

# STRUCTURES OF STORY PROBLEMS

## PART-PART-WHOLE

### STRUCTURES OF PART-PART-WHOLE PROBLEMS

Unlike join and separate story problems, part-part-whole story problems do not involve an action. Two parts make up a whole and there is no meaningful difference between the two parts; therefore, there are only two types of part-part-whole questions – whole unknown and part unknown.

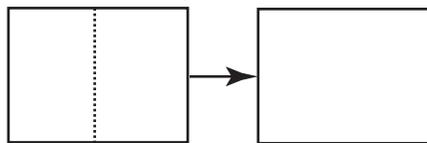
When drawing part-part-whole problems, teachers should use a consistent format. This format has the three steps described below, but only one final diagram. It is important to note that students may draw a variety of diagrams representing what they do with concrete materials, and these (provided they are logical) should be accepted.

### SAMPLE WHOLE UNKNOWN

There were 17 adults and 31 children at the party. How many people were there altogether?

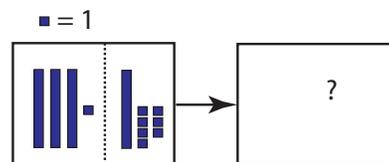
#### STEP 1:

Start with the template for part-part-whole problems.



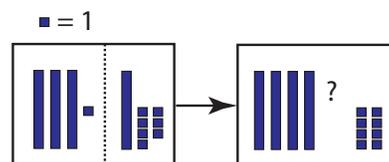
#### STEP 2:

Fill in what I know and use a question mark (?) to indicate the unknown quantity.



#### STEP 3:

Circle what is separated and fill in the unknown box. Regroup if needed.



Step 3, the final diagram, is all that is seen by the teacher.

# STRUCTURES OF STORY PROBLEMS

## PART-PART-WHOLE

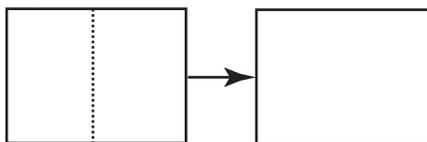
The same process is used with both types of part-part-whole questions.

**SAMPLE  
PART  
UNKNOWN**

There were 48 people at the party, 31 of them were children. How many were adults?

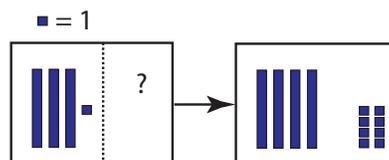
**STEP 1:**

Start with the template for part-part-whole problems.



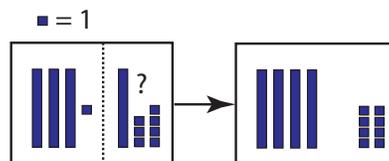
**STEP 2:**

Fill in what I know and use a question mark (?) to indicate the unknown quantity.



**STEP 3:**

Circle what is separated and fill in the unknown box. Regroup if needed.



**NOTE:**

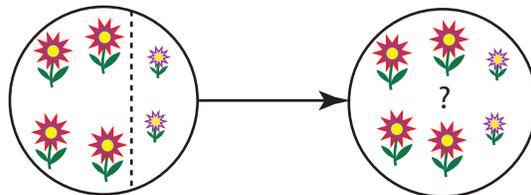
When completed, the pictures for both types of part-part-whole problems will look the same except for the location of the question mark.

# ADDITION AND SUBTRACTION GRADE PRIMARY

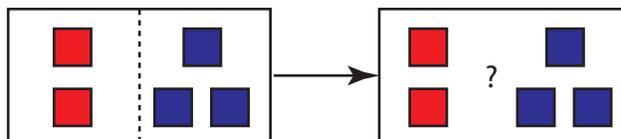
## PART-PART-WHOLE

WHOLE  
UNKNOWN

There are 4 large flowers and 2 small flowers in a garden. How many flowers are in the garden?



Kathy has 2 red blocks and 3 blue blocks. How many blocks does she have in all?



