

## Lesson 2 – Addition & Subtraction – Add by Counting On

**NC Objective:**  
Add and subtract one-digit and two-digit numbers to 20, including zero

**Resources needed:**  
Differentiated Sheets  
Teaching Slides

**Vocabulary:**  
Addition, commutativity, represent

Children explore adding by counting on from a given number. They begin to understand that addition is commutative and that it is more efficient to start from the largest number. It is important that children see that they are not just adding two separate numbers or items, they are adding to what they already have. Ensure children do not include their start number when counting on.

### Key Questions:

- What number did you start with? Then what happened? Now what do I have?
- What does each number represent? What do the counters represent?
- How can I represent counting on using practical equipment?
- How can I represent counting on using a bar model or a number line?

### ★ Working Towards

Children learn to add on from the larger number for efficiency. They add on small quantities from the larger number using ten frames.

### ★★ Working Within

Children learn to add on from the larger number for efficiency. They use ten frames to show how to count on. They add on larger quantities than the one star sheet.

### ★★★ Greater Depth

Children on this sheet have ten frames filled in incorrectly, they have to either add or cross out counters to ensure the representation matches the calculations.

Children understand that numbers can be represented differently in a tens frame rather than the standard way.

## Reasoning & Problem Solving

**Add by Counting On** Reasoning & Problem Solving

Zach uses ten frames to calculate nine plus six.

The answer is 16.

Do you agree? Explain your answer.

Malachi and Esin are working out which calculation is represented below.

First: Then: Now:  $7 + 4 = 11$

Malachi:  $11 + 4 = 15$

Esin: Who is correct? Explain why.

**Add by Counting On** Reasoning & Problem Solving

Zach uses ten frames to add nine to nine.

The answer is seventeen.

Do you agree? Explain your answer.

Malachi and Esin are working out which calculation is represented below.

First: Then: Now:  $9 + 4 = 13$

Malachi:  $8 + 5 = 13$

Esin: Who is correct? Explain why.

**Add by Counting On** Reasoning & Problem Solving

Zach uses ten frames to calculate seven plus eleven.

The answer is seventeen.

Do you agree? Explain your answer.

Malachi and Esin are working out which calculation is represented below.

First: Then: Now:  $12 + 7 = 19$

Malachi:  $10 + 7 = 17$

Esin: Who is correct? Explain why.



First	Then	Now	
			First there were ____ . Then ____ more were added. Now there is ____ .

First	Then	Now	
			First there were ____ . Then ____ more were added. Now there is ____ .

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First	Then	Now	
			First there were ____ . Then ____ more were added. Now there is ____ .

First	Then	Now	
			First there were ____ . Then ____ more were added. Now there is ____ .

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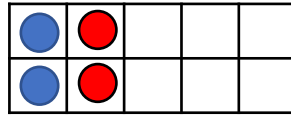
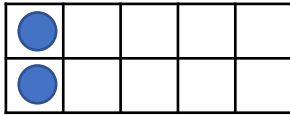
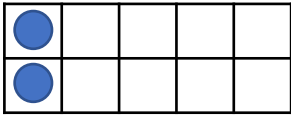
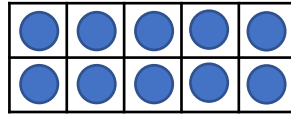
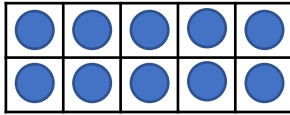
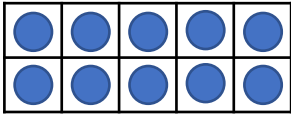


## Answers

First

Then

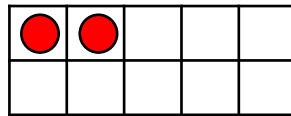
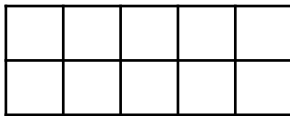
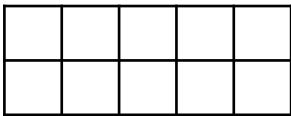
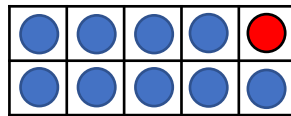
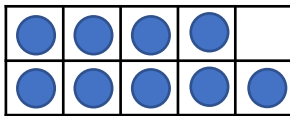
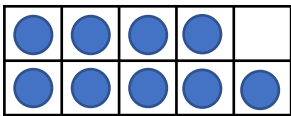
Now

First there were 12.Then 2 more were added.Now there is 14.

