LUNCH AND LEARN

GRADES 3-5

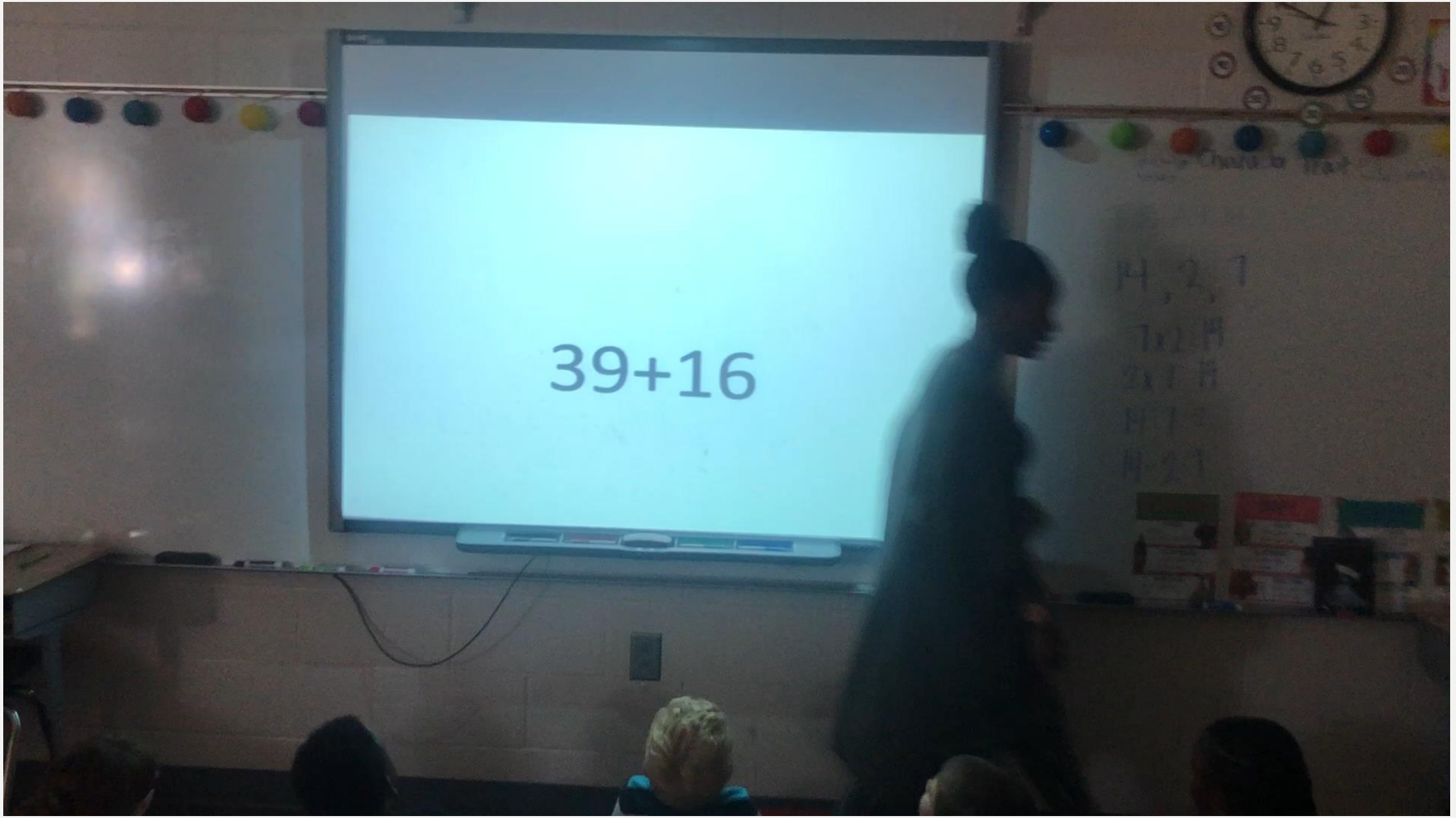
OCTOBER 2018

Grade	Required Fluency
Kindergarten	• Add/Subtract within 10 • *Fact Fluency within 5*
1st	• Add/Subtract within 20 • *Fact Fluency within 10*
2nd	• Add/Subtract within 100 • *Fact Fluency within 20*
3rd	• Add/Subtract within 1,000 • Multiply/Divide within 100 • *Multiplication Fact Fluency- all products of two 1-digit numbers*
4th	• Add/Subtract within 1,000,000 (standard algorithm) • Multiply up to a 4-digit number by a 1-digit number and two 2-digit numbers • Divide up to a 4-digit dividend by a 1-digit divisor
5th	• Multiply multi-digit numbers (standard algorithm) • Divide by a 2-digit divisor (standard algorithm)

39+16=

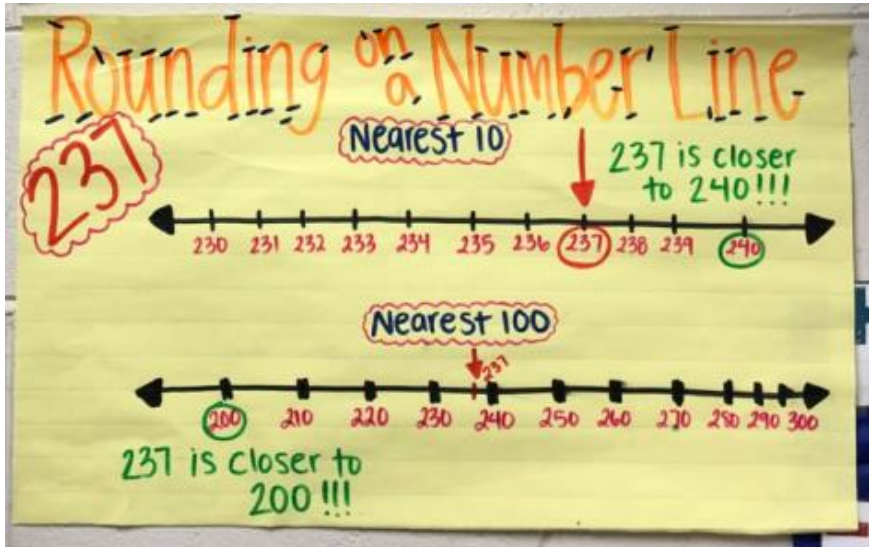
NUMBER TALKS

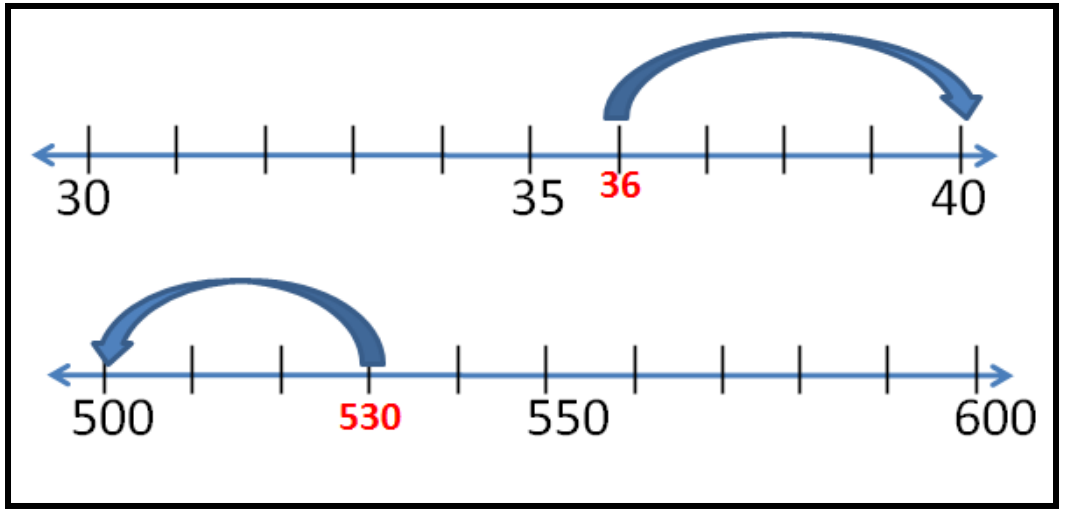
- Daily routine in Grades K-5
- 5-10 minutes
- Students solve problems mentally and share their thinking
- Builds number sense and fluency


