

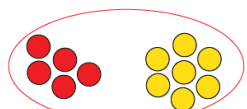
# Activity 22 Assessment

## Using Mental Math to Add and Subtract

### Developing Meaning of Addition and Subtraction

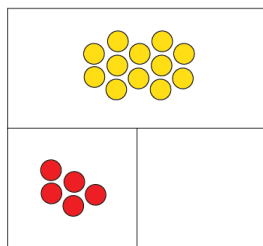
Recognizes addition and subtraction situations

Join



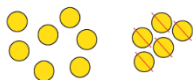
$$5 + 7 = \underline{\quad}$$

Part-part-whole



$$5 + \underline{\quad} = 12$$

Separate



$$12 - 5 = \underline{\quad}$$

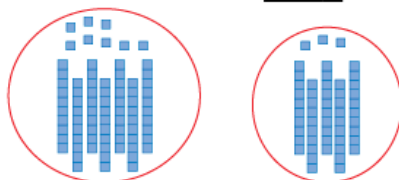
Compare



$$7 = 5 + \underline{\quad}$$

Models concretely to add and subtract

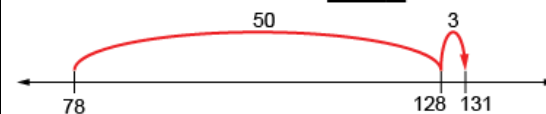
$$78 + 53 = \underline{\quad}$$



"78" "88, 98, 108, 118, 128, 129, 130, 131"

Models and symbolizes addition and subtraction

$$78 + 53 = \underline{\quad}$$



"I add 5 tens and 3 ones.  
 $78 + 53 = 78 + 50 + 3$ , or 131"

### Observations/Documentation

# Activity 22 Assessment

## Using Mental Math to Add and Subtract

### Developing Meaning of Addition and Subtraction (con't)

Estimates sums and differences to check reasonableness

$131 - 42 = 89$   
 “ $130 - 40 = 90$ , which is close to 89 so my answer is reasonable.”

Creates and solves problems

“There are 131 birds in the tree.  
 Some birds flew away.  
 Now there are 42 birds in the tree.  
 How many birds flew away?”

$131 - \square = 42$   
 89 birds flew away.

Uses properties and inverse operations of addition and subtraction to solve problems

$131 - \square = 42$   
 “I can think addition to help me solve the problem:  
 $42 + \square = 131$ ”

### Observations/Documentation

# Activity 22 Assessment

## Using Mental Math to Add and Subtract

### Developing Fluency for Addition and Subtraction

Fluently adds and subtracts within 5

"I know  $4 + 1 = 5$  and  $5 - 1 = 4$ ."

Fluently adds and subtracts to 10

"I know  $8 + 2 = 10$  and  $10 - 2 = 8$ ."  
(complements to 10)

Fluently adds and subtracts to 20

"I can use doubles.  
I know  $9 + 9 = 18$  and  $18 - 9 = 9$ ."

### Observations/Documentation

Uses known sums and differences to solve addition and subtraction equations

" $25 + 37 = \square$   
I know  $25 + 30 = 55$ , and 55 plus 5 is 60,  
and 2 more makes 62."  
(decomposing, known facts)

Develops mental strategies and algorithms

$29 + 32 = \square$   
I take 1 from 32 and give it to 29 to get  $30 + 31$ .  
 $30 + 30 = 60$ , and 1 more is 61."  
(compensation)

Estimates sums and differences

$49 + 38 = \square$   
"49 is close to 50.  
38 is close to 40.  
 $50 + 40 = 90$ "  
(using benchmarks)

### Observations/Documentation