TAKING ON THE B.E.S.T.

MA.4.NSO.1.1

Video Lesson

Foundational Skills

PLACE VALUE

thousands period | ones period

2	1	9	,	3	0	8
hundred thousands	ten thousands	one thousands		hundreds	tens	ones

the comma separates the period.

VALUE OF DIGITS

2	2	0	,	0	7	7

					7
				7	0
			0		
		0			
	2	0	0	0	0
2	0	0	0	0	0

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Video Lesson

10 Times Greater

1 Write the number 47,513 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	4	7	5	1	3

Write a number that has the digit 5 in a place that is ten times greater than digit 5 in 47,513.	45,713
Write a number that has the digit 1 in a place that is ten times greater than digit 1 in 47,513.	47,153
Write a number that has the digit 7 in a place that is ten times greater than digit 7 in 47,513.	74,513

2 Write the number 98,234 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	9	8	2	3	4

Write a number that has the digit 8 in a place that is ten times greater than digit 8 in 98,234.	89,234
Write a number that has the digit 4 in a place that is ten times greater than digit 4 in 98,234.	98,243
Write a number that has the digit 2 in a place that is ten times greater than digit 2 in 98,234.	92,834

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Extra Practice #1

10 Times Greater

1 Write the number 261,257 in the place value chart below.

Sample response

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	6	1	2	5	7

Answers may vary.

Write a number that has the digit 5 in a place that is ten times greater than digit 5 in 261,257.	261, 527
Write a number that has the digit 6 in a place that is ten times greater than digit 1 in 261,257.	621, 257
Write a number that has the digit 7 in a place that is ten times greater than digit 7 in 261,257.	261, 275

2 Write the number 481,079 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	8	1	0	7	9

Write a number that has the digit 9 in a place that is ten times greater than digit 9 in 481,079.	481, 097
Write a number that has the digit 4 in a place that is ten times greater than digit 4 in 481,079.	4,081, 097
Write a number that has the digit 1 in a place that is ten times greater than digit 1 in 481,079.	418, 079

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Video Lesson

10 Times Less

1 Write the number 100,539 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
1	0	0	5	3	9

Write a number that has the digit 5 in a place that is ten times less than or $\frac{1}{10}$ of digit 5 in 100,539.	100, 359
Write a number that has the digit 1 in a place that is ten times less than or $\frac{1}{10}$ of digit 1 in 100,539.	210, 539
Write a number that has the digit 3 in a place that is ten times less than or $\frac{1}{10}$ of digit 3 in 100,539.	100, 593

2 Write the number 657,809 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
6	5	7	8	0	9

Write a number that has the digit 8 in a place that is $\frac{1}{10}$ of digit 8 in 657,809.	657, 089
Write a number that has the digit 6 in a place that is ten times less than the digit 6 in 657,809.	567, 809
Write a number that has the digit 7 in a place that is $\frac{1}{10}$ of digit 7 in 657,809.	658, 709

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Extra Practice #2

10 Times Less

1 Write the number 736,812 in the place value chart below.

Sample response

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
7	3	6	8	1	2

Answers may vary

Write a number that has the digit 1 in a place that is ten times less than the digit 1 in 736,812.	736,821
Write a number that has the digit 7 in a place that is $\frac{1}{10}$ of digit 7 in 736,812.	376,812
Write a number that has the digit 3 in a place that is $\frac{1}{10}$ of digit 3 in 736,812.	763,812

2 Write the number 254,389 in the place value chart below.

Hundred thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
2	5	4	3	8	9

Write a number that has the digit 2 in a place that is ten times less than the digit 2 in 254,389.	524,389
Write a number that has the digit 8 in a place that is $\frac{1}{10}$ of digit 8 in 254,389.	254,398
Write a number that has the digit 4 in a place that is ten times less than the digit 4 in 254,389.	253,489

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MA.4.NSO.1.1 | **Extra Practice #3** | **10 Times Greater or Less**

1 Here is the number 19,203. Write a number where the digit 2 is ten times greater than the digit 2 in 19,203. Sample responses

12,903

Any number with the digit 2 in the thousands place.

