

Teaching Math: A Place to Start

Teaching math to young children is easy and fun!

by Julie Sarama, Ph.D. and Douglas H. Clements, Ph.D.

Children are born to do math. They show amazing competencies very early in life. An infant watches two objects as you move them behind a screen. Add one more object. Open the screen, leaving only two, and the infant will register surprise!

Infants can also locate objects in space—with geometric precision. Does this mean they “know” numbers and geometry? They certainly are ready to learn. We do not need to “wait” until they are ready. In observing children who are given opportunities for math experiences, it is clear that they readily embrace the concepts.

Offer Opportunities

Readiness is less about being “old enough,” physically or mentally, and more about having opportunities to explore and think about the world mathematically. What might children learn between the ages of 3 and 6 years? And what can you do to support this learning in your program?

- ✓ Help children learn to recognize small numbers. Suggest teachers talk to them not just about chairs around a table, but *four* chairs around the table. By the latter early childhood years, they quickly recognize numbers up to five or six.
- ✓ Suggest that teachers make counting meaningful. They can have children count what’s important to them, such as how many blocks they can stack up before they fall, or how many leaves they have collected.
- ✓ Help children compare numbers, at first visually (a pile of 20 compared to another pile of ten) and later by matching: “Are there enough paint brushes for the jars of paint?”
- ✓ Ask teachers to engage children in concrete problem-solving. For example, teachers can show 3-year-olds two blocks, cover them, and then put one more under the cover. They can then ask children to show them with their own blocks how many are under the cover.
- ✓ Suggest that teachers take advantage of children’s abil-

ity to share by working through math problems. For example, they can deal out crayons so that each of four children have exactly the same number.

Introduce Geometry

Young children are also ready to learn about simple geometry. They can match shapes, even when the shapes are turned in different directions. Just matching two identical sets of shapes is interesting to them. Lotto and Concentration-type games are also intriguing.

Children can begin to learn to put shapes together to make pictures and, eventually, new shapes. Such tasks—making pictures from geometric shapes and solving puzzles involving those shapes—are two of the most interesting geometric challenges for young children. Yet we often neglect the opportunity to provide such challenges.

Make Comparisons

Sometimes, introducing math concepts is simply a matter of taking advantage of what children do naturally. For example, children love to make comparisons. Teachers can ask children to compare objects directly—identifying which one is longer or takes up more space (area). Suggest that whenever children want to compare, teachers make it mathematical by talking about the specific attribute, such as *longer, wider, or heavier*.

There are so many ways in which young children can and do learn math concepts. We need to remind teachers to “speak math” to young children. Opportunities for developing mathematical understandings exist in each learning center, throughout each portion of the day. ECT

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