39+16

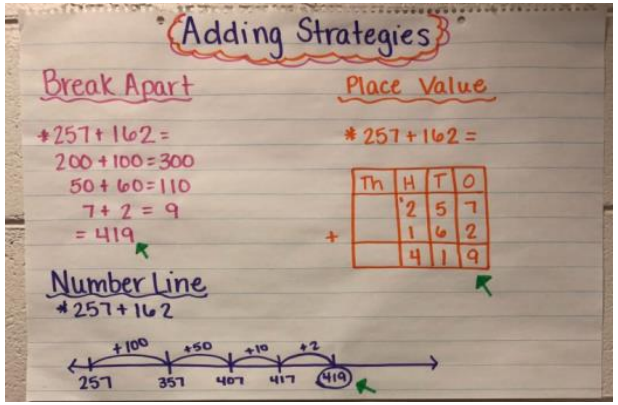
3RD GRADE

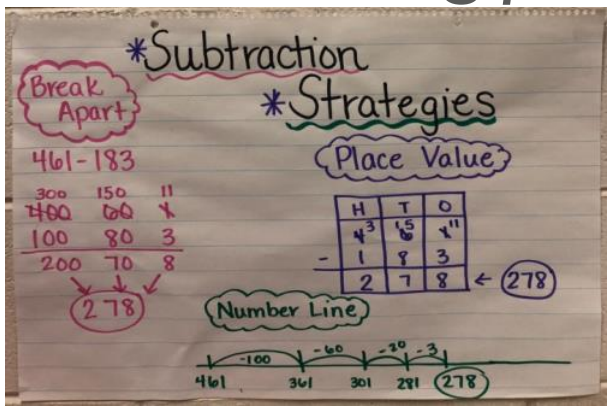
- Round whole numbers to the nearest 10 or 100





