



GRADE 4 SUPPLEMENT

Set A7 Number & Operations: Place Value to Billions

Includes

Independent Worksheet 1: Tons of Rice	A7.1
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Skills & Concepts

- ★ read, write, order, and compare whole numbers in the billions
- ★ use expanded notation to represent numbers in different forms
- ★ understand place value to millions and billions in various contexts

Bridges in Mathematics Grade 4 Supplement

Set A7 Numbers & Operations: Place Value to Billions

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Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

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Bridges in Mathematics is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at www.mathlearningcenter.org.

NAME _____

DATE _____

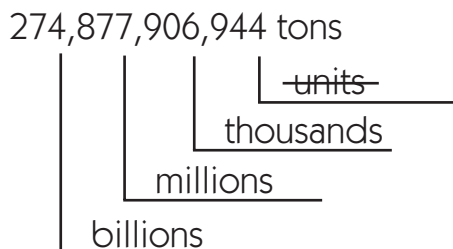
Set A7 ★ Independent Worksheet 1



INDEPENDENT WORKSHEET

Tons of Rice

In the story of the King's Chessboard, the king was furious when he found out he would have to give a wise man 274,877,906,944 tons of rice to keep his promise. You can use place value to help understand this number.



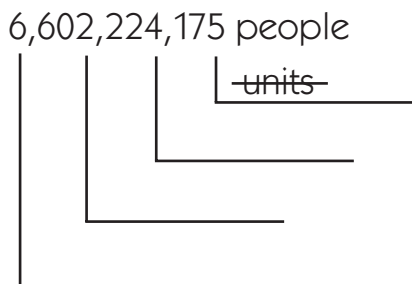
If you were to read this number to someone over the phone, you'd say,

“Two hundred seventy-four billion,
eight hundred seventy-seven million,
nine hundred six thousand,
nine hundred forty-four.”

Solve problems 1–4 below to get some idea of just how big this number really is and why the king was so furious.

1 In July 2007, the world's population was estimated to be 6,602,224,175. Label this number with its place values, just like the example above.

2 Write the number 6,602,224,175 out in words, the way you'd read it over the phone.



(Continued on back.)

Independent Worksheet 1 Tons of Rice (cont.)

3 If you rounded 274,877,906,944 to the nearest billion, it would be 275 billion. If you rounded 6,602,224,175 to the nearest billion it would be:

4 If you said 6,602,224,175 rounded to the nearest billion is 7 billion, you're right. Divide 275 billion by 7 billion to estimate how many tons of rice each person on earth would get if the king kept his promise. Show your work.

5 The chart below shows the estimated populations of some different countries around the world in 2006. Use the information to solve the problems below.

Name of Country	Estimated Population in 2006
Brazil	188,078,227
China	1,313,973,713
India	1,095,351,995
Pakistan	165,803,560
United States	298,444,215

a Which country on the chart had the largest population? _____

Which had the smallest? _____

b Compare the populations of some of these countries by writing the numbers and putting a greater than (>) or less than (<) sign between them.

The United States and Pakistan $298,444,215 > 165,803,560$	India and China
Brazil and Pakistan	The United States and Brazil

(Continued on next page.)

Independent Worksheet 1 Tons of Rice (cont.)

C Write the populations of the 5 countries in order from least to greatest on the lines below. Write the name of each country below its population number. Use abbreviations if you need to.

_____ < _____ < _____ < _____ < _____



CHALLENGE

6 Go online to find out what the estimated population of the world is right now. Record the answer here:

The population of the world on _____ is _____.
(month, day, year)

NAME _____

DATE _____

Set A7 ★ Independent Worksheet 2



INDEPENDENT WORKSHEET

Inches to the Moon & Other Very Large Numbers

Did you know that it's 15,133,979,520 inches from the earth to the moon? That's fifteen billion, one hundred thirty-three million, nine hundred seventy-nine thousand, five hundred twenty inches!

1 Here's a chart that shows the place value of every digit in the number 15,133,979,520. Use the information on the chart to answer questions a–e below.

100 Billions	10 Billions	Billions	100 Millions	10 Millions	Millions	100 Thousands	10 Thousands	Thousands	Hundreds	Tens	Ones
	1	5	1	3	3	9	7	9	5	2	0

- a** The digit in the millions place is _____.
- b** The digit in the ten billions place is _____.
- c** The digit in the hundred thousands place is _____.
- d** The digit in the ten billions place is _____.
- e** Are there any hundred billions in this number? If so, how many? _____

2 If you could measure the distance around the earth with a giant tape measure, how many inches would it be? This chart shows the answer. Use the information on the chart to answer questions a–d.

