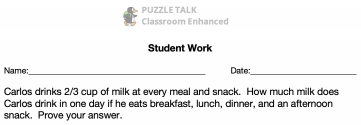
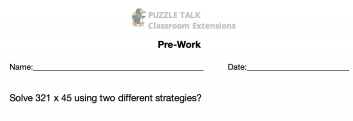
**PUZZLE TALK**
**Extensions**

**Fourth Grade** | **Fraction Multiplication** | **Crank Pies**
**Fraction Multiplication**

These activities extend the puzzles and the concepts learned in the puzzles throughout the week. The activities might be tasks, word problems, journal writing activities, or hands-on activities designed to deepen student understanding and help students make connections.

*Some of the activities listed below work well in a remote environment and can be easily added to your virtual classroom. The activities that can be used remotely are designated as such.*

| | |
|---|---|
| $\frac{2}{4}+\frac{2}{4}+\frac{2}{4}+\frac{2}{4}$ | • Give students a whiteboard, dry erase marker, and fraction tools, such as Cuisenaire rods, number lines, fraction strips, etc. Display a fraction repeated addition sentence (e.g., 2/4 + 2/4 + 2/4 + 2/4 + 2/4).<br>• Ask students to write the corresponding multiplication sentence (e.g., 5 x 2/4) and solve the problem.<br>• Ask students to draw a picture and solve the repeated addition sentence to show their solution.<br>• Repeat with other fraction repeated addition sentences. |
| $5\ x\ \frac{2}{6}$ $3\ x\ \frac{1}{8}$ $3\ x\ \frac{4}{5}$ | • Put students into small groups of 2-3. Give each group a fraction multiplication number sentence (e.g., 5 x 1/3).<br>• Ask the group to:<br>○ (1) Write a story problem that could be solved with the number sentence<br>○ (2) Write a repeated addition sentence to represent the number sentence and<br>○ (3) Solve the problem. Have different student groups share their story problem with the whole class.<br>• Have students solve the problem and share their strategies. |
|  PUZZLE TALK Classroom Enhanced<br>**Student Work**<br>Name:_____ Date:_____<br>Carlos drinks 2/3 cup of milk at every meal and snack. How much milk does Carlos drink in one day if he eats breakfast, lunch, dinner, and an afternoon snack. Prove your answer. | • Pose the following problem to students:<br>○ Carlos drinks 2/3 cup of milk at every meal and snack. How much milk does Carlos drink in one day if he eats breakfast, lunch, dinner, and an afternoon snack. Prove your answer.<br>• Have students work with a partner and use their fraction tools to help them solve the problem.<br>• Share students' solutions and strategies.<br>***(Can be used remotely)*** |
| | • Display the following problems on the board: 2 x 1/3 and 1/3 x 2.<br>• Ask students, "Do these two problems have the same solution? How could you prove it?"<br>• Give students a whiteboard, dry erase marker, and fraction tools, such as Cuisenaire rods, number lines, fraction strips, etc.<br>• Have students to work with a partner to determine their position.<br>• Have students draw a picture to prove their answer.<br>• Discuss as a whole group. Connect fraction multiplication to whole number multiplication and prove that order doesn't matter. The answer to both problems is 2/3. |
|  PUZZLE TALK Classroom Extensions<br>**Pre-Work**<br>Name:_____ Date:_____<br>Solve 321 x 45 using two different strategies? | • **If you are using Puzzle Talks as part of your remote learning plan,** it is important to think about how to maximize the learning in the virtual environment. One strategy might be to do Pre-Work. Pre-Work encourages students to think about the concept prior to the Puzzle Talk. |

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## Student Work

Name:_____ Date:_____

Carlos drinks 2/3 cup of milk at every meal and snack. How much milk does Carlos drink in one day if he eats breakfast, lunch, dinner, and an afternoon snack. Prove your answer.

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# Pre-Work

Name:_____ Date:_____

Compare 3 x 5 and 3 x 2/5.

What is a mixed number? What does a mixed number represent?

Lucy is making chocolate chip muffins for the school bake sale. Each batch of muffins needs 2/3 cup milk. If Lucy makes 6 batches of muffins, how much milk will Lucy use? Show your work?

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