PART  
UNKNOWN

# ADDITION AND SUBTRACTION GRADE 1

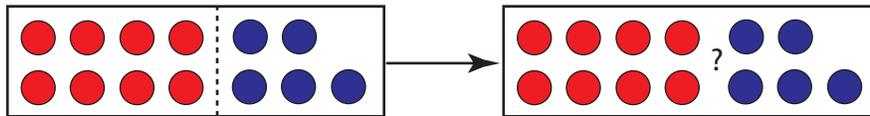
## PART-PART-WHOLE

**STRUCTURES OF  
ADDITION AND  
SUBTRACTION**

The remaining structures are introduced as students begin to make the connection between addition and subtraction. Students continue using set models and ten frames should also be used extensively.

**WHOLE  
UNKNOWN**

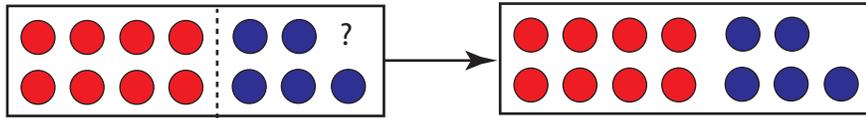
There were 8 boys and 5 girls at a party. How many children were at the party?



**Think Addition:**  
 $8 + 5 = 13$

**PART  
UNKNOWN**

There were 13 children at a party, 8 of them were boys. How many girls were at the party?



**Think Addition:**  
 $8 + 5 = 13$

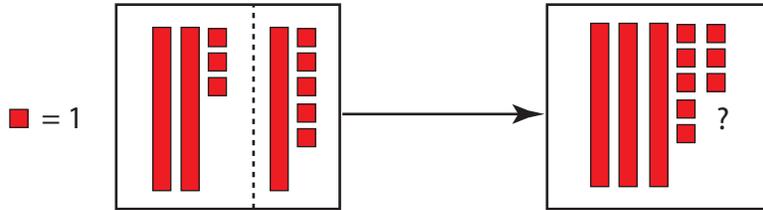
**Think Subtraction:**  
 $13 - 8 = 5$

# ADDITION AND SUBTRACTION GRADE 2

## PART-PART-WHOLE

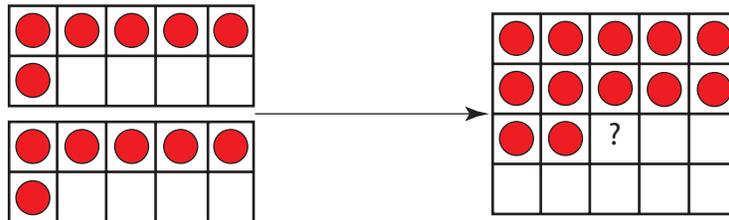
**WHOLE UNKNOWN**

There were 23 adults and 15 children at the park. How many people were in the park?



**Think Addition:**  
 $23 + 15 = \textcircled{38}$

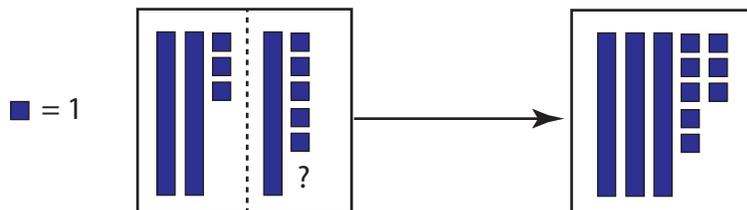
There were 6 forks and 6 knives on the table. How many utensils altogether?



**Doubles Fact:**  
 $6 + 6 = \textcircled{12}$

**PART UNKNOWN**

There were 38 people at the park. There were 23 adults and the rest were children. How many children were at the park?



