

Look Back

How many red and blue blocks are there altogether? Are there an odd or even number of each type of block?

Student's Book p.112



Count the number of red blocks.
Count the number of blue blocks.

How many red blocks are there?

7 red blocks

How many blue blocks are there?

9 blue blocks

How many blocks are there **altogether**?

$7 + 9 = 16$. There are 16 blocks altogether.

Is 16 an even number or an odd number?

Even number

Thinking Cap



Without finding the total number of red and blue blocks, Caz wants to know if the total number is odd or even. **even**
How can she find out? Does it work for different numbers of each type of blocks? Use base ten blocks to help you.



What are the types of numbers she added?

both are odd numbers

Does that mean that the sum of two odd numbers is always odd?

yes

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Let's Learn

a



Kelly has 4 purple blocks and 2 yellow blocks.



If Kelly adds 1 more purple block, how many blocks would she have altogether?



We can also write it like this:

$$\begin{array}{r} \text{5} \\ \text{odd} \end{array} + \begin{array}{r} \text{2} \\ \text{even} \end{array} = \begin{array}{r} \text{7} \\ \text{odd} \end{array}$$

When you add 1 to an even number, it becomes an odd number.



Addition Key words:

Altogether

Sum

Total

Add

Subtraction key words:

Less than

More than

Subtract

Take away

Difference

Left

$$\text{even} + \text{even} = \text{even}$$

The sum of two even numbers is always an even number.

$$\text{odd} + \text{even} = \text{odd}$$

The sum of an odd number and an even number is always an odd number.

$$\text{odd} + \text{odd} = \text{even}$$

The sum of two odd numbers is always an even number.

$$3 + 6 = 9$$

$$7 + 4 = 11$$

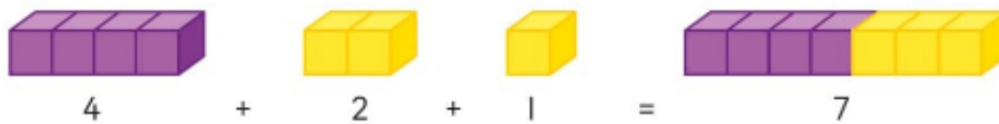
Is the sum of 23 and 48 an odd number?

What about the sum of 367 and 124?

Yes, both of the sums are odd numbers.

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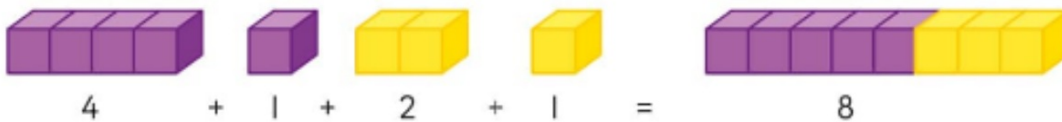
If Kelly adds 1 more yellow blocks, how many blocks would she have altogether?



We can also write it like this:

$$\begin{array}{ccccccc} 4 & + & \underline{3} & = & 7 \\ \text{even} & & \text{odd} & & \text{odd} \end{array}$$

If Kelly adds one more purple block and one more yellow block, how many blocks would she have altogether?



We can also write it like this:

$$\begin{array}{ccccccc} 5 & + & 3 & = & 8 \\ \text{odd} & & \text{odd} & & \text{even} \end{array}$$

$$5 + 7 = 12$$

$$9 + 3 = 12$$

Is the sum of 25 and 51 an even number? What about the sum of 367 and 129?

Yes, both of the sums are even numbers.

Reminder:

- Even + Even = Even
- Odd + Even = Odd
- Even + Odd = Odd
- Odd + Odd = Even

Student's Book p.114

b



Row A



Row B



Row C



Row D

Zack takes one row of orange blocks and one row of blue blocks from above. The difference between the number of blocks in the row he takes is an odd number. Which rows could he have taken?

Identify if each number of blocks is odd or even. Then find the differences.



If he chooses row A and row B, then

$$\begin{array}{ccccccc} 8 & - & 6 & = & 2 \\ \text{even} & & \text{even} & & \text{even} \end{array}$$

If he chooses row C and row B, then

$$\begin{array}{ccccccc} 7 & - & 6 & = & 1 \\ \text{odd} & & \text{even} & & \text{odd} \end{array}$$

If he chooses row A and row D, then

$$\begin{array}{ccccccc} 8 & - & 5 & = & 3 \\ \text{even} & & \text{odd} & & \text{odd} \end{array}$$

If he chooses row C and row D, then

$$\begin{array}{ccccccc} 7 & - & 5 & = & 2 \\ \text{odd} & & \text{odd} & & \text{even} \end{array}$$

1 and 3 are odd numbers. So Zack could have taken rows A and D or rows B and C.

$$\text{even} - \text{odd} = \text{odd}$$

$$\text{odd} - \text{even} = \text{odd}$$

$$\text{even} - \text{even} = \text{even}$$

$$\text{odd} - \text{odd} = \text{even}$$

•How many blocks are there in Row A? Is it an even or odd number?

8 blocks, even number

•How many blocks are there in Row B? Is it an even or odd number?

6 blocks, even number

•How many blocks are there in Row C? Is it an even or odd number?

7 blocks, odd number

•How many blocks are there in Row D? Is it an even or odd number?

5 blocks, odd number

Reminder:

- Even - Even = Even
- Odd - Even = Odd
- Even - Odd = Odd
- Odd - Odd = Even

Let's Practise

Student's Book p.115

What can you say about the addition and subtraction of odd and even numbers? Discuss with your partner.



1 Look at the questions below. Is each sum or difference odd or even?

Write 'odd' or 'even'. Use unit blocks to convince your partner that your answer is correct.

- a $41 + 29$ 70 Even b $75 + 19$ 94 Even
c $37 - 16$ 21 Odd d $76 - 28$ 48 Even
e $42 + 58$ 100 Even f $39 + 46$ 85 Odd
g $97 - 83$ 14 Even h $80 - 37$ 43 Odd

2 A school hires three tour buses.
The number of students taking each bus is as shown.



Bus 1
56 students



Bus 2
55 students



Bus 3
58 students

Without calculating the total, is the total number of students odd or even? Why do you say so?

The number of students is an odd number because it is the sum of two even numbers and an odd number.