2 Here is the number 742,680. Write a number where the digit 4 is ten times less than the digit 4 in 742,680.

724,680

Any number with the digit 4 in the thousands place.

3 Here is the number 566,941. Write a number where the digit 9 is $\frac{1}{10}$ of the digit 9 in 566,941.

566,491

Any number with the digit 9 in the tens place.

4 Here is the number 67,213. Write a number where the digit 2 is ten times less than the digit 2 in 67,213.

67,123

Any number with the digit 2 in the tens place.

5 Here is the number 399,487. Write a number where the digit 8 is ten times greater than the digit 8 in 399,487.

399,847

Any number with the digit 8 in the hundreds place.

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MA.4.NSO.1.1 | **Extra Practice #4** | **10 Times Greater or Less**

1 Here is the number 743,069. Write a number where the digit 4 is ten times greater than the digit 4 in 743,069.

Sample response

473,069

Any number with the digit 4 in the hundred thousands place.

2 Here is the number 512,008. Write a number where the digit 1 is ten times less than the digit 1 in 512,008.

521,008

Any number with the digit 1 in the thousands place.

3 Here is the number 19,289. Write a number where the digit 2 is $\frac{1}{10}$ of the digit 2 in 19,289.

19,829

Any number with the digit 2 in the tens place.

4 Here is the number 400,018. Write a number where the digit 4 is ten times less than the digit 4 in 400,018.

140,018

Any number with the digit 4 in the ten thousands place.

5 Here is the number 16,977. Write a number where the digit 1 is ten times greater than the digit 1 in 16,977.

106,977

Any number with the digit 1 in the hundred thousands place

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MA.4.NSO.1.1	Math Missions	10 Times Greater or Less

PART ONE

Sample response

Anthony receives a step tracker for his birthday. In July, he realizes that he has logged 243,817 steps.

The next month, he sets a goal to walk further than his steps in July. He also wants to make sure that the value of the 8 in his August goal is ten times greater than the value of the 8 in his July total.

What could be a possible goal for Anthony to reach in August? Explain your thinking.

A possible goal for Anthony to reach in August is 358,000 because the number is greater than 243,817, and the value of the 8 is ten times greater.

PART TWO

Anthony's sister, Jasmine, says a possible goal for Anthony to reach in August could be 243,781. Do you agree with Jasmine's number? Why or why not?

I disagree with Jasmine because the number 243,781 is not greater than 243,817. Also, the value of the 8 in Jasmine's number is ten times less, not ten times greater.

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Math Misconception Mystery (PAGE 1)

BEFORE THE VIDEO: Solve the problem on your own.

Figure out what the mystery number is using the clues below.

- This is a 5-digit number.
- The value of the 4 is 10 times greater than the value of the 4 in 14.
- The value of the 8 is 10 times less than the value of the 8 in 1,287.
- The value of the 1 is 10 times greater than the value of the 1 in 641,052.
- The value of the 3 is $\frac{1}{10}$ of the value of the 3 in 34,201.
- This missing digit has no value.

What is the mystery number?

DURING THE VIDEO: Pause after each "character" solves the problem and jot down quick notes to help you remember what they did correctly or incorrectly. .

Character #1 _____ 1,348	Character #2 _____ 1 3, 0 4 8
Character #3 _____ 310,048	Character #4 _____ 3 1, 0 8 4

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Math Misconception Mystery (PAGE 2)

AFTER THE VIDEO: Discuss and analyze their answers.

The most reasonable answer belongs to Character # 2 because this character created a 5-digit number correctly based on the clues.

(Justify how this character's work makes sense.)

Let's help the others:

	Character # 1:	Character # 3:	Character # 4:
What did this character do that was correct?	the digits 4 and 8 are in the correct place.	the digits 1, 0, 4, and 8 are in the correct place.	the digits match the same places as the original values.
Identify their error	the digits 1 and 3 are in the wrong place	the digit 3 is in the wrong place.	the digits are not located in the places based on the clues.
What do they need to know to understand for next time?	the missing digit should be replaced by a zero.	"$\frac{1}{10}$ of" means that the 3 should have a value of 3,000, not 300,000.	how to shift the values of the digits based on the clues.