Primary Mathematics

(Singapore Math)

Fractions

Data Analysis

Volume

* Primary mathematics helps children make connections between pictures, words, and numbers.

* Cumulative program that revisits concepts covered earlier by connecting strands of mathematics.

* Topic intensive, with fewer topics covered per grade level.

Whole and big numbers!

* Smaller textbooks, with skills not re-taught formally.

* Mental-math strategies embedded in the program.

Algebra

* Highly visual program that benefits special-needs students and inclusion students.

Ratio

Decimals

Percentage

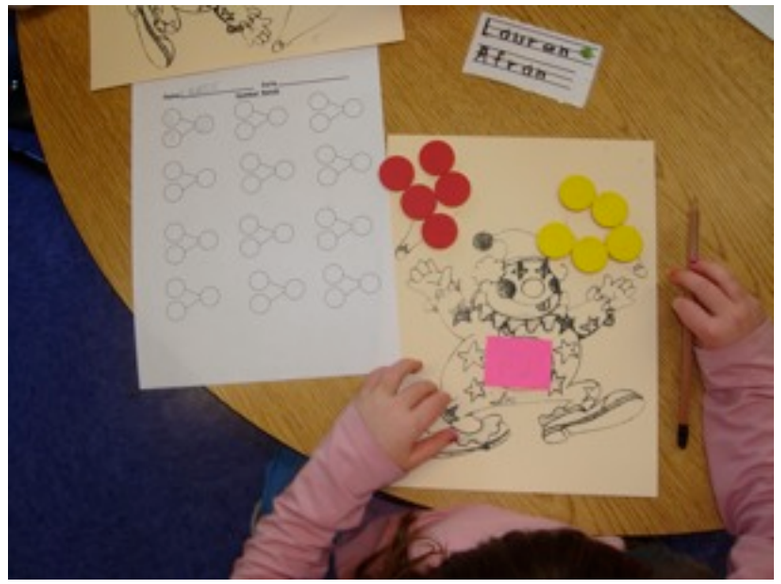
Geometry

MATHEMATICS BEGINS WITH COUNTING!

Children build number sense through repetition and exposure to counting activities.

