

## What Is The Largest Math Difficulty Children Face?

As I've worked teaching math to children and adults, one situation became quite evident.

The students who were totally stuck, frustrated and had pretty much given up trying to do the four basic math operations lacked knowledge of an important concept.

### What was that idea?

Understanding place value.

Place value is a fundamental mathematical concept. When you understand place value you are able to manipulate and conceptualize quantities, both large and small.

When you don't understand place value, numbers have confusing meaning and appear as a jumble of unintelligible symbols.

Skip, an eight-year I tutored told me, "Numbers change everyday. I give up."

Skip matched quantities to the numerals zero to nine. He added quantities for sums up to nine. With the number "10" he had difficulty connecting quantity and symbol. He wrote the number 10, knew he had ten fingers, but had no idea why he wrote the number 10 with a one and a zero.

When I asked him to tell me the quantity represented by the number 1,111 his answer was four.

"How did you figure that out?" I asked.

"One plus one plus one plus one is four."

### How do we help?

**First, we offer many hands on experiences of counting objects with nine or less objects in the grouping.** This activity of counting helps to firmly

fix the connection between a quantity of objects, also known in mathematics as a set, and its numerical representation, a number.

**We offer vocabulary to connect quantity and number.** As children count objects we give words to their findings. "Yes. Four pennies. You have a set of four pennies."

**When the child can connect quantity to the correct spoken number,** we introduce the symbols 0 to 9. "This is the number 4. It represents a set with four objects in it."

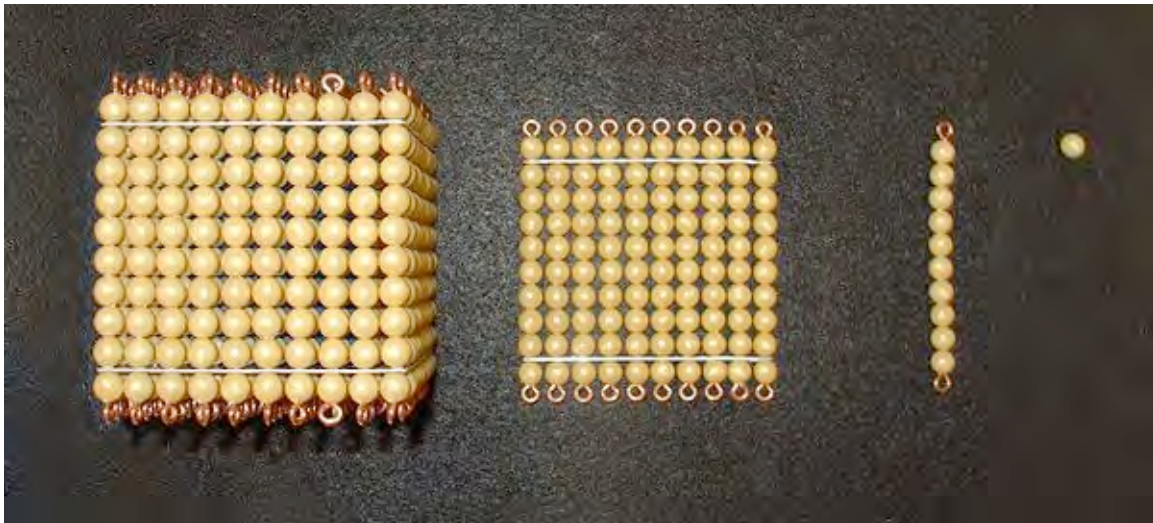


**We introduce the quantity ten and its number symbol as a fresh challenge.** "When we have ten objects, which we also call units, we create a new group of numbers called tens. We write the number ten with a 1 in the tens place to let us know we have one ten. We write a zero in the units place to show we have no units. 10. One ten, zero units."

**Once the child understand this concept of ten, we then offer concrete experiences of place value using materials.**

In Montessori classrooms for three to six-year-olds we offer the Golden Bead Material that consists of four groups of objects to connect to number symbols.

Unit bead:            Loose beads that represent the unit  
Ten-bar:             Made out of 10 beads on a bar  
Hundred-square:   Made out of 10 ten-bars  
Thousand-cube:    Made out of ten hundred-squares



Using the Golden Bead Material, Skip discovered that 1,111 represented a quantity that contained one thousand cube, one hundred square, one ten bar and one unit.

1,111 was four no more!

Connecting quantity with a number was key.

Skip's confusion and frustration over numbers ended when he saw, experienced and understood place value.



## Teaching Number Sense

**Do you want to help kids love math?  
Would you like to make working with numbers fun?**

Join me for a LIVE Webinar on Tuesday, April 28, from 4:00 pm to 5:30 pm PDT.

In *Teaching Number Sense* you'll get practical common sense advice about how to help children love learning their math facts...and it's not drill and kill methods.

It's about skills and thrills to fuel enthusiasm.

Mathematics is the language we use to talk about quantity, structure, space and change, as well as other qualities of the physical world. Our experiences within our physical world determine how we learn to think and communicate this knowledge.

In this LIVE webinar, I'll show you how to give children foundational experiences with quantity, structure, space and change, experiences that will develop their number sense and love of using the language of mathematics.

This workshop is based on current research along with my twenty plus years of experience teaching children ages 3 to 15.

You'll find information in this LIVE webinar that might turn the children around you into math lovers!

Visit <http://MarenSchmidt.com/workshops/teaching-number-sense/>