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WEEK-BY-WEEK DAILY SCHEDULE

Below is a suggested weekly schedule to help you stay on track. It uses a four-day week to leave room for a co-op day or a review day. This schedule covers 36 weeks, but please feel free to adjust it to the needs of your child and your family's calendar.

Week	Day 1	Day 2	Day 3	Day 4
1	UNIT 1 INTRO CHAPTER 1 Lesson 1 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Lesson 2 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Lesson 3 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Lesson 4 Skills practice: adding three-digit numbers ☐
2	CHAPTER 1 Lesson 5 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Lesson 6 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Lesson 7 Skills practice: adding three-digit numbers ☐	CHAPTER 1 Chapter 1 Review ☐
3	CHAPTER 2 Lesson 8 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 9 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 10 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 11 Skills practice: subtracting three-digit numbers ☐
4	CHAPTER 2 Lesson 12 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 13 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 14 Skills practice: subtracting three-digit numbers ☐	CHAPTER 2 Lesson 15 Skills practice: subtracting three-digit numbers ☐

TEACHER'S NOTES

UNIT 1: WHOLE NUMBERS

Unit One is a tour through many different concepts that are foundational to what we will be learning later in the year. Much of what is covered in this unit is review from 4th grade. In addition, we are going deeper into concepts like factors, multiples, and prime numbers. It is a great opportunity for kids to see the connection between different ideas like multiplication and long division. And the whole unit wraps up with an epic game of Mathematical Clue.

SUPPLY LIST

Skills Practice:

- Notecards
- Addition worksheets (on the Book Extras website)
- Uno cards
- Subtraction worksheets (on the Book Extras website)
- A four-operation calculator (add, subtract, multiply, and divide)

Chapter One:

- Masking tape
- A prize
- Scissors
- Tape
- 3 dice
- A glue stick

Chapter Two:

- Play Money ($1's, $10's, and $100's)
- Scissors
- Glue
- 15 one-inch square tiles

Chapter Three:

- Play money ($1's, $10's, and $100's)
- Scissors
- Glue
- Graham crackers
- Pretzel sticks
- Markers or colored pencils
- A clipboard
- Scratch paper
- 8 envelopes
- A timer

SKILLS PRACTICE FOR UNIT 1: ADDITION AND SUBTRACTION

Skill 1: Adding three-digit numbers

This skill was covered in detail in the earlier levels of this series. However, all kids can benefit from some review.

1. Notecard facts. Write a three-digit addition problem for them on a notecard and have them solve it. Rotate between problems that require regrouping and those that don't.
2. Practice with the addition worksheets that are available on the Book Extras website.
3. Play "Make the Greatest Sum." Each player picks 6 Uno cards and uses them to write an addition problem. Whoever has the largest sum wins.
4. **Take It Further:** For an extra challenge, give kids part of the addition problem and the sum. They have to work backward to find the missing part like in the example below.

$$\begin{array}{r} 729 \\ +\ \square\square\square \\ \hline 877 \end{array}$$

Skill 2: Subtracting three-digit numbers

The most challenging problems in this skills practice are those where you need to regroup twice or where you subtract across zeros. Some examples of those are below, followed by some suggestions on how to practice.

$$\begin{array}{r} 210 \\ -\ 98 \\ \hline \end{array} \qquad \begin{array}{r} 800 \\ -\ 562 \\ \hline \end{array} \qquad \begin{array}{r} 912 \\ -\ 198 \\ \hline \end{array} \qquad \begin{array}{r} 502 \\ -\ 378 \\ \hline \end{array}$$

1. Notecard facts. Write a three-digit subtraction problem for them on a notecard and have them solve it. Rotate between problems that require regrouping and those that don't.
2. Practice with the subtraction worksheets that are available on the Book Extras website.
3. Play "Make the Greatest Difference." Each player picks 6 Uno cards and arranges them to make a subtraction problem. The player with the greatest difference wins.
4. **Take It Further:** For an extra challenge, give kids part of the subtraction problem and the difference. They have to work backward to find the missing part like in the example below. These can be pretty tough, especially if there is regrouping involved. Start with one that doesn't have regrouping and work up from there.

$$\begin{array}{r} 299 \\ -\ \square\square\square \\ \hline 143 \end{array} \qquad \begin{array}{r} 803 \\ -\ \square\square\square \\ \hline 305 \end{array}$$

Skill 3: Multiplying by a Two-Digit Number

Students will be multiplying in Chapter 2. But most students will need additional practice to really let that skill sink in. That is why it is included in the Unit 1 skills practice.

1. Notecard problems. This is probably the easiest, most straightforward way to practice this skill. Each day, give your child one problem to complete. I like to write it out on a colorful notecard and put the answer on the back so that they can check when they are done. Below are 7 problems you could use, one for each day that they are doing this skills practice.

14 × 23	25 × 11	81 × 27	15 × 79
19 × 22	68 × 24	20 × 53	

2. Draw and Multiply. Each player draws 4 Uno cards and uses them to create their own multiplication problem. Whoever gets the higher product wins. It is also fun to let players check their answers with a calculator.