First

Then

Now

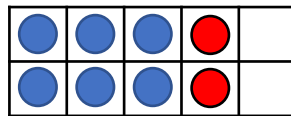
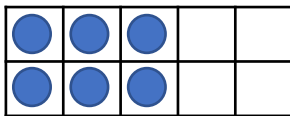
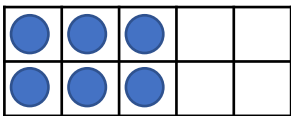
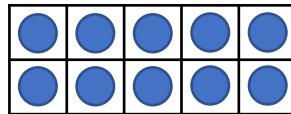
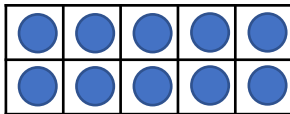
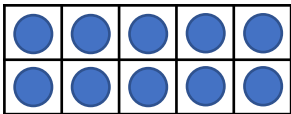
First there were 9.Then 3 more were added.Now there is 12.

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First

Then

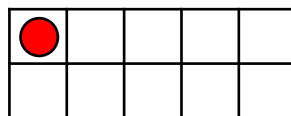
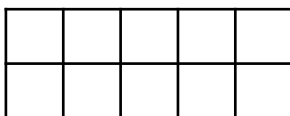
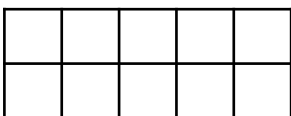
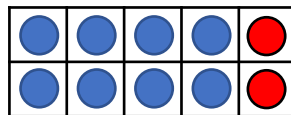
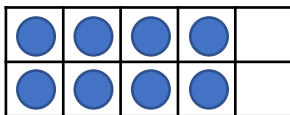
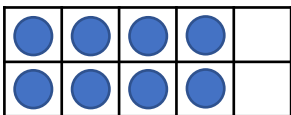
Now

First there were 16.Then 2 more were added.Now there is 18.

First

Then

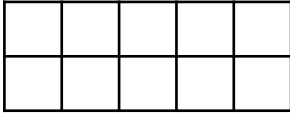
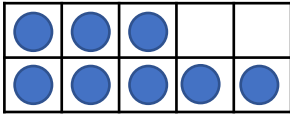
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First there were 8.Then 3 more were added.Now there is 11.

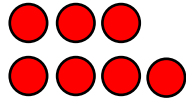
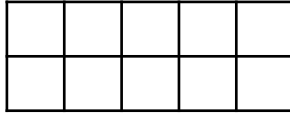
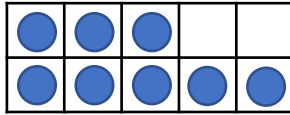
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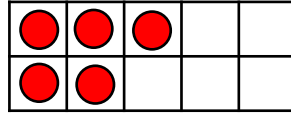
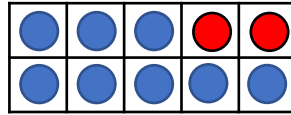
First



Then



Now

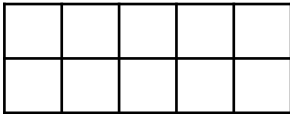
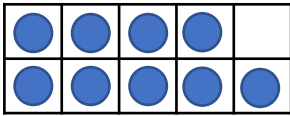


First there were \_\_\_\_\_.

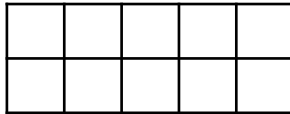
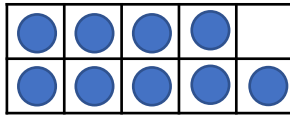
Then \_\_\_\_\_ more were added.

Now there is \_\_\_\_\_.

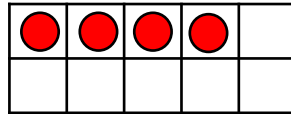
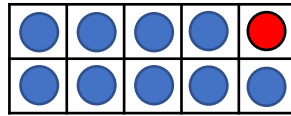
First



Then



Now



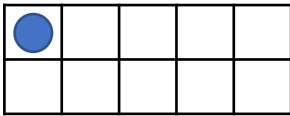
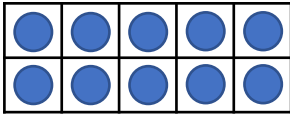
First there were \_\_\_\_\_.

Then \_\_\_\_\_ more were added.

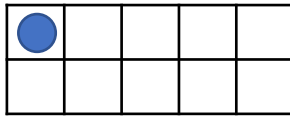
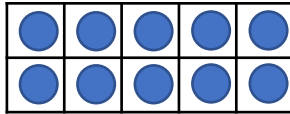
Now there is \_\_\_\_\_.