- Fluently add and subtract within 1,000 using *place value strategies*





3RD GRADE

- Addition Strategies

Break Apart

473+298=

400 + 70 + 3
+ 200 + 90 + 8
600 + 160 + 11 = 771

Decomposing the 2nd Number

354+237= 591

354+200= 554
554+30= 584
584+7= 591

3RD GRADE

- Subtraction Strategies

Break Apart

462-284=

300 150

~~400~~ + ~~60~~ +12

- 200 + 80 + 4

100 + 70 + 8 = 178

Decomposing the 2nd Number

462-244= 218

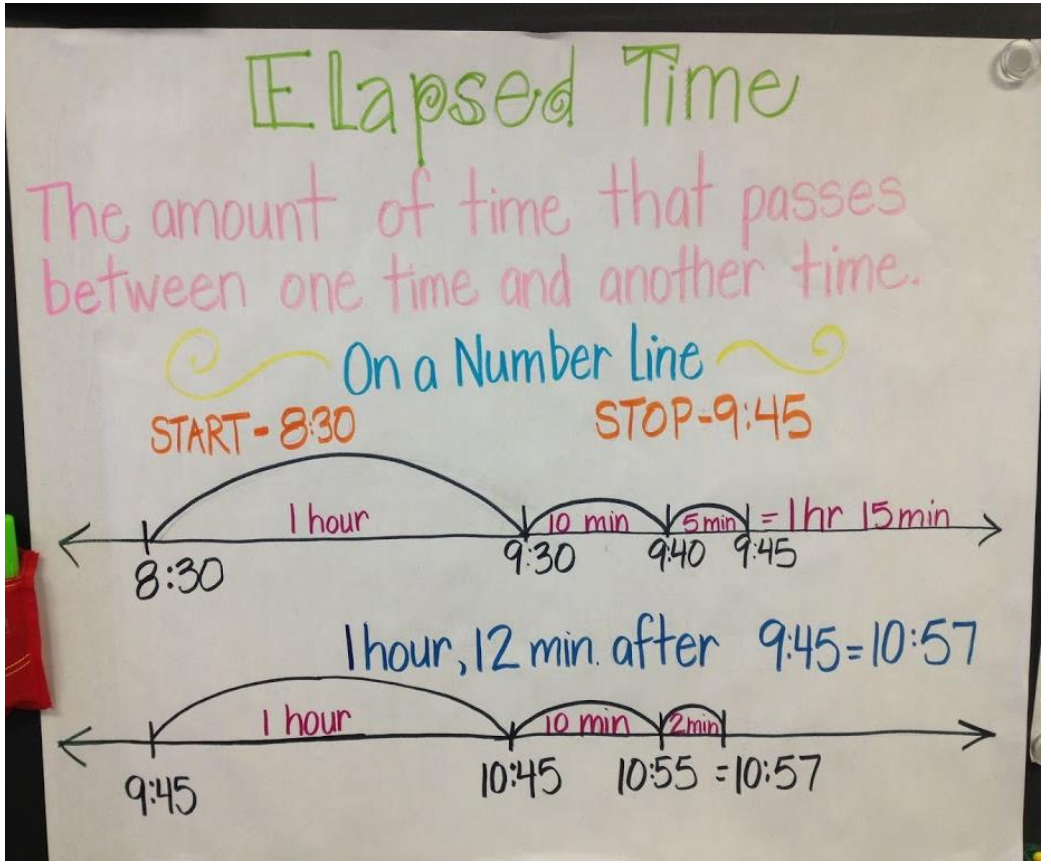
462-200= 262

262-40= 222

222-4= 218

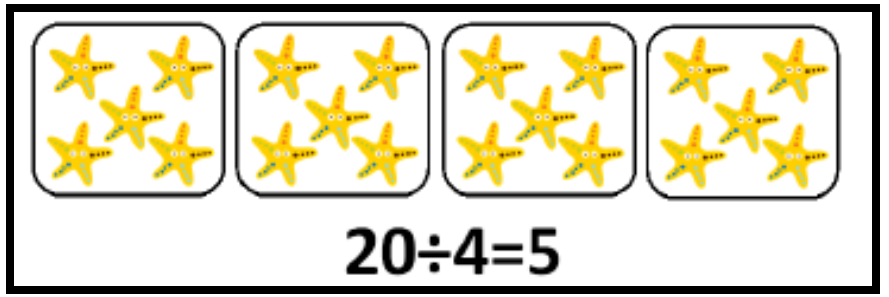
3RD GRADE

- Tell and write time to the nearest minute
- Solve word problems involving time

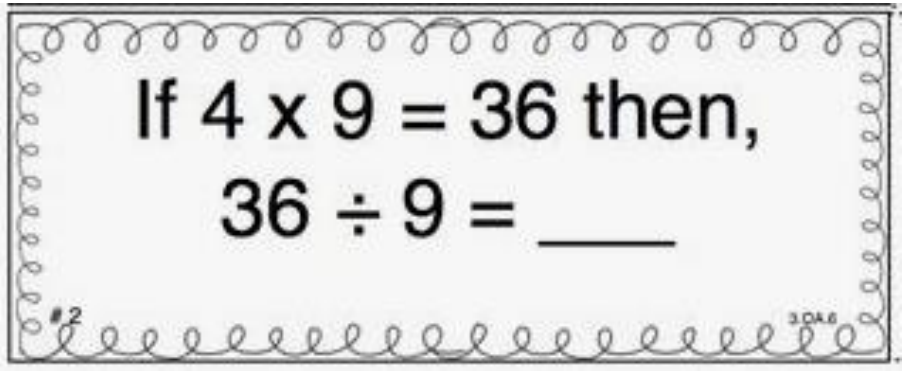


3RD GRADE

- Understand the meaning of multiplication and division



- Understand how multiplication and division are related



3RD GRADE

- Multiplication fact fluency to 10x10

MULTIPLICATION

FACTS	STRATEGY
1	It's Just That Number! 1 x 5 = 5
2	Double It! 2 x 6 → 6 + 6 = 12
3	Double It and Add a Group! 3 x 7 → 7 + 7 = 14 → 14 + 7 = 21
4	Double, Double! 4 x 8 → 8 + 8 = 16 → 16 + 16 = 32
5	Count by 5's That Many Times! 5 x 7 → 5, 10, 15, 20, 25, 30, 35
6	Multiply by 5 and Add a Group! 6 x 6 → 5, 10, 15, 20, 25, 30 → 30 + 6 = 36
7	Multiply by 5 and Add a Double! 7 x 4 → 5, 10, 15, 20 → 20 + 8 = 28
8	Double, Double, Double! 8 x 6 → 6+6=12 → 12+12=24 → 24+24=48
9	Multiply by 10 and Subtract a Group! 9 x 6 → 10 x 6 = 60 → 60 - 6 = 54
10	Count by 10's or Just Add a Zero! 10 x 4 → 10, 20, 30, 40
11	Multiply by 10 and Add a Group! 11 x 6 → 10 x 6 = 60 → 60 + 6 = 66
12	Multiply by 10 and Add a Double! 12 x 6 → 10 x 6 = 60 → 60 + 12 = 72

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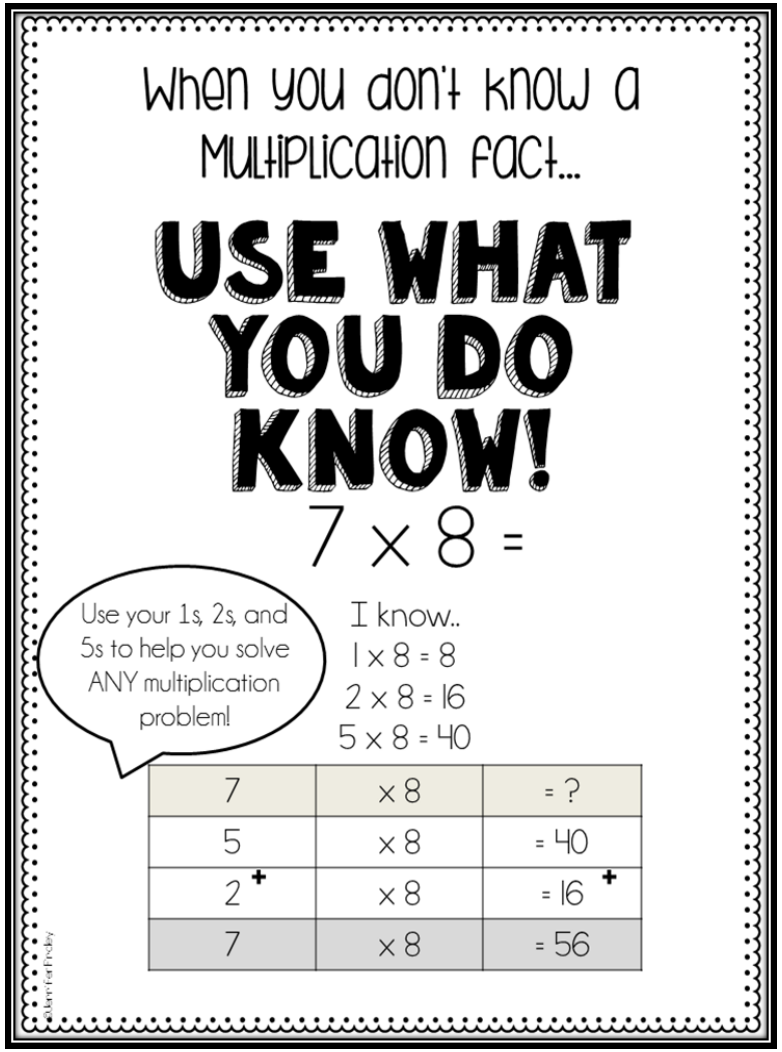


When you don't know a multiplication fact...

USE WHAT YOU DO KNOW!

7 x 8 =

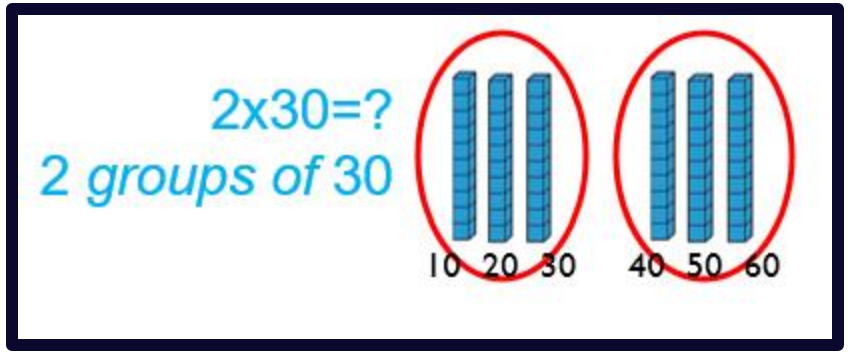
Use your 1s, 2s, and 5s to help you solve ANY multiplication problem!

