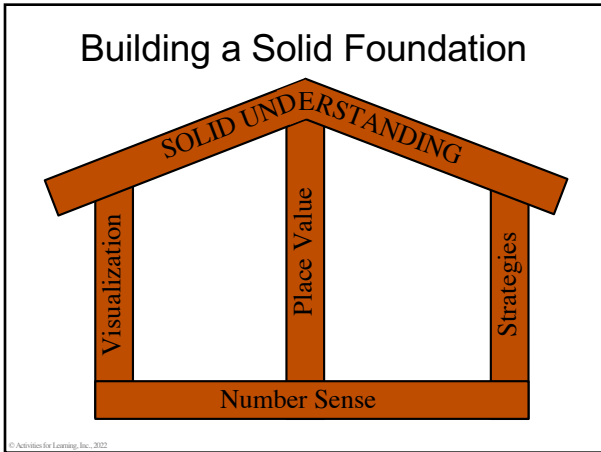


BUILDING A SOLID MATH FOUNDATION

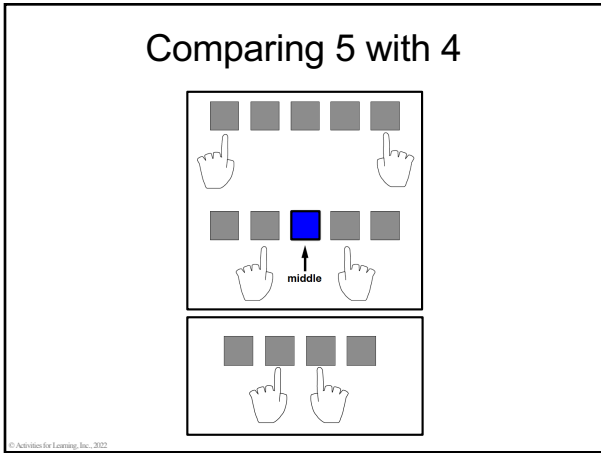
info@RightStartMath.com



Subitizing

- Subitizing is quick recognition of quantity without counting.
- Children who can subitize perform better in mathematics. —Butterworth
- Subitizing “allows the child to grasp the whole and the elements at the same time.” —Benoit
- Subitizing seems to be a necessary skill for understanding what the counting process means. —Glaserfeld

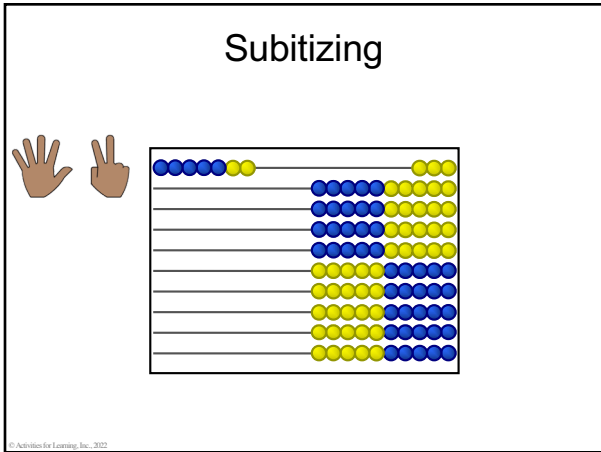
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Subitizing

The left hand is used for quantities 1 to 5 because we read from left to right.

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Games

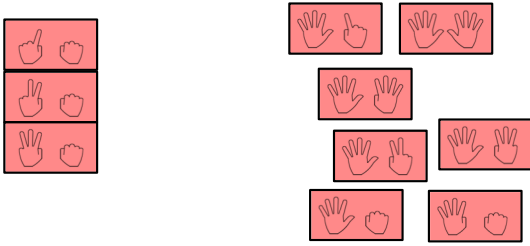
$$\frac{\text{Games}}{\text{Math}} = \frac{\text{Books}}{\text{Reading}}$$

Games provide interesting repetition needed for automatic responses.

More importantly, games provide an application for the new information!

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Finger Cards in Order



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Counting Model

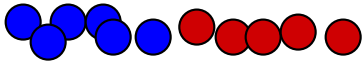


What the young child sees

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Adding by Counting From a Child's Perspective

$$\begin{array}{r} F \\ + E \\ \hline \end{array}$$



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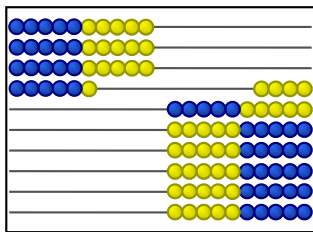
Place Value From a Child's Perspective

L (twelve)
is written **AB** (12)
because it is **A J** (one 10)
and **B A**'s (two 1s)

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Transparent Place Value

3-ten 6



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Transparent Number Naming

10 = ten	20 = 2-ten
11 = ten 1	21 = 2-ten 1
12 = ten 2	22 = 2-ten 2
13 = ten 3	23 = 2-ten 3
14 = ten 4
....
19 = ten 9	99 = 9-ten 9

