

Lesson 15 – Add 2-digit Numbers, Crossing

NC Objective:

Add numbers using concrete objects, pictorial representations and mentally

Resources needed:

Differentiated worksheets
Teaching slides

Vocabulary:

2-digit number, addition, total, partition, exchange, value, digits

Children continue to use Base 10 and partitioning to add together 2-digit numbers including exchange. They could be encouraged to draw the Base 10 alongside recording any formal column method. They have already seen what happens when there are more than 10 ones and should be confident in exchanging 10 ones for one 10. They answer word problems.

Key Questions:

Can you represent the ones and tens using Base 10? What is the value of the digits?

How many ones do we have altogether? How many tens do we have altogether?

Can we exchange ten ones for one ten?

What is the sum of the numbers? What is the total?

How many ways have we got altogether?

★ Working Towards

Calculate the answers.

10 Zach scores 38 points on his first maths paper and 27 on his second paper. How many points does he have altogether?

11 Ryan buys two packets of chocolate truffles. He empties them out and finds that there are 27 in pack one. In pack two, there are 28. How many truffles are there in total?

12 There are 48 people on a carriage. 18 more people get on. How many are on the carriage now?

13 A bakery has 33 chocolate doughnuts and 15 text doughnuts. How many doughnuts do they have altogether?

14 Tina collects pens. On Monday she gets a delivery for 18 pens. On Tuesday she buys 25 new ones. How many has she got altogether?

15 There are two apple trees. One of them has 34 apples and the other has 15. Rose picks them all. How many apples does she have in total?

16 Ein makes £65 at a car boot sale. She already had £28 in her purse. How much money does she have altogether now?

17 A bakery has 53 chocolate doughnuts and 24 text doughnuts. There are 37 red counters and 35 yellow counters. How many counters are there altogether?

★★ Working Within

Calculate the answers.

10 Zach scores 49 points on his first maths paper and 27 on his second paper. How many points does he have altogether?

11 Ryan buys two packets of chocolate truffles. He empties them out and finds that there are 46 in pack one. In pack two, there are 28. How many truffles are there in total?

12 There are 57 people on a carriage. 15 more people get on. How many are on the carriage now?

13 A bakery has 53 chocolate doughnuts and 24 text doughnuts. There are 45 red counters and 47 yellow counters. How many counters are there altogether?

14 Tina collects pens. On Monday she gets a delivery for 14 pens. On Tuesday she buys 28 new ones. How many has she got altogether?

15 There are two apple trees. One of them has 34 apples and the other has 15. Rose picks them all. How many apples does she have in total?

16 Ein makes £38 at a car boot sale. She already had £28 in her purse. How much money does she have now?

17 A bakery has 53 chocolate doughnuts and 24 text doughnuts. There are 45 red counters and 47 yellow counters. How many counters are there altogether?

★★★ Greater Depth

Calculate the answers.

10 Zach completes five papers. Out of the five, he totals the score of two of them. He totals fifty-four and twenty-eight. What were the total marks?

11 Tina collects pens. She has fifty-two in her collection. On Monday she gets a delivery for nineteen pens. On Tuesday she buys sixteen new ones. How many new pens has she got altogether?

12 Ryan buys two packets of chocolate truffles for four pounds each. He empties them out and finds that there are thirty-six in pack one. In pack two, there are twenty-eight. How many truffles are there in total?

13 There are fifty-eight people on a carriage twenty-seven. Forty-nine more people get on. How many are on the carriage now?

14 Ein takes twenty-seven pounds to drive to the car boot sale. She makes thirty-seven pounds in the morning and twenty-four pounds in the afternoon. She adds her morning money to her purse which has fourteen pounds. How much money does she have in her purse?

15 Ein makes £38 at a car boot sale. She already had £28 in her purse. How much money does she have now?

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17 A bakery has 53 chocolate doughnuts and 24 text doughnuts. There are 45 red counters and 47 yellow counters. How many counters are there altogether?

On this sheet, children still use manipulatives to help them add and see the exchange. Numbers in the word problem are underlined and written in bold.

Children on this sheet may still need manipulatives to calculate the answers. They find the information that they need to calculate and underline it themselves before working out the answers.

Children on this sheet have more complex word problems. They have to work out what numbers are relevant to the word problem and seek the information asked for.

Reasoning & Problem Solving

Tia, Ein and Rosie have strings.

Tia's string is 28 cm long.

Ein's string is 13 cm longer than Tia's string.

Rosie's string is 14 cm longer than Ein's string.

What is Ein's string length?

What is Rosie's string length?

Malachi has 17 marbles.

Leanna has 14 marbles more than Malachi has.

Zach has 19 marbles more than Leanna has.

How many marbles does Leanna have?

How many marbles does Zach have?

How many marbles do they have altogether?

Children continue working on adding 2-digit numbers with exchanges by answering reasoning tasks.



Calculate the answers.

- a Zach scores 38 points on his first maths paper and 27 on his second paper.

How many points does he have altogether?



points

- b Tia collects pens. On Monday she gets a delivery for 15 pens. On Tuesday she buys 29 new ones. How many has she got altogether?



pens



- c Ryan buys two packets of chocolate truffles.