CHAPTER 1: PLACE VALUE AND POWERS OF TEN

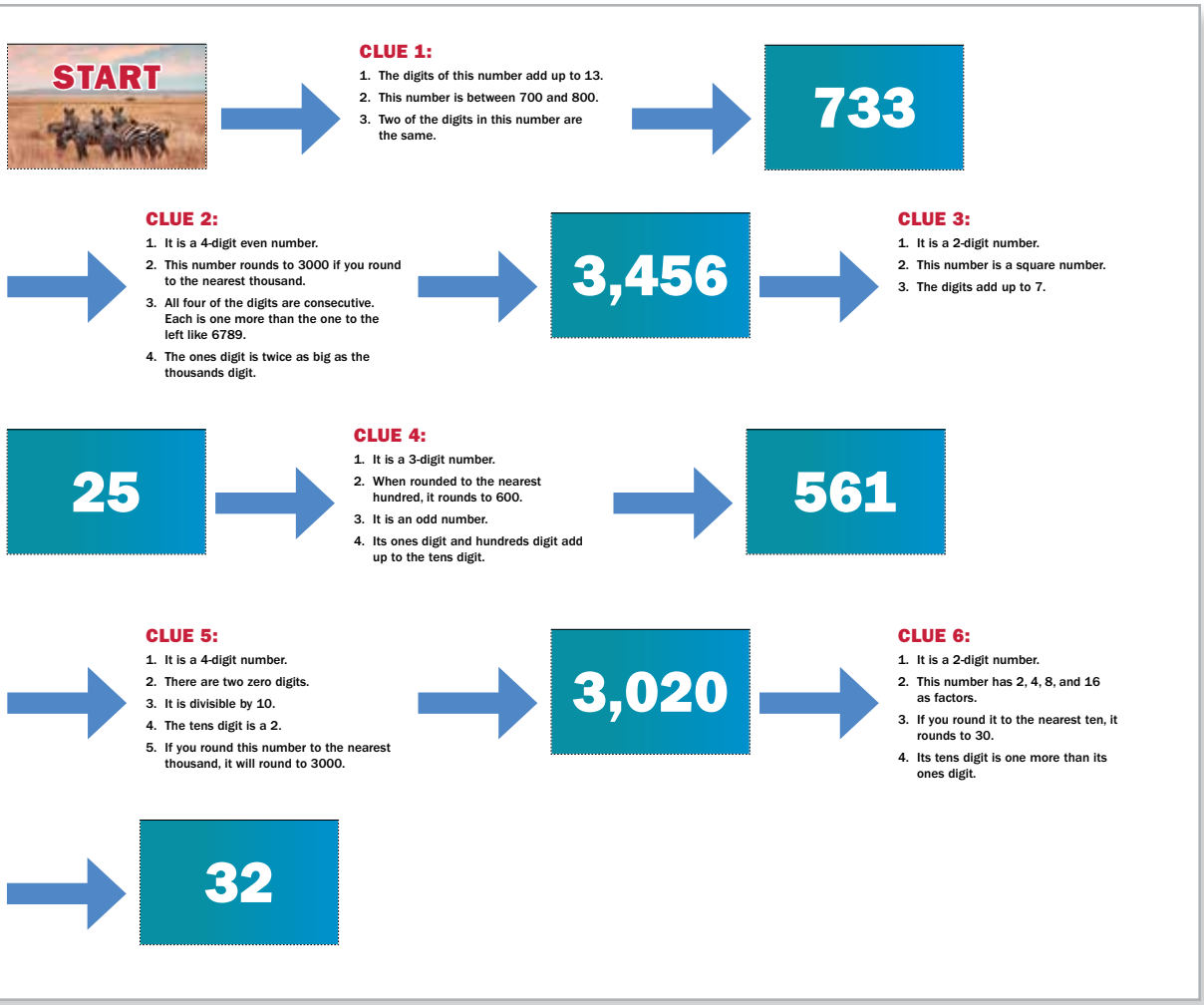
LESSON 1

The opening activity involves some prep on your part. I promise that future activities will not be this involved; I just wanted to start the year off with something fun. I created this activity to help you hook and engage your child. Hopefully, you will agree with me that a bit more prep time was worth it.

