

**WELCOME 4TH AND 5TH GRADE
FAMILIES TO LUNCH AND LEARN
MATH**

RUSSELL ELEMENTARY

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WHAT ARE THE STATE AND DISTRICT EXPECTATIONS IN MATH?

IN 4TH GRADE – 3 CRITICAL AREAS

- **DEVELOPING AN UNDERSTANDING AND FLUENCY IN MULTI DIGIT MULTIPLICATION AND DIVISION.**
- **DEVELOPING AN UNDERSTANDING OF FRACTIONS WITH ADDITION AND SUBTRACTION AS WELL AS MULTIPLICATION OF FRACTIONS BY WHOLE NUMBERS**
- **UNDERSTANDING THAT GEOMETRIC FIGURES CAN BE CLASSIFIED BASED ON THEIR PROPERTIES. (PARALLEL SIDES, ANGLE MEASUREMENTS, SYMMETRY)**

IN 5TH GRADE – 3 CRITICAL AREAS

- **DEVELOPING FLUENCY WITH ADDITION AND SUBTRACTION OF FRACTIONS. UNDERSTANDING MULTIPLICATION AND DIVISION OF FRACTIONS.**
- **EXTENDING DIVISION TO 2 DIGIT DIVISORS, INTEGRATING DECIMAL FRACTIONS INTO THE PLACE VALUE SYSTEM, DEVELOPING FLUENCY OF WHOLE NUMBERS AND DECIMALS.**
- **DEVELOPING AN UNDERSTANDING OF VOLUME.**

WHERE ARE WE NOW ? WHERE ARE WE HEADED?

4TH GRADE

- **FRACTIONS!**

- **ADDING AND SUBTRACTING FRACTIONS WITH LIKE DENOMINATORS**
- **COMPARING AND DECOMPOSING FRACTIONS**
- **USING THEIR KNOWLEDGE OF PARTITIONING IN ORDER TO COMPOSE AND DECOMPOSE FRACTIONS.**
- **CONSTRUCT AND EXPLAIN A LINE PLOT USING FRACTIONS TO DISPLAY DATA**
- **USE THE FOUR OPERATIONS TO SOLVE WORD PROBLEMS INVOLVING TIME, MEASUREMENT, MONEY AND/OR VOLUME.**

5TH GRADE

- **DECIMALS AND FRACTIONS!**

- **USE THE FOUR OPERATIONS TO SOLVE PROBLEMS INVOLVING DECIMALS**
- **APPLY THE RULES FOR ORDER OF OPERATIONS TO SOLVE PROBLEMS WITH WHOLE NUMBERS AND DECIMALS.**
- **MULTIPLY AND DIVIDE DECIMALS WITH FLUENCY.**
- **ADD AND SUBTRACT FRACTIONS USING VISUAL MODELS AND /OR EQUATIONS.**
- **ADD AND SUBTRACT FRACTIONS WITH UNLIKE DENOMINATORS.**

HOW CAN I HELP MY 4TH GRADE STUDENT AT HOME?

WORD PROBLEM

HELP YOUR STUDENT UNDERSTAND ADDITION AND SUBTRACTION OF FRACTIONS IS JOINING (COMPOSING) AND SEPARATING (DECOMPOSING) PARTS REFERRING TO THE SAME WHOLE.

EXAMPLE:

$$1\frac{1}{4} - \frac{3}{4} = ?$$

$$\frac{4}{4} + \frac{1}{4} = \frac{5}{4}$$

$$\frac{5}{4} - \frac{3}{4} = \frac{2}{4} \text{ OR } \frac{1}{2}$$

A FRACTION WITH A NUMERATOR OF 1 IS CALLED A UNIT FRACTION. BEING ABLE TO VISUALIZE UNIT FRACTIONS WILL HELP WHEN ADDING AND SUBTRACTING FRACTIONS WITH WHOLE NUMBERS

EXAMPLE:

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

MARY AND LACEY DECIDE TO SHARE A PIZZA. MARY ATE $\frac{3}{6}$ AND LACEY ATE $\frac{2}{6}$. HOW MUCH PIZZA DID THE GIRLS EAT ALL TOGETHER?