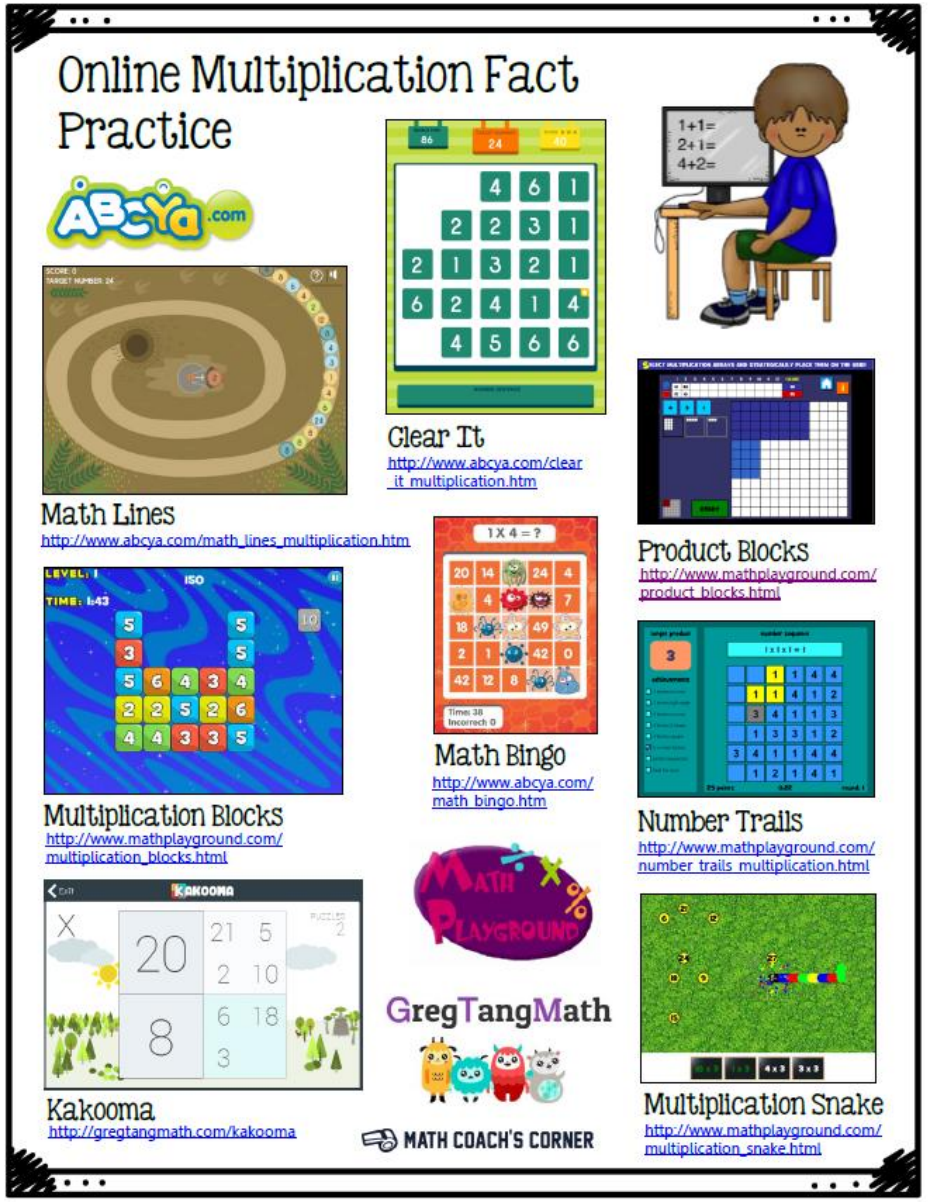
I know..
1 x 8 = 8
2 x 8 = 16
5 x 8 = 40

7	x 8	= ?
5	x 8	= 40
2 +	x 8	= 16 +
7	x 8	= 56

3RD GRADE

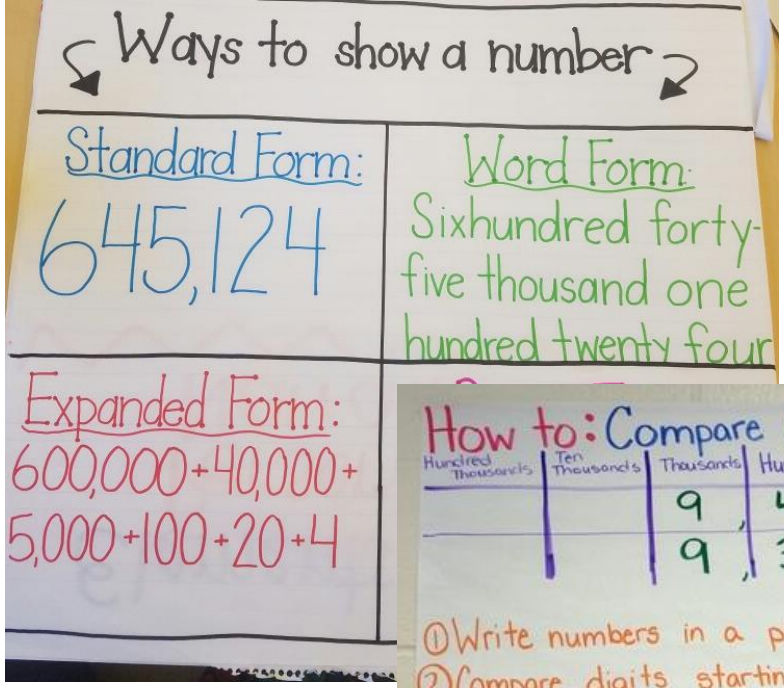
- Multiplication fact fluency to 10x10
  - http://www.arcademics.com/
  - www.xtramath.org
  - http://www.multiplication.com/
  - http://www.mathplayground.com/
- Multiply one digit whole numbers by multiples of ten

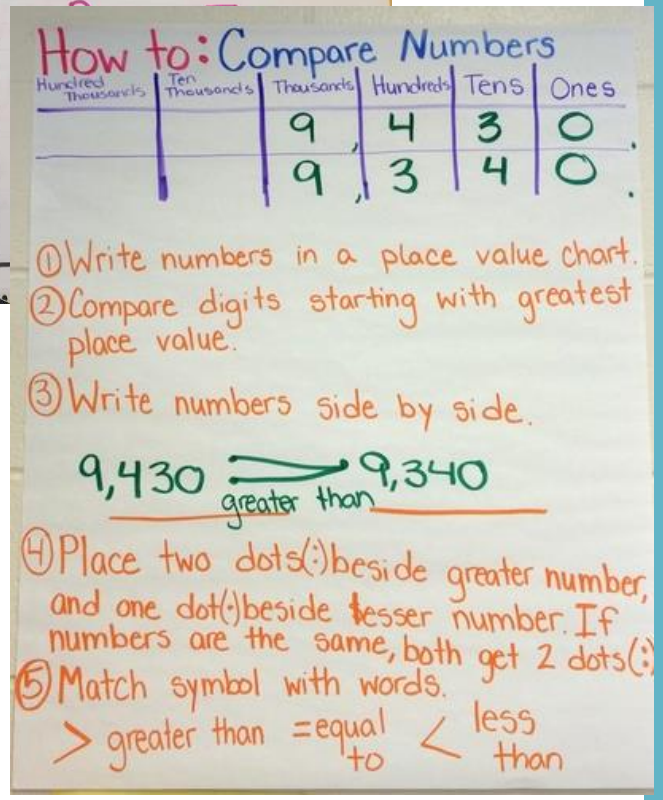


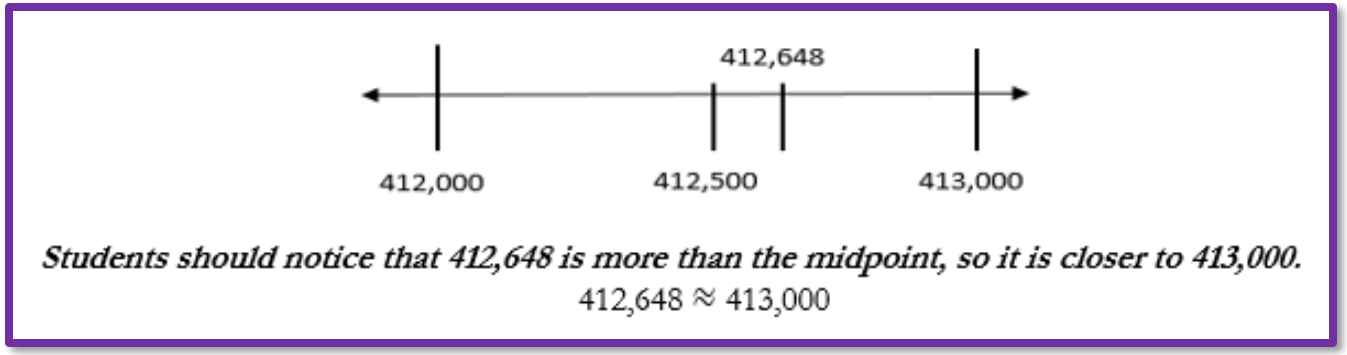


4TH GRADE

- Read and write whole numbers using standard form, expanded form, word form
- Compare two multi-digit whole numbers using the symbols > < =
- Round whole numbers to any place

