Student's Book p. 8

Count On and Back

What You Will Learn:

- Count on in ones, tens, hundreds and thousands.
- Count back in ones, tens, hundreds and thousands.

Look Back

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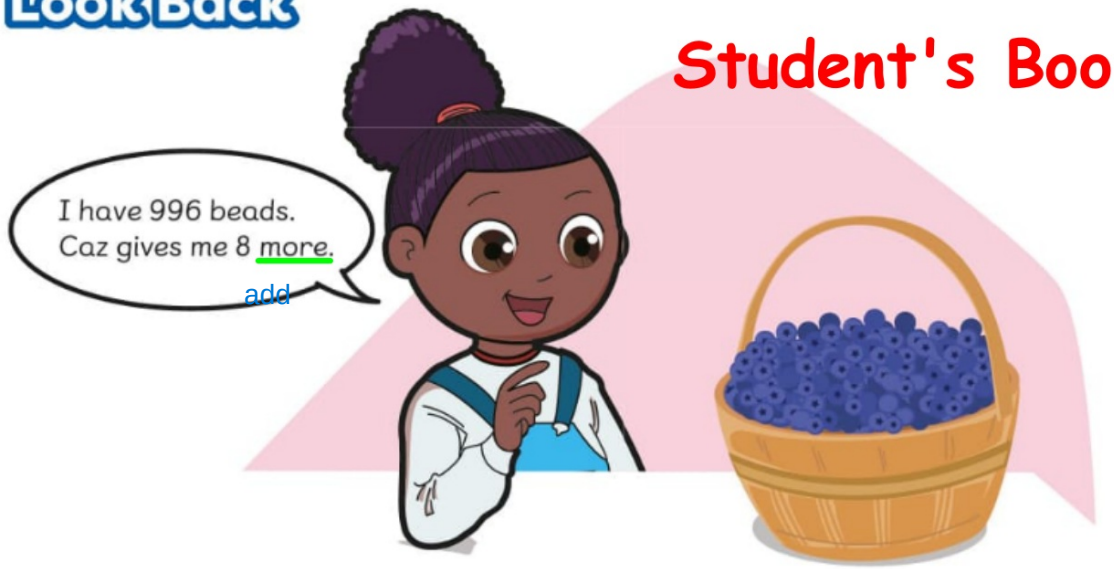
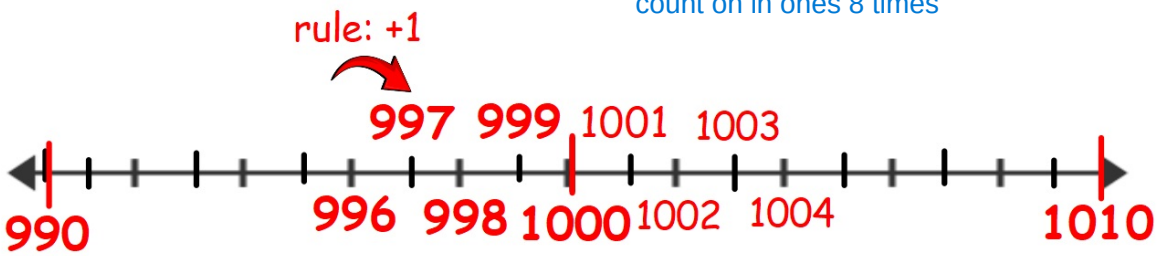


Show the number of beads Izzy has now using a diagram.
Compare with a partner. Who has a better way? Critique and improve your explanations together.

count on in ones 8 times



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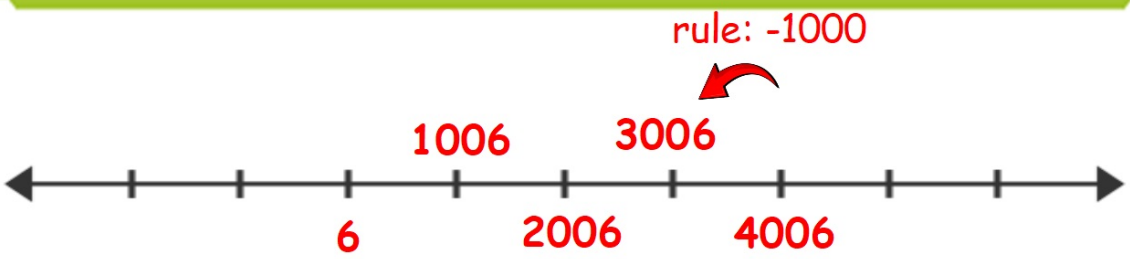
Thinking Cap

I have 2006 beads. I give Caz 1000 beads.
How many beads would I have now?
Show two ways to work it out with diagrams.