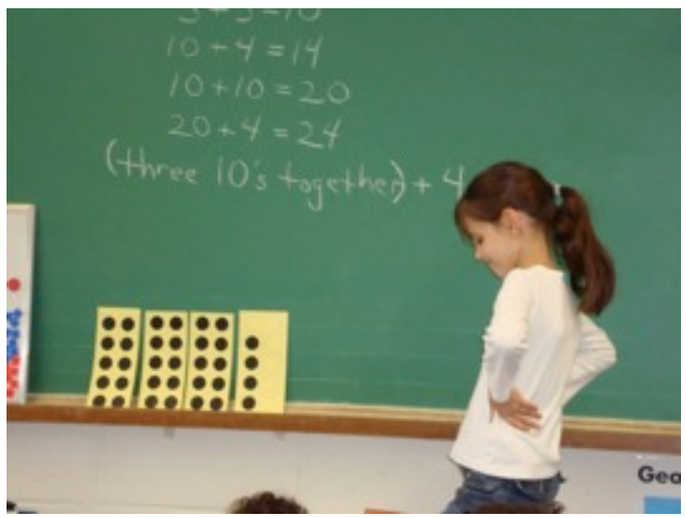
NUMBER BONDS

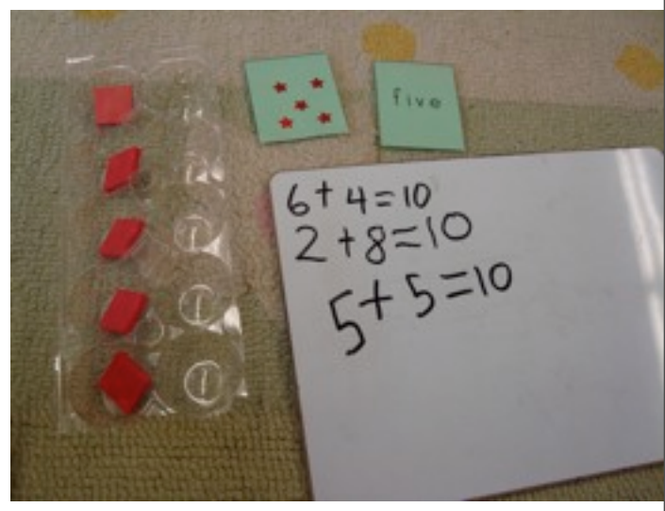
- WHOLE-PART-PART COMBINATIONS



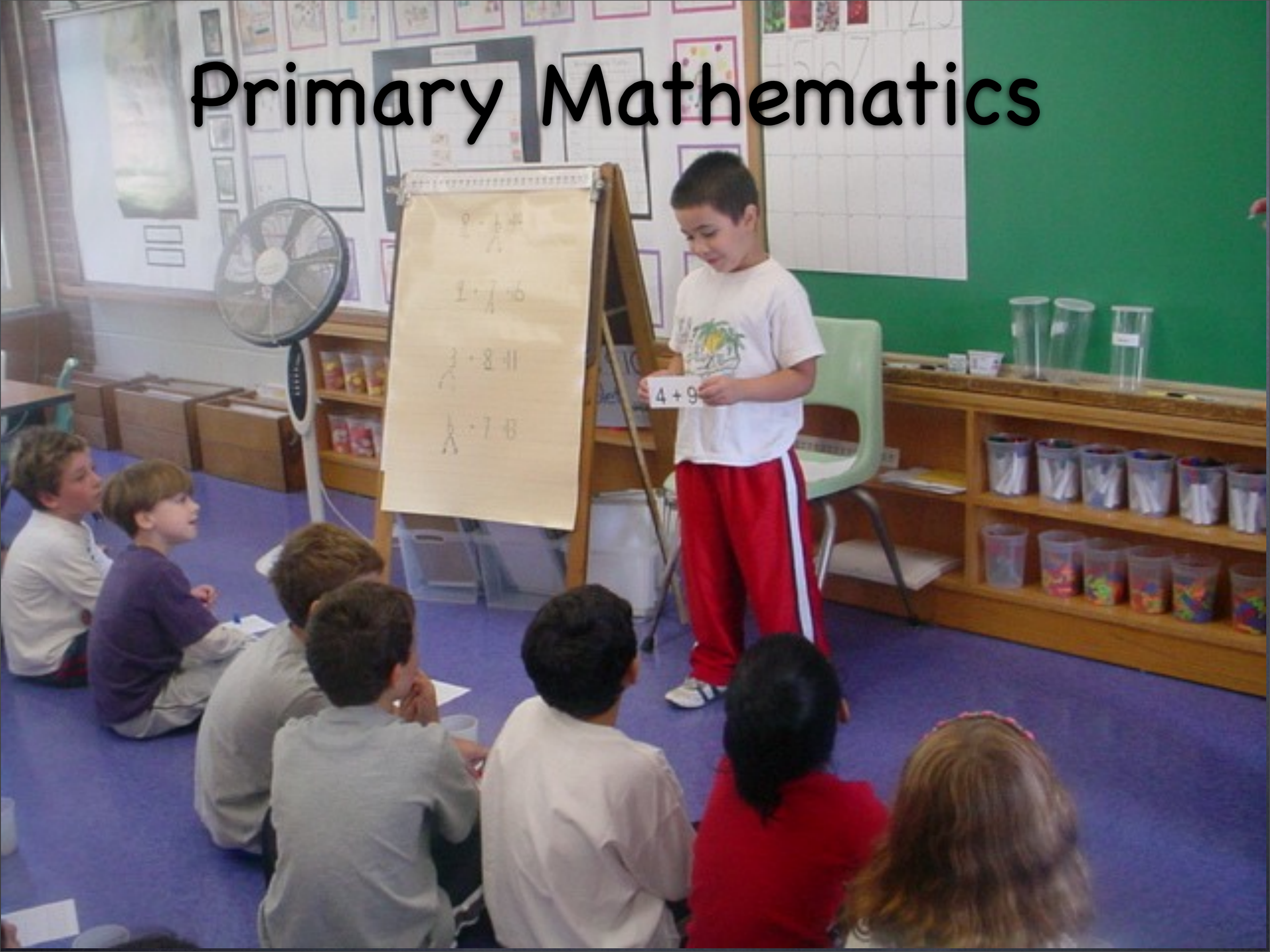
BUILDING MATHEMATICAL UNDERSTANDING

- THE INTRODUCTORY STAGE: learning the meaning of addition and moving beyond counting.





Primary Mathematics



Splitting Numbers

9 + 6 =

1 5

10 + 5 = 15

What can you tell me about this number?