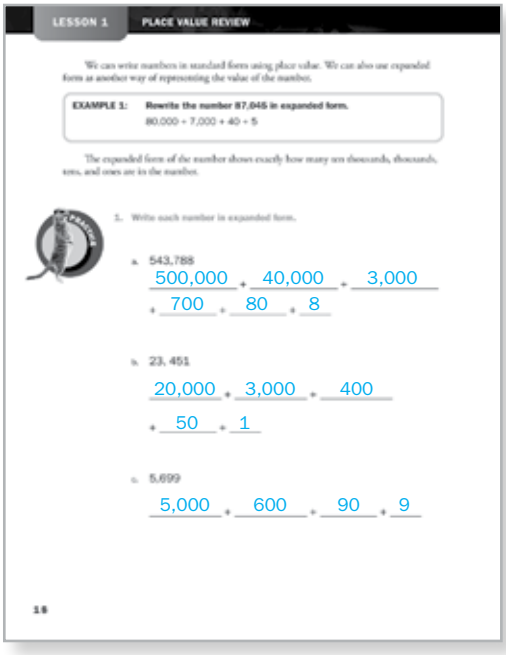
Start by tearing out the seven activity sheets out of the back of this answer key. Cut out the squares along the dotted lines. Fold them in half along the solid black line so that the large white numbers (or the word 'start') are showing on top, and the clues are hidden inside.

Use masking tape to hang the paper at different places in your house. It could be all in the same room or you can make the search more challenging (see below). Your child will read the clues beneath the "start" paper, and then find the answer on one of the next papers. The process will continue until the last clue. It will really increase the excitement if you tape a small prize inside the final clue. This doesn't have to be something physical. A small personal note of praise from you can even work.

Take It Further: There is only one possible answer to each clue. To make it extra challenging, space the clues throughout your house so that your child cannot see all of them at once and use the process of elimination to figure out the answers.



Page 18 Answers



LESSON 1 PLACE VALUE REVIEW

We can write numbers in standard form using place value. We can also use expanded form as another way of representing the value of the number.

EXAMPLE 1: Rewrite the number 87,045 in expanded form.
80,000 + 7,000 + 40 + 5

The expanded form of the number shows exactly how many ten thousands, thousands, tens, and ones are in the number.

1. Write each number in expanded form.

a. 543,788
500,000 + 40,000 + 3,000 + 700 + 80 + 8

b. 23, 451
20,000 + 3,000 + 400 + 50 + 1

c. 5,699
5,000 + 600 + 90 + 9

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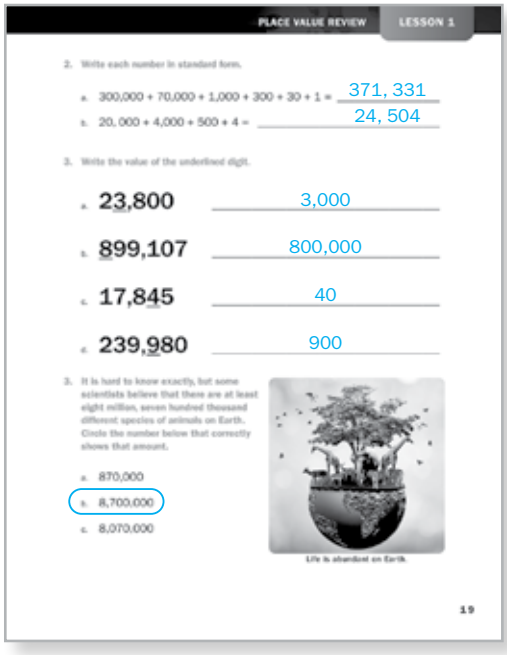
Page 19 Answers



PLACE VALUE REVIEW LESSON 1

2. Write each number in standard form.

a. 300,000 + 70,000 + 1,000 + 300 + 30 + 1 = 371, 331

b. 20, 000 + 4,000 + 500 + 4 = 24, 504

3. Write the value of the underlined digit.

a. 23,800 — 3,000

b. 899,107 — 800,000

c. 17,845 — 40

d. 239,980 — 900

3. It is hard to know exactly, but some scientists believe that there are at least eight million, seven hundred thousand different species of animals on Earth. Circle the number below that correctly shows that amount.

a. 870,000

b. 8,700,000

c. 8,070,000

Life is abundant on Earth.

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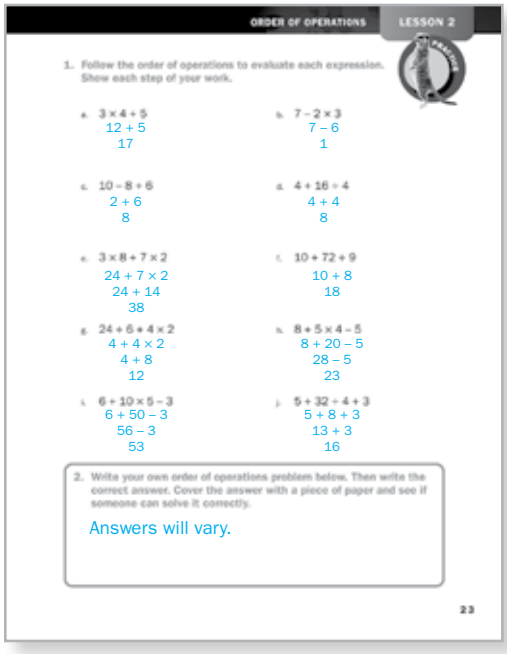
LESSON 2

A key concept for kids to grasp is that math isn't random process. The order of operations is a set of steps that **ALL** mathematicians follow. It isn't that doing the problem another way doesn't work or doesn't make sense. It's just that everyone must agree on the same order so that answers will be consistent. Math is a language and so it has rules, the same way that English has an agreed upon set of grammar rules.

