

Practicing for Success
STAAR
Mathematics

Student Book Sample

Grade 4

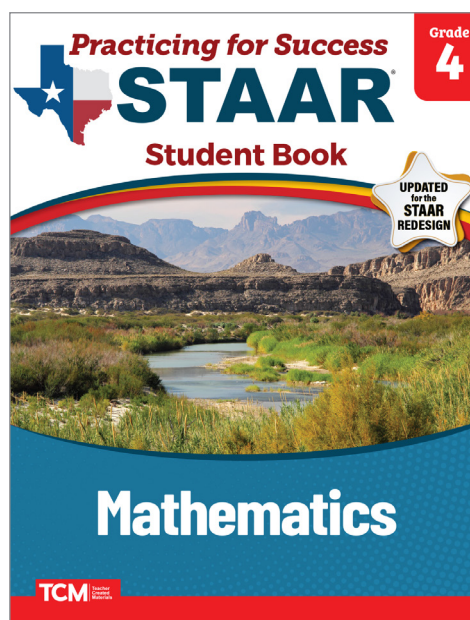
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4.20A—Number and Operations

Related Values
Lesson Focus
 I can explain place value and how the given digit is related to the digit to the right or the digit to the left.

1. What is place value?

What You Need to Know
 Place value is the value of each digit in a number.

100	10	1	0.1	0.01
100,000	10,000	1,000	100	10
100,000,000	10,000,000	1,000,000	100,000	10,000

In the number 592, there are 5 hundreds.

4.20B—Number and Operations

Expanded Form
Lesson Focus
 I can write numbers in expanded form.

1. What is expanded form?

What You Need to Know
 Expanded form is written as the sum of each digit in the place value chart. To write numbers in expanded form, we must know the place value of each digit.

Let's Practice!

Related Values
Example 1: Michelle wrote a number
 • The digit in the hundred
 • The digit in the hundred
 • The digit in the tenth place
 What number could be the number?
 Begin by filling in the digits that value chart.

Next, fill in the other places with as the 5, 6, and 4 are placed over.
 One number Michelle could write Michelle could write many other the 5 is in the hundred thousand hundreds place, and the 4 is in the

Example 2: Write a number so the number is one-tenth of the value. Begin by identifying the place value 9,236. The 2 is in the third place of hundreds place. The new number value $\frac{1}{10}$ of 100 = 10, so the new number with a 2 in the tens place answers.

Let's Practice!

Example 1: Write 32,648 in expanded form.
 Begin by writing the number on a place value chart.

Millions	Hundred Thousands	Thousands	Hundreds	Tens	Ones	
		3	2	6	4	8

From the place value chart, we can see the value of each digit, so we multiply each digit by the place value.

Next, we add all of the products together.
 $3 \times 10,000 = 30,000$
 $2 \times 1,000 = 2,000$
 $6 \times 100 = 600$
 $4 \times 10 = 40$
 $8 \times 1 = 8$

32,648 in expanded form is:
 $30,000 + 2,000 + 600 + 40 + 8$

Example 2: Write 235.47 in expanded form.
 Begin by writing the number on the place value chart.

Tens	Ones	Tenths	Hundredths
2	3	5	4
			7

From the place value chart, we can see the value of each digit, so we multiply each digit by the place value.

Next, we add all of the products together, so
 235.47 in expanded form is:
 $200 + 30 + 5 + 0.4 + 0.07$

How do we write expanded form when there is a decimal point?

2 \times 100 = 200
 3 \times 10 = 30
 5 \times 1 = 5
 4 \times 0.1 = 0.4
 7 \times 0.01 = 0.07

Grade

4

Practicing for Success



STAAR[®]

Student Book

**UPDATED
for the
STAAR
REDESIGN**



Mathematics

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Related Values

Lesson Focus

I can explain place value and how the given digit is related to the digit to the right or the digit to the left.

1. What is *place value*?

Let's Practice!

What You Need to Know

Place value is the value of each digit in a number.

	$\div 10$	$\div 10$		$\times 10$	$\times 10$	
millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
				5	9	2

In the number 592, there are 5 hundreds, 9 tens, and 2 ones.

Each place value position is 10 times the place to the right and $\frac{1}{10}$ of the place to the left.

Related Values

Example 1: Michelle wrote a number.

- The digit in the hundred thousands place is a 5.
- The digit in the hundreds place is a 6.
- The digit in the tenths place is a 4.

Is there only one possible number Michelle could write?

What number could be the number Michelle wrote?

Begin by filling in the digits that are given on a place value chart.

Next, fill in the other places with any numbers as long as the 5, 6, and 4 are placed correctly.

One number Michelle could write is **521,687.4**.

Michelle could write many other numbers as long as the 5 is in the hundred thousands place, the 6 is in the hundreds place, and the 4 is in the tenths place.

hundred thousands	ten thousands	thousands	hundreds	tens	ones	.	tenths
5			6			.	4

Example 2: Write a number so that the value of the 2 in that new number is one-tenth of the value of the 2 in the number 9,236.