74

2 more than 72

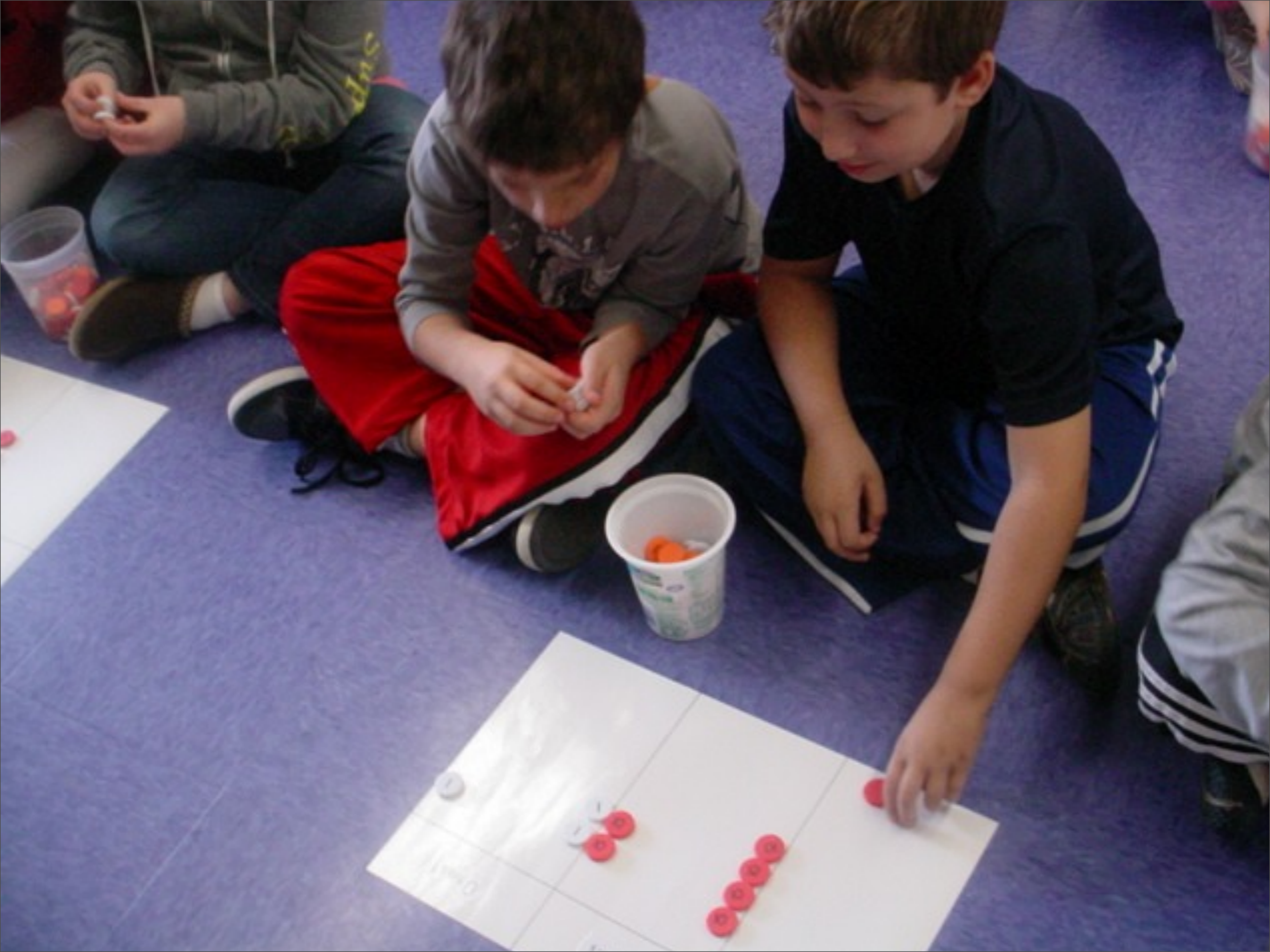
3 less than 77

seventy-four

74

70 4

Tens	Ones
	



$$
\begin{array}{r}
43 \\
+\ 25 \\
\hline
68
\end{array}
$$

43 + 25

40 3 20 5

$$
\begin{array}{r}
{\scriptstyle 1} \\
27 \\
+\ 49 \\
\hline
76
\end{array}
$$

Place value disks help students visualize multiplication

Operations With Place Value Discs and Mat

These tools help reinforce an understanding of place value, computation, fractions, decimals, geometry, and measurement.

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			1000	100	10	1

When multiplying using rearranging, which place value do we start with?
The largest place value, in this case, the hundreds.

637 x 5

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	x 5			100 100 100 100 100 100	10 10	1 1 1 1 1 1 1

1000 100 10 1

600 x 5

What will we be multiplying first?

What is
600 x 5?
3,000
Keep 3,000 in your head and move to the next place value, the tens.

1000 100 10 1

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			1000			
	x 5		1000			
			1000			

30 x 5

What is
30 x 5?
150
What number are you holding in your head?
3,000

1000 100 10 1

What will you be multiplying?

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
x 5				100	10 10 10 10 10 10	

What is 3,000 + 150? 3,150 Keep 3,150 in your head and move to the next place value, the ones.

What will you be multiplying?
7 x 5
What is 7 x 5?
35

x 5

1000 100 10 1

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
					10	1
						1
					10	1
						1
					10	1