If you take the time to help your child learn the rules introduced in Level 5, the order of operations will be more manageable for them in the future as more complicated operations are added in. You might be teaching a future rocket scientist or quantum theorist, and one day they'll thank you for your diligence in helping them understand their world through the wonder of mathematics.

Page 23 Answers



ORDER OF OPERATIONS LESSON 2

1. Follow the order of operations to evaluate each expression. Show each step of your work.

a. 3 × 4 + 5
12 + 5
17

b. 7 − 2 × 3
7 − 6
1

c. 10 − 8 + 6
2 + 6
8

d. 4 + 16 ÷ 4
4 + 4
8

e. 3 × 8 + 7 × 2
24 + 7 × 2
24 + 14
38

f. 10 + 72 ÷ 9
10 + 8
18

g. 24 ÷ 6 + 4 × 2
4 + 4 × 2
4 + 8
12

h. 8 + 5 × 4 − 5
8 + 20 − 5
28 − 5
23

i. 6 + 10 × 5 − 3
6 + 50 − 3
56 − 3
53

j. 5 + 32 ÷ 4 + 3
5 + 8 + 3
13 + 3
16

2. Write your own order of operations problem below. Then write the correct answer. Cover the answer with a piece of paper and see if someone can solve it correctly.

Answers will vary.

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In the practice, kids are asked to show each step. Good mathematicians write down the process they used to solve a problem, not just the answer. This not only helps them clarify their own thinking, but also allows them to communicate their ideas clearly to others.

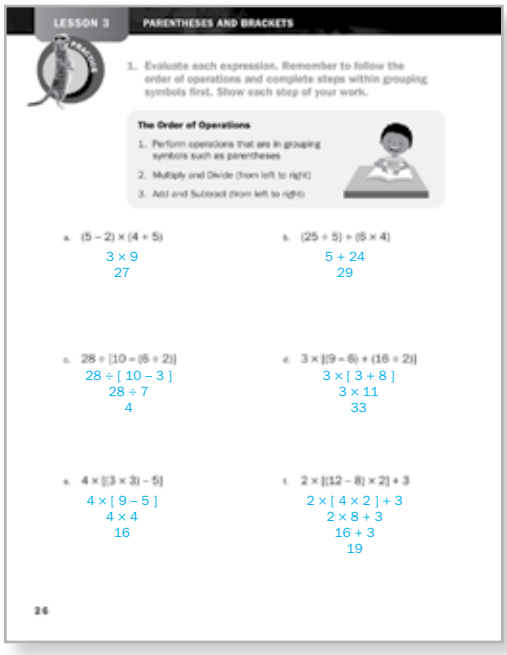
LESSON 3

The fraction bar, absolute value sign, and radical sign also function as grouping symbols in mathematics. But, they will be introduced at a higher level of mathematics. For now, students can focus on parentheses, braces, and brackets. Understanding the mathematical language and rules of these symbols is important for expanding your child's mathematical foundation.

For the opening activity, be sure to mix up the activity numbers. Your student should solve each problem before looking at the final picture on the back.

Activity Sheet Answers

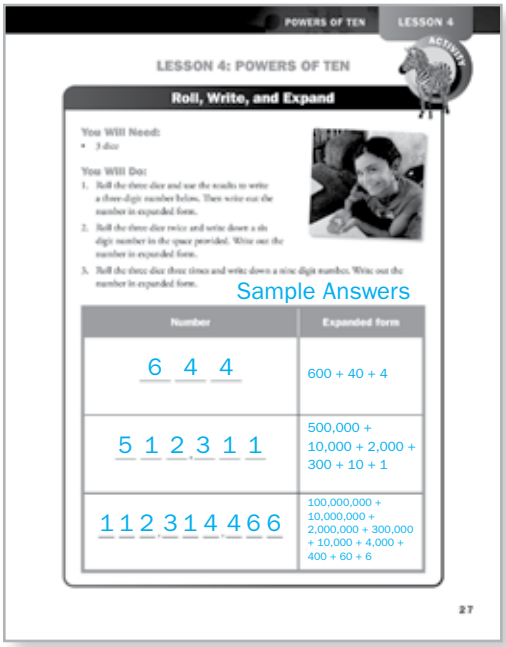
Page 26 Answers



LESSON 4

Exponents are introduced for the first time in this lesson, but only with 10 as the base. Note the common mistake of students is mixing up exponents with multiplication. To avoid this, they can write out the exponents as repeated multiplication until they become comfortable with the notation.

Page 27 Answers



POWERS OF TEN LESSON 4

LESSON 4: POWERS OF TEN

Roll, Write, and Expand

You Will Need:
- 3 dice

You Will Do:
1. Roll the three dice and use the results to write a three-digit number below. Then write out the number in expanded form.
2. Roll the three dice twice and write down a six-digit number in the space provided. Write out the number in expanded form.
3. Roll the three dice three times and write down a nine-digit number. Write out the number in expanded form.