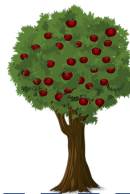
He empties them out and finds that there are 27 in pack one. In pack two, there are 28. How many truffles are there in total?



truffles

- d There are two apple trees. One of them has 48 apples and the other has 15.

How many apples are there in total?

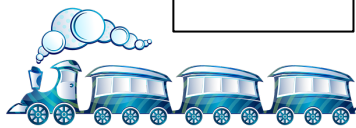


apples

- e There are 46 people on a carriage. 18 more people get on.

How many are on the carriage now?

people



- f Esin makes £45 at a car boot sale. She already had £19 in her purse.

How much money does she have altogether now?



£

- g A bakery has 33 chocolate doughnuts and 19 iced doughnuts.

How many doughnuts do they have altogether?

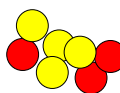
doughnuts



- h Jayda empties out a bag of counters. There are 37 red counters and 34 yellow counters.

How many counters are there altogether?

counters

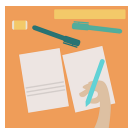




Calculate the answers.

- a Zach scores 38 points on his first maths paper and 27 on his second paper.

How many points does he have altogether?



65

points

- b Tia collects pens. On Monday she gets a delivery for 15 pens. On Tuesday she buys 29 new ones. How many has she got altogether?



44

pens



- c Ryan buys two packets of chocolate truffles.

He empties them out and finds that there are 27 in pack one. In pack two, there are 28. How many truffles are there in total?

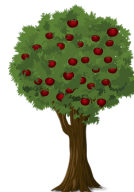


55

truffles

- d There are two apple trees. One of them has 48 apples and the other has 15.

How many apples are there in total?

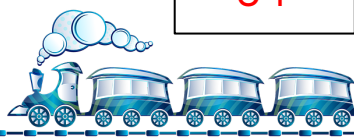


63

apples

- e There are 46 people on a carriage. 18 more people get on.

How many are on the carriage now?



64

people

- f Esin makes £45 at a car boot sale. She already had £19 in her purse.

How much money does she have altogether now?



£ 64

- g A bakery has 33 chocolate doughnuts and 19 iced doughnuts.

How many doughnuts do they have altogether?



52

doughnuts

- h Jayda empties out a bag of counters. There are 37 red counters and 34 yellow counters.

How many counters are there altogether?



71

counters



Calculate the answers.

- a Zach scores 49 points on his first maths paper and 27 on his second paper.

How many points does he have altogether?



points

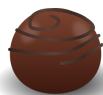
- b Tia collects pens. On Monday she gets a delivery for 14 pens. On Tuesday she buys 28 new ones. How many has she got altogether?



pens



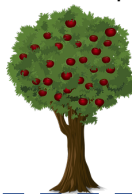
- c Ryan buys two packets of chocolate truffles. He empties them out and finds that there are 64 in pack one. In pack two, there are 28. How many truffles are there in total?



truffles

- d There are two apple trees. One of them has 34 apples and the other has 19.

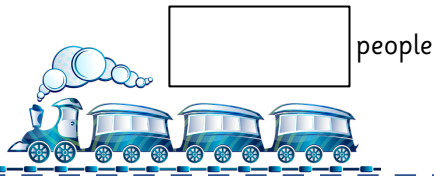
Rosie picks them all. How many apples does she have in total?



apples

- e There are 57 people on a carriage. 15 more people get on.

How many are on the carriage now?



people

- f Esin makes £38 at a car boot sale. She already had £26 in her purse.

How much money does she have now?



£

- g A bakery has 53 chocolate doughnuts and 29 iced doughnuts.

How many doughnuts do they have altogether?



doughnuts

- h Jayda empties out a bag of counters. There are 45 red counters and 47 yellow counters.

How many counters are there altogether?



counters



Calculate the answers.

- a Zach scores 49 points on his first maths paper and 27 on his second paper.

How many points does he have altogether?



76

points

- b Tia collects pens. On Monday she gets a delivery for 14 pens. On Tuesday she buys 28 new ones. How many has she got altogether?



42

pens



- c Ryan buys two packets of chocolate truffles. He empties them out and finds that there are 64 in pack one. In pack two, there are 28. How many truffles are there in total?

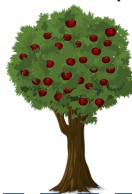


92

truffles

- d There are two apple trees. One of them has 34 apples and the other has 19.

Rosie picks them all. How many apples does she have in total?

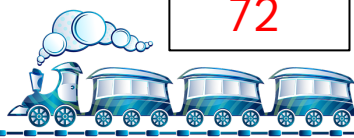


53

apples

- e There are 57 people on a carriage. 15 more people get on.

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72

people

- f Esin makes £38 at a car boot sale. She already had £26 in her purse.

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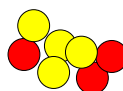


82

doughnuts

- h Jayda empties out a bag of counters. There are 45 red counters and 47 yellow counters.

How many counters are there altogether?



92

counters



Calculate the answers.