Begin by identifying the place value of the 2 in the given number 9,236. The 2 is in the third place from the right, which is the hundreds place. The new number needs to be one-tenth of this value.

$\frac{1}{10} \times 100 = 10$, so the new number must have a 2 in the tens place. Write any number with a 2 in the tens place. 10,621 is one possible answer. There are many possible answers.

What is the current place value of the 2? Which direction should a number one-tenth the value be, right or left?

Independent Practice

Directions: Read and solve each problem carefully. Record the correct answer on your answer sheet.

1 Rashan wrote a number.

- The digit in the ten thousands place is an 8.
- The digit in the hundreds place is a 7.
- The digit in the tenths place is a 9.

Which number could be the number Rashan wrote?

- A** 63,757.1
- B** 79,290.3
- C** 84,872.49
- D** 189,756.9

3 Yasmine wrote a number.

- The digit in the millions place is a 4.
- The digit in the thousands place is a 2.
- The digit in the hundredths place is a 3.

Which number could be the number Yasmine wrote?

- A** 5,458,656.05
- B** 3,687,126.04
- C** 4,012,546.03
- D** 146,354.08

2 Which statement about the number below is true?

32,255

- A** The fives have the same value.
- B** The five in the tens place is worth 100 times as much as the five in the ones place.
- C** The five in the tens place is worth 1,000 times as much as the five in the ones place.
- D** The five in the ones place is worth $\frac{1}{10}$ as much as the five in the tens place.

4 Which statement about the number below is true?

83,319

- A** The threes have the same value.
- B** The three in the hundreds place is worth $\frac{1}{10}$ of the three in the thousands place.
- C** The three in the hundreds place is worth 100 times as much as the three in the thousands place.
- D** The three in the thousands place is worth 1,000 times as much as the three in the hundreds place.

What You Need to Know

Expanded form is written as the sum of each digit in the place value chart. To write numbers in expanded form, we must know the place value of each digit.

Expanded Form

Lesson Focus

I can write numbers in expanded form.

1. What is *expanded form*?

Let's Practice!

Expand It!

Example 1: Write 32,648 in expanded form.

Begin by writing the number on a place value chart.

From the place value chart, we can see the value of each digit, so we multiply each digit by the place value.

Next, we add all of the products together, so 32,648 in expanded form is:

$$30,000 + 2,000 + 600 + 40 + 8$$

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
		3	2	6	4	8

$$\begin{array}{rcl}
 3 & \times & 10,000 = 30,000 \\
 2 & \times & 1,000 = 2,000 \\
 6 & \times & 100 = 600 \\
 4 & \times & 10 = 40 \\
 8 & \times & 1 = 8
 \end{array}$$

What is the place value of each digit?

Example 2: Write 235.47 in expanded form.

Begin by writing the number on the place value chart.

From the place value chart, we can see the value of each digit, so we multiply each digit by the place value.

Next, we add all of the products together, so 235.47 in expanded form is:

$$200 + 30 + 5 + 0.4 + 0.07$$

hundreds	tens	ones		tenths	hundredths
2	3	5	.	4	7

$$\begin{array}{rcl}
 2 & \times & 100 = 200 \\
 3 & \times & 10 = 30 \\
 5 & \times & 1 = 5 \\
 4 & \times & 0.1 = 0.4 \\
 7 & \times & 0.01 = 0.07
 \end{array}$$

How do we write expanded form when there is a decimal point?

Independent Practice

Directions: Read and solve each problem carefully. Record the correct answer on your answer sheet.

- 1** Which expression shows 28,964,032 written in expanded form?
- A** $20,000,000 + 8,000,000 + 900,000 + 60,000 + 4,000 + 32$
- B** $28,000,000 + 964,000 + 32$
- C** $28,000,000 + 900,000 + 60,000 + 4,000 + 30 + 2$
- D** $20,000,000 + 8,000,000 + 900,000 + 60,000 + 4,000 + 30 + 2$
- 2** What is the expanded form for 123.37?
- A** $120 + 3 + 0.37$
- B** $100 + 20 + 3 + 0.3 + 0.07$
- C** $12 + 30 + 0.3 + 0.7$
- D** $100 + 23 + 0.37$
- 3** Which statement about the number 854,326.79 is true?
- A** The digit 4 has a value of (4×100) .
- B** The digit 7 has a value of (7×0.01) .
- C** The digit 2 has a value of $(2 \times 1,000)$.
- D** The digit 3 has a value of (3×100) .
- 4** Which number is $40,000 + 3,000 + 50 + 9$?
- A** 43,509
- B** 43,095
- C** 45,309
- D** 43,059
- 5** What is the value of the number 7 in the number below?
- 84,567.23
- A** 700
- B** 70
- C** 7
- D** $\frac{1}{7}$
- 6** Which expression below shows 39.08 in expanded form?
- A** $30 + 9 + 0.0 + 0.08$
- B** $3,000 + 900 + 0 + 8$
- C** $39 + 0.08$
- D** $30 + 9 + 0 + 0.8$