

FIGURING OUT
Fluency
ADDITION & SUBTRACTION
With Whole Numbers

A Classroom
Companion

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CORWIN Mathematics

Thank you

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Please enjoy this complimentary excerpt from Figuring Out Fluency - Addition and Subtraction With Whole Numbers, by John J. SanGiovanni, Jennifer M. Bay-Williams and Rosalba Serrano.

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ACTIVITY 3.6

Name: *“The Parts”*

Type: *Routine*

About the Routine: “The Parts” is a routine for reasoning and reinforcing Partial Sums and Differences. Any problem can be solved with partial sums and differences. And, as you know, many problems will have similar partials. This routine helps students see that different problems can have the same partial sum of 900, 70, or 14. It also aims to develop critical thinking and reasoning.

Materials: prepared Partial Sums equation, whiteboards or sticky notes for students (optional)

- Directions:**
1. Give clues for students to interpret.
 2. Students use the clues to create partials of an addition or subtraction problem.
 3. Students compare their thinking with a partner before finding out whether anyone in the class has created a problem that matches the teacher’s problem.

“The Parts”: Partial Sums Example

Teacher writes on the board: 900

Teacher poses: The sum of the hundreds is 900. What might the hundreds of each addend be?

Students determine a possibility and share their thinking. For example, Oscar thinks $300 + 600$.

Teacher writes on the board: 70

Teacher poses: The sum of the tens is 70. What might the tens of each addend be?

Students determine a possibility and share their thinking. For example, Oscar thinks $20 + 50$.

Teacher writes on the board: 14

Teacher poses: The sum of the ones is 14. What might the ones of each addend be?

Students determine a possibility and share their thinking. For example, Oscar thinks $7 + 7$.

Teacher poses: What are the two addends you came up with?

Oscar records $327 + 657$ and shares his expression with a partner.

The teacher solicits different expressions reinforcing that each has the sum of 984. The teacher reveals her Partial Sums problem and celebrates with the class if anyone has created the same problem. In this example, the teacher’s problem was $423 + 561$. The teacher might then have students compare and contrast their expression with the teacher’s, noting how certain place values are similar.

“The Parts”: Partial Differences Example

Teacher writes on the board: 400

Teacher poses: The difference of the hundreds is 400. What might the hundreds of each addend be?

Students determine a possibility and share their thinking. For example, Kristen thinks $600 - 200$.

Teacher writes on the board: -50

Teacher poses: The difference of the tens is -50. What might the tens of each addend be?

Students determine a possibility and share their thinking. For example, Kristen thinks $20 - 70$.

Teacher writes on the board: 3

Teacher poses: The difference of the ones is 3. What might the ones of each addend be?

Students determine a possibility and share their thinking. For example, Kristen thinks $5 - 2$.

Teacher poses: What do you think was the original subtraction problem?

Kristen records $625 - 272$ and shares her expression with a partner.

The teacher solicits different expressions reinforcing that each has the difference of 353. The teacher reveals her Partial Sums problem and celebrates with the class if anyone has created the same problem. In this example, the teacher's problem was $615 - 262$. The teacher might then have students compare and contrast their expression with the teacher's, noting how certain place values are similar.