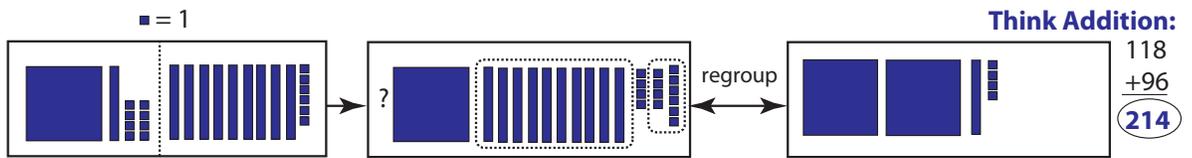
**Think Subtraction:**  
 $38 - 23 = \textcircled{15}$

# ADDITION AND SUBTRACTION GRADE 3

## PART-PART-WHOLE

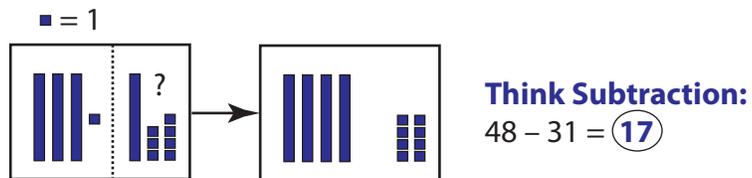
**WHOLE UNKNOWN**

There were 118 children and 96 adults at the party. How many people were there in all?



**PART UNKNOWN**

There were 48 people at the party, 31 of them were children. How many were adults?

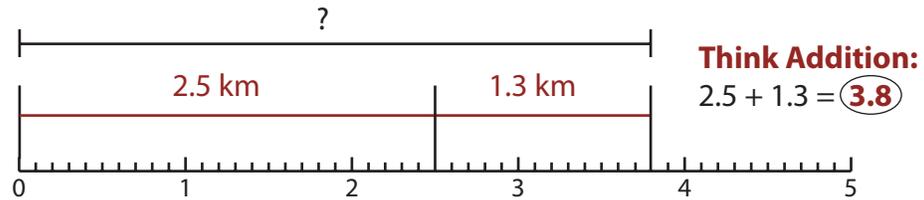


# ADDITION AND SUBTRACTION GRADE 4

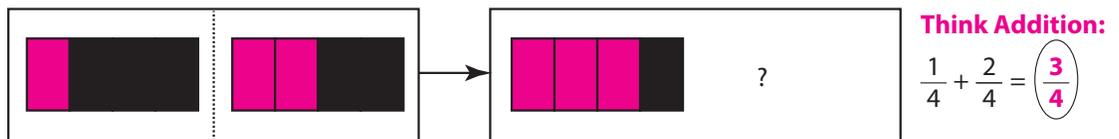
## PART-PART-WHOLE

**WHOLE UNKNOWN**

It is 2.5 km from my house to the store. My friend lives 1.3 km in the opposite direction from the store. How far am I from my friend's house?

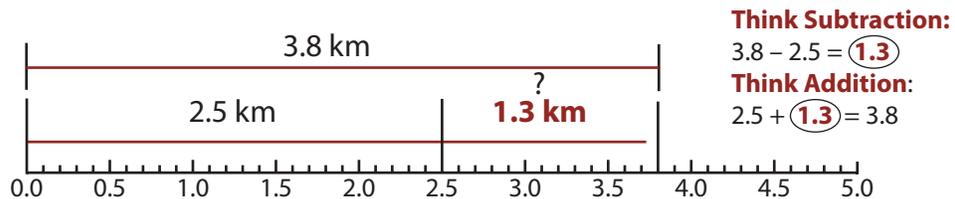


Karen has  $\frac{1}{4}$  of a pizza and John has  $\frac{2}{4}$  of a pizza. How much pizza do they have all together?



**PART UNKNOWN**

It is 3.8 km from my house to my friend's house. The store, which is on the way to my friend's house, is 2.5 km away from my house. How far away is my friend's house from the store?

