ST Math Immersion (Virtual)

Grade 5 Problem Solving - Answer Key

Week 1

Problem of the Day

Create a class "Getting to Know our Class" Chart. Ask the students questions to gather data about the class and record the information.

Data gathered will vary. Student discussions will depend on the data.

Look for:

- *Patterns in the data.*
- *Ways to organize the data.*
- *Mathematical comparisons that can be made.*
- *Conclusions that can be drawn from the data.*

Math Writing Prompt

Have students complete the math writing prompt, "What do you hope to learn in this program?"

Student answers will vary.

Complementary Fractions Pre-Work

Think about your strategy for multiplying a whole number by a whole number (e.g., 4 x 5). Would your strategy for multiplying a whole number by a fraction be the same? Why or why not?

If a student is thinking about "groups of" for multiplication, the strategy for multiplying a whole number by a fraction is similar to multiplying whole numbers. For example, 5 groups of $\frac{2}{3}$ is the same as 5 groups of 2 "one-third" sized pieces. Since 5 x 2 = 10, the product is 10 groups of "one-third" sized pieces, or $\frac{10}{3}$.

We've learned a lot about multiplying a whole number by a whole number (e.g., 6 x 3). What happens when you multiply a fraction by a fraction?

When you multiply a fraction by a fraction, a new denominator is created and the size of the numerator pieces changes.

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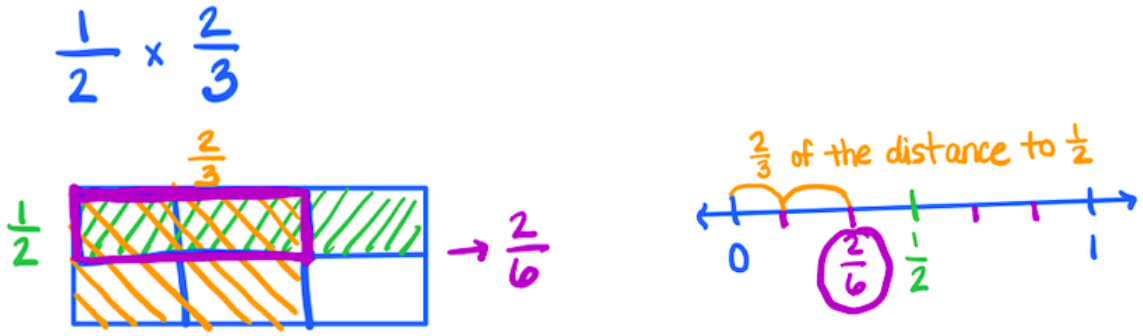

Roxanna is making brownies for the school bake sale. Each box of brownie mix requires $\frac{1}{8}$ cup of vegetable oil. Roxanna needs to make 6 boxes of brownie mix. What is the total amount of vegetable oil Roxanna needs to make all 6 boxes? Explain your thinking.

Roxanna needs $\frac{6}{8}$ cup of vegetable oil to make all 6 boxes of brownies.

Problem of the Day (G5_POD_W1_D3)

Trisha was in charge of making a sign for each $\frac{1}{4}$ mile distance for a 2-mile race. She marked the distances in decimals. What numbers did Trisha write on her signs?

0.25, 0.5, 0.75, 1, 1.25, 1.5, 1.75, 2 *or*

0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00

Writing Prompt (G5_Journal_W1_D3)

On a number line, how can you compare fractions and decimals? How do you know if a fraction and a decimal are equivalent on a number line?

Student explanations will vary.

Look for:

- *Numbers on a number line will be organized from least to greatest, with smaller numbers towards the left and larger numbers toward the right.*
- *Intervals on the number line can be represented by both fractions and decimals. (ex. $\frac{1}{4}$ and 0.25)*
- *Equivalent fractions and decimals are represented by the same place on a number line.*

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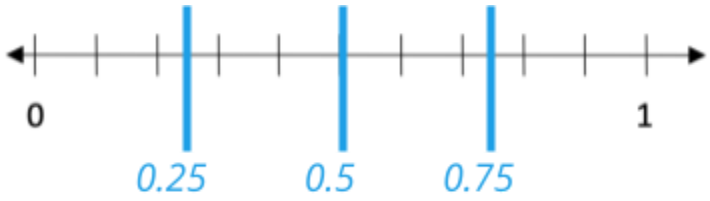
Problem of the Day (G5_POD_W1_D4)

Trisha's coach gave her this number line to record her distances for the first mile. Mark and label the quarter mile distances shown on her signs. If needed, you can draw the number line larger below.



Math Writing Prompt (G5_Journal_W1_D4)

Explain how you would place $\frac{3}{5}$ on a number line partitioned into tenths.

Student explanations will vary.

Look for:

- $\frac{2}{10}$ *is equivalent to* $\frac{1}{5}$.
- $\frac{3}{5}$ *represents three groups of* $\frac{1}{5}$.
- $\frac{3}{5}$ *is the same as* $\frac{6}{10}$.
- $\frac{3}{5}$ *would be placed at the sixth tick mark on a number line partitioned into tenths.*