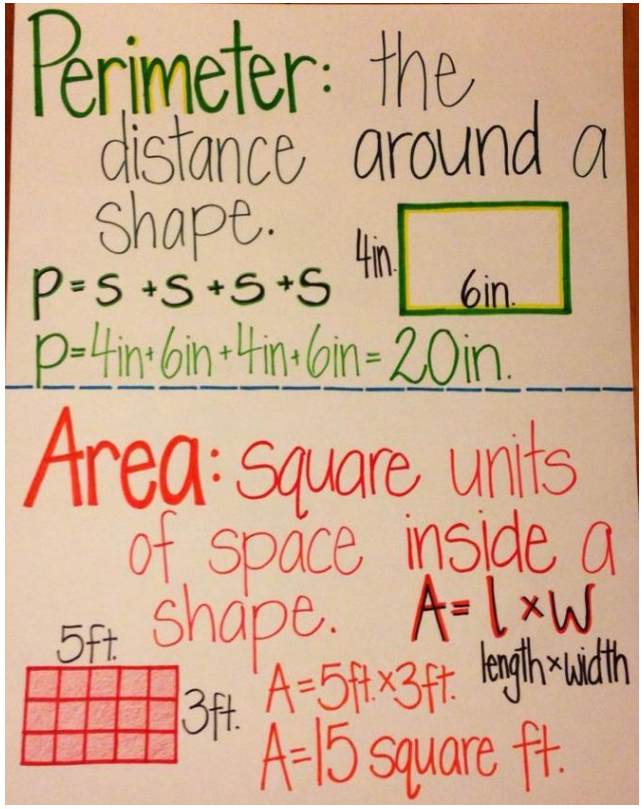






4TH GRADE

- Add and subtract multi-digit whole numbers using the standard algorithm
- Use formulas to find the area and perimeter of figures



4TH GRADE

- Solve multi-step word problems involving the four operations

Tom had 114 baseball cards. He kept 10 and shared the rest evenly among his 8 friends. How many baseball cards did each friend get?

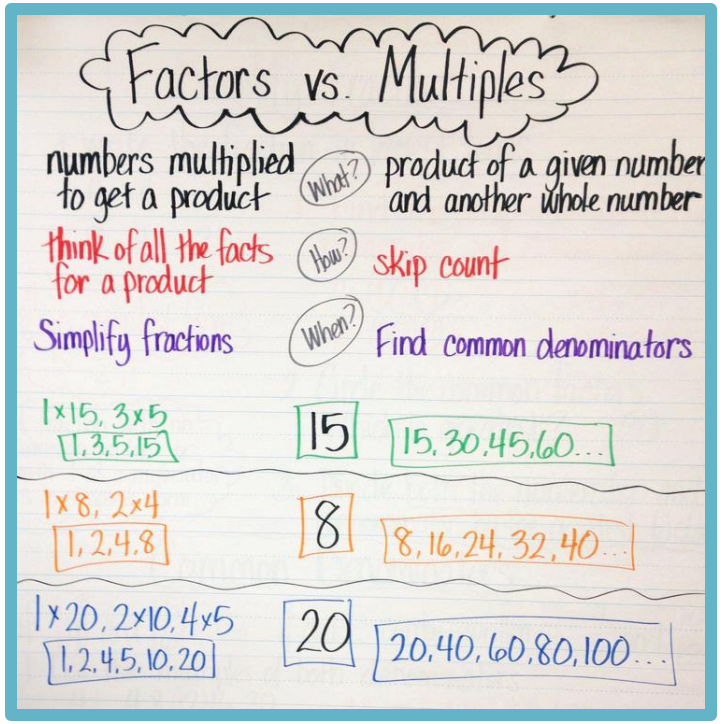
114-10=104
104÷8= 13

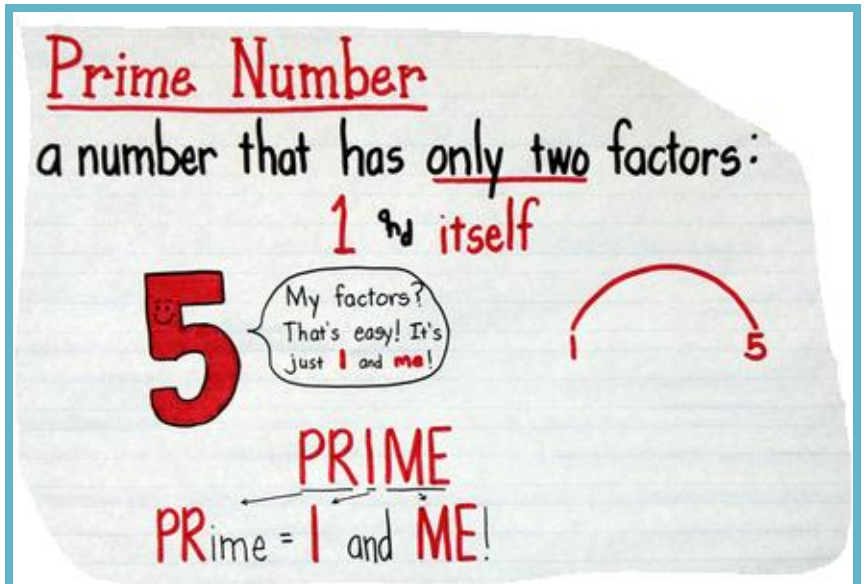
Mr. Smith baked 3 trays of 36 cookies. After they cooled he divided the cookies evenly into 4 bags. How many cookies did Mr. Smith place in each bag?

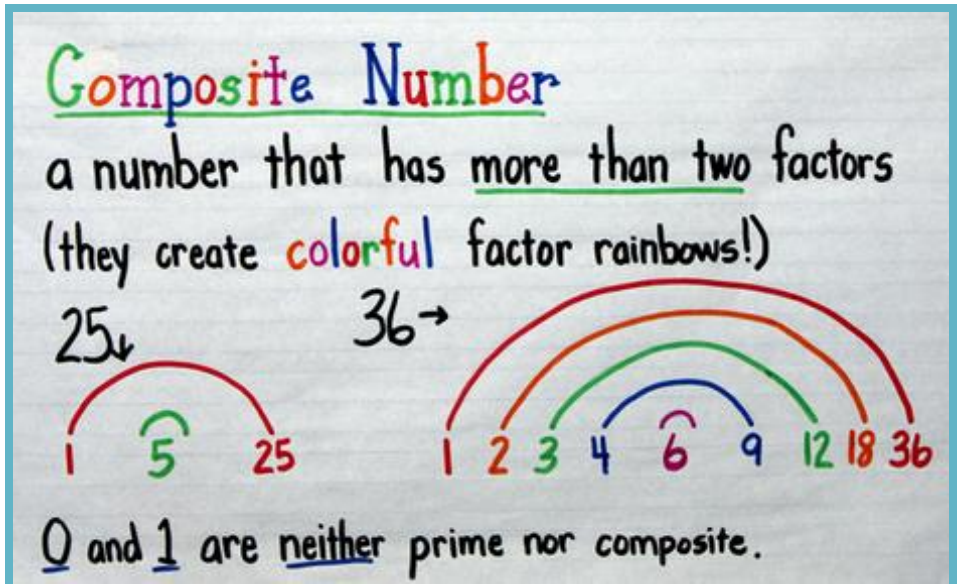
36x3= 108 108÷4=27

4TH GRADE

- Find all factor pairs for whole numbers within 100
- Determine whether a whole number is a multiple of a given one digit number
- Determine if a whole number is prime or composite







