

Lesson 4: One Million

Getting Started

✿ Questions to Explore

- How does place value work?
- What is a million?
- How can we use place value to name, create, and compare numbers to a million?
- How do we write and speak in mathematical language?



Facts and Definitions

- **Millions place:** position to the left of the hundred thousands place

⦿ Skills

- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form
- Compare two multi-digit numbers based on meanings of the digits in each place
- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right

✂ Materials

- *How Much Is a Million?* by David M. Schwartz
- colored pencils
- fine point dry-erase markers (kit)
- Interactive Notebook
- laminated place value chart (kit)
- number cards (kit)
- scissors
- stapler
- whiteboard (kit)

Introduction

Ask, "Is a million a lot?" and "How much do you think a million is?" Accept your child's answers. Next, read the following sayings out loud to your child, and ask her to explain what she thinks each one means:

- One in a million
- You look like a million bucks
- Not in a million years
- Thanks a million

Now, show your child the image of one million dots at the following web link. By scrolling to the right, your child will be able to see all one million dots.



A Million Dots on One Page

www.beyondthepage.com/link/7461/

As your child looks at the dots on the left side of the page, ask, "If each tiny dot is 1 dot, then what is one row of dots in each small square is equal to?" (10 dots) and "If each row is 10 dots, then what is one small

square equal to?" Show them there are 10 rows of 10 dots in each square, so each small square has 100 dots.

Next, ask, "What is one column of small squares equal to?" To find this answer, your child should multiply 100 (1 small square) by 10 because there are 10 small squares in one column. She should find that one column is equal to 1,000. As needed, remind her that when we multiply by 10, we add a zero to the right side of a number. For example, $6 \times 10 = 60$, $60 \times 10 = 600$, and $600 \times 10 = 6,000$.

Finally, ask, "If a small square has 100 dots and one column of small squares has 1,000 dots, how many dots do you think the larger square has?" (10,000)

Allow your child to scroll through all one million dots again. Now ask, "If someone says 'Thanks a million,' is she just a little bit thankful or very thankful?" (very thankful) and "If something has only one chance in a million of happening, is it very likely to happen or unlikely to happen?" (unlikely)

Give your child the laminated place value mat, number cards 1-9, and dry-erase markers. She will shuffle the number cards, draw one card, and then write that digit in the ones place on the mat. Next, she will draw another card and write that digit in the tens place on the mat. She will continue this until she has digits written in all the places on the mat (including the millions place). Now, help her read the number (i.e., if the number shown is 5,647,192, she should say, "Five million six hundred forty-seven thousand one hundred ninety-two.") Ask her to repeat this process two more times (she'll need to add the already-used cards back to the stack and re-shuffle them each time), so that she has three different numbers on the mat.

Next, pose the following types of questions based on the numbers showing on the mat (answers will vary):

- Which number has the greatest digit in the millions place?
- Which number has the smallest digit in the ten thousands place?
- Which number has ____ (name a digit) in the hundred thousands/tens/hundreds place? (repeat with different digits and different places)

Now, your child will select one of the numbers on the mat and will write it in expanded form and in word form on the whiteboard. If she needs more practice with this, ask her to repeat this process with one of the other numbers on the mat or with a seven-digit number that you dictate to her (for example, 2,946,301). ($2,000,000 + 900,000 + 40,000 + 6,000 + 300 + 1$, two million nine hundred forty-six thousand three hundred one)

Activities

Activity 1: What Makes a Million?

Your child will use the "What Makes a Million?" sheets to create a flipbook for her Interactive Notebook. She should cut out each section along the dotted lines and line up the top of each rectangle as shown in the following illustration. Once the sections are in the correct order and neatly stacked, she can staple them together at the top.

What makes a Million?
Ones
Tens
Hundreds
Thousands
Ten Thousands
Hundred Thousands

Reading and Questions

Have your child read *How Much Is a Million?* by David M. Schwartz and then answer the questions. This book helps introduce the concept of very large numbers, but your child will not work with numbers past the millions place in this unit.

1. How high would 1 million children reach standing on one another's shoulders?

higher than airplanes can fly

2. About how long would it take you to count to 1,000,000?

23 days

3. Can you think of anything that might be close to a million?

Answers will vary

4. How many zeros are in a million?

6

Wrapping Up

Give your child the "Safe Crackers" activity page and ask him to follow the directions on it.