Sample Answers

Number	Expanded form
6 4 4	600 + 40 + 4
5 1 2 3 1 1	500,000 + 10,000 + 2,000 + 300 + 10 + 1
1 1 2 3 1 4 4 6 6	100,000,000 + 10,000,000 + 2,000,000 + 300,000 + 10,000 + 4,000 + 400 + 60 + 6

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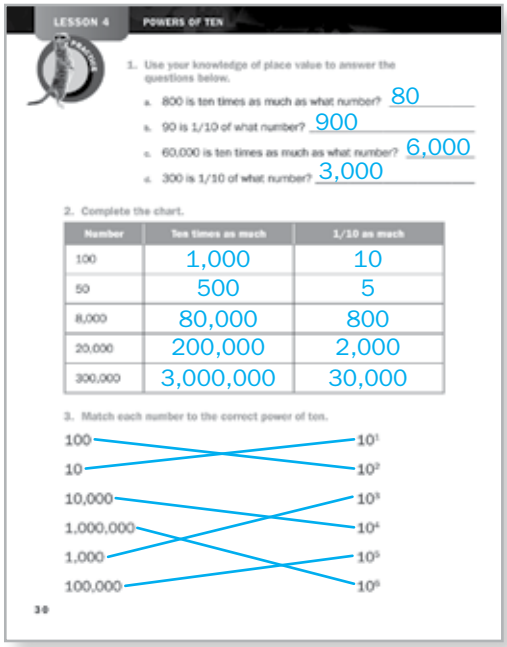
Page 30 Answers



LESSON 4 POWERS OF TEN

1. Use your knowledge of place value to answer the questions below.
   a. 800 is ten times as much as what number? 80
   b. 90 is 1/10 of what number? 900
   c. 60,000 is ten times as much as what number? 6,000
   d. 300 is 1/10 of what number? 3,000

2. Complete the chart.

Number	Ten times as much	1/10 as much
100	1,000	10
50	500	5
8,000	80,000	800
20,000	200,000	2,000
300,000	3,000,000	30,000

3. Match each number to the correct power of ten.

100 — 10^2
10 — 10^1
10,000 — 10^4
1,000,000 — 10^6
1,000 — 10^3
100,000 — 10^5

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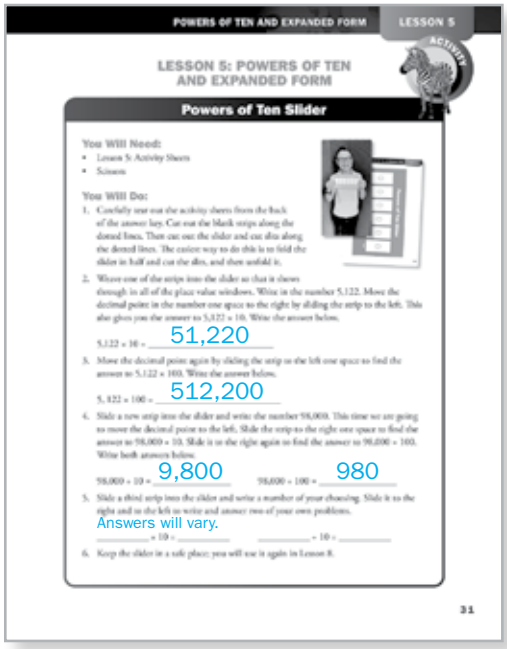
LESSON 5

All of this practice with powers of ten and moving numbers left and right also prepares students for multiplying decimals. We will build on this concept in the decimals unit using some of the same strategies. For now, the goal is to help your student become proficient and comfortable with the process.

Page 31 Answers



POWERS OF TEN AND EXPANDED FORM LESSON 5

LESSON 5: POWERS OF TEN AND EXPANDED FORM

Powers of Ten Slider

You Will Need:
- Lesson 5: Activity Sheets
- Scissors

You Will Do:
1. Carefully tear out the activity sheets from the back of the answer key. Cut out the blank strips along the dotted lines. Then cut out the slider and cut slits along the dotted lines. The easiest way to do this is to fold the slider in half and cut the slits, and then unfold it.
2. Weave one of the strips into the slider so that it shows through in all of the place value windows. Write in the number 5,122. Move the decimal point in the number one space to the right by sliding the strip to the left. This also gives you the answer to 5,122 × 10. Write the answer below.
   5,122 × 10 = 51,220
3. Move the decimal point again by sliding the strip to the left one space to find the answer to 5,122 × 100. Write the answer below.
   5,122 × 100 = 512,200
4. Slide a new strip into the slider and write the number 98,000. This time we are going to move the decimal point to the left. Slide the strip to the right one space to find the answer to 98,000 ÷ 10. Slide it to the right again to find the answer to 98,000 ÷ 100. Write both answers below.
   98,000 ÷ 10 = 9,800 98,000 ÷ 100 = 980
5. Slide a third strip into the slider and write a number of your choosing. Slide it to the right and to the left to write and answer two of your own problems.
   Answers will vary.
   _____ × 10 = _____ _____ ÷ 10 = _____
6. Keep the slider in a safe place; you will use it again in Lesson 8.