100 Billions	10 Billions	Billions	100 Millions	10 Millions	Millions	100 Thousands	10 Thousands	Thousands	Hundreds	Tens	Ones
		1	5	7	7	7	2	7	3	6	0

- a** How far is it around the world in inches? Write the number here with the commas placed correctly.
- b** Now write the number out in words, the way you'd read over the phone.

(Continued on back.)

Independent Worksheet 2 Inches to the Moon & Other Very Large Numbers (cont.)

2c Are there any ten billions in this number? If so, how many? _____

d The digit in the ten thousands place is _____.

3 Which is greater, the distance around the earth or the distance to the moon? Write the numbers on the lines below. Then put a greater than (>) or less than (<) symbol between them to compare the two.

Distance to the Moon (inches)

Distance around the earth (inches)

4 Complete the chart to write and name 4 other very large numbers.

Number	Number Written Out in Words
a 735,658,902,456	
b	Sixty-five billion, nine hundred forty-three million, three hundred twenty-seven thousand, one hundred seventy-six
c 34,586,113,042	
d	Four hundred thirty-nine billion, five hundred sixty-two million, three hundred twenty-nine thousand, two hundred fifty-one

e Write the 4 numbers in order from least to greatest on the lines below.

_____ < _____ < _____ < _____

NAME _____

DATE _____

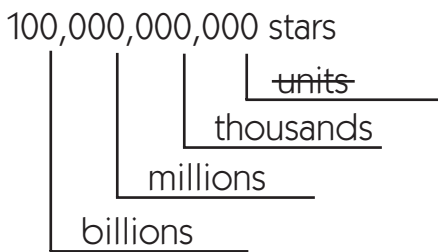
Set A7 ★ Independent Worksheet 3



INDEPENDENT WORKSHEET

More Very Large Numbers

According to many sources, there are about 100,000,000,000 stars in the Milky Way. That's 100 billion! You can use place value to help understand this number.



Here's another way to look at the number.

100 Billions	10 Billions	Billions	100 Millions	10 Millions	Millions	100 Thousands	10 Thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0	0	0	0	0	0	0	0

Use this information to help answer the questions on this sheet and the next.

1 76,000,000 people attended major league baseball games in 2006. How is this number written out in words?

- Seventy-six thousand
- Seventy-six billion
- Seventy-six million
- Seventy-six trillion

2 On June 2, 2007, the population of China was estimated to be 1,321,345,816.

- a** The digit in the ten thousands place is _____.
- b** The digit in the ten millions place is _____.
- c** The digit in the thousands place is _____.
- d** The digit in the hundred millions place is _____.
- e** Are there any billions in this number? If so, how many? _____

(Continued on back.)

Independent Worksheet 3 More Very Large Numbers (cont.)

3 In 1986, a fast food restaurant advertised that it had sold more than sixty billion hamburgers. Which number shows this amount?

- 60,000
- 600,000,000,000
- 6,000,000
- 60,000,000,000

4 Pluto is approximately 5,893,000,000 kilometers from the sun. Which is true?

- Pluto is more than 50 billion kilometers from the sun.
- Pluto is less than 500,000 million kilometers from the sun.
- Pluto is almost 6 billion kilometers from the sun.
- Pluto is about 60 billion kilometers from the sun.

5 The chart below shows the estimated populations of some different countries around the world in 2006. Use the information to solve the problems below.

Name of Country	Estimated Population in 2006
Bangladesh	147,365,352
Japan	127,463,611
Mexico	107,449,525
Philippines	89,468,677
Russia	142,893,540

a Which country on the chart had the largest population? _____

b Which had the smallest? _____

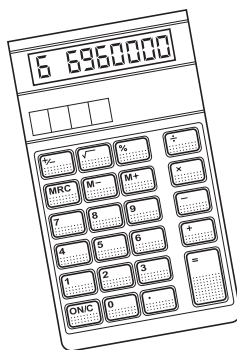
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Independent Worksheet 3 More Very Large Numbers (cont.)

C Write the populations of the 5 countries in order from least to greatest on the lines below. Write the name of each country below its population number. Use abbreviations if you need to.

_____ < _____ < _____ < _____ < _____

6 Alani multiplied 11,000 by 63,360 to find out how many inches wide the Pacific Ocean is. Her calculator isn't working well. What place value doesn't show up? (circle one)



Millions

Hundred thousands

Ten millions

Billions

