

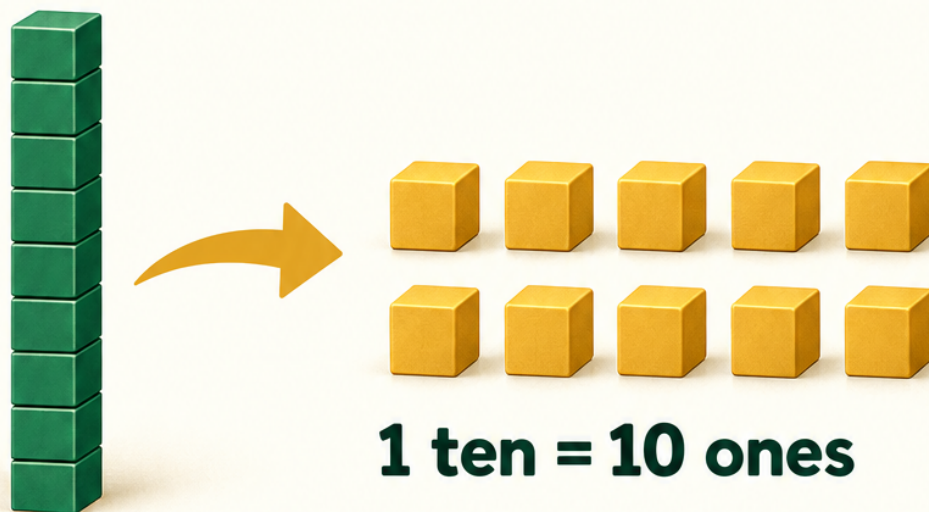


LITTLE NEWTONS

CLASS 18

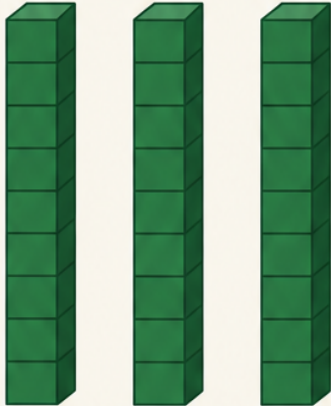
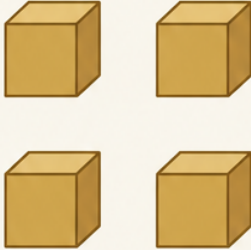
Two-Digit Subtraction with Regrouping

Borrowing Without Confusion



Build it. Trade it. Subtract it. Check it.

Reviewing Tens and Ones

TENS	ONES
	
3 tens = 30	4 ones = 4

$$34 = 30 + 4$$

10 ones = 1 ten



Reviewing tens and ones

Q1. A model has 5 tens rods and 7 ones cubes. What number does it show?

Q2. Write 83 as tens plus ones.

Q3. How many ones are in 4 tens?

Q4. A model shows 6 tens rods and no loose cubes. What number is it, and why do we write a 0?

Q5. Mateo has 2 tens rods and 15 ones cubes. He says his model shows 35. Is he right? Use $10 \text{ ones} = 1 \text{ ten}$ to explain.



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When Do We Regroup?

Look at the ones first.

No regrouping needed

TENS	ONES
4	6
- 2	3
<hr/>	

6 ones can
subtract
3 ones.

Regrouping needed

TENS	ONES
4	2
- 1	8
<hr/>	

2 ones are not
enough to subtract
8 ones.

Trade 1 ten for
10 ones.

If the top ones digit is smaller,
regroup!

When do we regroup?

Q6. Look at $57 - 24$. Do you need to regroup? Then solve.

Q7. Look at $63 - 27$. Do you need to regroup? Then solve.

Q8. Which of these need regrouping: $85 - 41$, $72 - 36$, $94 - 58$, $68 - 35$?

Q9. Look at $50 - 13$. Do you need to regroup? Why?

Q10. Lily says $44 - 19$ does not need regrouping because 4 tens is more than 1 ten. Is she right? Explain.

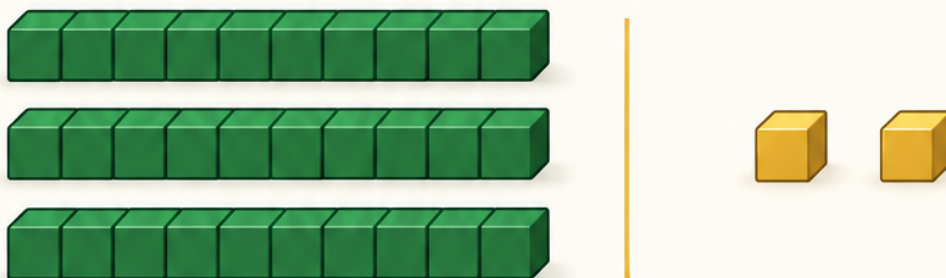


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Trading One Ten for Ten Ones