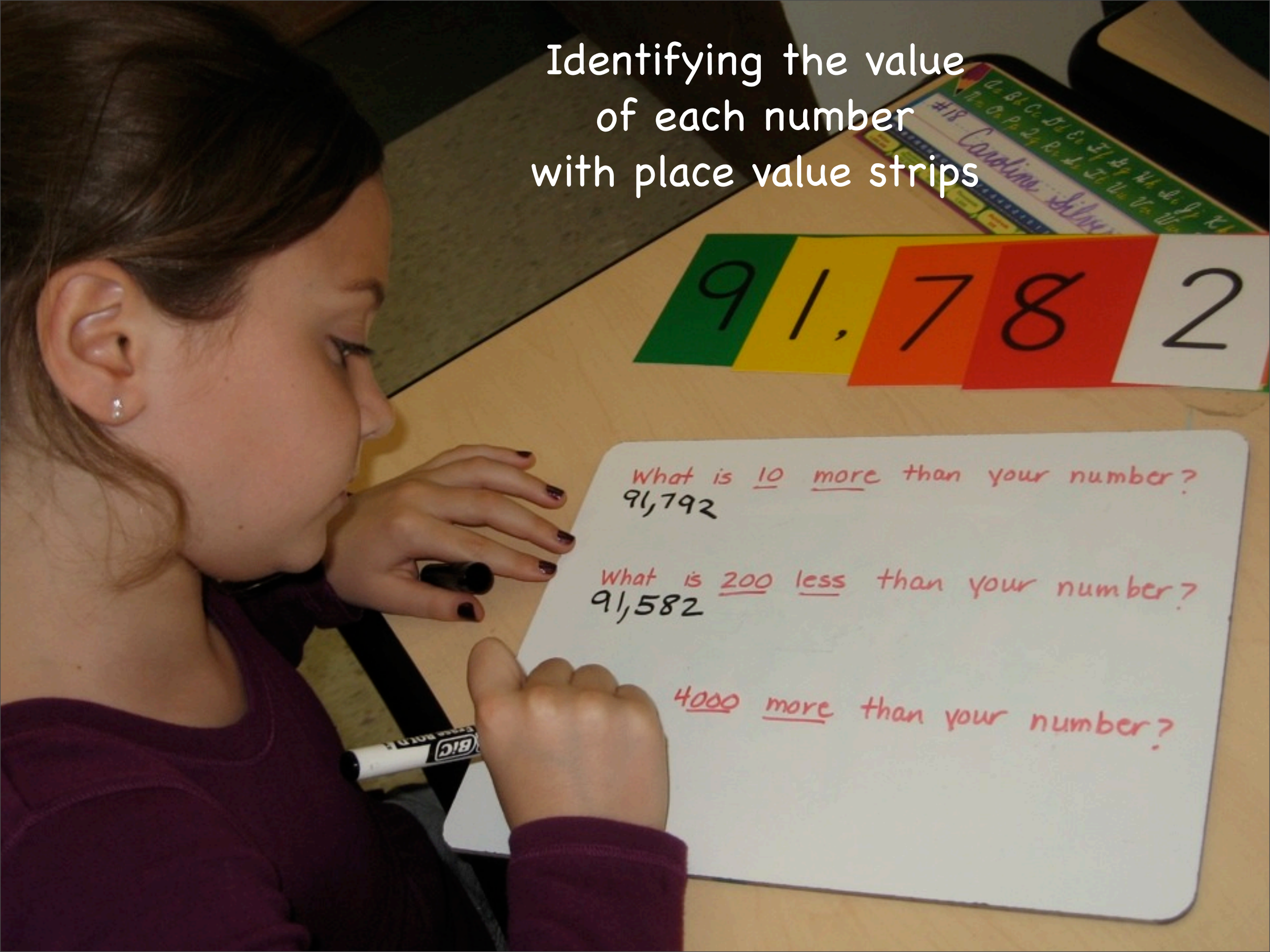
What number are you holding in your head? 3,150

What is
3,150 + 35?
3,185

1000 100 10 1

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
			1000	100	10	1
			1000		10	1
			1000		10	1
					10	1
					10	1
					10	1

Identifying the value of each number with place value strips



Operations With Place Value Strips

*Place value strips are key to building an understanding of place value and the value of digits.

*Students can use them to practice addition, subtraction, multiplication, division, comparing and ordering numbers, among other skills.

What does 91,782 look like?

What is it composed of?