4TH GRADE

- Multiply a whole number of up to 4-digits by a 1-digit number and multiply two 2-digit numbers

Area Model

534x4= 2,136

	500	30	4
4	2000	120	16

2000
120
+ 16
2,136

23x45= 1,035

	40	5
20	800	100
3	120	15

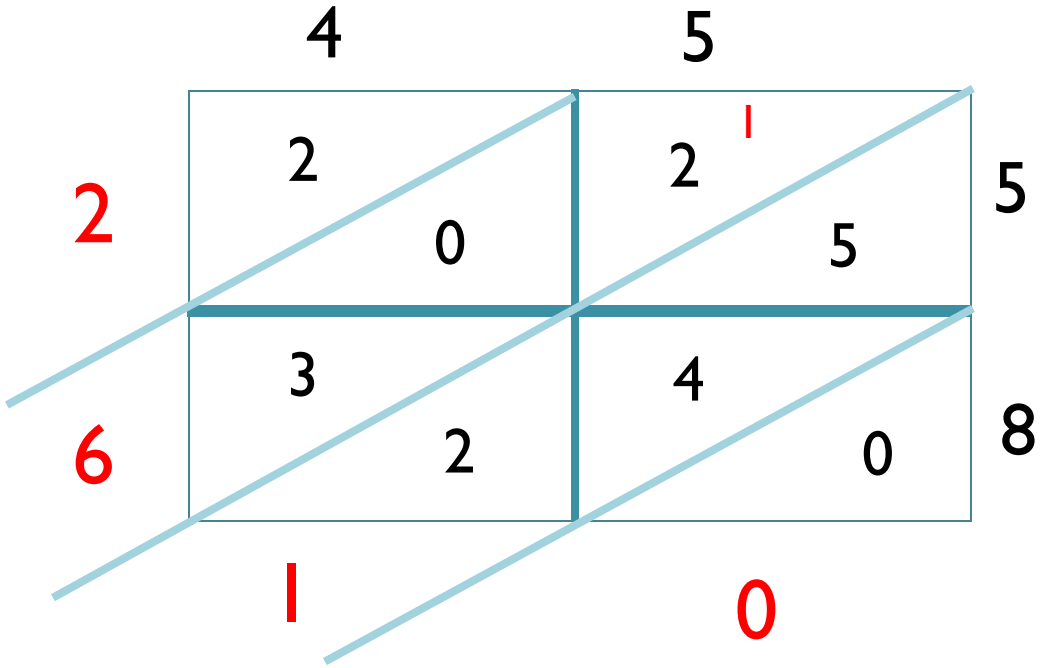
800
100
120
+ 15
1,035

4TH GRADE

- Multiply a whole number of up to 4-digits by a 1-digit number and multiply two 2-digit numbers

Lattice

45 x 58= 2,610



4TH GRADE

- Divide whole numbers of up to 4-digits by 1-digit

Partial Quotients aka "Big 7"

The 258 students in fourth grade are separated into 6 groups. How many students are in each group?

```
6 | 258
  - 120   20
    138
  - 120   20
     18
   - 18 + 3
      0    43
```

1x6=6
10x6=60

2x6=12
20x6=120

5x6=30
50x6=300

4TH GRADE

- Divide whole numbers of up to 4-digits by 1-digit

Partial Quotients aka "Big 7"

3,695÷8= 461 R 7

8	3,695	
	-1,600	200
	2,095	
	-1,600	200
	495	
	- 400	50
	95	
	- 80	10
	15	
	- 8	+ 1
	7	461

1x8=8
10x8=80
100x8=800

2x8=16
20x8=160
200x8=1,600

5x8=40
50x8=400
500x8=4,000

5TH GRADE

- Solve problems using the order of operations

$$6-(5-3)+10$$
$$=6-2+10$$
$$=4+10$$
$$=14$$

P → Parenthesis or grouping symbols
E → Exponents
M → Multiplication } whichever comes first – in order
D → Division } from left to right.
A → Addition } whichever comes first – in order
S → Subtraction } from left to right.

- Multiply numbers by powers of 10

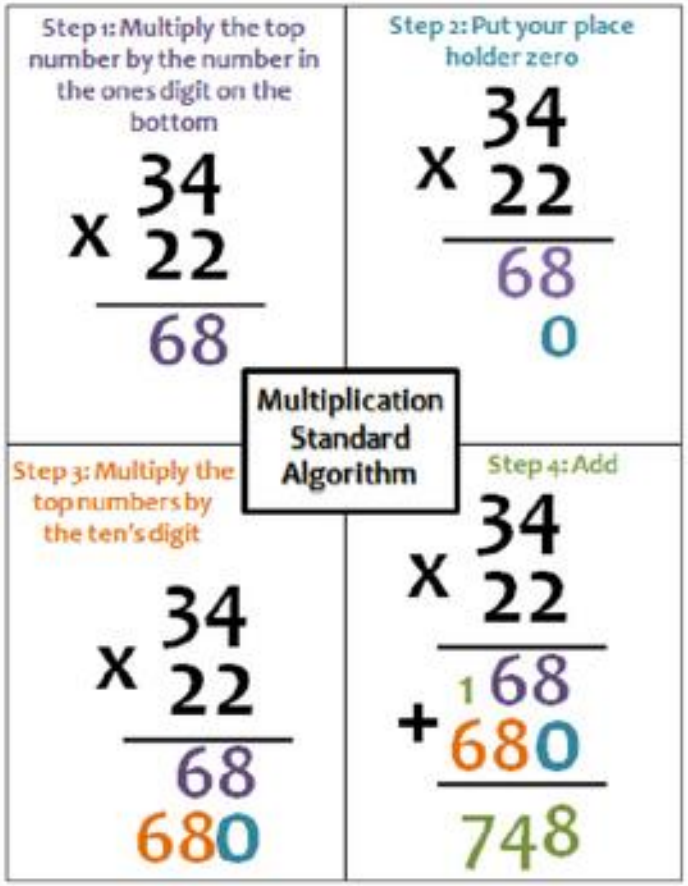
As we multiply, the numbers get larger!

The exponent tells us how many zeros we need.