count back in thousands one time

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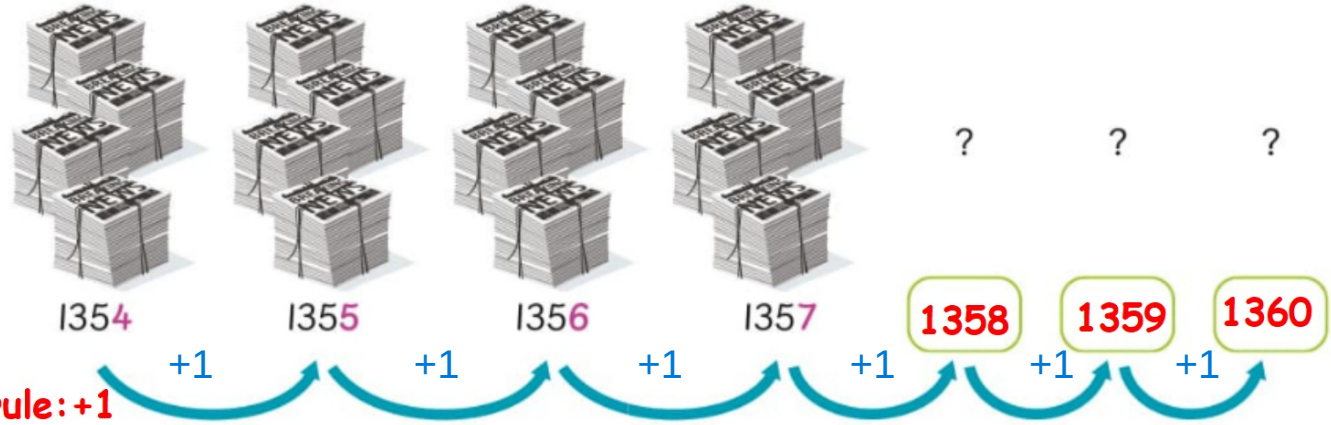
Let's Learn

one thousand, three hundred and fifty-four

a Ron collects 1354 stacks of newspapers for recycling.
He counts on in ones and collects 6 more stacks.
He counts on 6 more.



Ron has 1360 stacks of newspapers now.

Count on in ones 6 steps from 1354.

The digit in the ones place increases by 1 for each jump.

count on in ones 6 times

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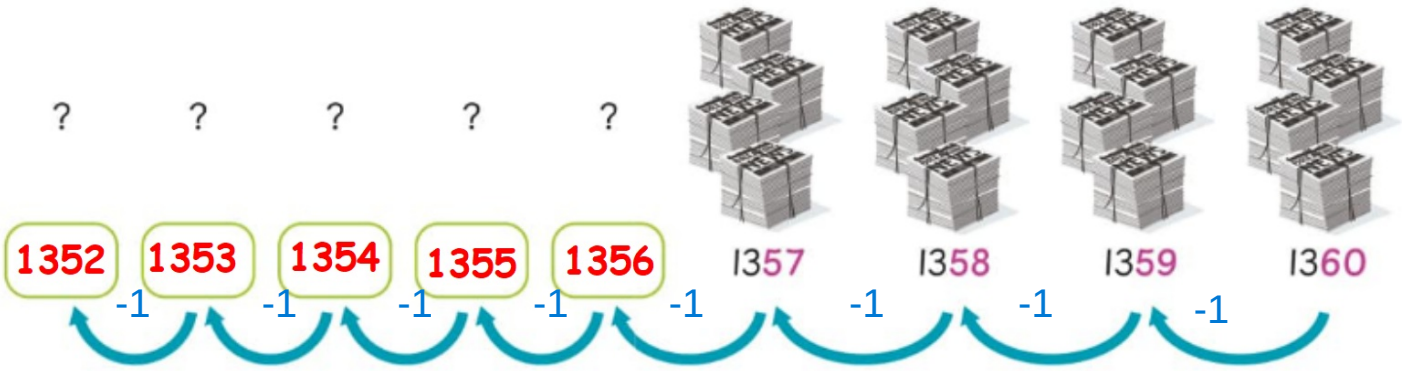
count back in ones 8 times

Ron gives away 8 stacks of newspapers.
He counts back in ones from 1360. He counts back 8 less.



rule: -1

He has 1352 stacks of newspapers left.

Count back in ones 8 steps from 1360.

The jump from 1360 requires regrouping the tens.
The digit in the ones place decreases by 1 for each jump.

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count on in tens 4 times

b What is 40 more than 21 548? Count on

40 4 tens.

twenty-one thousand, five hundred and forty-eight

21 548 21 558 21 568 **21578** **21588**

rule: +10

40 more than 21 548 is **21588**.

Count on in tens 4 steps from 21 548.

What changes when you count on in tens?

The digit in the tens place increases by 1 for each jump,
while the other digits remain unchanged.

