using rulers to measure all the tables in the room to determine the shortest/longest.○ Seeing how many big marbles it takes to fill a container; comparing with small marbles.
<ul style="list-style-type: none">• Materials should be rotated to maintain interest.	<ul style="list-style-type: none">• Math/number materials that are accessible to children should be changed so children can practice different skills, find new interests, and use materials that they have used before, but in a new way. Rotating materials keeps children from becoming bored with the choices they can make for play and adds new learning opportunities.

SOURCE: *Early Childhood Environment Rating Scale (ECERS)*