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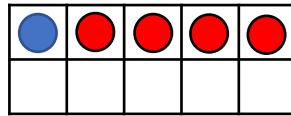
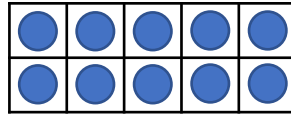
First



Then



Now

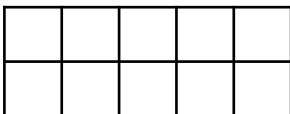
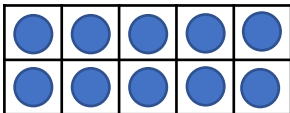


First there were \_\_\_\_\_.

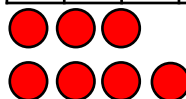
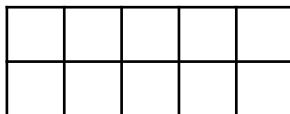
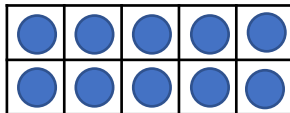
Then \_\_\_\_\_ more were added.

Now there is \_\_\_\_\_.

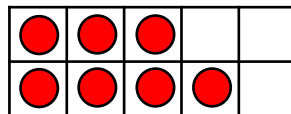
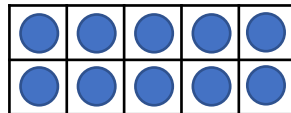
First



Then



Now



First there were \_\_\_\_\_.

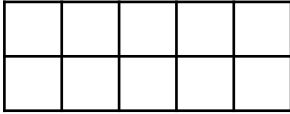
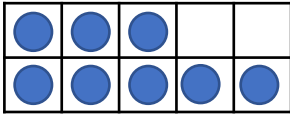
Then \_\_\_\_\_ more were added.

Now there is \_\_\_\_\_.

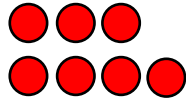
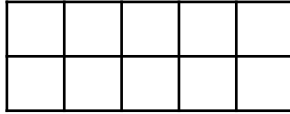
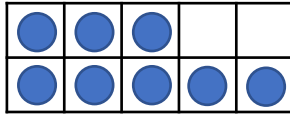


## Answers

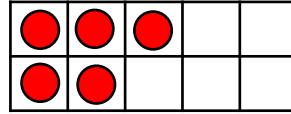
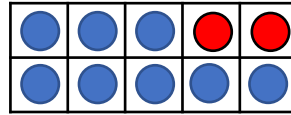
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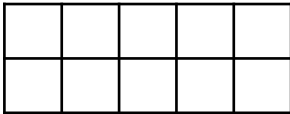
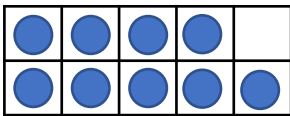
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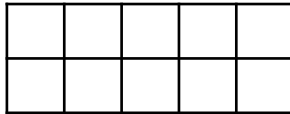
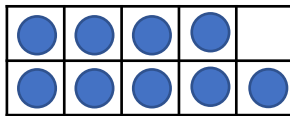
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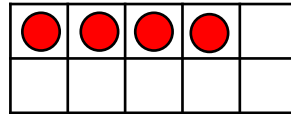
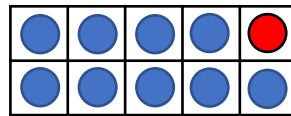
First



Then

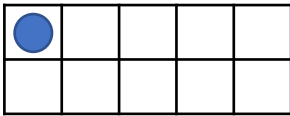
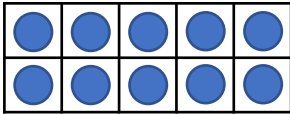


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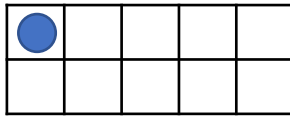
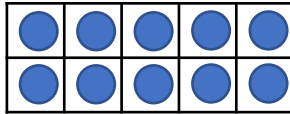
First there were 9.Then 5 more were added.Now there is 14.

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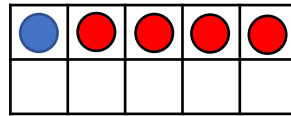
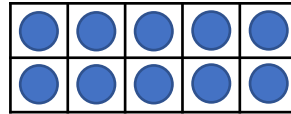
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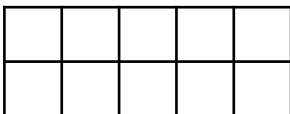
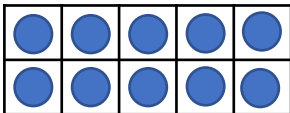
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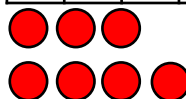
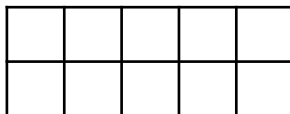
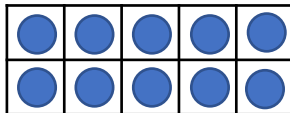
Now

First there were 11.Then 4 more were added.Now there is 15.