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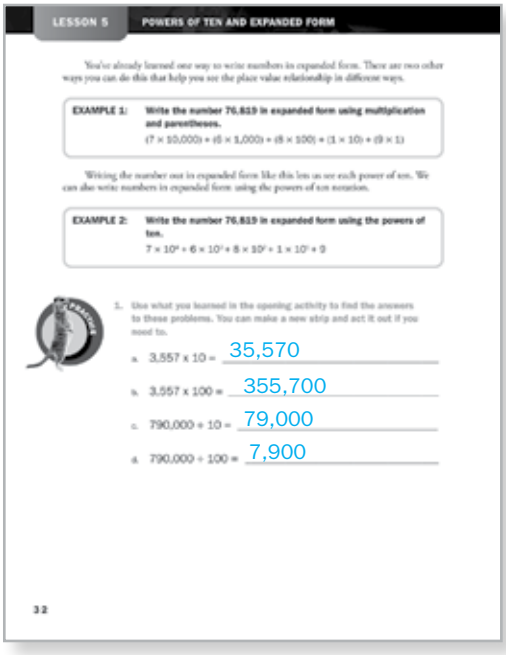
Page 32 Answers



LESSON 5 POWERS OF TEN AND EXPANDED FORM

You've already learned one way to write numbers in expanded form. There are two other ways you can do this that help you see the place value relationship in different ways.

EXAMPLE 1: **Write the number 76,819 in expanded form using multiplication and parentheses.**

$(7 \times 10{,}000) + (6 \times 1{,}000) + (8 \times 100) + (1 \times 10) + (9 \times 1)$

Writing the number out in expanded form like this lets us see each power of ten. We can also write numbers in expanded form using the powers of ten notation.

EXAMPLE 2: **Write the number 76,819 in expanded form using the powers of ten.**

$7 \times 10^4 + 6 \times 10^3 + 8 \times 10^2 + 1 \times 10^1 + 9$

PRACTICE

1. Use what you learned in the opening activity to find the answers to these problems. You can make a new strip and act it out if you need to.

a. 3,557 x 10 = 35,570

b. 3,557 x 100 = 355,700

c. 790,000 ÷ 10 = 79,000

d. 790,000 ÷ 100 = 7,900

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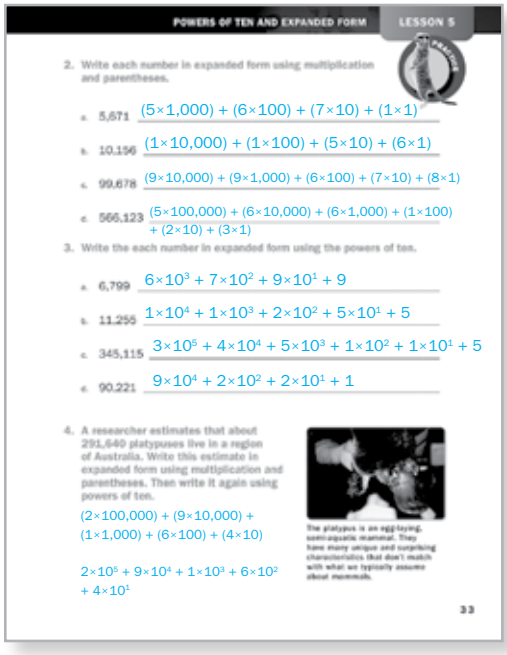
Page 33 Answers



POWERS OF TEN AND EXPANDED FORM LESSON 5

2. Write each number in expanded form using multiplication and parentheses.

a. 5,671 $(5\times1{,}000) + (6\times100) + (7\times10) + (1\times1)$

b. 10,156 $(1\times10{,}000) + (1\times100) + (5\times10) + (6\times1)$

c. 99,678 $(9\times10{,}000) + (9\times1{,}000) + (6\times100) + (7\times10) + (8\times1)$

d. 566,123 $(5\times100{,}000) + (6\times10{,}000) + (6\times1{,}000) + (1\times100) + (2\times10) + (3\times1)$

3. Write the each number in expanded form using the powers of ten.

a. 6,799 $6\times10^3 + 7\times10^2 + 9\times10^1 + 9$

b. 11,255 $1\times10^4 + 1\times10^3 + 2\times10^2 + 5\times10^1 + 5$

c. 345,115 $3\times10^5 + 4\times10^4 + 5\times10^3 + 1\times10^2 + 1\times10^1 + 5$

d. 90,221 $9\times10^4 + 2\times10^2 + 2\times10^1 + 1$

4. A researcher estimates that about 291,640 platypuses live in a region of Australia. Write this estimate in expanded form using multiplication and parentheses. Then write it again using powers of ten.