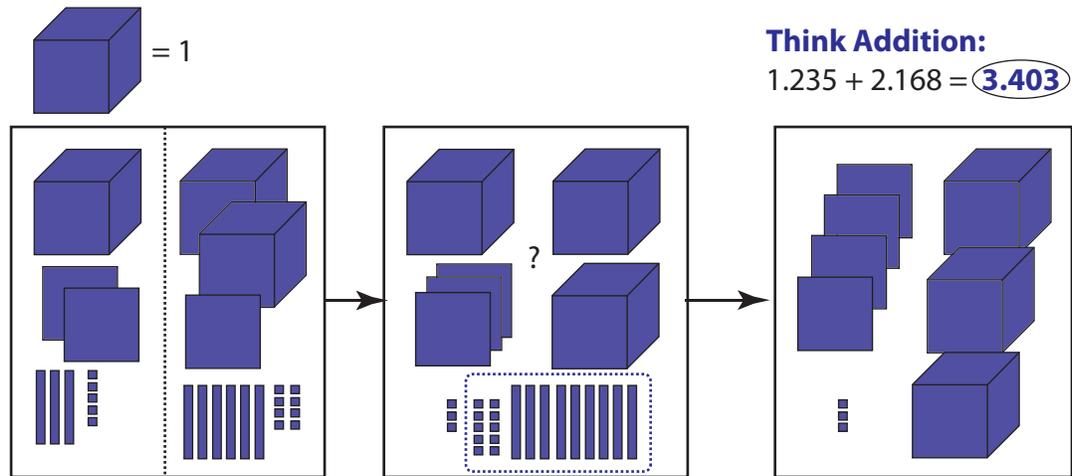


# ADDITION AND SUBTRACTION GRADE 5

## PART-PART-WHOLE

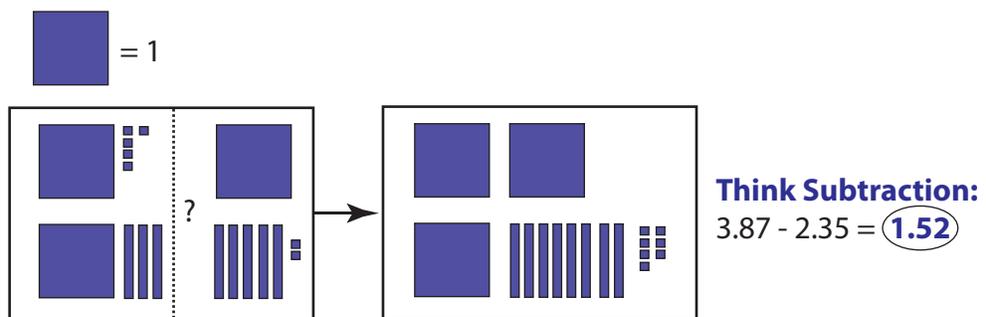
**WHOLE UNKNOWN**

Shawn has 1.235 kg of strawberries and 2.168 kg of blueberries. How many kilograms of berries does Shawn have altogether?



**PART UNKNOWN**

Joan went to the cafeteria to buy a cheeseburger and fries. Her total bill came to \$3.87. If the cheeseburger cost \$2.35, how much were the fries?

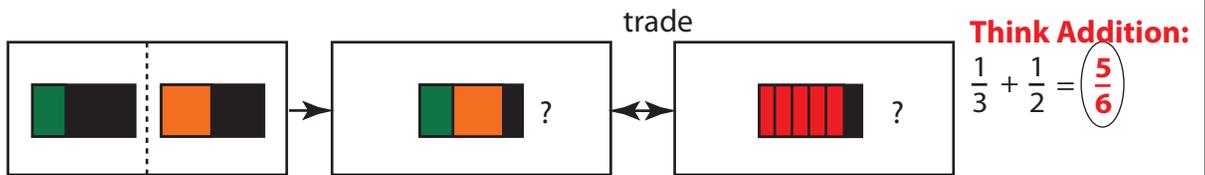


# ADDITION AND SUBTRACTION GRADE 6

## PART-PART-WHOLE

**WHOLE UNKNOWN**

There is  $\frac{1}{3}$  of a pot of peat moss and  $\frac{1}{2}$  a pot of soil in a flower pot. How full is the pot?



**PART UNKNOWN**

You have a flower pot that is  $\frac{5}{6}$  full.  $\frac{1}{2}$  the pot is soil. How much is peat moss?

