SCHOOL OF MATH

LITTLE NEWTONS

CLASS 20

Place Value to 1,000

Hundreds • Tens • Ones



472



HUNDREDS	TENS	ONES
4	7	2

400 + 70 + 2 = 472

Let's build big numbers!

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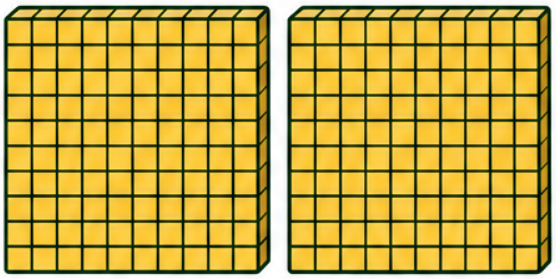
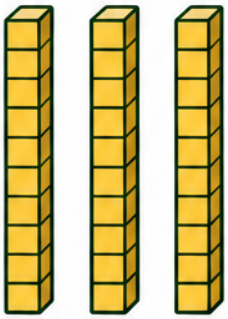
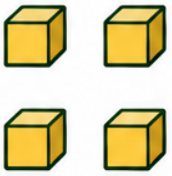
LITTLE NEWTONS

CLASS 20 • ITEM 1



Build Three-Digit Numbers

Hundreds • Tens • Ones

HUNDREDS	TENS	ONES
		
2 hundreds = 200	3 tens = 30	4 ones = 4

200 + 30 + 4 = 234

Count the blocks. Build the number!

Your turn: Build 142 using hundreds, tens, and ones.

Build three-digit numbers

Q1. A model shows 3 hundreds flats, 5 tens rods, and 6 ones cubes. What number does it show?

Q2. You want to build 427. How many hundreds flats, tens rods, and ones cubes do you need?

Q3. Lina uses 6 hundreds flats, 1 tens rod, and 8 ones cubes. Write the number and an addition sentence for her model.

Q4. Sam builds a number with 2 hundreds flats and 9 ones cubes. He uses no tens rods. What number did he build?

Q5. Build 165 with blocks. How many blocks do you use in all, counting every flat, rod, and cube?

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CLASS 20 • ITEM 2



Each Digit Has a Value

Hundreds • Tens • Ones

472

HUNDREDS	TENS	ONES
4 hundreds	7 tens	2 ones
4 × 100 = 400	7 × 10 = 70	2 × 1 = 2

472 = 400 + 70 + 2

A digit's place tells us its value.

In 585, the first 5 means 500. The last 5 means 5.

585

500 5

Your turn: What is the value of 6 in 361?

Each digit has a value

Q6. What is the value of the 8 in 283?

Q7. In 947, which digit is in the hundreds place? What is its value?

Q8. The number 333 has three 3s. What is the value of each 3?

Q9. Write one number for 5 × 100, 2 × 10, and 6 × 1.

Q10. Mia says the 4 in 149 is worth 4. Is she right? Explain.

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CLASS 20 • ITEM 3



Read and Write Numbers

Match number names to numerals

635 ↔ **six hundred thirty-five**

HUNDREDS	TENS	ONES
6	3	5
600	30	5

600 + 30 + 5 = 635

Read the hundreds first, then the tens and ones.

Let's read!

218	→	two hundred eighteen
490	→	four hundred ninety
703	→	seven hundred three

Your turn: Write the number.

eight hundred forty-two = _____

five hundred six = _____

Read and write numbers

Q11. Write 527 in words.

Q12. Write the number: three hundred sixty-four.

Q13. Write 810 in words.

Q14. Write the number: nine hundred seven.

Q15. Leo wrote “two hundred fifty” as 20050. What did he do wrong? Write it correctly.

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CLASS 20 • ITEM 4



Write Numbers in Expanded Form

Break a number into its place values

826

HUNDREDS	TENS	ONES
8 hundreds	2 tens	6 ones
800	20	6

826 = 800 + 20 + 6

Tip: Expanded form shows the value of each digit.

More examples

- 351 → 351 = 300 + 50 + 1
- 904 → 904 = 900 + 4
- 670 → 670 = 600 + 70

Zero-value parts can be left out.

Your turn: Write in expanded form.

- 462 = _____ + _____ + _____
- 708 = _____ + _____

Write numbers in expanded form

Q16. Write 537 in expanded form.

Q17. Write 285 in expanded form.

Q18. Write 400 + 60 + 9 in standard form.

Q19. Write 806 in expanded form.

Q20. The parts are mixed up: 20 + 900 + 3. What number is this?

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CLASS 20 • ITEM 5



Zero Holds a Place

Understanding zero as a placeholder

305

HUNDREDS	TENS	ONES
3 hundreds	0 tens	5 ones
3	0	5

305 = 300 + 0 + 5

Zero tells us there are none in that place.

Keep the zero!

470	→	4 hundreds, 7 tens, 0 ones
600	→	6 hundreds, 0 tens, 0 ones

305 and 35 are different numbers.

305	=	3 hundreds + 5 ones
35	=	3 tens + 5 ones

Your turn:

1. In 508, which place has zero?
2. Write: 7 hundreds, 0 tens, 2 ones = _____

Zero holds a place

Q21. In 407, which place has a zero? How many tens are in 407?

Q22. Write the number: 6 hundreds, 0 tens, 8 ones.

Q23. Write the number: 5 hundreds, 3 tens, 0 ones.

Q24. Are 240 and 204 the same number? Explain using place value.

Q25. Kai writes 3 hundreds and 7 ones as 37. What did he forget? Write the correct number.