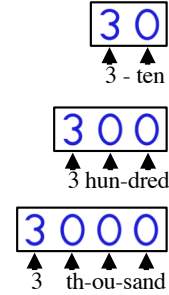
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Transparent Number Naming

- Use this for two reasons:
 1. Patterning
 2. Place value

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Transparent Number Naming



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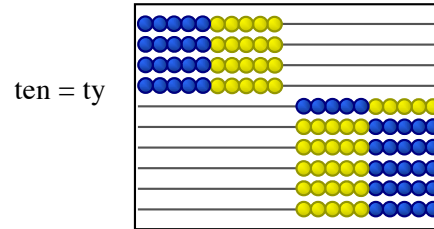
Transparent Number Naming

- Asian children learn mathematics using the math way of number naming.
- They understand place value in first grade; only half of U.S. children understand place value at the end of fourth grade.
- Mathematics is the science of patterns. The patterned math way of number naming greatly helps children learn number sense.

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Traditional Names

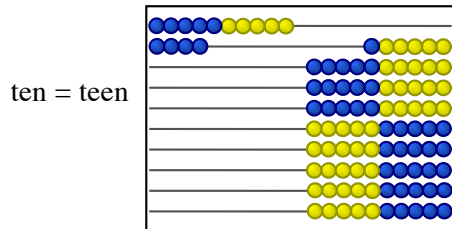
4-ten = forty



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Traditional Names

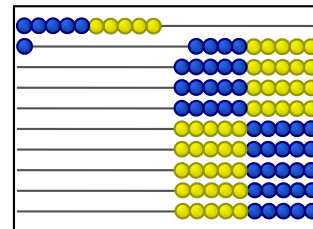
ten 4 → teen 4 → fourteen



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Traditional Names

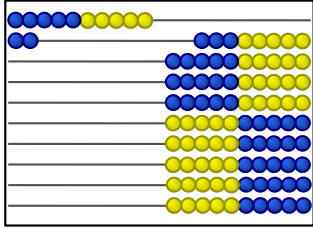
a one left → a left-one → eleven



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Traditional Names

two left → twelve



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Strategies

A strategy is a way to learn a new fact or recall a forgotten fact.

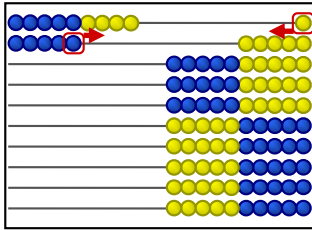
A visual representation is a powerful strategy.

The abacus can provide a model for a visual representation.

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Strategy: Complete the Ten

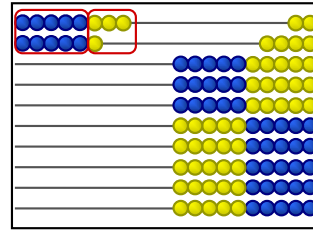
$$9 + 5 = \underline{\quad}$$



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Strategy: Two Fives

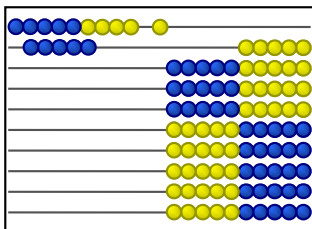
$$8 + 6 = 10 + 4 = 14$$



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Strategy: Going Up

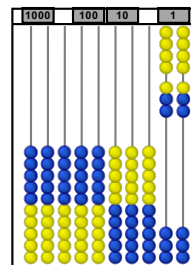
$$15 - 9 = \underline{6}$$



Start at 9;
go up to 15

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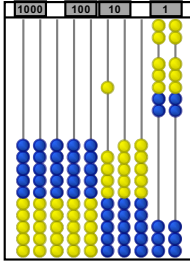
Abacus - Side 2



$$\begin{array}{r} 8 \\ + 6 \\ \hline \end{array}$$

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Abacus - Side 2



$$\begin{array}{r} 8 \\ + 6 \\ \hline 14 \end{array}$$

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Short Division

$$\begin{array}{r} 157 \\ 3 \overline{)471} \end{array}$$

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Mathematics

- Just as reading is much more than decoding, phonics, and word attack skills, mathematics is much more than memorizing facts and learning algorithms.
- Just as the **goal of learning to read** is reading to learn and for enjoyment, the **goal of math** is solving problems and experiencing wonder. — *Dr. Joan A. Cotter*

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Mathematics

From [Bonnie](#) to [Everyone](#): 10:51 AM
its just one of those things in life that make you feel satisfied to know

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In Conclusion ...

Our goal as a teacher of mathematics is to help our children transform, expand, and refine these beginning ideas into deeper mathematical thinking.

— *Dr. Joan A. Cotter*

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