Fourth Grade

Adding and Subtracting Fractions

Pie Monster Addition

Materials

Blank paper Pie Monster game mat

Linking cubes and/or strips of paper for creating fractions



- Give students the Pie Monster game mat and dry erase markers. Display the first puzzle in Level 1. Ask students, "What do you notice? What do you think we need to do to solve this puzzle?"
- Share students' thinking. Solve the puzzle and watch the animation together. Discuss what happened in the puzzle.Ask students, "Are we adding or subtracting the pies? How could we name the amount of pie that Pie Monster is eating?"

Directions

Sample Questions

What to look for

- Display the next puzzle in Level 1 and ask students to solve the puzzle on their game mat. Have students turn and talk to a neighbor about their strategy for solving the puzzle. Share students' answers.
- Decide on the correct answer as a group, but then ask students what they think will happen if you choose a wrong answer. Have students make a prediction. Get the puzzle wrong and watch the animation. Discuss what happened. Solve with the correct answer.
- Solve the remaining puzzles in Level 1.



- What mathematics do you see in this puzzle?
- Could it be a subtraction problem? Addition problem? Explain.
- What are some things you need to understand about units to be able to solve this puzzle?
- Where do you see halves in this problem? How about thirds or fourths?

How does the student:

- explain the fractions they see in the visual model? (Can they see wholes and parts in the model?)
- understand the relationship between mixed numbers and fractions greater than one? (Do they
- understand that $1\frac{1}{4} = 5\frac{4}{4}$ which is $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$?)
- represent the problem with equations?
- understand the relationship between addition and subtraction?