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CLASS 20 • ITEM 6

Trade Ones, Tens, and Hundreds

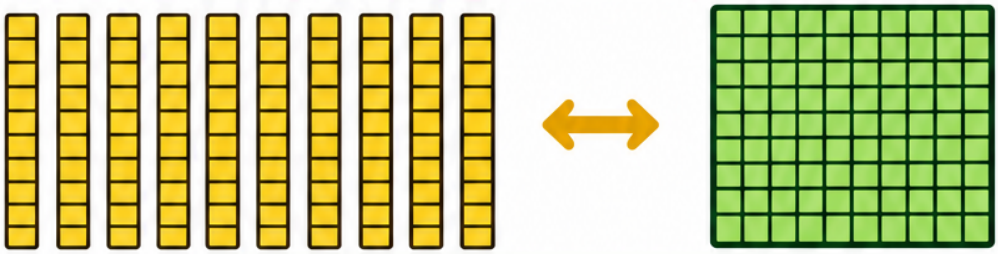
Different groups. The same value!

10 ones = 1 ten



Trade 10 ones for 1 ten.

10 tens = 1 hundred



Trade 10 tens for 1 hundred.

Same number, different groups

134 = 1 hundred + 3 tens + 4 ones

134 = 13 tens + 4 ones

Teaching tip: Trading changes the groups, but not the total.

Your turn:

1. 20 ones = _____ tens
2. 30 tens = _____ hundreds

Trade ones, tens, and hundreds

Q26. 50 ones = ___ tens

Q27. 70 tens = ___ hundreds

Q28. 1 hundred = ___ tens = ___ ones

Q29. 256 is 2 hundreds, 5 tens, and 6 ones. Fill in: 256 = ___ tens and 6 ones.

Q30. A model has 3 hundreds, 14 tens, and 2 ones. What number is it? Trade so that no place has more than 9.

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LITTLE NEWTONS

CLASS 20 • ITEM 7



Compare and Order Numbers

Use hundreds, tens, and ones.

>	greater than	<	less than	=	equal to

Compare from left to right

472 > 468

1. Hundreds: 4 = 4
2. Tens: 7 > 6
3. So, 472 is greater than 468.

Tip: If the hundreds match, compare the tens. If the tens match, compare the ones.

More examples

305 < 350

620 = 620

Least to greatest

218 < 281 < 812

Your turn:

1. Fill in >, <, or =: 536 _____ 563
2. Order from least to greatest: 409, 490, 419

_____

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Compare and order numbers

Q31. Fill in >, <, or =: 645 ___ 654

Q32. Fill in >, <, or =: 723 ___ 689

Q33. Fill in >, <, or =: 390 ___ 309

Q34. Order from least to greatest: 527, 572, 257

Q35. Order from greatest to least: 618, 681, 168, 186

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LITTLE NEWTONS

CLASS 20 • ITEM 8



Reach 1,000!

Count by ones, tens, and hundreds.

1,000

10 hundreds = 1 thousand

THOUSANDS	HUNDREDS	TENS	ONES
1	0	0	0

Count by hundreds:

100 → 200 → 300 → 400 → 500
600 → 700 → 800 → 900 → 1,000

Count by tens:

960 → 970 → 980 → 990 → 1,000

Count by ones:

996 → 997 → 998 → 999 → 1,000

Tip: After 999 comes 1,000! **999 + 1 = 1,000**

Your turn: Fill in the missing numbers.

1. 700, 800, _____, 1,000
2. 970, 980, _____, 1,000

Reach 1,000

Q36. Count by hundreds. Fill in the missing number: 250, 350, ___, 550

Q37. Count by tens. Fill in the missing numbers: 920, 930, ___, ___, 960

Q38. Count by ones. Fill in the missing numbers: 994, 995, ___, 997, ___

Q39. What is 1 more than 999? 10 more than 990? 100 more than 900?

Q40. How many hundreds make 1,000? How many tens make 1,000?

Homework review

R1. Write the number: 4 hundreds, 8 tens, and 3 ones.

R2. What is the value of the 6 in 862?

R3. Write 741 in words.

R4. Write 359 in expanded form.

R5. Write the number: 9 hundreds, 0 tens, and 6 ones.

Homework review

R6. 18 tens = ___ hundred and ___ tens. What number is that?

R7. Fill in >, <, or =: 467 ___ 476

R8. Count by hundreds. Fill in the missing numbers: 600, 700, 800, ___, ___

Homework word problems

W1. A teacher has 2 boxes of 100 pencils, 4 packs of 10 pencils, and 5 loose pencils. How many pencils does she have?

W2. An art room has 5 big boxes of 100 crayons and 7 loose crayons. There are no packs of 10. How many crayons are there?

W3. Jada’s secret number has 7 hundreds, 2 tens, and 9 ones. Write it with numerals and with words.

W4. Noah builds a number with 2 hundreds flats and 15 tens rods. What number did he build?

W5. Ella has 438 stickers. Owen has 483 stickers. Who has more stickers? Use > or < to show it.

Homework word problems

W6. A bakery packs muffins in boxes of 10. It baked 260 muffins. How many full boxes can it fill?

W7. Ms. Lee writes 592, 529, and 925 on the board. Put them in order from least to greatest.

W8. Raj starts at 930 and counts by tens until he reaches 1,000. How many tens does he count?

W9. Mystery number: it has 6 hundreds. Its tens digit is 2 more than its hundreds digit. Its ones digit is 0. What is the number?

W10. Use the digits 4, 0, and 7 once each. Make the greatest and the least three-digit number.

Homework word problems

W11. Zoe’s block model has 7 hundreds, 12 tens, and 5 ones. Trade so no place has more than 9. What number is it?

W12. Challenge: My number is between 400 and 500. My ones digit is 3. My tens digit is double my ones digit. What number am I?