PUZZLE TALK
Extensions

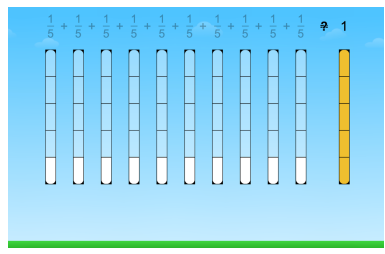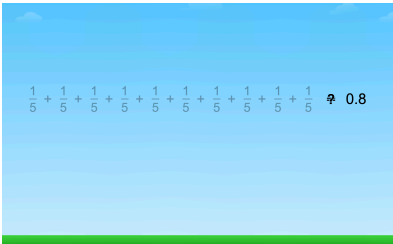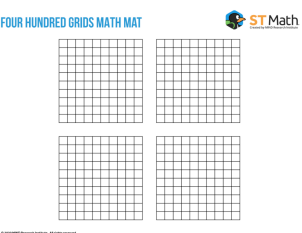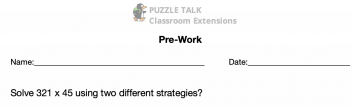| Fifth Grade	Fraction and Decimal Concepts	Complementary Fractions

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.

<table>
<tr>
<td>

PUZZLE TALK
Classroom Enhanced

Student Work

Name:_____ Date:_____

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

</td>
<td>

- Pose the following story problem to students:
  - Trisha was in charge of making a sign for each ¼ mile distance for a 2-mile race. She marked the distances using decimals and fractions. What numbers did Trisha write on her signs?
- Have students work with a partner or small group to solve the problem.
- Share students' solutions as a whole class. Ask students to prove how they know the fractions and decimals are equal.
- Ask students, "How can you prove your fractions total 2 miles?"
  (Can be used remotely)

</td>
</tr>
<tr>
<td>

$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$ ☐ 1

</td>
<td>

- Display a puzzle from Level 3. Read the puzzle together to determine how to solve. (For example, "How many one-fifths are needed to equal six tenths?")
- Give students whiteboards and dry erase markers. Ask students to work with a partner to solve and to record their answer as a multiplication sentence. (For example, 3 x 1/5 = 6/10.) Repeat with the remaining puzzles in Level 3.

</td>
</tr>
<tr>
<td>

$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$ ☐ 0.8

</td>
<td>

- Give students whiteboards and dry erase markers. Display the first puzzle in Level 4 that shows one fifths. Ask students to read the decimal shown and write the decimal in expanded form (e.g., 8 = 8 x 1/10). Then ask students to write a decimal that would be greater than the one shown, less than the one shown and equal to the one shown.
- Share students' solutions as a class.
- Select a few of the answers and work together as a class to prove they are true. Then say to students, "This puzzle shows one fifths. How can we prove that 2/10 = 1/5?" Share students' solutions and then solve the puzzle. Repeat with a few more puzzles in Level 4.

</td>
</tr>
<tr>
<td>

FOUR HUNDRED GRIDS MATH MAT ST Math

</td>
<td>

- Give each student a laminated Four Hundreds Grid Math Mat and dry erase markers.
- Have students get into groups of 2. Have student 1 shade in squares on their game mat and show it to to student 2. Student 2 should name the squares shaded as both a decimal on fraction on the line on the game mat.
- Then, student 2 should use their game mat to show a decimal that is LESS than the one shown on student 1's game mat. Ask student groups to share their game mats and prove they are correct.
- Have students switch roles and repeat, asking students to show decimals that are greater than, less than or equal to the decimal shown.

</td>
</tr>
<tr>
<td>

PUZZLE TALK
Classroom Extensions

Pre-Work

Name:_____ Date:_____

Solve 321 x 45 using two different strategies?

</td>
<td>

- **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.

</td>
</tr>
</table>

Name: _____   Date: _____

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

Name: _____   Date: _____

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?

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?

Roxanna is making brownies for the school bake sale. Each box of brownie mix requires 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.