Answer Key:

1. 4,299,016

4. 543,109

2. 607,532

5. 9,751,460

3. 1,088,926

Next, give your child the whiteboard and a dry-erase marker, and tell her to write the following numbers as you dictate them:

- one million four hundred sixty-three thousand eight hundred seventy-two (1,463,872)
- three million one hundred thirteen thousand seventy-nine (3,113,079)
- two million six hundred sixty-five thousand three (2,665,003)

Now, pose the following questions as your child looks at the numbers she's written. As she answers each question, ask her to explain her thinking:

- Which number is the greatest? (3,113,079)
- Which number is the smallest? (1,463,872)
- Which number has a 1 in the ten thousands place? (3,113,079)
- Which number has a 6 in the hundred thousands place? (2,665,003)
- Which number is even? (1,463,872)

Learning Gates

Have your child take the [Learning Gates quiz](#) for this lesson.



10
hundred thousands

Hundred Thousands

100
ten thousands

Ten Thousands



 1,000,000 ones Ones	 100,000 tens Tens
10,000 hundreds Hundreds	1,000 thousands Thousands



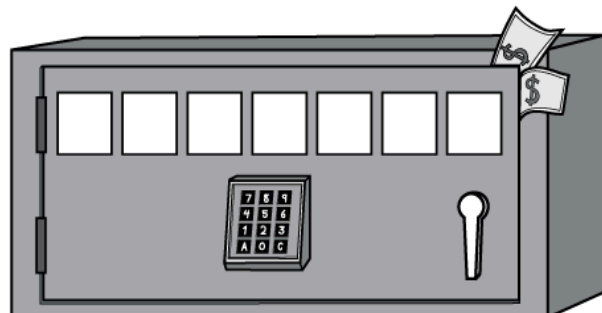
Safe Crackers



Instructions: Agent G. needs your help opening some safes. He has left you clues to help you solve each combination. Write the numbers in the correct order on the safe.

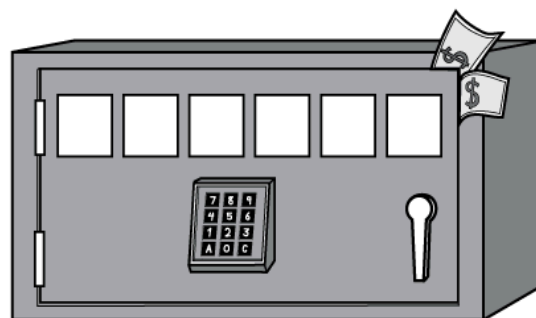
1

I have a 9 in my thousands place.
I have a 1 in my tens place.
I have a 4 in my millions place.
I have a 6 in my ones place.
I have a 2 in my hundred thousands place.
I have a 0 in my hundreds place.
I have a 9 in my ten thousands place.



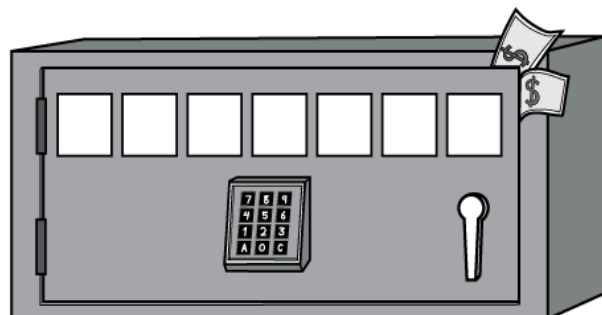
2

There is a 3 in the tens place.
There is a 0 in the ten thousands place.
There is a 2 in the ones place.
There is a 6 in the hundred thousands place.
There is a 7 in the thousands place.
There is a 5 in the hundreds place.



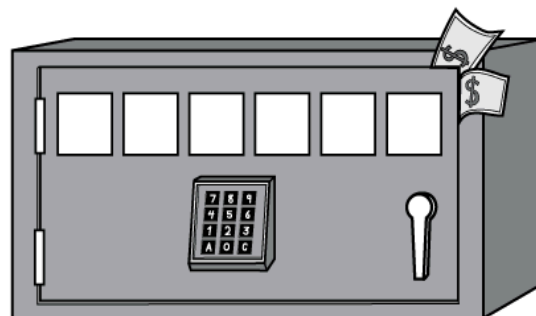
3

There is a 9 in the hundreds place.
There is a 1 in the millions place.
There is an 8 in the thousands place.
There is a 6 in the ones place.
There is a 0 in the hundred thousands place.
There is a 2 in the tens place.
There is an 8 in the ten thousands place.



4

I have a 9 in the ones place.
I have a 3 in the thousands place.
I have a 1 in the hundreds place.
I have a 5 in the hundred thousands place.
I have a 0 in the tens place.
I have a 4 in the ten thousands place.



5

I have a 5 in my ten thousands place.
I have a 6 in my tens place.
I have a 7 in my hundred thousands place.
I have a 9 in my millions place.
I have a 0 in my ones place.
I have a 4 in my hundreds place.
I have a 1 in my thousands place.