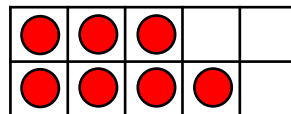
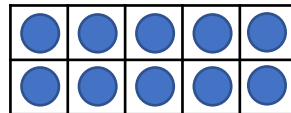
First



Then

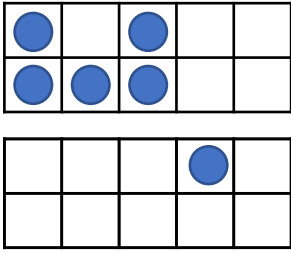


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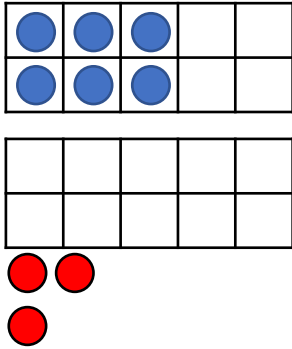
First there were 10.Then 7 more were added.Now there is 17.



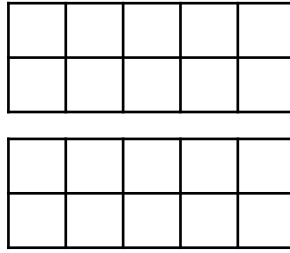
First



Then

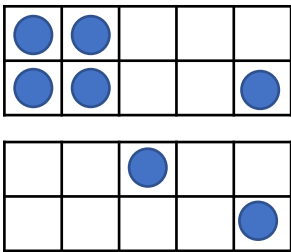


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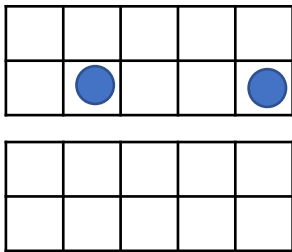


First there were eleven.  
Then three more were added.  
Now there is \_\_\_\_.  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_

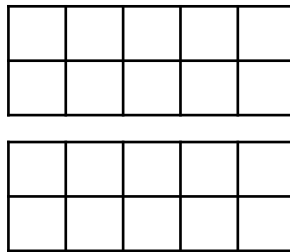
First



Then



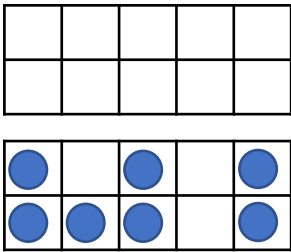
Now



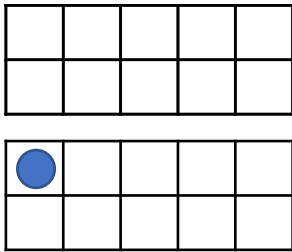
First there were seven.  
Then six more were added.  
Now there is \_\_\_\_.  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_

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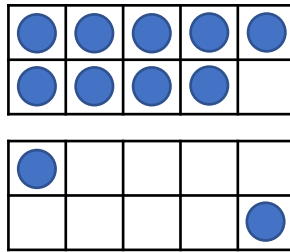
First



Then

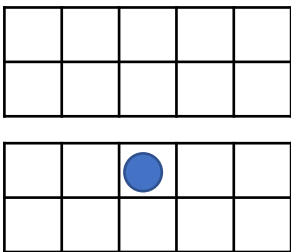


Now

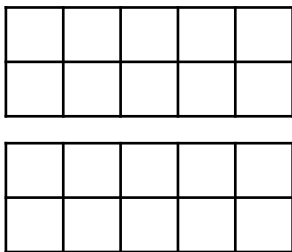


First there were eight.  
Then \_\_\_\_ more were added.  
Now there is fourteen  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_

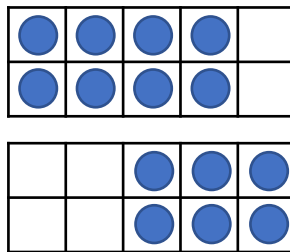
First



Then



Now

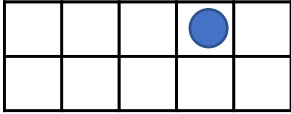
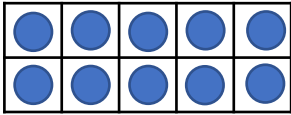


First there were \_\_\_\_ .  
Then three more were added.  
Now there is twenty  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_

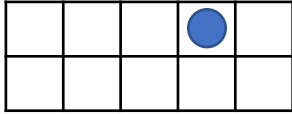
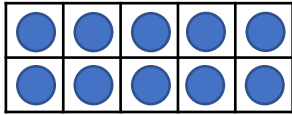


## Answers

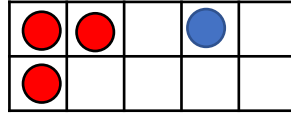
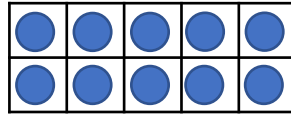
First



Then



Now

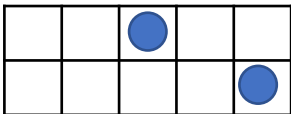
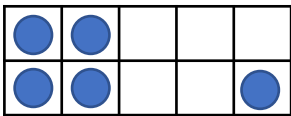


First there were eleven.  
Then three more were added.