$(2\times100{,}000) + (9\times10{,}000) + (1\times1{,}000) + (6\times100) + (4\times10)$

$2\times10^5 + 9\times10^4 + 1\times10^3 + 6\times10^2 + 4\times10^1$

The platypus is an egg-laying, semi-aquatic mammal. They have many unique and surprising characteristics that don't match with what we typically assume about mammals.

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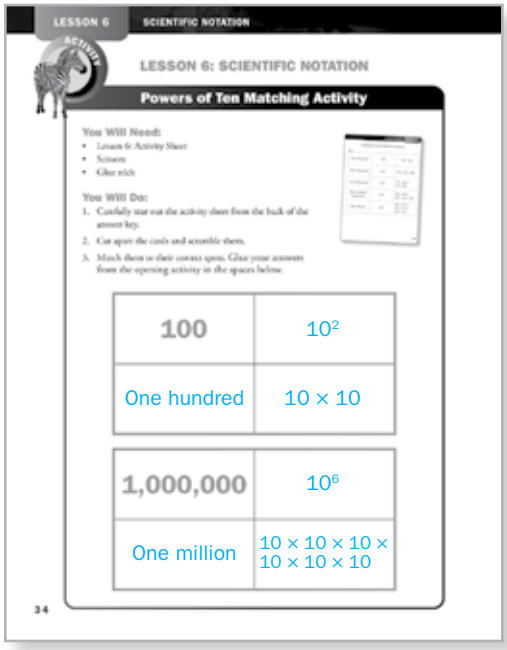
LESSON 6

Scientific notation isn't typically introduced in 5th grade, but it is such a great application of what they have been learning that I wanted to include it. However, you will notice that I simplified it significantly. I haven't used any numbers that would involve decimals. For now, I just wanted them to practice with writing the powers of ten. This exposure will also make it easier for them to grasp the full concept when they come across it in a science book.

Page 34 Answers



LESSON 6 SCIENTIFIC NOTATION

LESSON 6: SCIENTIFIC NOTATION

Powers of Ten Matching Activity

You Will Need:
- Lesson & Activity Sheet
- Scissors
- Glue stick

You Will Do:
1. Carefully tear out the activity sheet from the back of the answer key.
2. Cut apart the cards and scramble them.
3. Match them to their correct spots. Glue your answers from the opening activity in the spaces below.

100	10^2
One hundred	10 × 10
1,000,000	10^6
One million	10 × 10 × 10 × 10 × 10 × 10

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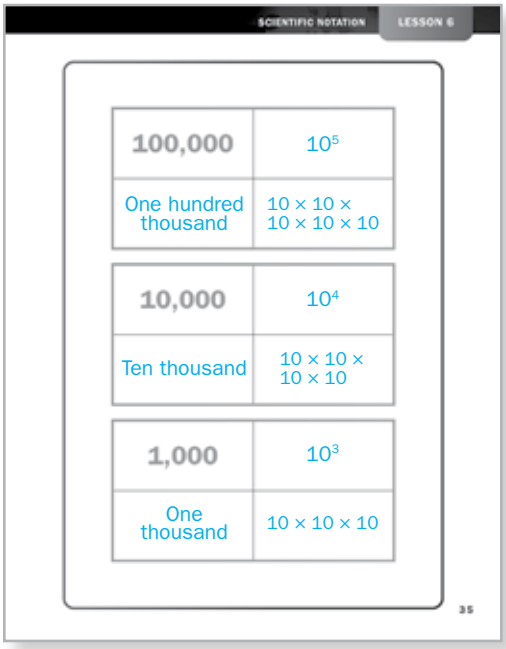
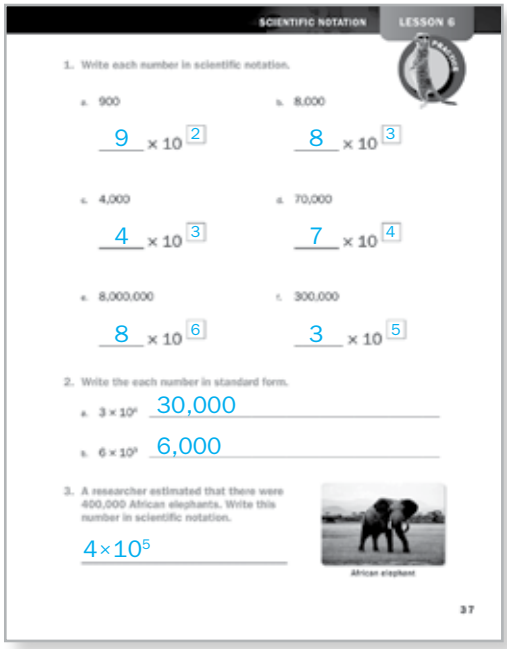
Page 35 Answers



