



# MATH MATTERS



## Resources and Ideas for Families

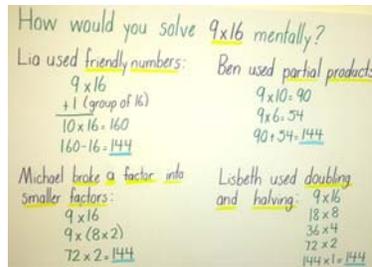
### WELCOME!

This newsletter is sent home to families every nine weeks. It provides information on what your child is learning in math, activities you can do at home to reinforce the content, and suggestions for books and resources you can use to help your child learn math.

### BUILDING A MATHEMATICAL COMMUNITY

#### NUMBER TALKS

During math class, students should experience a Number Talk, a structured classroom conversation around a purposefully crafted computation problem that is solved mentally.



Sharing and discussing computation strategies provide students with the opportunity to:

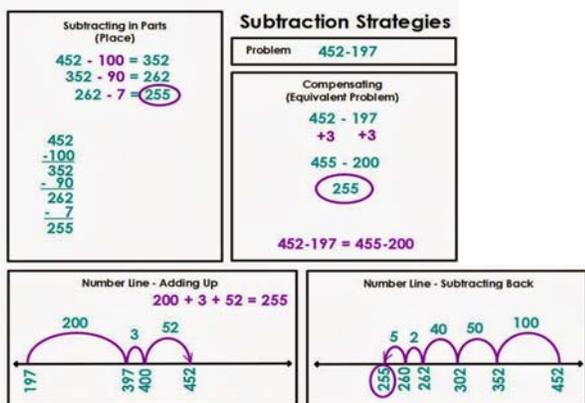
- Clarify thinking.
- Investigate and apply mathematical relationships.
- Build a repertoire of efficient strategies.
- Make decisions about choosing efficient strategies for specific problems.
- Consider and test other strategies to see if they are mathematically logical.

*Number Talks: Helping Children Build Mental Math and Computation Strategies, by: Sherry Parrish.*

#### STUDENT INVENTED STRATEGIES

During Number Talks, students are encouraged to use student invented strategies, flexible methods of computing that vary with the numbers and the situation. Successful use of the strategies requires that they be understood by the one who is using them --- hence the term invented. Flexible methods of computation involve decomposing and composing numbers in a wide variety of ways.

*Elementary and Middle School Mathematics Teaching Developmentally, by: Van de Walle, Karp, and Bay-Williams*



### MATH IS FUN!

Check out the [MATH IS FUN](http://www.mathisfun.com) website which contains resources to help children learn math. Here you will find "How to Videos", Online Games, Vocabulary, and APPs related to the content your child is learning.



[www.jcpsmath.weebly.com](http://www.jcpsmath.weebly.com)

### During the 2nd nine weeks, Fifth Grade students learn to:

- **Add and subtract fractions with unlike denominators (including mixed numbers) by creating equivalent fractions with like denominators.** See "Adding and Subtracting Fractions" for more information.
- **Solve addition and subtraction word problems containing fractions by using visual models or equations and with benchmark fractions.** For example, Emily buys 1/3 lb. of turkey at the store. She already has 5/8 lb. of turkey at home. How many pounds of turkey does she have?
- **Explain that multiplication of a whole number by a fraction is the partitioning of the whole number into equal parts.** For example, 6 x 1/3 is partitioning 6 into 3 equal parts.
- **Multiply a fraction by another fraction using a rectangular array.** For example, 4/5 x 1/4 could be represented as a rectangular array. See Strategies for Multiplying Fractions for more information.
- **Read, write and compare decimals to the thousandths using >, <, and =.** For example, 56.788 < 56.856, 45.679 > 45.678, and 349.090 = 349.09.
- **Use place value understanding to round decimals to any place.** For example, rounding 5.786 to the hundredth place is 5.79.



## Strategies for Multiplying Fractions

### Multiply a Mixed Number by a Whole Number: $2\frac{1}{4} \times 3$

**Strategy 1: Use a visual model.**

- 1) Draw the  $2\frac{1}{4}$  three times.
- 2) Count the shaded parts to find the product.



$$2\frac{1}{4} \times 3 = 6\frac{3}{4}$$

**Strategy 2: Break apart the number**

- 1) Break  $2\frac{1}{4}$  into the whole number plus the fraction.

$$2\frac{1}{4} = 2 + \frac{1}{4}$$

- 2) Multiply each number by 3.

$$(2 \times 3) + (1/4 \times 3) = 6 + \frac{3}{4}$$

- 3) Now add the new products together,  $6 + \frac{3}{4} = 6\frac{3}{4}$

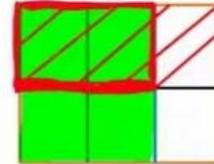
## Strategies for Multiplying Fractions

### Multiply a Fraction by a Fraction: $1/2 \times 2/3$

**Strategy 1: Use a rectangular array.** In fifth grade, students must represent fraction equations with visual models such as the rectangular array.

$$\frac{1}{2} \times \frac{2}{3} = \frac{2}{6} \text{ or } \frac{1}{3}$$

$$\frac{1}{2} \text{ of } \frac{2}{3} = \frac{2}{6} \text{ or } \frac{1}{3}$$



**Strategy 2: Use the algorithm.**

- 1) Multiply the numerators.
- 2) Multiply the denominators.

$$\frac{1}{2} \times \frac{2}{3} = \frac{1 \times 2}{2 \times 3} = \frac{2}{6} = \frac{1}{3}$$

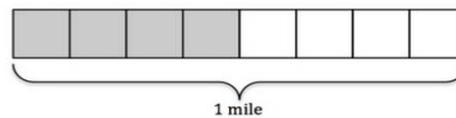
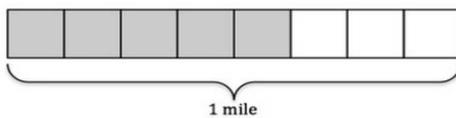
# MATH TASK

## Jog-a-thon

Alex is training for his school's Jog-a-thon and needs to run at least 1 mile per day. If Alex runs to his grandma's house, which is  $5/8$  of a mile away, and then to his friend Justin's house, which is  $1/2$  of a mile away, will he have trained enough for the day?

**Solution:** In total, Alex ran  $1 \frac{1}{8}$  miles.

Alex ran  $5/8$  of a mile to his grandma's house and  $1/2 = 4/8$  of a mile to his friend Justin's house. The picture on the left represents Alex's run to his grandma's house, and the picture on the right represent Alex's run to his friend Justin's house.



By combining the two trips, we can see that Alex ran 1 full mile and an additional  $1/8$  mile.

From: Illustrative Mathematics