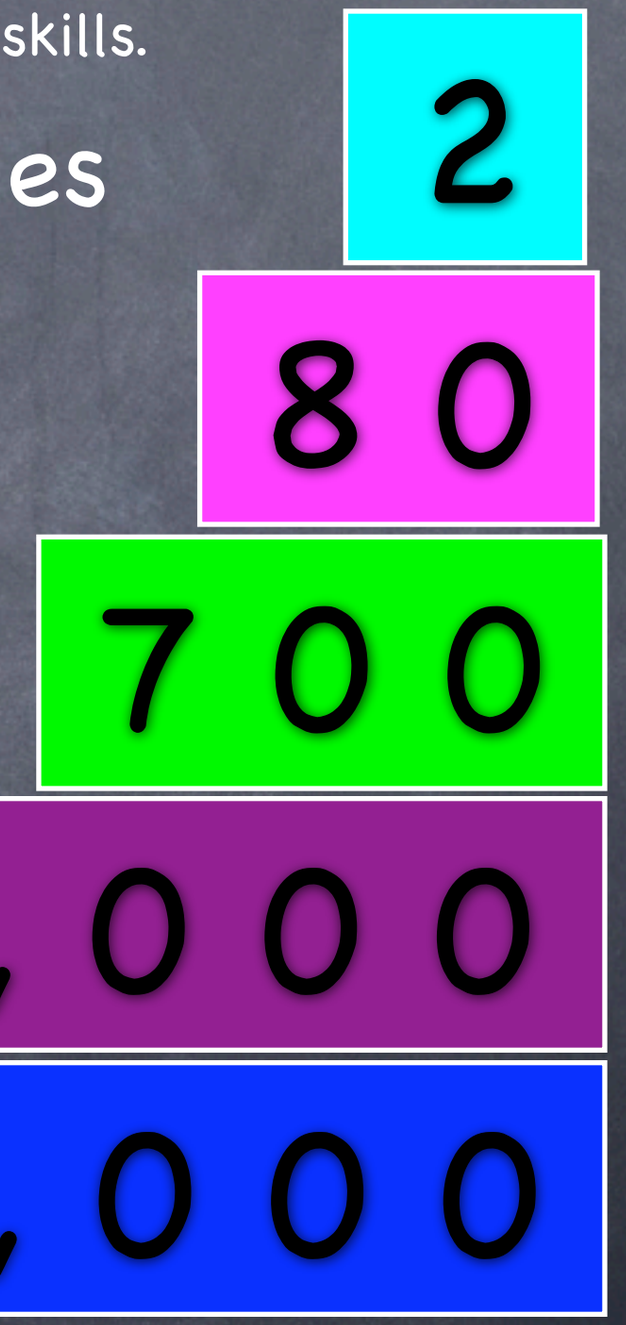
Ones

Tens

Hundreds

Thousands

Ten Thousands



What is 100 more than 91,780?

1	0	0

9	1,	7	8	2

91,882

What is 1,000 less than 91,782?

−1,	0	0	0

90,782

9	1,	7	8	2

How can you help at home?

*Use our "Take and Makes":

-Place value mat and discs

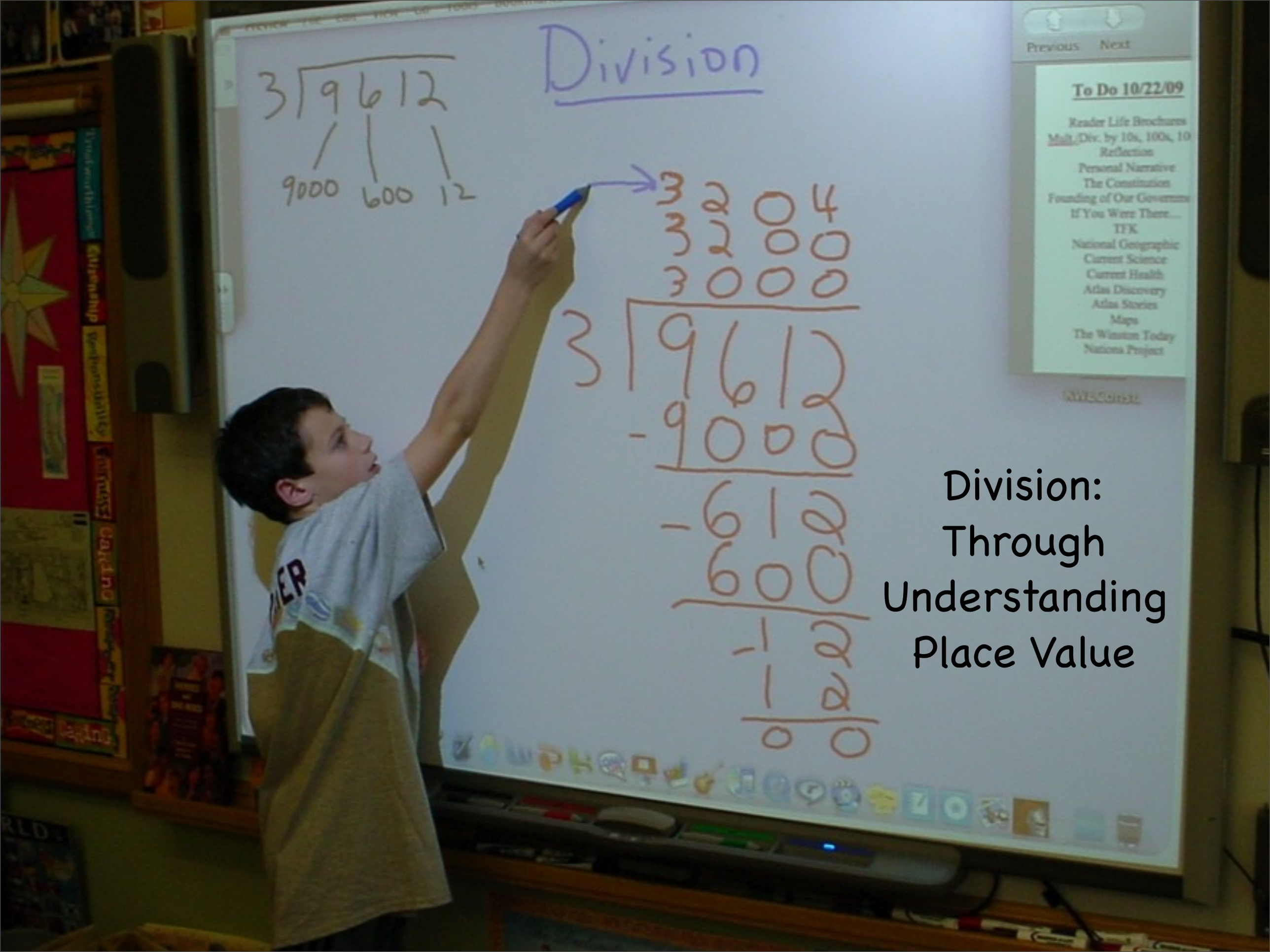
-Place value strips

(copy, color, and laminate them with your child...have fun with it!)