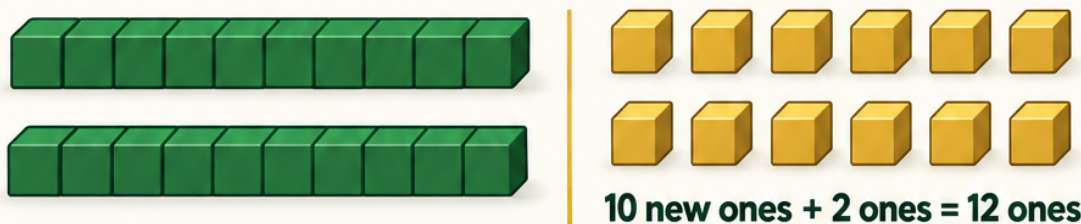
Same number. A new way to show it.

BEFORE: 3 tens and 2 ones



Trade 1 ten for 10 ones

AFTER: 2 tens and 12 ones



$$32 = 3 \text{ tens} + 2 \text{ ones}$$

$$32 = 2 \text{ tens} + 12 \text{ ones}$$

The value stays the same!

Trading one ten for ten ones

Q11. Trade one ten in 45. How many tens and ones do you have afterward?

Q12. Fill in the blank: $53 = 4 \text{ tens} + \underline{\hspace{1cm}} \text{ ones}$.

Q13. After a trade, a model shows 6 tens and 11 ones. What number is it, and what did the model look like before the trade?

Q14. Trade one ten in 80. How many tens and ones do you have now?

Q15. Ben trades one ten in 37 and says he now has 2 tens and 7 ones. What did he forget? Show the correct model.

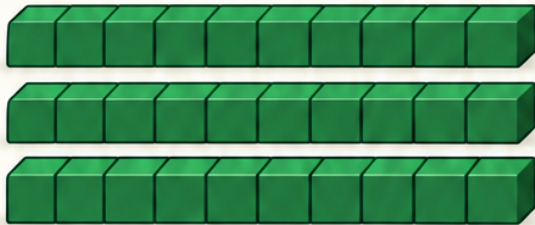


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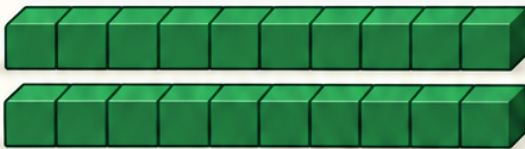
Subtracting with Base-Ten Blocks

$32 - 15$

1. Build 32

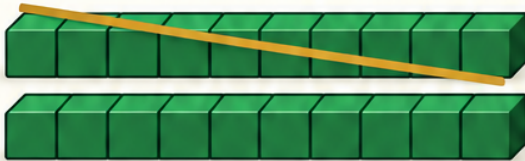


2. Regroup



$3 \text{ tens} + 2 \text{ ones} = 2 \text{ tens} + 12 \text{ ones}$

3. Take away 15



Remove 1 ten and 5 ones.

$$1 \text{ ten} + 7 \text{ ones} = 17$$
$$32 - 15 = 17$$

Subtracting with base-ten blocks

Q16. Use blocks to solve $41 - 16$. Tell what you build, trade, and take away.

Q17. Use blocks to solve $52 - 27$.

Q18. After a trade, a model of 64 shows 5 tens and 14 ones. Take away 2 tens and 8 ones. What is left, and what subtraction did you do?

Q19. To solve $33 - 17$, a student builds 33, removes 1 rod and all 3 cubes, and says she cannot take away more. What should she do instead?

Q20. Draw a quick sketch for $75 - 48$, using a line for each ten and a dot for each one. Show the trade and the answer.



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Writing Regrouping Clearly in Columns

1. Line up the digits

TENS	ONES
4	2
- 1	8
<hr/>	

Tens under tens.
Ones under ones.

2. Show the trade

TENS	ONES
3	12
4	2
- 1	8
<hr/>	

4 tens become 3 tens.
2 ones become 12 ones.

3. Subtract

TENS	ONES
3	12
4	2
- 1	8
<hr/>	
2	4

Ones: $12 - 8 = 4$

Tens: $3 - 1 = 2$

$$42 - 18 = 24$$

Writing regrouping clearly in columns

Q21. Write $53 - 26$ in columns. Show the trade with crossed-out digits, then subtract.

Q22. Solve $81 - 35$ in columns, showing the trade.

Q23. In $74 - 39$, what small numbers do you write above the tens and ones after trading? What is the answer?

Q24. A student wrote $62 - 28 = 46$. He found $8 - 2 = 6$ in the ones column. What went wrong? Find the correct answer.

Q25. Solve $92 - 57$ in columns, showing the trade.



