



Ocean Breeze
2/22/2022

B.E.S.T. Standards for Mathematics

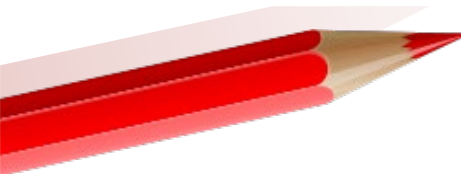
#Two-sday
#MathistheBEST

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Development of Florida's B.E.S.T. Standards for Mathematics

- Based on Executive Order 19-32 issued by Governor Ron DeSantis on January 31, 2019.
 - Florida's B.E.S.T. Standards for Mathematics were written by **workgroups** consisting of Florida mathematics **teacher experts**. The teacher experts represent the individuals in Florida who have **leadership roles in K-12** mathematics and **the Florida College System**.
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Development of Florida's B.E.S.T. Standards for Mathematics



Guiding Principles for Change



- High Expectations
- Clarity
- Alignment

Changes and Improvements

- Simplicity
- Practicality
- Specificity

Progression of Florida's B.E.S.T. Standards for Mathematics


K	1	2	3	4	5	6	7	8	9-12
Number Sense and Operations (NSO)									
	Fractions (FR)								
Algebraic Reasoning (AR)									
								Functions (F)	
								Financial Literacy (FL)	
Measurement (M)									
Geometric Reasoning (GR)									
								Trigonometry (T)	
Data Analysis and Probability (DP)									
								Logic and Discrete Theory (LT)	
								Calculus (C)	
Mathematical Thinking and Reasoning Standards (MTR)									



B.E.S.T. KINDERGARTEN

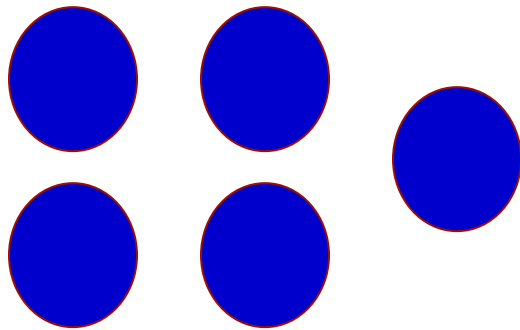


In Kindergarten, instructional time will emphasize these three areas:

- 
- developing an understanding of counting to represent the total number of objects in a set and to order the objects within a set;
 - developing an understanding of addition and subtraction and the relationship of these operations to counting and
 - measuring, comparing and categorizing objects according to various attributes, including their two- and three-dimensional shapes.

KINDERGARTEN

What groups do you see?



$$4 + 1$$

$$2 + 2 + 1$$

$$2 + 3$$


Decomposing a group

Subitizing

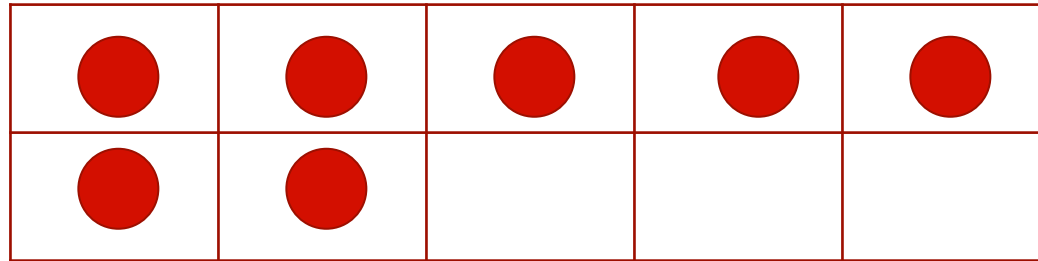
B.E.S.T. FIRST GRADE



In grade 1, instructional time will emphasize four areas:

- understanding the place value of tens and ones within two-digit whole numbers;
 - extending understanding of addition and subtraction and the relationship between them;
 - developing an understanding of measurement of physical objects, money, and time, and
 - categorizing, composing, and decomposing geometric figures.
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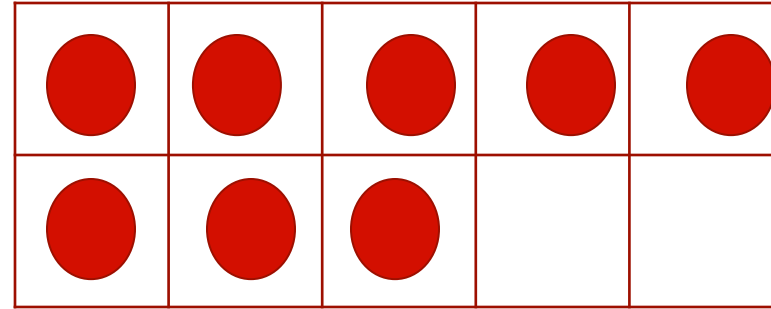
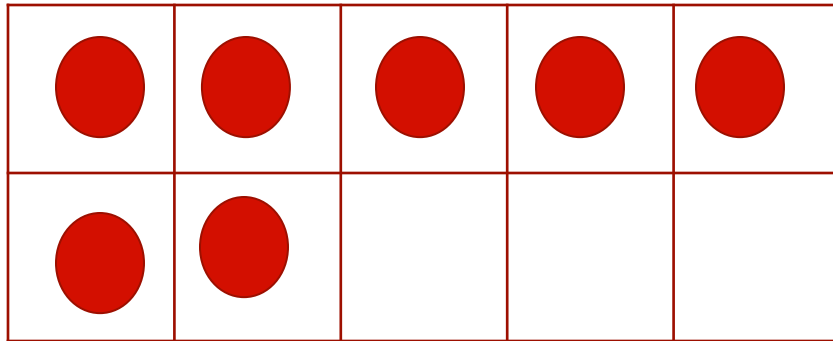
FIRST GRADE



●	●	●	●	●
●	●			

$$7 = 5 + 2$$
$$7 = 4 + 3$$
$$10 - 3 = 7$$

First Grade

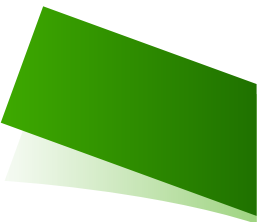
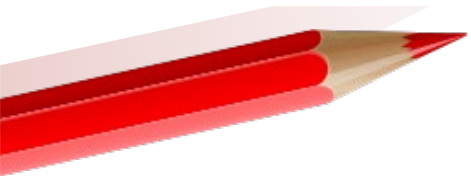


$$\begin{array}{r} 7 + 8 \\ \swarrow \quad \searrow \\ (7 + 3) + 5 \\ 10 \quad + 5 \end{array}$$

Decomposition

$$\begin{array}{r} 7 + 8 \\ \swarrow \quad \searrow \\ 5 + (2 + 8) \\ 5 + 10 \end{array}$$


Associative Property
(Addition)



B.E.S.T. SECOND GRADE



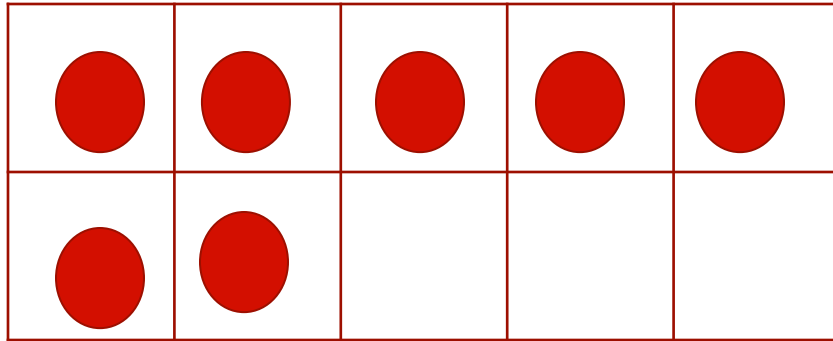
In grade 2, instructional time will emphasize four areas:

- Extending understanding of place value in three-digit numbers;
 - Building fluency and algebraic reasoning with addition and subtraction;
 - Extending understanding of measurement of objects, time and the perimeter of geometric figures and
 - Developing spatial reasoning with number representations and two-dimensional figures.
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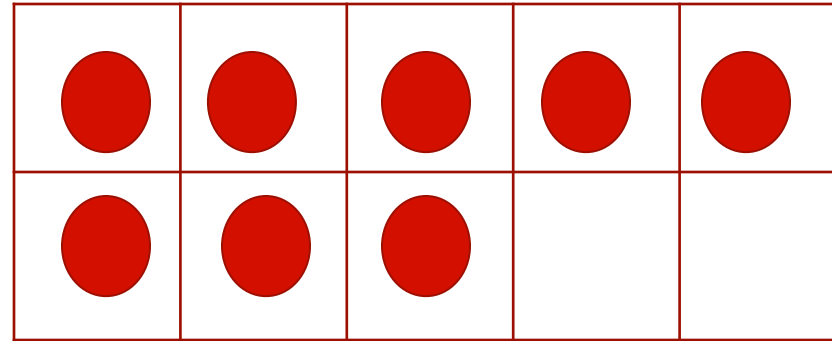
Second Grade