ONE STRATEGY:

$$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

THIS ONE IS PRETTY STRAIGHTFORWARD. BUT STUDENTS COULD USE THIS STRATEGY:

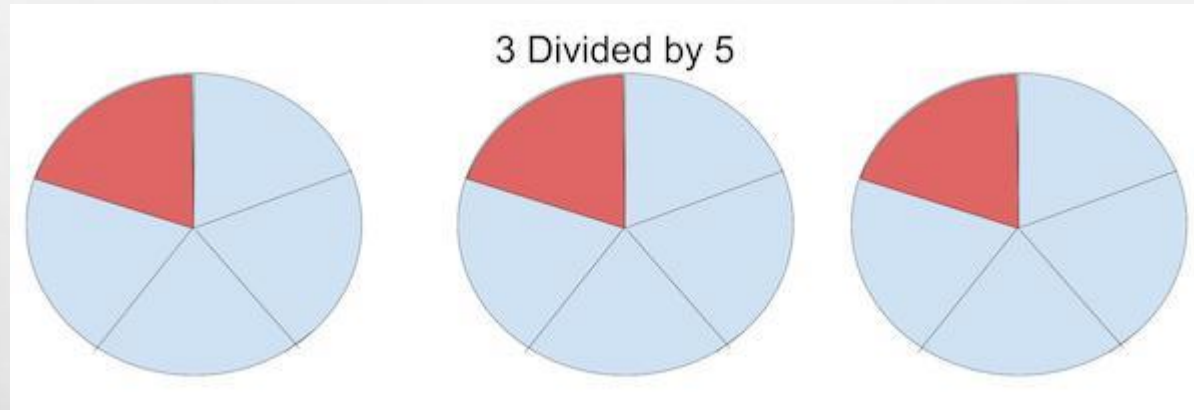
$$\frac{3}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} \text{ AND } \frac{2}{6} = \frac{1}{6} + \frac{1}{6}$$

IS THE SAME AS

$$\frac{5}{6}$$

DECOMPOSE A FRACTION INTO A SUM OF FRACTIONS WITH THE SAME DENOMINATOR IN MORE THAN ONE WAY, RECORDING EACH DECOMPOSITION BY AN EQUATION. JUSTIFY BY USING A VISUAL MODEL.

Ask students what is 3 divided by 5. Many students struggle with this type of question. You might hear responses like, “you can’t divide three by five.” Other students will attempt to do long division

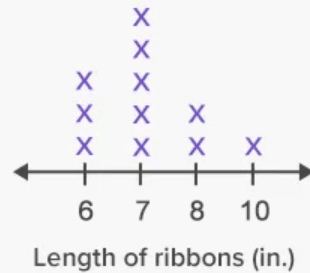


But a simple visual model can make clear why a fraction is equal to the numerator divided by the denominator. Draw three circles, and divide each circle five ways. Take $\frac{1}{5}$ from each circle and combine them to make $\frac{3}{5}$.

CREATING A LINE PLOT

Length of ribbon (in.)	Tally	Number of ribbons
6	///	3
7	////	5
8	//	2
10	/	1

Line Plot



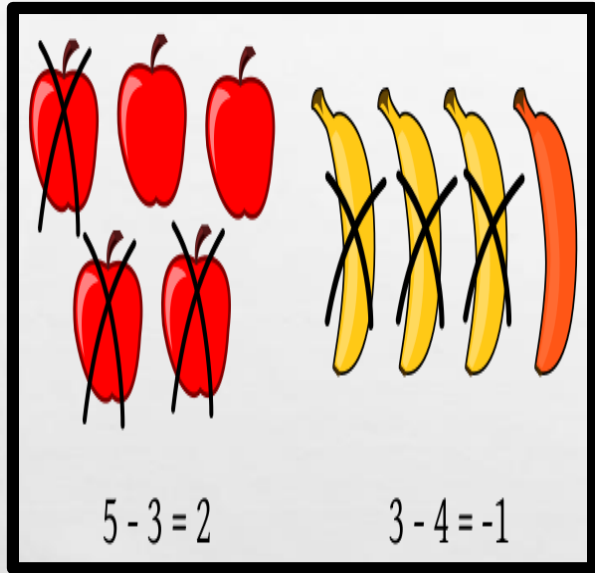
Students will be given a set of data, then will be able to create a line plot to explain that data.

WHAT ARE THE FOUR BASIC OPERATIONS OF MATH?