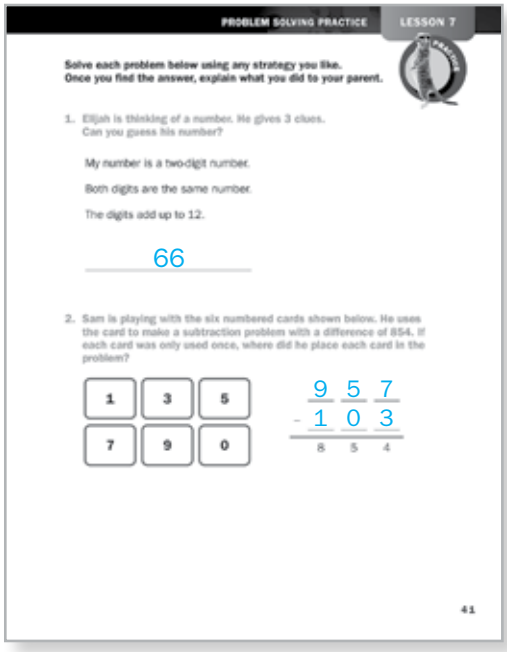
Page 37 Answers



LESSON 7

Students are encouraged to solve the problems in this lesson in their own way. Let them try several strategies before you offer a possible method. There is more than one method that can be used, and you want your child to be competent in selecting the style that fits his or her learning style. Sample answers are provided below as a guide if your child needs your help.

Page 41 Answers



Problem #1

One method that can work well with this problem is to make a list. Clue number 2 narrows down the options quite a bit, so begin by making a list of two-digit numbers that have a repeated digit.

11	44	77
22	55	88
33	66	99

Already we realize that we only have 9 options on our list. The third clue states that the digits must add up to 12. We can test each item on the list.

1 + 1 = 2	3 + 3 = 6	5 + 5 = 10
2 + 2 = 4	4 + 4 = 8	6 + 6 = 12

66

This is the only number on our list that will work.

Problem #2

A great method for this problem is guess-and-check. Writing the digits on pieces of paper or notecards that can be easily moved around helps with making the guesses easier to check. Suppose you guessed this first:

$$\begin{array}{r} 709 \\ -\ 531 \\ \hline 178 \end{array}$$

This guess is not correct. Also, you can see that the ones digits were not correct because we need a 4 in the ones column. On the next guess we will focus on getting the ones correct. Assuming there isn't any regrouping, 7 – 3 is the only way to get a 4 in the ones column.

$$\begin{array}{r} 507 \\ -\ 193 \\ \hline 314 \end{array}$$

The ones digit is correct, but the answer is too small. The easiest way to increase the difference is to move the 9 digit to the hundreds place.

$$\begin{array}{r} 907 \\ -\ 153 \\ \hline 774 \end{array}$$

We are close. Let's try rearranging one more time.

Hooray! We found the answer.

$$\begin{array}{r} 957 \\ -\ 103 \\ \hline 854 \end{array}$$

COMPLETE SUPPLY LIST

- A four-operation calculator (add, subtract, multiply, and divide)
- Fraction tiles
- Pattern blocks
- Base ten blocks
- Linking Cubes
- A protractor
- Notecards
- Uno cards
- Masking tape
- A prize
- Scissors
- Tape
- 3 dice
- A glue stick
- Play money ($1's, $10's, and $100's)
- Glue
- 15 one-inch square tiles
- Graham crackers
- Pretzel sticks
- Markers or colored pencils
- A clipboard
- 8 envelopes
- A timer
- Bingo chips or markers
- A timer
- Dominoes
- 30 counters
- Colored pencils
- 2 oranges (or another fruit that can be cut into thirds)
- 2 graham crackers
- 3 friends, siblings, dolls, stuffed animals or action figures
- Straws
- Paper clips
- 100 pennies
- 10 dimes
- A ruler
- 4 clear plastic bottles with caps
- A permanent marker
- A funnel
- 3 cups warm water
- Active dry yeast
- Sugar
- Table salt
- 6 balloons
- Popcorn
- 3 containers that are different sizes
- 1 cup measuring cup
- 50 cubes (such as the unit cubes in the base ten set)
- Game pieces
- 2 or more players
- 2 plastic bottles (16 ounces)
- 8 plastic bottle caps that are all the same size
- Skewers
- 2 rubber bands
- Knife and the help of an adult
- Times table
- Store flyers showing sales
- Coupons or online ads
- Food items in your refrigerator
- A collection of small objects (like a silverware drawer, a chess set, etc.)
- A bag of Skittles®
- A bag of M & M's® (or another small candy or snack)
- 10 people to survey
- Books or internet resources on animals
- Snack mix (any mixed bag of trail mix that has a variety of items in it)
- A cup
- A paper towel
- A tape measure
- 10 pencils (that are different lengths)
- Outdoor thermometer or weather website
- A bag of marshmallows
- A microwave
- A centimeter/inch ruler
- 2 posters
- Markers
- Chalk
- A plastic shower curtain or tablecloth
- Assorted toys
- Markers (dry erase or washable; depending on what kind of surface you are using)
- 5 magnets