$8 \times 10^1 = 80$
$8 \times 10^2 = 800$
$8 \times 10^3 = 8,000$

5TH GRADE

- Multiply multi-digit whole numbers using the standard algorithm



5TH GRADE

- Divide up to 4-digit numbers by 2-digit numbers using place value strategies

Partial Quotients aka "Big 7"

```
        107 R 4
16 | 1,716 |
   -1,600 |   100
      116 |
     - 80 |     5
       36 |
     - 32 | +   2
        4 |   107
```

16x1=16
16x10=160
16x100=1600

16x2=32

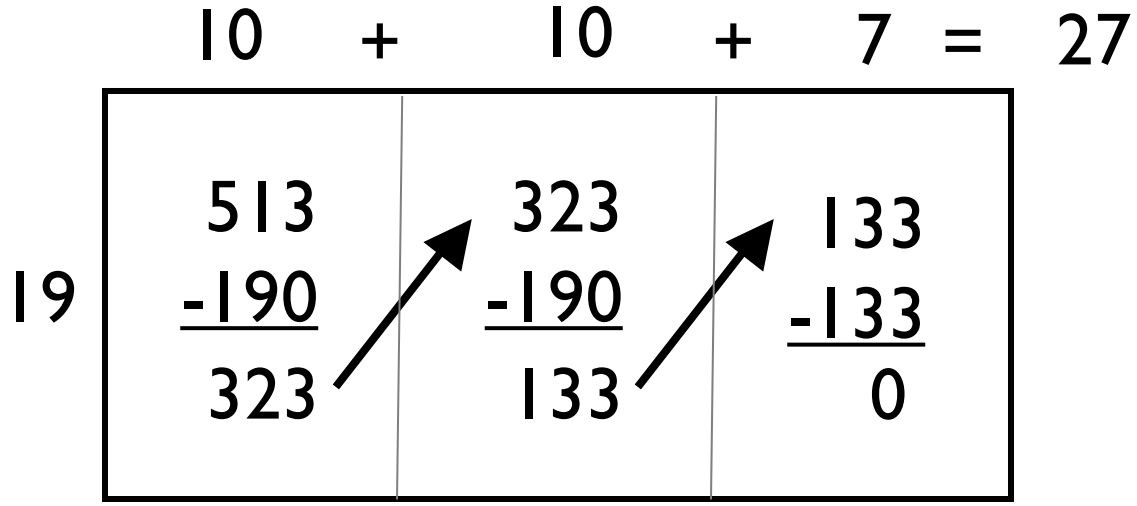
16x5=80

5TH GRADE

- Divide up to 4-digit numbers by 2-digit numbers using place value strategies

Area Model

513÷19= 27

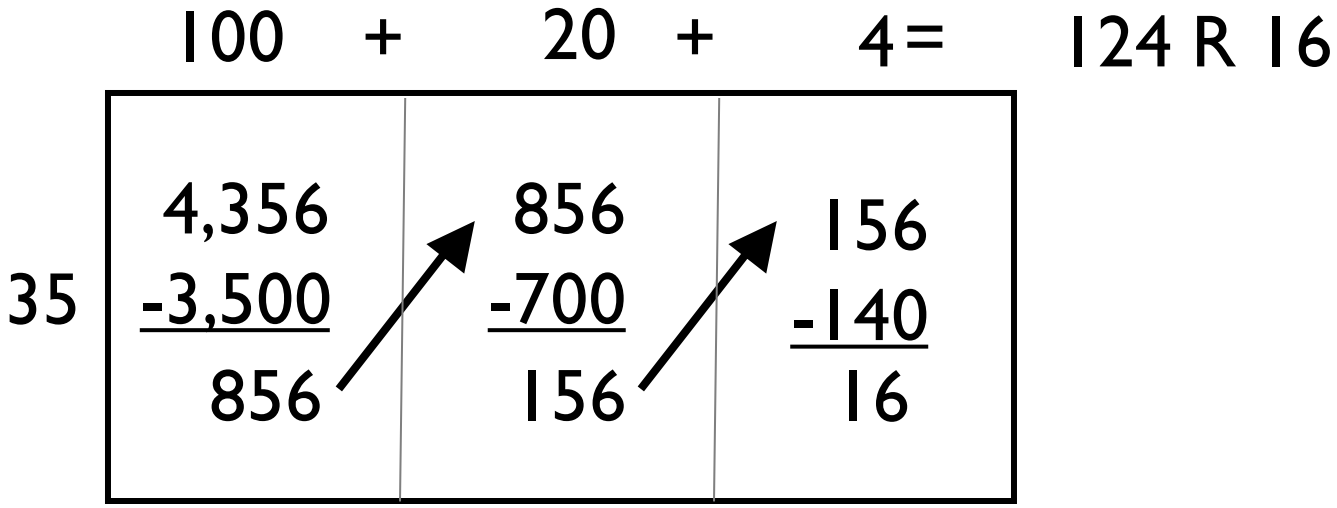


5TH GRADE

- Divide up to 4-digit numbers by 2-digit numbers using place value strategies

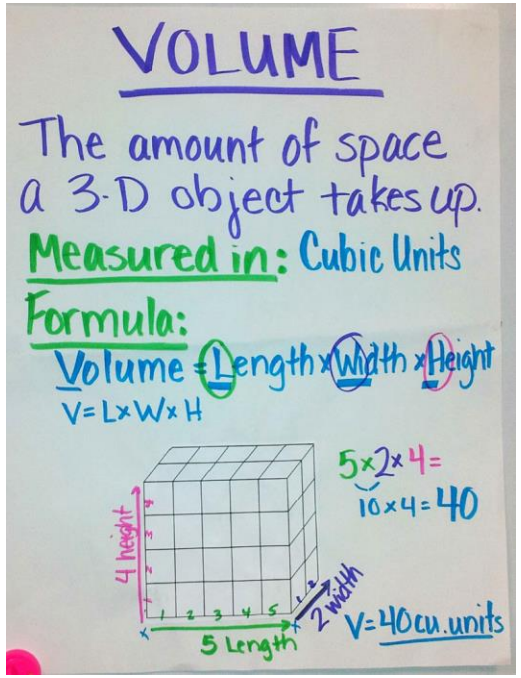
Area Model

4,356÷35= 124 R 16

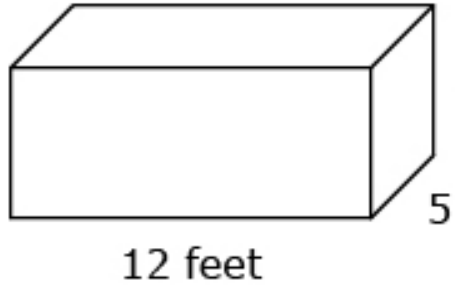


5TH GRADE

- Use the formula v=l x w x h to find the volume of rectangular prisms



A storage container in the shape of a rectangular prism has the dimensions shown in the diagram below.