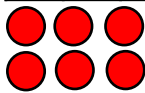
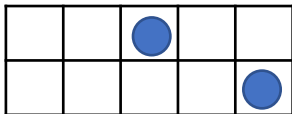
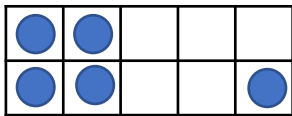
Now there is 14.

$$\underline{11} + \underline{3} = \underline{14}$$

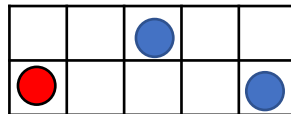
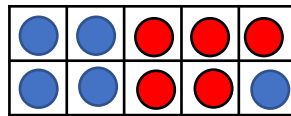
First



Then



Now



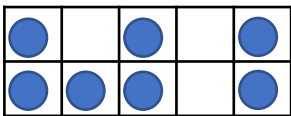
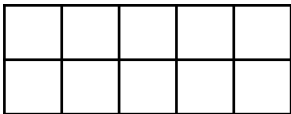
First there were seven.  
Then six more were added.

Now there is 13.

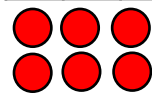
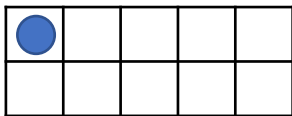
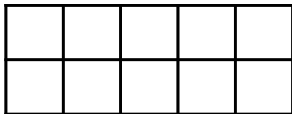
$$\underline{7} + \underline{6} = \underline{13}$$

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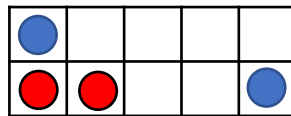
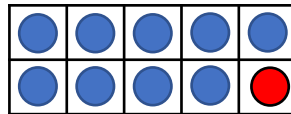
First



Then



Now

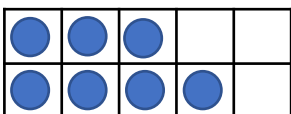
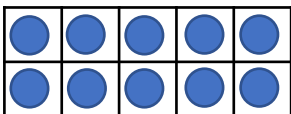


First there were eight.  
Then 6 more were added.

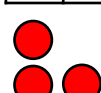
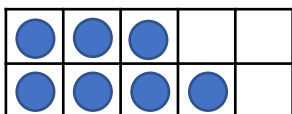
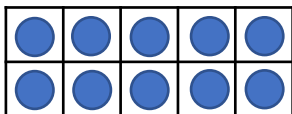
Now there is fourteen

$$\underline{8} + \underline{6} = \underline{14}$$

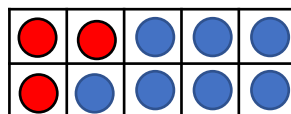
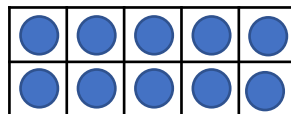
First



Then



Now

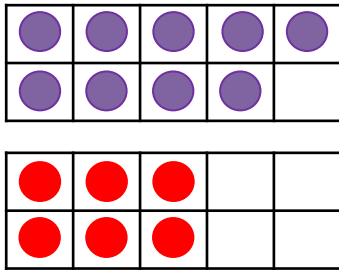


First there were 17.  
Then three more were added.

Now there is twenty

$$\underline{17} + \underline{3} = \underline{20}$$

Zach uses ten frames to calculate nine + six.



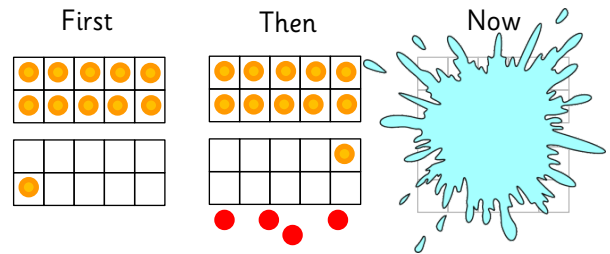
Zach

The answer is 16.



Do you agree?  
Explain your answer.

Mal and Esin are working out what calculation is represented below.