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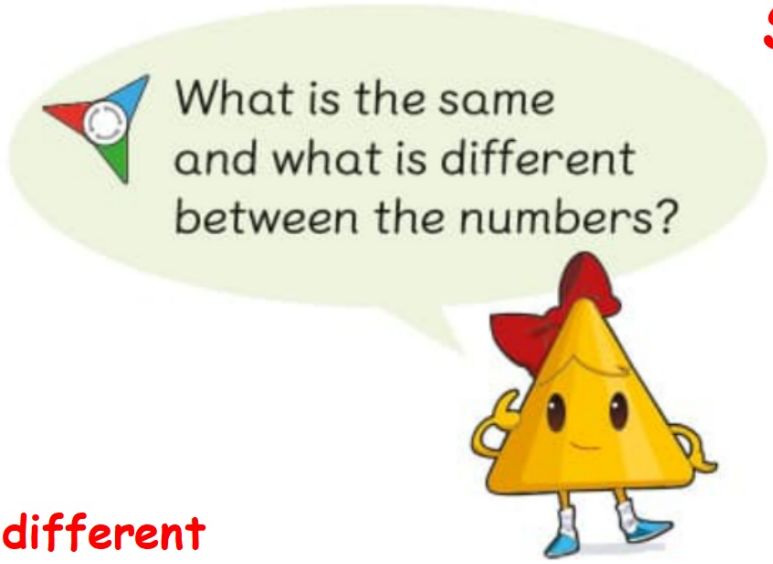

different

The digit in the tens place increases by 1 in each jump. After 4 jumps, we get 40 more than 21 548.

same

The digits in the other places remain unchanged.

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count back in tens 6 times

What is 60 less than 21 588? Count back 6 tens.

21528 21538 21548 21 558 21 568 21 578 21 588

rule: -10

60 less than 21 588 is 21528.

Count back in tens 6 steps from 21 588.

What changes when you count back in tens?

The digit in the tens place decreases by 1 for each jump, while the other digits remain unchanged.

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21588= 21 000 + 500 + 80 + 8.
Count back in 10s 6 times.
60 less than 80 is 20.
Compose back: 21 000 + 500 + 20 +8 = 21 528

Look for a pattern. What changes each time when you count on and back in tens?

How do you decompose and compose to find the answer?

The digit in the tens place decreases by 1 in each jump. After 6 jumps, we get 60 less than 21 588.

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For 32 990, we regroup
10 hundreds as 1 thousand.

The digit in the hundred place increases by 1 in each jump. After 6 jumps, we get 600 more than 32 590.

The digit in the hundreds place increases by 1 and all the other digits stay the same.

c What is 600 more than 32 590? Count on 6 hundreds.

32 590 32 690 32 790 **32890** **32990** **33090** **33190**

rule: +100

600 more than 32 590 is **33190**.

What changes each time when you count on and back in hundreds?

What is 700 less than 32 590? Count back 7 hundreds.

31890 **31990** **32090** **32190** 32 290 32 390 32 490 32 590

700 less than 32 590 is **31 890**.

rule: -100

For 32 090, we regroup
1 thousand as 10 hundreds.

The digit in the hundreds place decreases by 1 in each jump. After 7 jumps, we get 700 less than 32 590.

The digit in the hundreds place decreases by 1 and all the other digits stay the same.

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d What is 5000 more than 384 632? Count on 5 thousands.

384 632 385 632 386 632 387 632 388 632 389 632

rule: +1 000

5000 more than 384 632 is 389 632.

The digit in the thousands place increases by 1 and all the other digits stay the same.

What is 7000 less than 389 632? Count back 7 thousands.

382 632 383 632 384 632 385 632 386 632 387 632 388 632 389 632

7000 less than 389 632 is 382 632.

rule: -1 000

What is the same and what is different when you count on and back in thousands?

The digit in the thousands place decreases by 1 and all the other digits stay the same.

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Let's Practise

1 There is 7 more than each time.

rule: +7 2988 2995 **3002** 3009 3016 **3023** **3030**

Will 2981 be in this sequence? How do you know?

Yes because it is 7 less than 2988

2 Count back in 30s.

rule: -30 **4988** **5018** **5048** 5078 5108 5138

Write an example of a number that has 8 ones but is not in this sequence. Explain why.

5068 because it still has 8 ones but is only 10 less than 5078.

3 Fill in the missing numbers.

rule: -100 10 750, 10 650, 10 550, **10 450** **10 350** **10 250**

Spot a pattern in the numbers. How do they change? Make a generalisation.

The only digits that change are the hundreds but the tens and ones will stay the same.

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4 Use the clues to answer the questions.

> The digit 5 is in the ten thousands place.
> The value of digit 3 is 3000.
> It has a 2 in the hundreds place and in the ones place.
> The digit 8 stands for 80.

a What number is this? 53 282

b What is 7000 more? Explain what changes when you count on.

60 282

c What is 1200 less? Explain what changes when you count back.

52 082

5 3 , 2 8 2