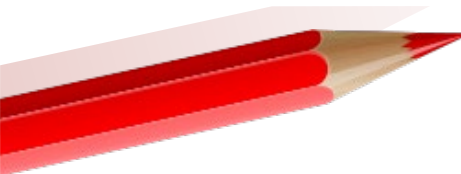


10 10



10 10 10




$$\begin{array}{r} 27 + 38 \\ 25 + (2 + 38) \\ 25 + 40 = 65 \end{array}$$

$$\begin{array}{r} 27 + 38 \\ (27 + 3) + 35 \\ 30 + 35 = 65 \end{array}$$

Decomposition



B.E.S.T. THIRD GRADE

In grade 3, instructional time will emphasize four areas:

- Adding and subtracting multi-digit numbers, including using a standard algorithm;
- Building an understanding of multiplication and division, the relationship between them and the connection to area of rectangles;
- Developing an understanding of fractions and
- Extending geometric reasoning to lines and attributes of quadrilaterals.

Third Grade

- Multiplication

- $4 \times \underline{7}$

- $(4 \times 5) + (4 \times 2)$

- $20 + 8 = 28$

- $\underline{7} \times 8$

- $(5 \times 8) + (2 \times 8)$

- $40 + 16 = 56$


- Distributive Property and Decomposition

	8
5	40
+	
2	16

B.E.S.T. FOURTH GRADE



In grade 4, instructional time will emphasize four areas:

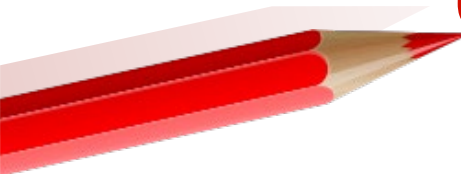
- Extending understanding of multi-digit multiplication and division;
 - Developing the relationship between fractions and decimals and beginning operations with both;
 - Classifying and measuring angles and
 - Developing an understanding for interpreting data to include mode, median, and range.
- 

Fourth Grade

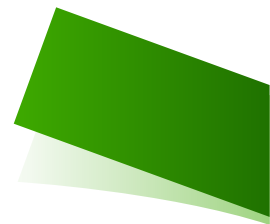


$$27 \times 38$$

	30	+ 8
20	600	160
+		
7	210	56


$$\underbrace{600 + 100 + 200}_{900} + \underbrace{60 + 10 + 56}_{126} = 1026$$

Distributive Property and Decomposition




B.E.S.T. FIFTH GRADE

In grade 5, instructional time will emphasize five areas:

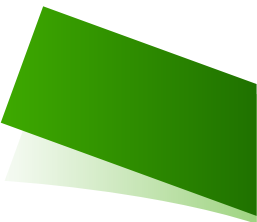
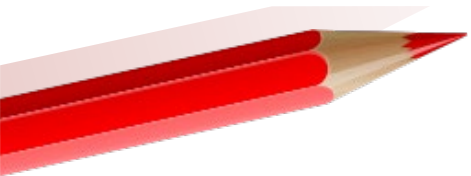
- Multiplying and dividing multi-digit whole numbers, including using a standard algorithm;
- Adding and subtracting fractions and decimals with procedural fluency, developing an understanding of multiplication and division of fraction and decimals;
- Developing an understanding of the coordinate plane and plotting pairs of numbers in the first quadrant;
- Extending geometric reasoning to include volume and
- Extending understanding of data to include the mean

Fourth-Fifth Grade




$$\begin{array}{r} 6 \overline{) 729} \\ \underline{-600} \quad 6 \times 100 \\ 129 \\ \underline{-60} \quad 6 \times 10 \\ 69 \\ \underline{-60} \quad 6 \times 10 \\ 9 \\ \underline{-6} \quad 6 \times 1 \\ 3 \end{array}$$

Decomposition and Distribution



B.E.S.T. SIXTH GRADE

In grade 6, instructional time will emphasize five areas:

- Performing all four operations with integers, positive decimals and positive fractions with procedural fluency;
- Exploring and applying concepts of ratios, rates and percent to solve problems;
- Creating, interpreting and using expressions and equations;
- Extending geometric reasoning to plotting points on the coordinate plane, area and volume of geometric figures and
- Extending understanding of statistical thinking.