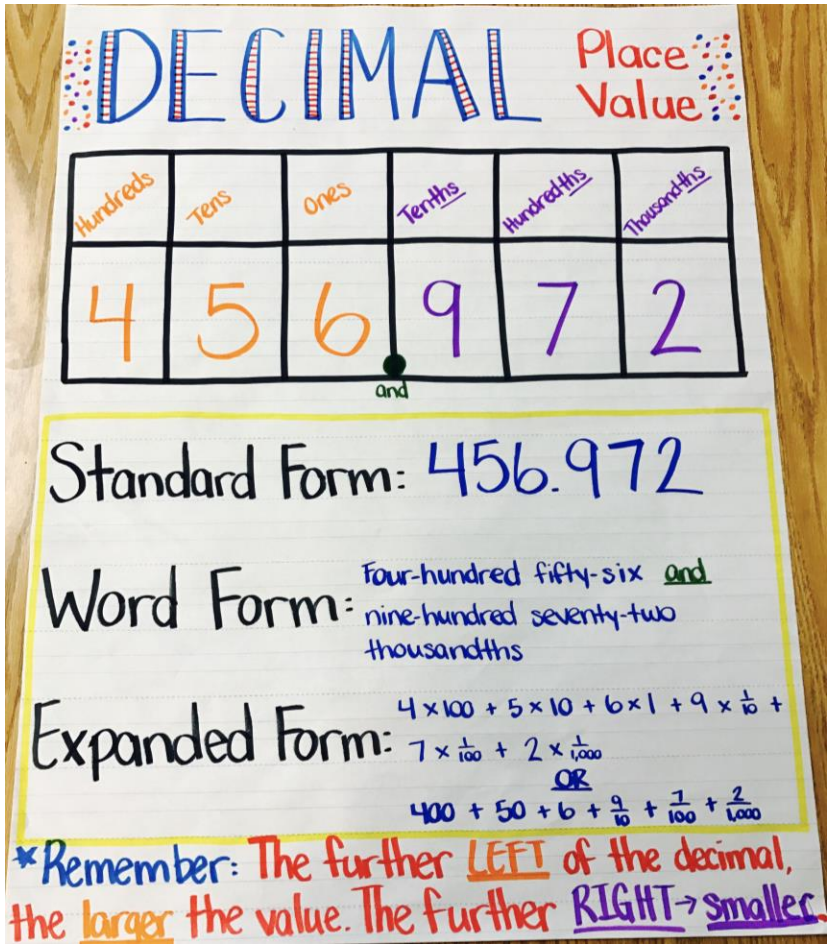
L x W x H
12 x5 x 5
60 x 5
300 ft ^{3}

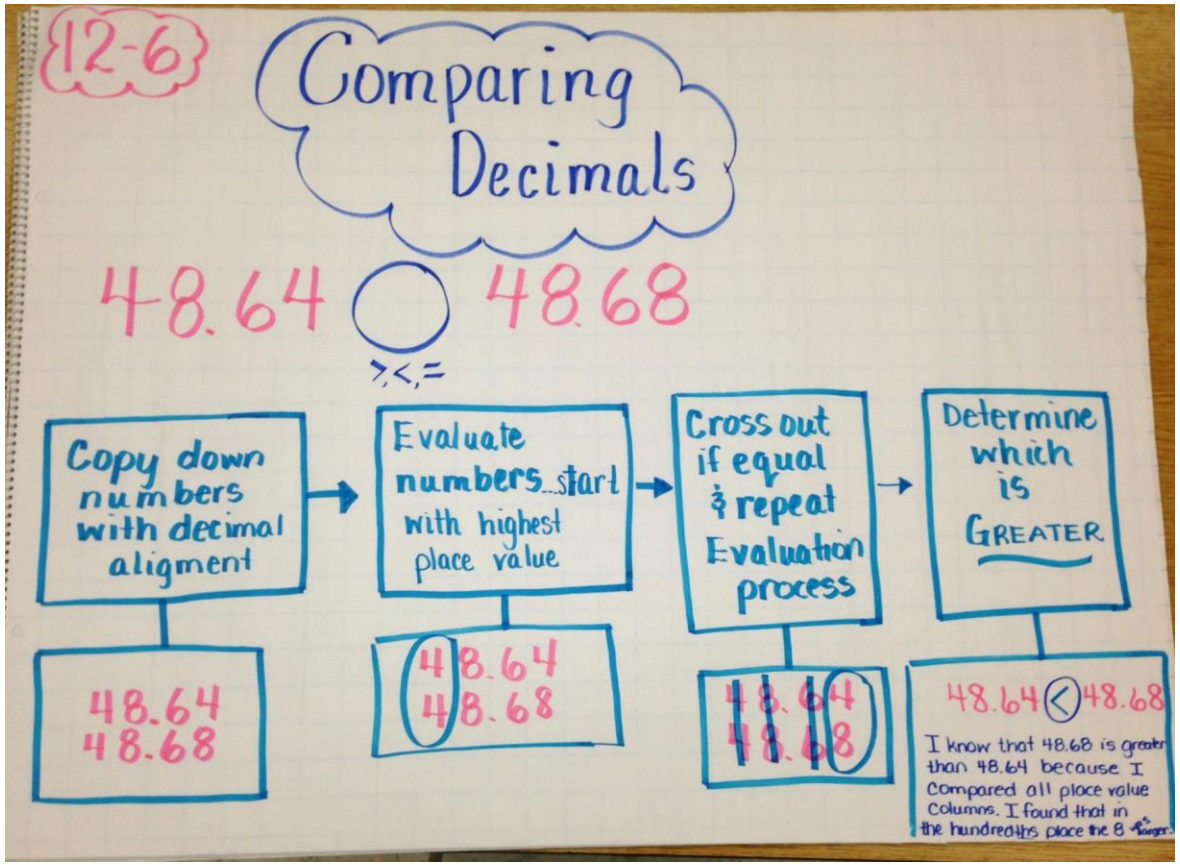
What is the volume, in cubic feet, of the storage container?

- Solve real world problems involving volume

5TH GRADE

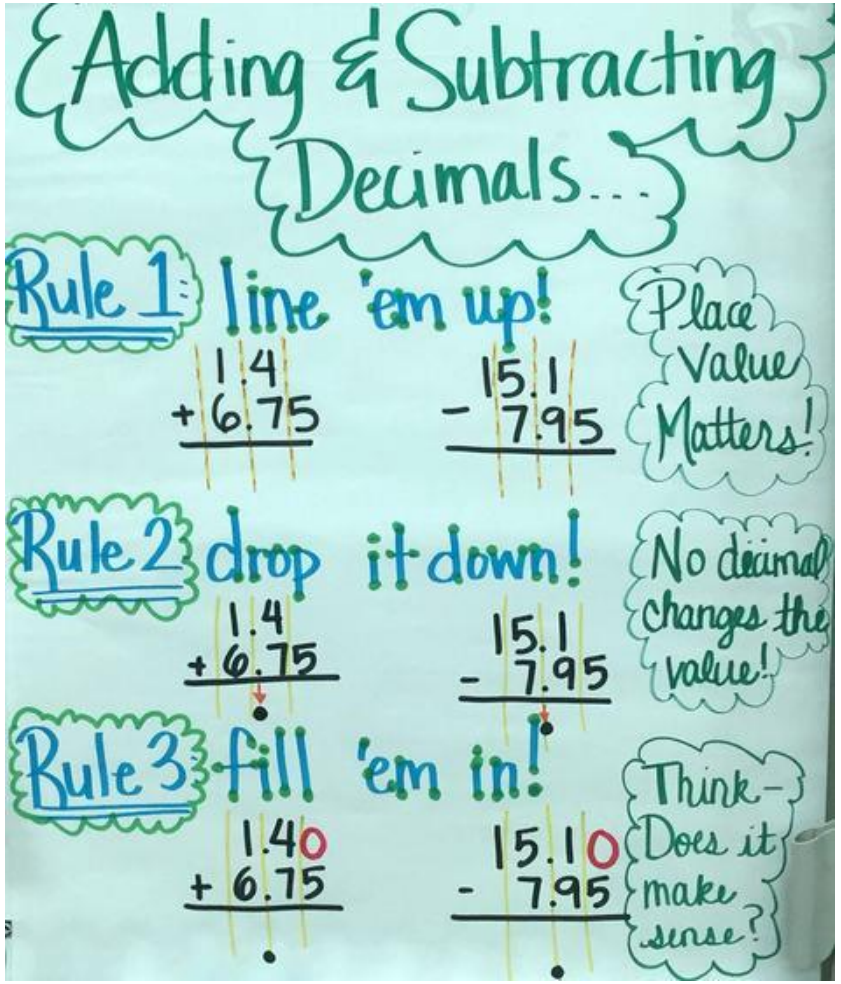
- Read, write, and compare decimals to the thousandths place





5TH GRADE

- Add and subtract decimals



Games to Play with a Deck of Cards

http://www.pepnonprofit.org/uploads/2/7/7/2/2772238/acing_math.pdf

http://www.coffeecupsandcrayons.com/simple-math-card-games/

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