Activity 12 Assessment
Fluency with Addition and Subtraction Consolidation

Conceptual Meaning of Whole Number Addition and Subtraction

Recognizes addition and subtraction situations and models concretely to add or subtract to 1000	Models and symbolizes ways to solve problems to 1000	Uses an understanding of place value to decompose both numbers to solve problems to 10 000
$148 + 223 = ?$	$148 + 223 = ?$	$896 - 345 = ?$
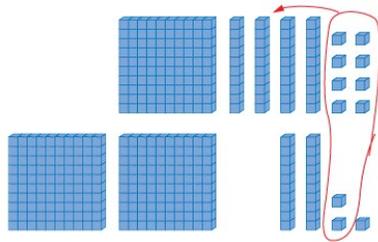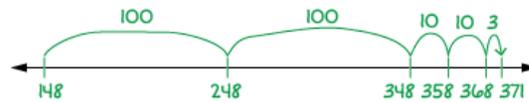
For the middle column:
100, 100, 10, 10, 3

148   248   348 358 368 371

For the right column:

$896 - 345 = ?$

$800 - 300 = 500$
$90 - 40 = 50$ } $500 + 50 + 1 = 551$
$6 - 5 = 1$

"I subtracted the hundreds, the tens, and then the ones."

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Activity 12 Assessment
Fluency with Addition and Subtraction Consolidation

Conceptual Meaning of Whole Number Addition and Subtraction (cont'd)

Uses an understanding of place value to decompose one number to solve problems to 10 000	Estimates to determine if answer to problem is reasonable	Creates and solves addition and subtraction problems flexibly using a variety of strategies
$548 + 348 = ?$ $\quad$ $348 = 300 + 40 + 8$ $548 + 300 = 848$ $848 + 40 = 888$ $888 + 8 = 896$ $$\begin{array}{r} 5\ 4\ 8 \\ +\ 3\ 4\ 8 \\ \hline 8\ 0\ 0 \\ 8\ 0 \\ +\quad 1\ 6 \\ \hline 8\ 9\ 6 \end{array}$$ "I used place value to add on the second number."	$896 - 345 = ?$ "896 is close to 900. 345 is close to 350. 900 - 350 = 550. 550 is close to 551, the answer I calculated, so my answer is reasonable."	1874 raffle tickets were sold in advance. 227 more tickets were sold at the door. How many tickets were sold altogether? $$\begin{array}{r} 1\ 1\ 1 \\ 1\ 8\ 7\ 4 \\ +\ 2\ 2\ 7 \\ \hline 2\ 1\ 0\ 1 \end{array}$$

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Developing Fluency of Whole Number Addition and Subtraction

Uses known sums and differences to fluently solve addition and subtraction problems to 100	Purposefully uses properties or relationships to solve addition and subtraction problems	Understands the inverse relationship between addition and subtraction and applies it to solve problems
$25 + 76 = ?$ "I know $25 + 75 = 100$. Since 76 is 1 more than 75, the answer is 101."	$25 + 44 + 76 = ?$ "I can rearrange the numbers to make it easier to add." $25 + 76 + 44 = 101 + 44$ $= 145$	$645 – 227 = ?$ "I can rewrite it as an addition problem: $227 + ? = 645$. I can use friendly numbers. $200 + \mathbf{400} = 600$ and $27 + \mathbf{18} = 45$. The missing part is $\mathbf{400} + \mathbf{18} = 418$. Check: $227 + 418 = 645$."

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Developing Fluency of Whole Number Addition and Subtraction (cont'd)

Applies mental strategies and algorithms to add and subtract (e.g. using benchmark numbers, known facts, partial sums)	Uses estimation to check the reasonableness of solutions	Flexibly creates and solves addition and subtraction problems and checks reasonableness of solutions

Applies mental strategies and algorithms to add and subtract (e.g. using benchmark numbers, known facts, partial sums)

$$227 + 418 = \underline{\quad}$$

```
  2 2 7
+ 4 1 8                          ¹
  6 0 0    200 + 400 = 600     2 2 7
    3 0     20 +  10 =  30   + 4 1 8
    1 5      7 +   8 =  15     6 4 5
  6 4 5
```

"I could used partial sums or the standard algorithm."

Uses estimation to check the reasonableness of solutions

This year 227 children, 34 teachers, and 18 supervisors will attend the local fair. How many people will attend altogether?

"227 is close to 230, 34 is close to 35, and 18 is close to 20. 230 + 35 + 20 = 285. I overestimated because we want to make sure we have enough buses."

Flexibly creates and solves addition and subtraction problems and checks reasonableness of solutions

185 students were to attend the assembly. 27 students were absent form school. How many students attended the assembly?

$$185 - 27 = 185 - 30 + 3$$
$$= 155 + 3$$
$$= 158$$

"190 - 30 = 160. Since 160 is close to 158, solution is reasonable."

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