Fifth - Seventh Grade

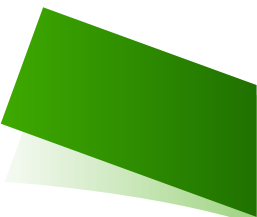
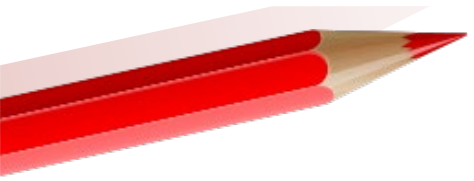


$$3\frac{1}{2} \times 2\frac{1}{3} = \underline{\hspace{2cm}}$$

$$\frac{7}{2} \times \frac{7}{3} =$$

	2	+	$\frac{1}{3}$
3	6		1
+			
$\frac{1}{2}$	1		$\frac{1}{6}$

$$8\frac{1}{6}$$



Distributive Property and Decomposition

Algebra



$$(x + 7)(x + 8)$$

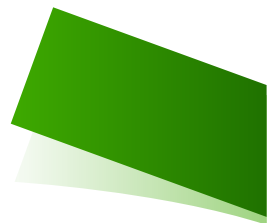
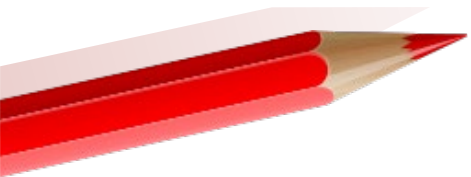
x	x^2	$7x$
+		
8	$8x$	56

$$x \quad + \quad 7$$

$$x^2 + 15x + 56$$

Thoughts or
Comments?

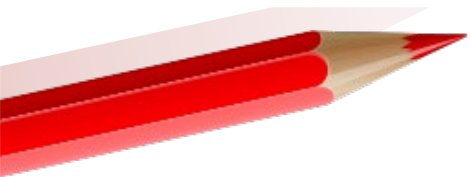
FOIL



Let's Do Some Math



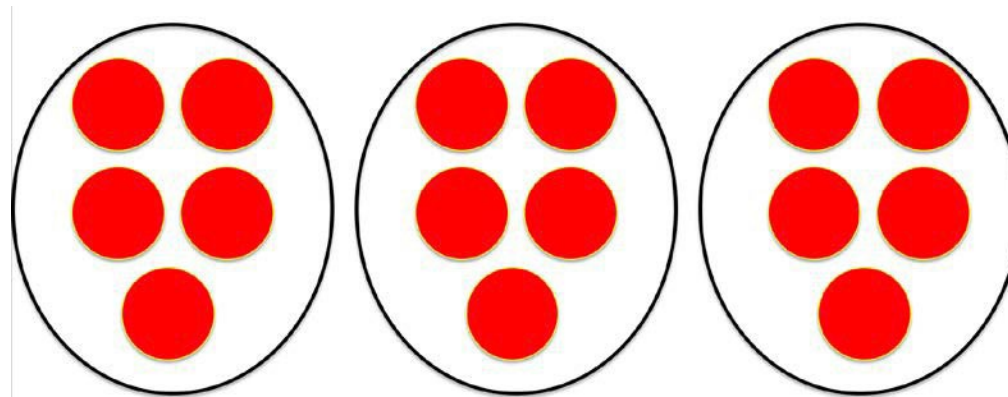
- Think about how you find the product 3×5 in as many ways as you can.



Example Representation

- $3 \times 5 = 15$
- $15 = 3 \times 5$

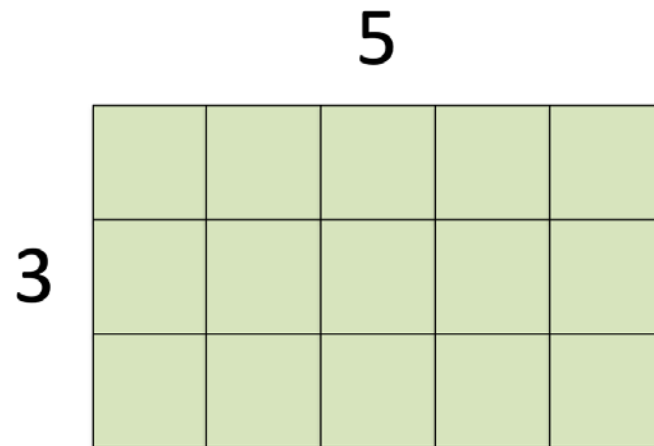
Example Representation | Equal Groups



Example Representation | Array



Example Representation | Area Model



Example Representation | Multiplication Table

	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

Example Representation | Real-World Problem

Billy ran three miles a day for five days. How many miles did he run after the five days?