*Make-up and play mathematical games with your child using your new manipulatives!

*Mathematics websites for reinforcement and practice, especially for basic facts!

(there are a ton of them out there...ask your child's teacher for quality and approved sites)



Division: Through Understanding Place Value

What strategy would you use to solve this problem?

$$4816 \div 4$$

$$=$$

The Traditional Method

Does it show conceptual understanding?

$4816 \div 4 =$

Did you learn these steps?

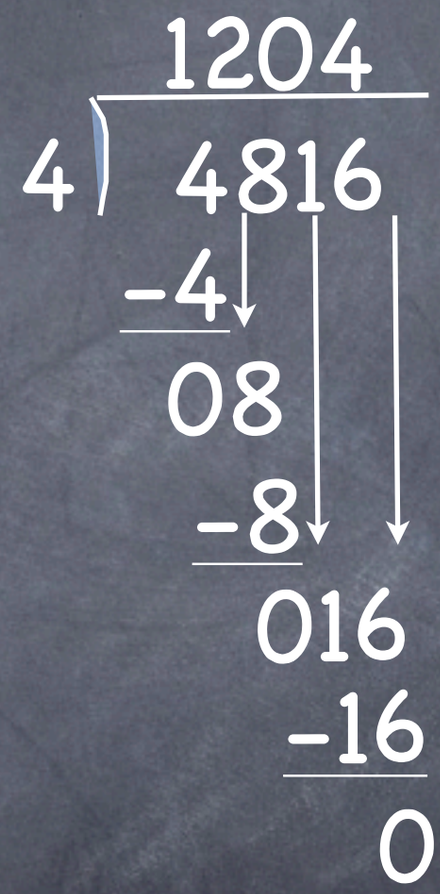
divide

multiply

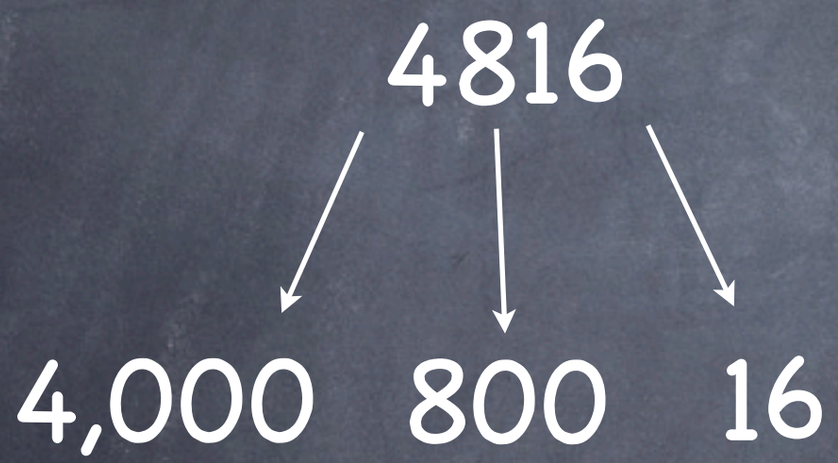
subtract

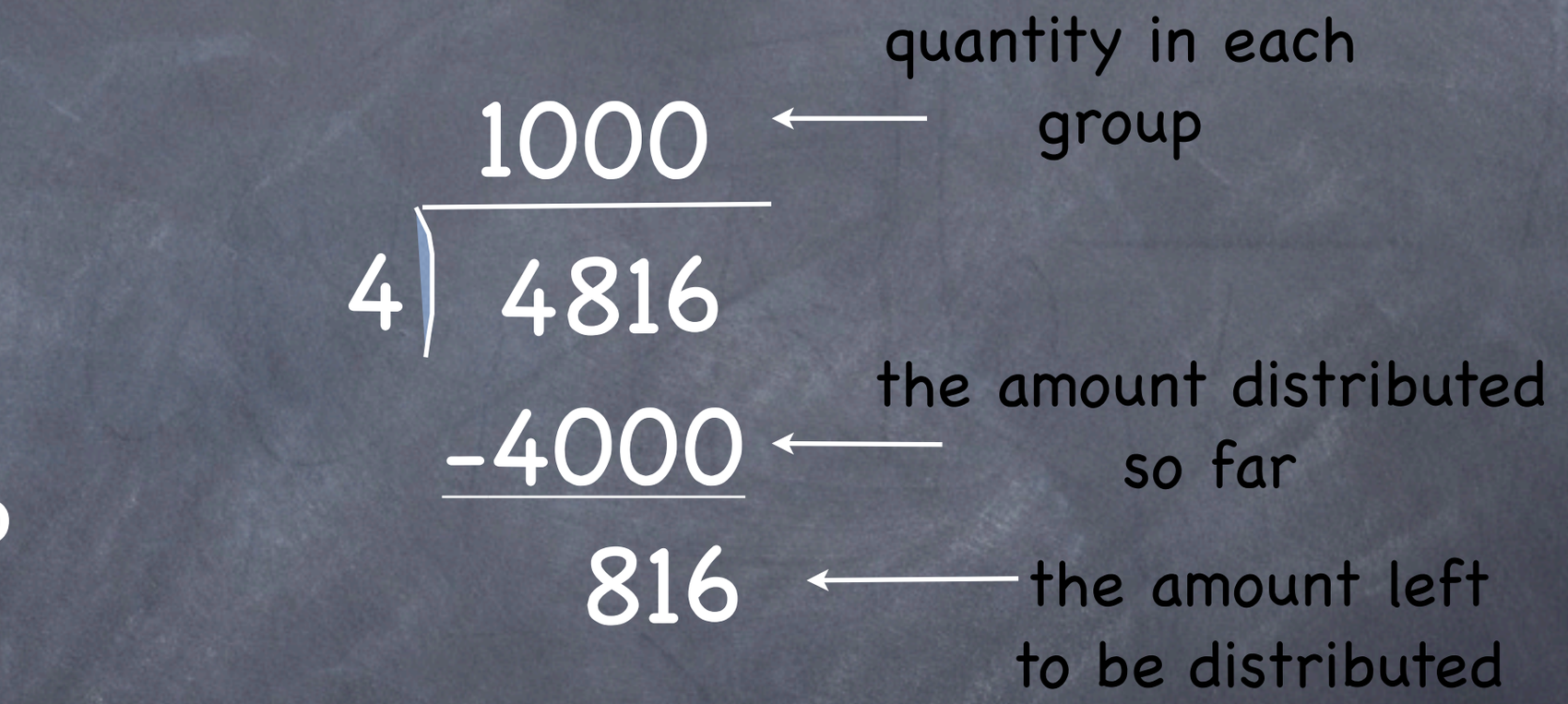
bring down

What happens when you forget a step?



Conceptual Method of Division





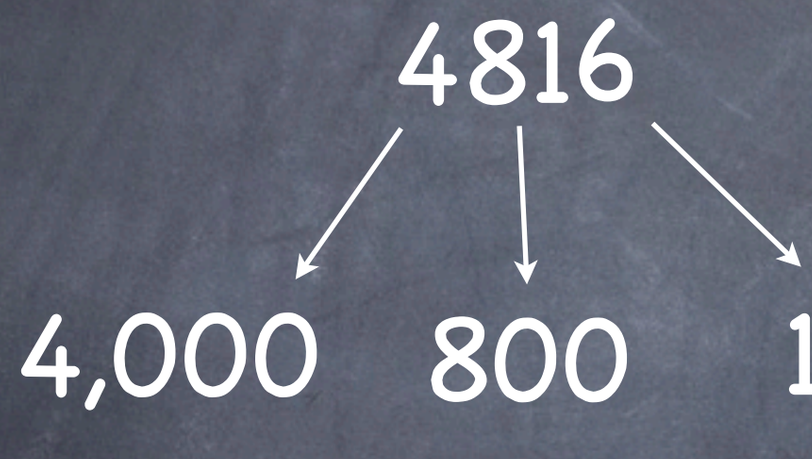
Conceptual Method of Division

4816

4,000 800 16

1200
1000
4 | 4816
-4000
816
-800
16

Conceptual Method of Division



1204
1200
1000
4 | 4816
-4000
816
-800
16
-16
0

Bar Modeling:
For Solving Word Problems

How would you solve this problem?

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

Problem solving steps:

- Read the problem.
- Underline important information (who and what).
- Draw a bar to represent each variable and add labels.
- Add information and adjust the bars to match the problem.
- Work out the computation.
- Write a complete sentence to answer the question.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

How should I set up the bars?

What are we doing with these 2 numbers?

Sue

Mark

* Read the problem.
* Underline important information (who and what).
* Draw a bar to represent each variable and add labels.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

If Mark has one bar, how long will Sue's bar be?

Let's start with one part for Sue. Can we add on to that?

Sue 

Mark

* Read the problem.
* Underline important information (who and what).
* Draw a bar to represent each variable and add labels.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

Let's start with one part for Sue. Can we add on to that?