Mal

$$10 + 5 = 15$$



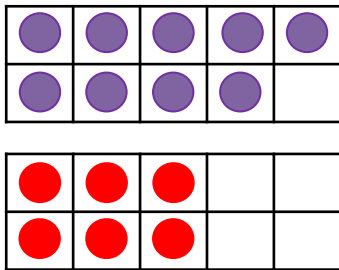
$$11 + 4 = 15$$

Esin



Who is correct?  
Explain why.

Zach uses ten frames to calculate nine + six.



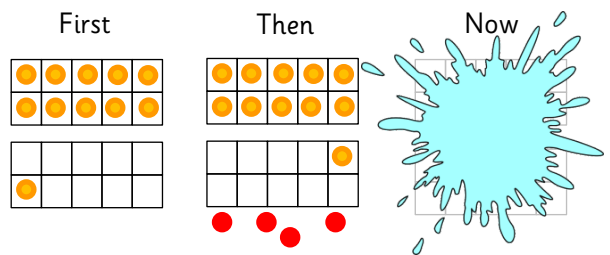
Zach

The answer is 16.



Do you agree?  
Explain your answer.

Mal and Esin are working out what calculation is represented below.



Mal

$$10 + 5 = 15$$



$$11 + 4 = 15$$

Esin

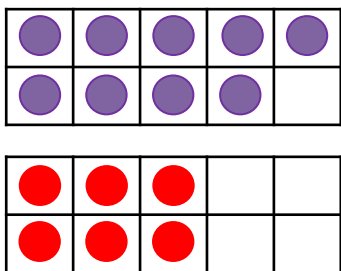


Who is correct?  
Explain why.





Zach uses ten frames to calculate nine + six.



Zach

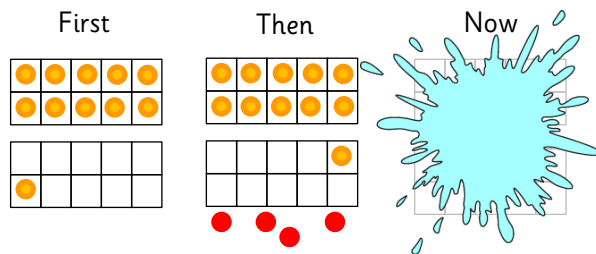
The answer is 16.



Zach is wrong because the answer should be 15. He has counted as if the first ten frame was filled and has added 6 from the second one. He should have filled the first ten frame before starting a second one.

Do you agree?  
Explain your answer.

Mal and Esin are working out what calculation is represented below.



Mal

$$10 + 5 = 15$$



Esin

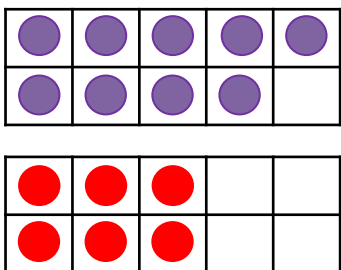
$$11 + 4 = 15$$



Esin is correct.  
First there were 11 counters, then 4 were added on.  $11 + 4 = 15$ .



Zach uses ten frames to calculate nine + six.



Zach

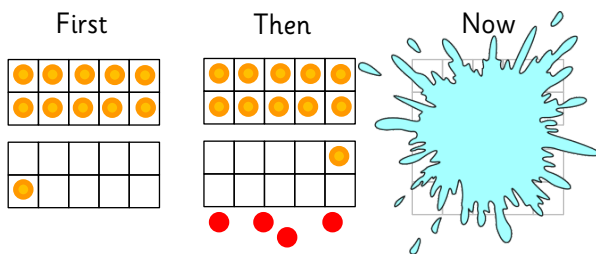
The answer is 16.



Zach is wrong because the answer should be 15. He has counted as if the first ten frame was filled and has added 6 from the second one. He should have filled the first ten frame before starting a second one.

Do you agree?  
Explain your answer.

Mal and Esin are working out what calculation is represented below.



Mal

$$10 + 5 = 15$$



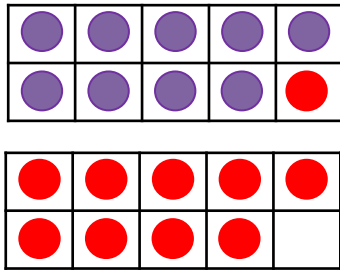
Esin

$$11 + 4 = 15$$



Esin is correct.  
First there were 11 counters, then 4 were added on.  $11 + 4 = 15$ .

Zach uses ten frames to add nine to nine.