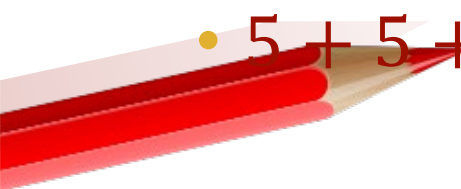
Representation | Commutative Property of



- $3 \times 5 = 5 \times 3$

Example Representation | Repeated Addition

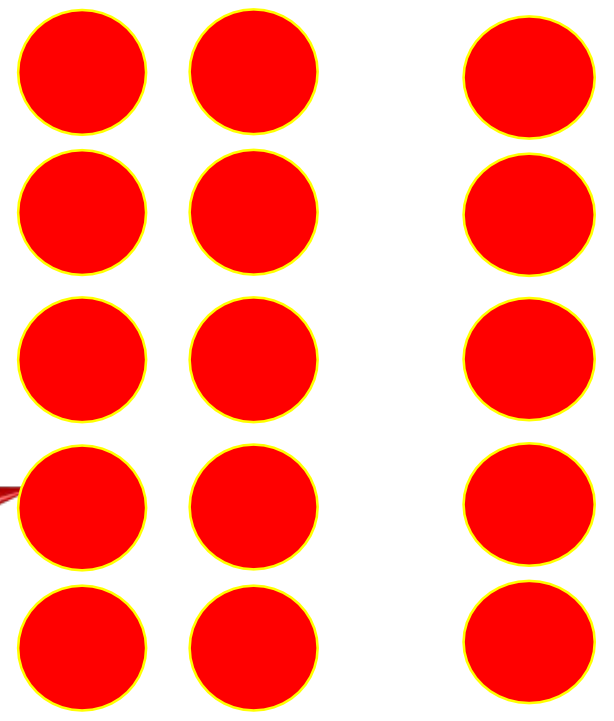
- $5 + 5 + 5 = 3 \times 5$



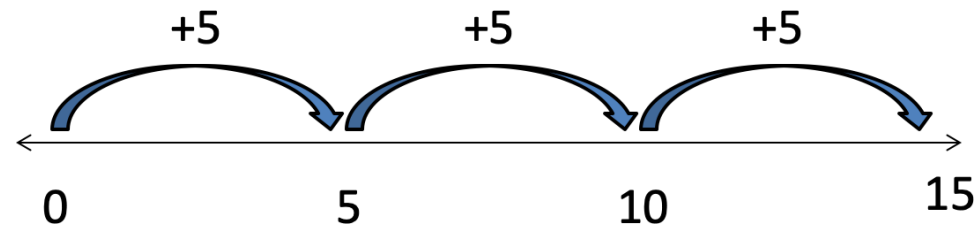
Representation 1 Distributive Property of



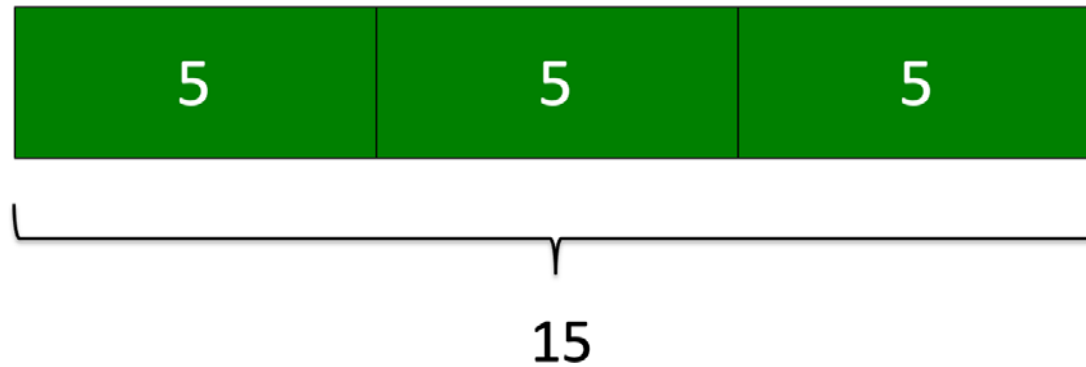
- $3 \times 5 = (2 \times 5) + (1 \times 5)$



Example Representation | Number Line



Example Representation | Bar Model





Thank You!

Shruti Raman