Mastering Multiplication Facts with “Touch Math”

Mastering math facts, especially multiplication facts, can be a daunting task for any student. Some students require much more practice and rehearsal than others, which can be very frustrating. For all students, however, mastering their multiplication facts will make their math computation easier and will prove to strengthen their math achievement overall. In this workshop, parents will be introduced to “Touch Math”, a multisensory method designed to strengthen students’ math computation skills. Participants will immerse themselves in a multisensory learning environment where they will discover the benefits of the “Touch Math” approach!

Presented by:
Linda Burgin and Lorraine Spencer
Cedar Lane Elementary
February 12, 2013
Touch Points

1 2 3 4 5

6 7 8 9
Touch Points

1 2 3 4 5
6 7 8 9

● = 1 touch
○ = 2 touches
Subtraction

*Counting backwards from 20 to 0

95 - 43 = 52

17 - 9 = 8

76 - 59 = 17
Multiplication:
Assign numbers to fingers

Left Hand  Right Hand
Skip Counting

2 - 4 - 6 - 8 - 10 - 12 - 14 - 16 - 18 - 20
3 - 6 - 9 - 12 - 15 - 18 - 21 - 24 - 27 - 30
4 - 8 - 12 - 16 - 20 - 24 - 28 - 32 - 36 - 40
5 - 10 - 15 - 20 - 25 - 30 - 35 - 40 - 45 - 50

- Be creative with presentation and practice
- Use all modalities: auditory, visual, kinesthetic
- Where, When, How?
  - In the car
  - Every night at a set time
  - During TV Commercials
  - Back and Forth
  - Bounce ball back and forth
  - Dry erase markers (on board, window, floor, mirror)
  - Play with your food - write them in pudding
  - Numbers on cards, skip count up and down stairs
Skip Counting continued..

- Skip counting on fingers to find correct answers to multiplication facts
- Enough practice and presentation for the brain to memorize fact to mastery (some students require 20 trials; other students, 200 trials)
- Practice short spurts frequently, rather than lengthy practice infrequently
- Practice one set of tables at a time until mastery
- Tie mastery of ALL multiplication tables to a reward
Multiplication/Skip Counting/Hands

Sequence for introducing skip counting:
0's  "Any number x 0 = 0"  0 x 5 = 0
1's  "Any number x 1 = itself"  1 x 5 = 5
Next, introduce: 10's, 5's, 2's 3's 4's

• Practice skip counting by the number without hands
• Practice skip counting by the number with hands
• Ask student a fact, student uses skip counting with hands to find correct answer:

\[ 10 \times 4 = ? \]

1. Tap number 4 finger
2. Skip count by tens to number 4 finger to correct answer: 'say' 10, 20, 30, **40**

• After the 10's multiplication table is mastered, continue skip counting sequence with each subsequent number.

5's 2's 3's 4's
Multiplication Facts Using Touch Points and Skip Counting
"touch and tap"

- Use the Commutative Property of multiplication to count!
- Enough repetition and rehearsal for brain to memorize math facts to mastery!
Multiplication Facts Without Skip Counting

9's Table

example: 9 x 4 = 36

STEPS:
1. Curl 4 finger under
2. First digit in answer is the number of fingers to the left of the curled finger multiplied by 10 (3 x 10 = 30)
3. 2nd digit in answer the number of fingers to the right of the curled finger multiplied by 1
4. Answer: 9 x 4 = 36
Multiplication Facts
Without Skip Counting

6's, 7's, 8's Tables

Thanks to the commutative property of multiplication...

\[ 3 \times 6 = 6 \times 3 \]

Assuming student has mastered the following multiplication tables: 0, 1, 2, 3, 4, 5, 9, and 10 tables....

What about the 6, 7, and 8 Tables? They are the hardest!

The good news is...
There are only 6 multiplication facts in the 6's, 7's, and 8's tables that the student will need to memorize.

.... and this is why...
Only need to memorize 6 facts:

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<th>7 x 1 = 1 x 7 = 7</th>
<th>8 x 1 = 1 x 8 = 8</th>
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- 6 x 6 = 36
- 6 x 7 = 42
- 6 x 8 = 48

- 7 x 6 = 42
- 7 x 7 = 49
- 7 x 8 = 56

- 8 x 6 = 48
- 8 x 7 = 56
- 8 x 8 = 64

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<td>7 x 10 = 10 x 7 = 70</td>
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Hip, Hip Hooray!

The 6 facts to memorize are...

\[
\begin{align*}
6 \times 6 &= 36 \\
6 \times 7 &= 42 \\
6 \times 8 &= 48 \\
7 \times 7 &= 49 \\
7 \times 8 &= 56 \\
8 \times 8 &= 64
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http://school-schedule.blogspot.com
Thank you for attending!

Questions???
Contact: linda.burgin@lcps.org