5th Grade News

Ms. Balestreire & Ms. Nisson January 2018

Reading Skill Focus

Compare Perspectives: Read about an event you and your child attended or write your own accounts of an event you shared. Read the two pieces and then compare the differences between them, like the perspectives from which they were written.

Talk about the reading experiences – Have your child describe the characters in the story, the problems the characters experience and tell how the problem is solved or discuss the information.

Current PYP Unit

Unit: Where We Are In Place and Time

Central Idea: Changes to society can be based on exploration and or colonization

Question to discuss with your child: How does exploration benefit mankind? What are the positive/negative effects of exploration?

Upcoming Events

5th Grade is very excited as we move toward exhibition. We are looking for parents who consider themselves experts in creative expression (various forms) and would be willing to share your knowledge with our students. For example, musicians, photographers, artist, dancers, poets, authors, etc. Please contact Ms. Balestreire, Ms. Nisson or Ms. Courtien.

January 15– Martin Luther King Jr (No School)

January 30– End of marking period

Math Standards and Strategies

In this unit students will bring prior knowledge of multiplying whole numbers and fractions. This prior knowledge is extended to multiplying fractions less than one to scale as students scale recipes, both up and down, with whole numbers and mixed numbers.

The concept is developed through work with equations using both fractions and whole numbers to scale numbers up and down, which develops understanding that scaling with numbers less than one has the same meaning as scaling with whole numbers.

5.NF.B.5.A Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

5.NF.B.5.B Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

Grade Level Website

http://abalestreire.wixsite.com/southshore5

Grade 5 Parent Newsletter

Multiplying Fractions as Scaling

Dear Parents,

In this unit students will bring prior knowledge of multiplying whole numbers and fractions. This prior knowledge is extended to multiplying fractions less than one to scale as students scale recipes, both up and down, with whole numbers and mixed numbers.

The concept is developed through work with equations using both fractions and whole numbers to scale numbers up and down, which develops understanding that scaling with numbers less than one has the same meaning as scaling with whole numbers.

Thank you for your support,
Your Child's 5th Grade Teacher

Vocabulary:

Fraction: a number that names equal parts of a whole; a fraction names a point on the number line and can also represent the division of two numbers.

Numerator: the number above the fraction bar in a fraction that tells the number of equal parts that are being described.

Denominator: the number below the fraction bar in a fraction that tells the number of equal parts in the whole.

Equivalent fraction: two or more fractions that name the same part of a whole or the same point on a number line.

Mixed number: a number with a whole part and a fractional part.

Product: the result of multiplication.

Factor: a number that is multiplied.

Scaling: resizing a quantity by multiplying.

How can you help your child be successful in mathematics?

Important Concepts:
-Students will be multiplying mixed numbers by a mixed number.

-Students will also be learning the concept of scaling. Scaling relates to resizing a number based on the other factor. While scaling, products can be greater or less.

Misconceptions:
A conceptual challenge students may encounter is understanding multiplication of mixed numbers and thinking that multiplication will always result in a product greater than both factors.

Things to Do:
Students need ample opportunities to explore using visual models when multiplying with fractions in order to develop a conceptual understanding. Encourage your child to draw pictures or use a number line when working with fractions.

Strategies to Support Student Learning

Multiplying by a fraction less than 1:

$$6 \times \frac{1}{2} \text{ or } \frac{1}{2} \text{ of } 6$$

$$= 3$$

*Results in a product less than one of the factors.

Multiplying by a Mixed Number:

$$4 \times 2\frac{1}{4} \text{ or } 2\frac{1}{4} \text{ of } 4$$

$$= 9$$

*Results in a product greater than both factors.

Multiplying Mixed Numbers Using the Area Model:

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

	3	$\dfrac{1}{2}$
2	$2 \times 3 = 6$	$2 \times \dfrac{1}{2} = \dfrac{2}{2}$
$\dfrac{3}{4}$	$\dfrac{3}{4} \times 3 = \dfrac{9}{4}$	$\dfrac{3}{4} \times \dfrac{1}{2} = \dfrac{3}{8}$

$$6 + \frac{2}{2} + \frac{9}{4} + \frac{3}{8}$$

$$6 + \frac{2}{2} + \frac{18}{8} + \frac{3}{8} = 7\frac{21}{8} \text{ or } 9\frac{5}{8}$$

Games to Support Home-to-School Connection

Ready® Center Activity 5.29 ★★

Multiplication As Scaling

What You Need

• Recording Sheet

Check Understanding

Without multiplying, use $<$, $=$, or $>$ to compare the expressions. Explain your reasoning.

$$\frac{2}{3} \times \frac{3}{4} \bigcirc \frac{6}{5} \times \frac{3}{4}$$

What You Do

1. Take turns. Choose one of the tables on the **Recording Sheet.**

2. Then choose one of the expressions in the top row of the table.

3. Compare the expression to the number in the table without multiplying. Tell your partner if the expression is *less than*, *equal to*, or *greater than* the given number in the table. Explain why.

4. Your partner checks your work.

5. If you are correct, write the expression in the correct category in the table. If you are incorrect, your turn ends.

6. Continue until all expressions have been placed in the correct category.

Is $\frac{5}{6} \times \frac{2}{7} > \frac{2}{7}$?

I can compare the first factor to 1. $\frac{5}{6}$ is less than 1 so I know the product will be less than the second factor.

Multiplication As Scaling

$\frac{7}{4} \times \frac{4}{7}$	$\frac{8}{9} \times \frac{4}{7}$	$1\frac{3}{4} \times \frac{4}{7}$	$\frac{2}{2} \times \frac{4}{7}$
$< \frac{4}{7}$		$= \frac{4}{7}$	$> \frac{4}{7}$

$\frac{2}{5} \times 1\frac{1}{5}$	$\frac{3}{8} \times 1\frac{1}{5}$	$\frac{10}{10} \times 1\frac{1}{5}$	$1\frac{1}{5} \times 1\frac{1}{5}$
$< 1\frac{1}{5}$		$= 1\frac{1}{5}$	$> 1\frac{1}{5}$

$\frac{3}{4} \times 2\frac{1}{4}$	$\frac{4}{4} \times 2\frac{1}{4}$	$\frac{9}{4} \times 2\frac{1}{4}$	$\frac{7}{4} \times 2\frac{1}{4}$
$< 2\frac{1}{4}$		$= 2\frac{1}{4}$	$> 2\frac{1}{4}$

Real World Connections

Scaling as multiplication can relate to construction around your home. Maybe you have a garden that you want to increase or decrease the size of. Or you want to increase the size of their play area in order to put in a trampoline. Students would have to increase or decrease the amount of materials needed. In addition they could determine the area for the new garden space.

Another way to practice scaling is to have them increase or decrease the servings in a recipe. If you only want to make ½ of a batch of cookies then they would have to decrease each ingredient by ½. If you wanted to make 2 Pumpkin Pies, they would need to multiply each ingredient by 2.

PUMPKIN
PECAN PIE

4 slightly beaten eggs
2 cups canned or mashed
   cooked pumpkin
1 cup sugar
½ cup dark corn syrup

1 teaspoon vanilla
½ teaspoon cinnamon
¼ teaspoon salt
1 unbaked 9-inch pie shell
1 cup chopped pecans

Combine the ingredients except pecans. Pour
into pie shell. Top with pecans. Bake at
350°F for 40 minutes, or until set.

Ronald Reagan Presidential Library and Museum