

# Activity 10 Assessment

## Using Mental Math to Add and Subtract

### Developing Fluency of Whole Number Addition and Subtraction

Uses known sums and differences to fluently solve addition and subtraction problems to 100

$$25 + 76 = ?$$

"I know  $25 + 75 = 100$ . Since 76 is 1 more than 75, the answer is 101."

Purposefully uses properties or relationships to solve addition and subtraction problems

$$25 + 44 + 76 = ?$$

"I can rearrange the numbers to make it easier to add."

$$\begin{aligned} 25 + 76 + 44 &= 101 + 44 \\ &= 145 \end{aligned}$$

Understands the inverse relationship between addition and subtraction and applies it to solve problems

$$645 - 227 = ?$$

"I can rewrite it as an addition problem:  
 $227 + ? = 645$ .  
 I can use friendly numbers.  
 $200 + 400 = 600$  and  $27 + 18 = 45$ .  
 The missing part is  $400 + 18 = 418$ .  
 Check:  $227 + 418 = 645$ ."

### Observations/Documentation

# Activity 10 Assessment

## Using Mental Math to Add and Subtract

### 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)

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

$\begin{array}{r} 227 \\ +418 \\ \hline 600 \\ 30 \\ \hline 15 \\ 645 \end{array}$	$200 + 400 = 600$ $20 + 10 = 30$ $7 + 8 = 15$	$\begin{array}{r} & 1 & \\ & 227 & \\ + & 418 & \\ \hline & 645 & \end{array}$
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"I could use 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 from school. How many students attended the assembly?

$$\begin{aligned} 185 - 27 &= 185 - 30 + 3 \\ &= 155 + 3 \\ &= 158 \end{aligned}$$

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

### Observations/Documentation