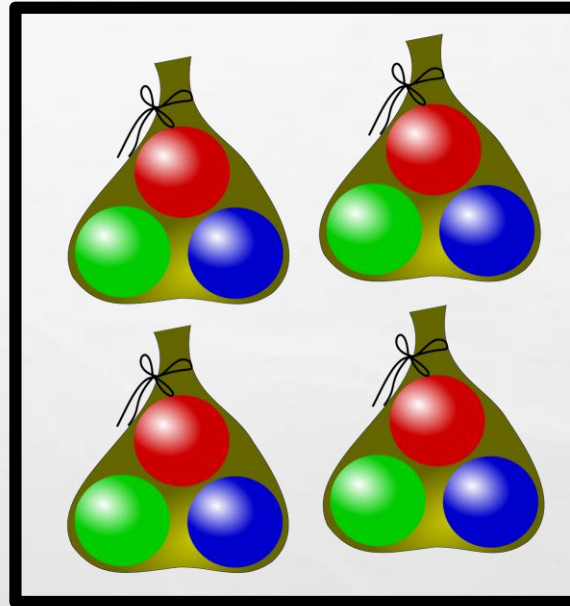
$$\begin{array}{r} 1 \\ 652 \\ + 471 \\ \hline 1123 \end{array}$$

Addition

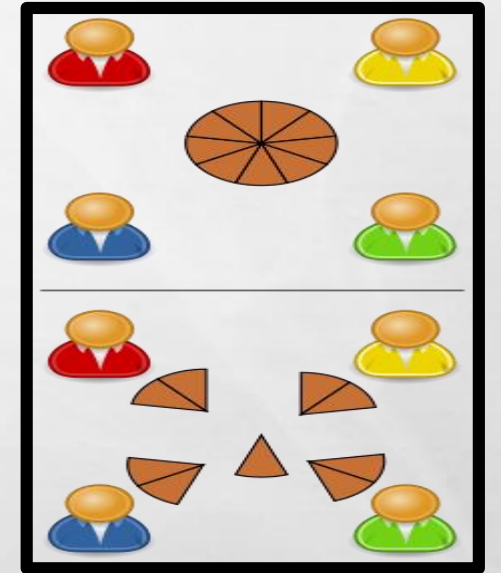
Remember, basic math is all about composing and decomposing numbers, whether you are working with time, volume, money, or fractions and decimals!



Subtraction



Multiplication



Division

HOW CAN I HELP MY 5TH GRADE STUDENT AT HOME?

QUESTIONS TO CONSIDER....

- ❖ **WHAT TWO NUMBERS SHOULD MY PRODUCT OR QUOTIENT FALL BETWEEN?**
- ❖ **IS MY ANSWER REASONABLE?**
- ❖ **CAN I USE ANOTHER STRATEGY TO CHECK MY WORK**
- ❖ **HELP YOUR CHILD DEVELOP CRITICAL THINKING SKILLS**

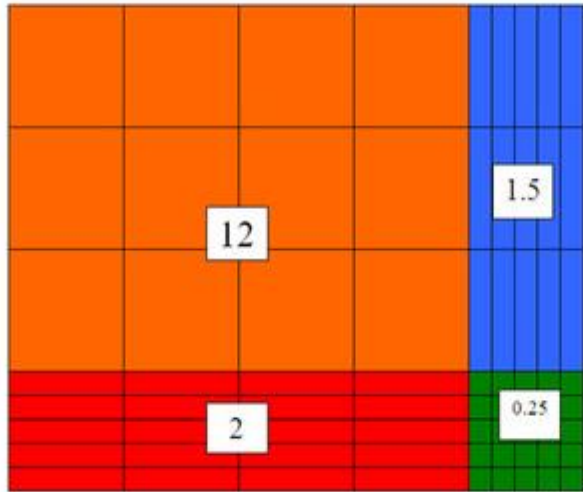
REMEMBER STUDENTS NEED TO KNOW THAT ITS JUST AS IMPORTANT TO KNOW HOW TO GET THE CORRECT ANSWER AS THE CORRECT ANSWER ITSELF!!!!!!!!!!