- a Zach completes five papers. Out of the five, he totals the score of two of them. He totals fifty-four and twenty-eight.

What were the total marks?



points

- b Tia collects pens. She has fifty-two in her collection. On Monday she gets a delivery for nineteen pens. On Tuesday she buys thirteen new ones.

How many new pens has she got altogether?



pens



- c Ryan buys two packets of chocolate truffles for four pounds each. He empties them out and finds that there are thirty-six in pack one. In pack two, there are twenty-eight. How many truffles are there in total?



truffles

- d There are two apple trees on plot number forty-five. One of them has twenty-six apples and the other has seventeen.

Rosie picks them all.

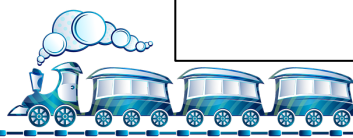
How many apples does she have in total?



apples

- e There are fifty-eight people on carriage twenty-seven. forty-nine more people get on.

How many are on the carriage now?



people

- f Esin takes twenty-nine minutes to drive to the car boot sale. She makes thirty-seven pounds in the morning and twenty-four pounds in the afternoon.

She adds her morning money to her purse which has fourteen pounds in.

How much money does she have in her purse?



£

- g A bakery has sixteen cakes, thirty-five chocolate doughnuts, eighteen muffins and fifty-eight iced doughnuts.

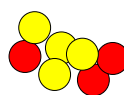
How many doughnuts do they have altogether?



doughnuts

- h Jayda is in classroom fourteen. She empties out a bag of counters. There are thirty-seven red counters and twenty-nine yellow counters.

How many counters are there altogether?



counters



Calculate the answers.

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32

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64

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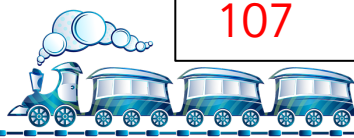


43

apples

- e There are fifty-eight people on carriage twenty-seven. forty-nine more people get on.

How many are on the carriage now?



107

people

- f Esin takes twenty-nine minutes to drive to the car boot sale. She makes thirty-seven pounds in the morning and twenty-four pounds in the afternoon.

She adds her morning money to her purse which has fourteen pounds in.

How much money does she have in her purse?



£ 51

- g A bakery has sixteen cakes, thirty-five chocolate doughnuts, eighteen muffins and fifty-eight iced doughnuts.

How many doughnuts do they have altogether?

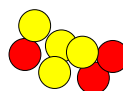


93

doughnuts

- h Jayda is in classroom fourteen. She empties out a bag of counters. There are thirty-seven red counters and twenty-nine yellow counters.

How many counters are there altogether?



66

counters

Tia, Esin and Rosie have strings.



Tia's string is 28 cm long.



Esin's string is 13 cm longer than Tia's string.



Rosie's string is 19 cm longer than Esin's string.



What is Esin's string length?

What is Rosie's string length?

Malachi has 17 marbles.

Leanna has 14 marbles more than Malachi has.

Zach has 19 marbles more than Leanna has.

How many marbles does Leanna have?

How many marbles does Zach have?

How many marbles do they have altogether?



Tia, Esin and Rosie have strings.



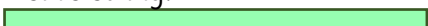
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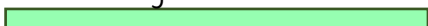
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Esin's string is 13 cm longer than Tia's string.



Rosie's string is 19 cm longer than Esin's string.



What is Esin's string length?

What is Rosie's string length?

Esin's string is 41 cm long,
Rosie's string is 60 cm long.

Malachi has 17 marbles.

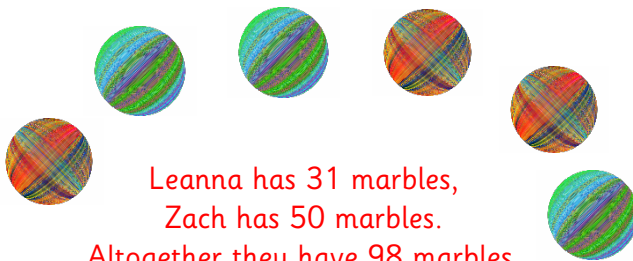
Leanna has 14 marbles more than Malachi has.

Zach has 19 marbles more than Leanna has.

How many marbles does Leanna have?

How many marbles does Zach have?

How many marbles do they have altogether?



Leanna has 31 marbles,
Zach has 50 marbles.
Altogether they have 98 marbles.

Tia, Esin and Rosie have strings.



Tia's string is 28 cm long.



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Rosie's string is 19 cm longer than Esin's string.



What is Esin's string length?

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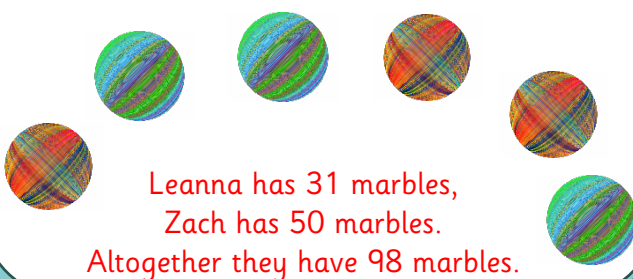
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