

Place Value Foam Tokens

This Really Good Stuff® product includes

- 350 Place Value Foam Tokens
- This Really Good Stuff® Activity Guide

Congratulations on your purchase of these Really Good Stuff® **Place Value Foam Tokens**—interactive, educational tools that give students a better understanding of big numbers and place value.

Meeting Common Core State Standards

The Really Good Stuff® **Place Value Foam Tokens** are aligned with the following Common Core State Standards for Mathematics:

Number and Operations in Base Ten

3.Overview Use place value understanding and properties of operations to perform multi-digit arithmetic.

4.Overview

- Generalize place value understanding for multi-digit whole numbers.
- Use place value understanding and properties of operations to perform multi-digit arithmetic.

5.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

Introducing the Place Value Foam Tokens

Before introducing the **Place Value Foam Tokens**, make copies of this Really Good Stuff® Activity Guide, and file the pages for future use. Separate the *Tokens* into sets for each student. Draw a large place value chart on poster board or flip-chart paper, like the one on the reproducible. Copy the *Place Value Chart Reproducible* for each student, and distribute along with the *Token* sets.

Explain that the **Place Value Foam Tokens** will help them to think about what big numbers look like. Show students one of each *Token*. Arrange *Tokens* in order from largest to smallest on your place value chart. Discuss with students what they notice about the *Tokens*. (If necessary, emphasize that each set of *Tokens* is a different color and has a different value. Point out that as the value gets larger, the size of the *Token* increases.) Give students an opportunity to practice reading the values on each *Token*.

Exploring the Place Value Foam Tokens

Separate your **Place Value Foam Tokens** into piles of each value. Have students follow along on their reproducible as you count the ones while moving them into the ones columns of a place value chart. Explain that when you get to 10, you can trade in the 10 ones for a ten, and model this trade by removing the blue *One Tokens* and replacing them with one green *Ten Token* in the tens column. Count by tens as you place 10 *Ten Tokens* into the tens column. Ask students what you should do now that you have 10 tens, and model this trade by removing the ten *Ten Tokens* and replacing them with one *Hundred Token* in the hundreds column. Continue in a similar way modeling these trades in other places as you move to the left on the place value chart. Encourage students to share the patterns they notice with an emphasis on each place value being 10 times greater than the place to the right. Write a multiplication expression on a nearby board for each place value:

$$\begin{aligned} \text{Ones } 1 \times 1 \\ \text{Tens } 1 \times 10 \end{aligned}$$

$$\begin{aligned} \text{Hundreds } 10 \times 10 \\ \text{Thousands } 10 \times 100 \\ \text{Ten thousands } 10 \times 1,000 \\ \text{Hundred thousands } 10 \times 10,000 \\ \text{Millions } 10 \times 100,000 \end{aligned}$$

Variation: Ask students to consider how other place values are related, such as:

- How many tens does it take to make 1,000? (100)
- How many tens does it take to make 10,000? (1,000)
- How many hundreds does it take to make 100,000? (1,000)
- How many ten thousands does it take to make 1,000,000? (100)

Variation: Write each place value as a division sentence, $100,000 \div 10 = 10,000$ and $10,000 \div 10 = 1,000$ and $1,000 \div 10 = 100$ and $100 \div 10 = 10$, so students recognize that each place is 1/10 of the place to the left or can be divided by 10. This will serve as a basis for work with decimals.

Recognizing Combinations of 10 in Multi-Digit Numbers

Remind students how they used combinations of 10 when thinking about small numbers, by giving them an example, such as: *If I have 3, I will need 7 more to make 10.* Ask students to identify other combinations of 10. Show how to apply complements of 10 to 100 with combinations, such as $20 + 80 = 100$, which is the same as two tens and eight tens. Encourage students to think about the number of **Place Value Foam Tokens** as they consider the combinations. Model combinations as addition sentences. For example, model the following:

- If I have 200, how many more do I need to get to 1,000? ($200 + 800 = 1,000$)
- If I have 9,000, how many more do I need to get to 10,000? ($9,000 + 1,000 = 10,000$)

Note: Students may benefit from imagining a ten-frame, for instance a 5×2 array, as they manipulate the *Tokens*.

Representing Multi-Digit Numbers with Expanded Form

Indicate that the **Place Value Foam Tokens** can be used to represent numbers. Model using the *Tokens* to represent the number 2,391. Think aloud as you select the appropriate *Tokens* and arrange them in columns on your place value chart to show the place value. Explain that this allows you to see how much each digit is really worth, so 2,391 is $2,000 + 300 + 90 + 1$. Repeat for several more numbers, and then give students an opportunity to practice with *Tokens*.

Comparing Multi-Digit Numbers

Ask students to represent a given number with **Place Value Foam Tokens**. Divide students into pairs. Have partners compare their numbers and determine which number is bigger, and write a number sentence comparing their two numbers.

Guess My Number

Divide students into pairs. Indicate that one student is to describe a multi-digit number by saying something like *My number is 300 more than 2,145* or *My number has six thousands, four hundreds, five tens, and six ones*. The partner shows the correct answer using the **Place Value Foam Tokens**. Tell students to switch roles.

Adding and Subtracting Multi-Digit Numbers

Tell students that **Place Value Foam Tokens** can also be used to model addition and subtraction of multi-digit numbers. Encourage students to consider whether their answers make sense.

Name: _____

Place Value

ones	
tens	
hundreds	
thousands	
ten thousands	
hundred thousands	
millions	