Strategies to Multiply Decimals

An area model can be used to multiply decimals by decimals. By decomposing each number by its place value, you can easily find partial products. Add the partial products to get your final product

Below is another version of the area model. The partial products are the same as those shown in the model

Scenario 1 – $4.5 \times 3.5 = 15.75$ ounces



	4	.5
3	$4 \times 3 = 12$	$3 \times .5 = 1.5$
.5	$4 \times .5 = 2$	$.5 \times .5 = .25$

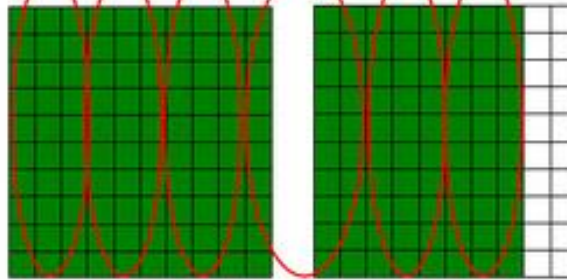
$$12 + 2 + 1.5 + 0.25 = 15.75$$

Strategies to Divide Decimals

We can also use grids and number lines to divide decimals by decimals

B:

Problem 1: $1.8 \div 0.3 = 6$

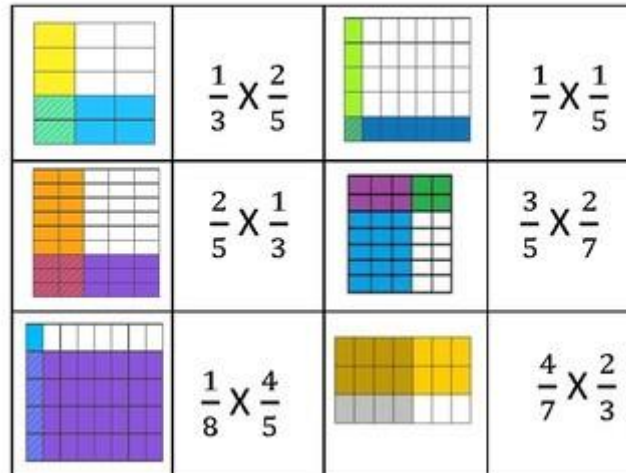


Problem 2: $2.4 \div 0.8 = 3$



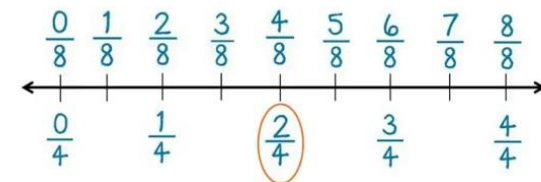
WORKING WITH FRACTIONS!

In 4th grade students added and subtracted fractions with LIKE denominators. In 5th grade student will build on that knowledge and work with fractions with UNLIKE denominators, to find a common denominator. They will be learning to use the four standard math operations to find solutions. Students will use a variety of strategies like *area models and number lines* BEFORE moving into the standard algorithm.



Guided Practice

Kevin ran $\frac{2}{4}$ of a mile. Destiny ran $\frac{4}{8}$ of a mile. Did they run an equivalent distance?



ORDER OF OPERATIONS

AS STUDENTS BECOME MORE FLUENT IN BASIC MATH OPERATIONS, THEY WILL LEARN TO INTERPRET PROBLEMS THAT CONTAIN MATHEMATICAL EXPRESSIONS SUCH AS PARENTHESES AND EXPONENTS.

EXAMPLE: $2 \times (8+7)$

HERE'S A MNEMONIC DEVICE

TO HELP YOU REMEMBER

PEMDAS

(PLEASE EXCUSE MY DEAR AUNT SALLY)

PARENTHESIS, EXPONENTS, MULTIPLY, DIVIDE, ADD, SUBTRACT



"Operations" mean things like add, subtract, multiply, divide, squaring, etc. If it isn't a number it is probably an operation.
But, when you see something like ...

$$7 + (6 \times 5^2 + 3)$$

... what part should you calculate first?

Start at the left and go to the right?

Or go from right to left?

Warning: Calculate them in the wrong order, and you can get a wrong answer!

So, long ago people agreed to follow rules when doing calculations, and they are:

Order of Operations

Do things in Parentheses First, then

[Exponents](#) (Powers, Roots) before you Multiply, Divide, Add or Subtract

Multiply or Divide before you Add or Subtract

Otherwise just go left to right

So...

6×5 to the second power or $6 \times 25 = 150$ then....