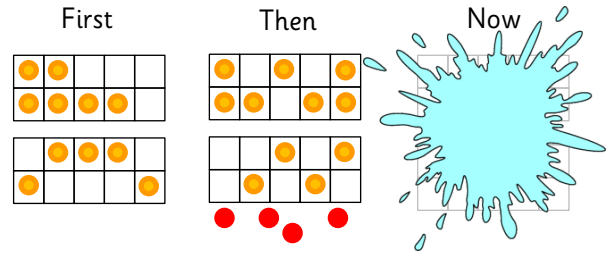
Zach



The answer is nineteen.

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$$7 + 4 = 11$$

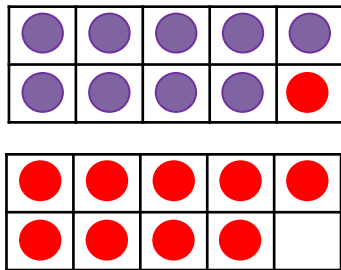
Esin



$$11 + 4 = 15$$

Who is correct?  
Explain why.

Zach uses ten frames to add nine to nine.



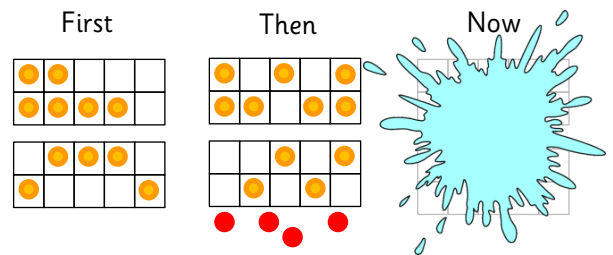
Zach



The answer is nineteen.

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$$7 + 4 = 11$$

Esin

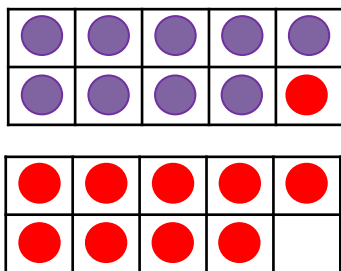


$$11 + 4 = 15$$

Who is correct?  
Explain why.



Zach uses ten frames to add nine to nine.



Zach

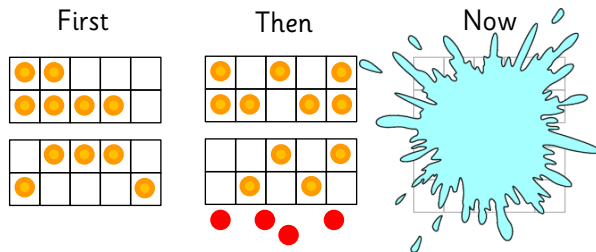
The answer is nineteen.

Zach is wrong because the answer should be 18. He added one red counter in the first ten frame, so he should add 8 ( $9 - 1$ ) in the second one.

Do you agree?  
Explain your answer.



Mal and Esin are working out which calculation is represented below.



Mal

$$7 + 4 = 11$$

Esin

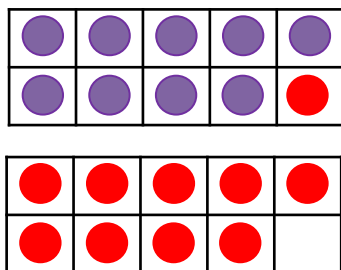
$$11 + 4 = 15$$

Who is correct?  
Explain why.

Esin is correct because there were 11 yellow counters and then 4 red counters were added:  $11 + 4 = 15$ .



Zach uses ten frames to add nine to nine.



Zach

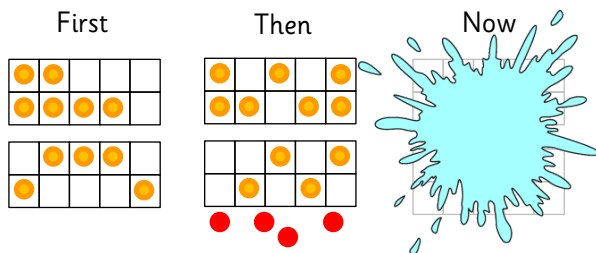
The answer is nineteen.

Zach is wrong because the answer should be 18. He added one red counter in the first ten frame, so he should add 8 ( $9 - 1$ ) in the second one.

Do you agree?  
Explain your answer.



Mal and Esin are working out which calculation is represented below.



Mal

$$7 + 4 = 11$$

Esin

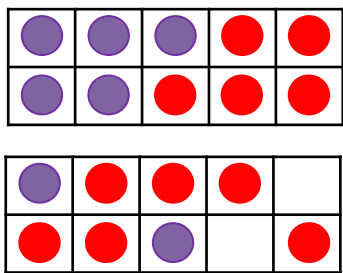
$$11 + 4 = 15$$

Who is correct?  
Explain why.