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Subtracting Across Zero

60 – 24

1. Look at the ones

TENS	ONES
6	0
– 2	4
<hr/>	

0 ones are not enough to subtract 4 ones.

2. Trade 1 ten for 10 ones

TENS	ONES
5 6	10 0
– 2	4
<hr/>	

6 tens become 5 tens.
0 ones become 10 ones.

3. Subtract

TENS	ONES
5 6	10 0
– 2	4
<hr/>	
3	6

Ones: $10 - 4 = 6$

Tens: $5 - 2 = 3$

$$60 - 24 = 36$$

Subtracting across zero

Q26. Solve $40 - 17$.

Q27. Solve $70 - 38$.

Q28. In $90 - 46$, what are the new tens and ones after the trade? Finish the subtraction.

Q29. A student says $50 - 23 = 33$ because “0 take away 3 is 3.” Explain the mistake and find the correct answer.

Q30. Solve $80 - 52$ and check your answer.



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Solving Subtraction Word Problems

1. Read the story

Mia has 42 stickers.
She gives 18 stickers
to a friend.
How many stickers
does Mia have left?



2. Write the subtraction

$$42 - 18 = ?$$

Start with 42. Take away 18.

3. Regroup and subtract

TENS	ONES
3	12
4	2
- 1	8
<hr/>	
2	4

Ones: $12 - 8 = 4$

Tens: $3 - 1 = 2$

Mia has 24 stickers left.

$$42 - 18 = 24$$

Solving subtraction word problems

Q31. Noah has 51 marbles. He gives 26 marbles to his cousin. How many marbles does Noah have left?

Q32. A bakery made 70 muffins. It sold 43 of them. How many muffins are left?

Q33. There are 63 children at the park. Then 29 children go home. How many children are still at the park?

Q34. A book has 85 pages. Ava has read 47 pages. How many pages does she still have to read?

Q35. Leo has 34 stamps. Emma has 52 stamps. How many more stamps does Emma have than Leo?



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Checking Answers with Addition

1. Solve the subtraction

$$42 - 18 = 24$$

Our answer is 24.

2. Add the answer and the amount taken away

TENS	ONES
2	4
+	1
1	8
<hr/>	
4	2

Ones: $4 + 8 = 12$
Write 2. Carry 1 ten.
Tens: $1 + 2 + 1 = 4$

3. Compare with the starting number

$$24 + 18 = 42 \checkmark$$

We got 42 again.
The subtraction is correct!

Answer + amount taken away = starting number

Checking subtraction with addition

Q36. Check $71 - 45 = 26$ using addition. Is it correct?

Q37. Sam says $54 - 18 = 44$. Check with addition. If he is wrong, find the correct answer.

Q38. Solve $83 - 57$, then check with addition.

Q39. Solve $60 - 33$, then check with addition.

Q40. Complete the addition that checks $92 - 64 = 28$: $28 + \underline{\quad} = \underline{\quad}$.

Homework review

R1. Write 76 as tens plus ones. How many ones are in 7 tens?

R2. Which needs regrouping, $58 - 34$ or $52 - 34$? Explain, then solve both.

R3. Trade one ten in 61. How many tens and ones do you have?

R4. Use blocks or a sketch to solve $43 - 25$.

R5. Solve $95 - 68$ in columns. Show the crossed-out digits and the new numbers.

Homework review

R6. Solve $30 - 14$.

R7. A jar holds 56 crayons. The class uses 29 of them. How many crayons are left in the jar?

R8. Solve $82 - 47$, then check your answer with addition.

Homework word problems

W1. Sara picked 45 apples. She gave 17 apples to her neighbors. How many apples does she have now?

W2. A parking lot has 62 cars. Then 35 cars drive away. How many cars are still in the lot?

W3. A pet shop had 80 goldfish. It sold 26 of them. How many goldfish are left?

W4. Jake scored 73 points in a game. Mia scored 48 points. How many more points did Jake score?

W5. A class needs 50 tickets for a show. It has 32 tickets. How many more tickets does it need?

Homework word problems

W6. A train has 91 seats. There are 64 people sitting, one in each seat. How many seats are empty?

W7. Grandma baked 64 cookies. The family ate 27 cookies, and then she gave 18 cookies to friends. How many cookies are left?

W8. A shelf had 54 library books. Then 29 books were borrowed, and later 15 books were returned to the shelf. How many books are on the shelf now?

W9. Ella had 90 cents. She bought a pencil for 35 cents and an eraser for 28 cents. How many cents does she have left?

W10. Ravi has 43 baseball cards. His brother has 71 cards. How many more cards does Ravi need to have as many as his brother?

Homework word problems

W11. Maya gave away 26 stickers and has 37 stickers left. How many stickers did she have at the start?

W12. Tom says $72 - 45 = 37$. Check his answer with addition. If it is wrong, find and check the correct answer.