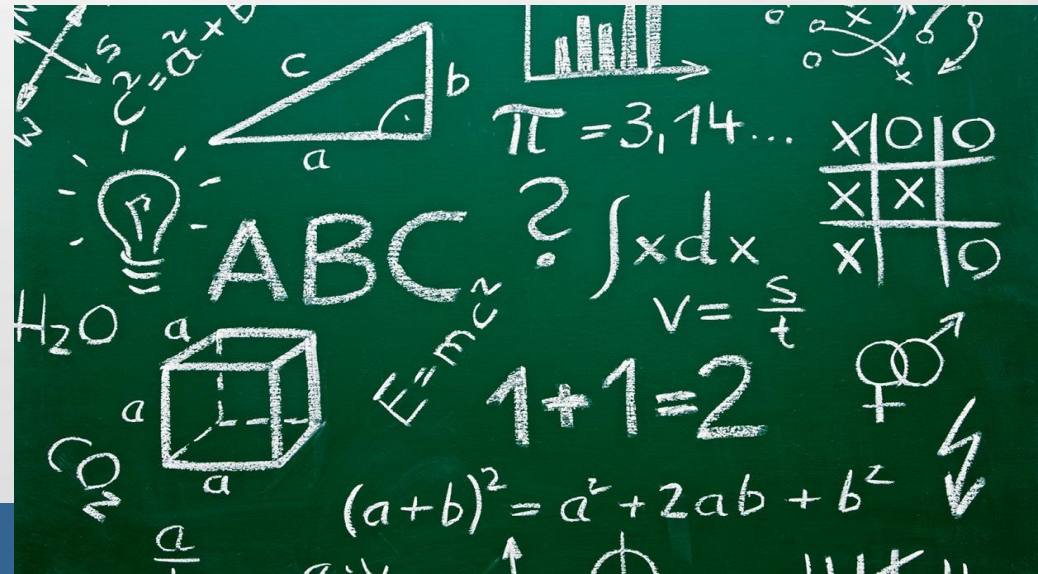
$$7 + 150 + 3 = 160$$

ON-LINE RESOURCES

USE THESE ON-LINE RESOURCES TO HELP YOUR CHILD AT HOME!

- **FUN BRAIN - [HTTP://FUNBRAIN.COM](http://funbrain.com)**
- **MATH BLASTER - [HTTP://MATHBLASTER.COM](http://mathblaster.com)**
- **MULTIPLICATION.COM - [HTTP://MULTIPLICATION.COM](http://multiplication.com)**
- **LEARN ZILLION - [HTTP://LEARNZILLION.COM](http://learnzillion.com)**
- **HOODA MATH - [HTTP://HOODAMATH.COM](http://hoodamath.com)**
- **MANGA HIGH - [HTTP://MANGAHIGH.COM](http://mangahigh.com)**
- **MATH GAME TIME - [HTTP://MATHGAMETIME.COM](http://mathgametime.com)**
- **MATH PLAYGROUND - [HTTP://MATHPLAYGROUND.COM](http://mathplayground.com)**
- **CRYPTOKIDS - [HTTP://WWW.NSA.GOV/KIDS/HOME.SHTML](http://www.nsa.gov/kids/home.shtml)**
- **COOL MATH GAMES - [HTTP://WWW.COOLMATH-GAMES.COM/](http://www.coolmath-games.com/)**
- **PBS LEARNING - [HTTPS://PBSLEARNINGMEDIA.ORG](https://pbslearningmedia.org)**

- **GEORGIA DEPT. OF EDUCATION - [HTTPS:// GADOE.ORG](https://gadoe.org)**
- **HOUSTON COUNTY BOARD OF EDUCATION - [HTTPS:// HCBE.NET](https://hcbe.net)**
- **RUSSELL ELEMENTARY - [HTTPS:// RES.HCBE.NET](https://res.hcbe.net)**
 - **AND CHECK OUT THIS GREAT YOUTUBE CHANNEL:
*MATH WITH MR. J***



THANK YOU FOR JOINING US TODAY!

PLEASE FILL OUT YOUR EXIT POLL!

QUESTIONS? CONCERNS? CONTACT ME.....

**JILL.TYLER@HCBE.NET 478-929-7830 EXT. 3232 OR MESSAGE ME THROUGH
CLASS DOJO.**