* Draw a bar to represent each variable and add labels.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

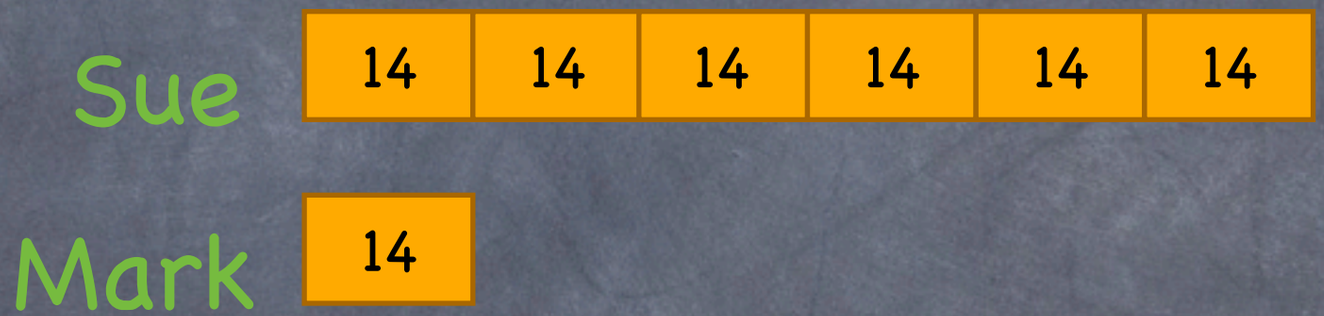
Can we add any information to our model?

* Draw a bar to represent each variable and add labels.
* Add information and adjust the bars to match the problem.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

What am I trying to solve. Let's reread the question.

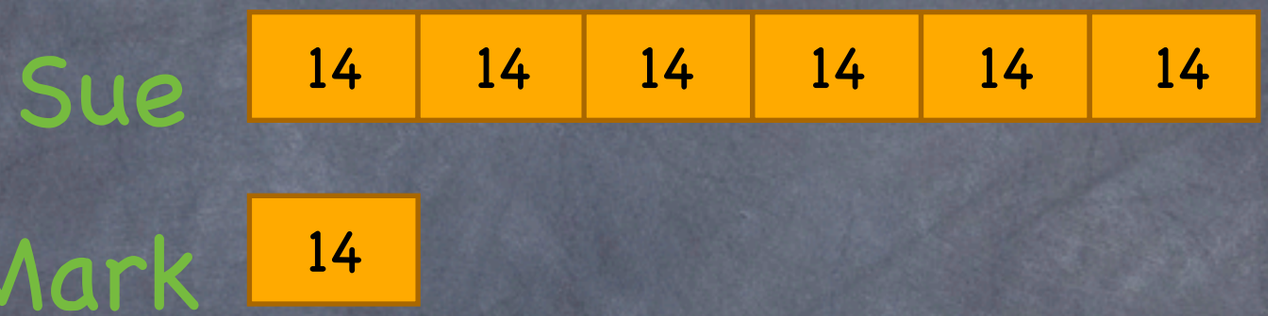
What computation will I have to do?
6 x 14



* Add information and adjust the bars to match the problem.
* Work out the computation.
* Write a complete sentence to answer the question.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

How can I solve 6 x 14?



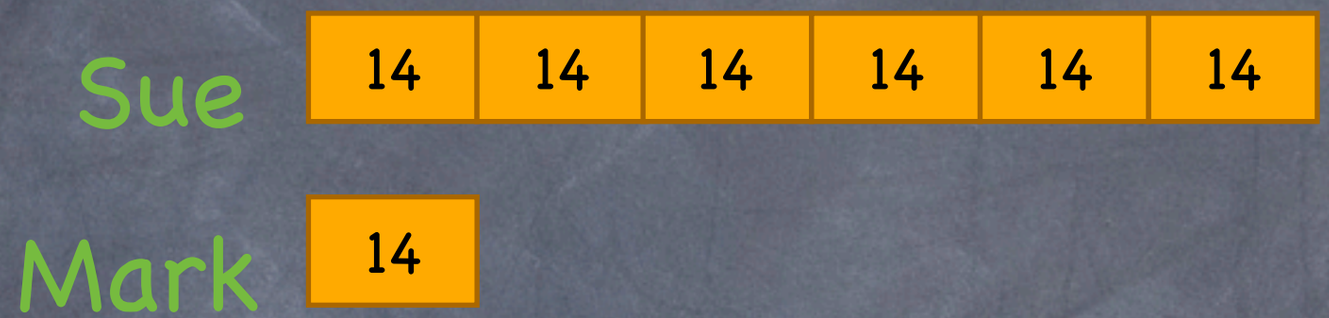
6 x 14 =

* Work out the computation.
* Write a complete sentence to answer the question.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

How can I solve 6 x 14?

These strategies are used for students to become flexible with numbers- to compose and decompose for mental calculations.



6 x 14 =
6 x 10= 60
6 x 4 = 24
60 + 24 = 84

6 x 14 =
7 x 12 = 84

using doubling/halving rule

* Work out the computation.
* Write a complete sentence to answer the question.

Sue had 6 times as many Skittles as Mark.
If Mark has 14 Skittles,
how many Skittles does Sue have?

Check work

Have I answered the question completely?

6 x 14 =

6 x 10= 60

6 x 4 = 24

60 + 24 = 84

6 x 14 =

7 x 12= 84

using doubling/halving rule

Sue has 84 Skittles.

* Write a complete sentence to answer the question.
* Reread the problem. Have I solved the problem completely and answered the question?