Esin is correct because there were 11 yellow counters and then 4 red counters were added:  $11 + 4 = 15$ .



Zach uses ten frames to calculate seven plus eleven.



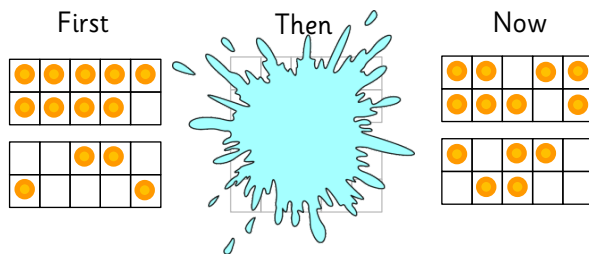
Zach



The answer is nineteen.

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$9 + 4 = 13$

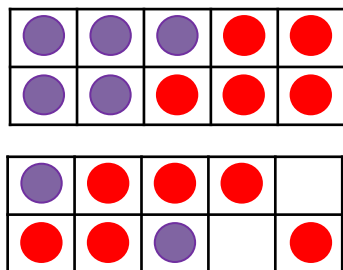
Esin



$8 + 5 = 13$

Who is correct?  
Explain why.

Zach uses ten frames to calculate seven plus eleven.



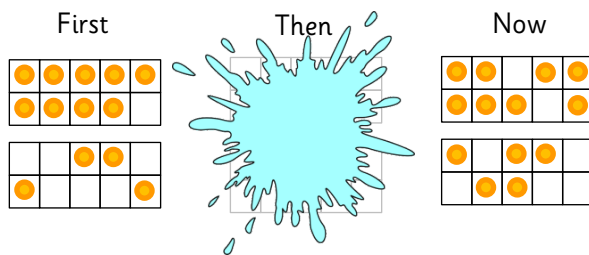
Zach



The answer is nineteen.

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$9 + 4 = 13$

Esin

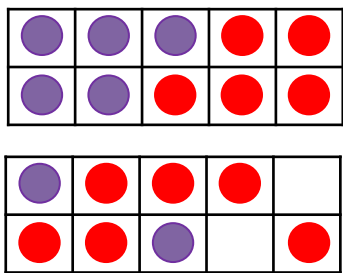


$8 + 5 = 13$

Who is correct?  
Explain why.



Zach uses ten frames to calculate seven plus eleven.



Zach

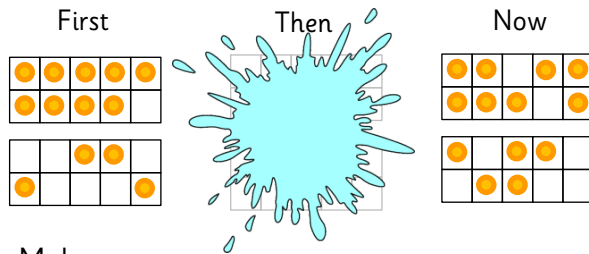


The answer is nineteen.

Zach is wrong. He filled both ten frames correctly but did not count correctly. The correct answer is  $18 = 7 + 11$ .

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$9 + 4 = 13$

Esin



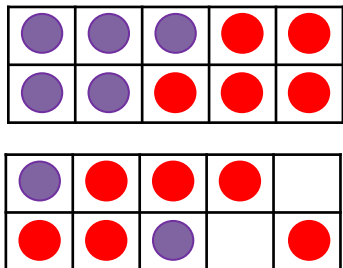
$8 + 5 = 13$

Who is correct?  
Explain why.

Neither. First there were 13 yellow counters and now there are still 13 yellow counters, so zero counters were added.  
 $13 + 0 = 13$



Zach uses ten frames to calculate seven plus eleven.



Zach

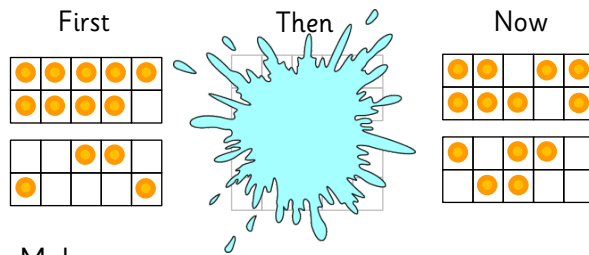


The answer is nineteen.

Zach is wrong. He filled both ten frames correctly but did not count correctly. The correct answer is  $18 = 7 + 11$ .

Do you agree?  
Explain your answer.

Mal and Esin are working out which calculation is represented below.



Mal



$9 + 4 = 13$

Esin



$8 + 5 = 13$

Who is correct?  
Explain why.

Neither. First there were 13 yellow counters and now there are still 13 yellow counters, so zero counters were added.  
 $13 + 0 = 13$