In previous grades, students used models and the relationship between multiplication and division to divide whole numbers. In this lesson, students learn the standard algorithm for long division.

**COMMON CORE STANDARD(S)**

6.NS.B.2 Fluently divide multi-digit numbers using the standard algorithm.

**DURATION**

Two 45-minute classroom periods
Engage and Explore, Explain, Elaborate page 1—one 45-minute classroom period
Elaborate page 2, Evaluate—second 45-minute classroom period

**ENGAGE AND EXPLORE**

Just like the standard algorithm for addition is a shorthand method of writing partial sums, the standard algorithm for division is a shorthand method of writing partial quotients. Before they learn the standard algorithm for division, students need to be comfortable solving division problems using partial quotients.

Have students work in pairs or groups. Ask students to think of a pair of numbers, one that has 1 or 2 digits and one that has 3 or 4 digits.

Ask students to divide the larger number by the smaller number using partial quotients (also known as the Big 7 Method). Here is an example of solving $195 \div 12$ using partial quotients. In this example, the quotient is $10 + 5 + 1 = 16$ $R$ $3$. 
Have groups tell you the different ways they reached their final quotient. Highlight solutions that used the fewest subtractions to find their answer. These solutions should match the solutions that students find using the standard algorithm. For example, we could solve the problem \( 195 \div 12 \) using two subtractions, 120 and 72, giving a quotient of \( 10 + 6 = 16 \) R 3.

Give or allow students to generate a few more of these division problems, each time striving to use the fewest steps to solve.

Tell students that today they will learn a new standard algorithm. Ask students to discuss what standard algorithms mean to them and how they have used them in the past.

Tell them that the standard algorithm for division is a neater and quicker way to write the process they are already familiar with. This method focuses on place value to get the correct answer in the quickest and most efficient manner.

Show them one of their problems solved using the standard algorithm. Display this next to the partial quotient solution. Ask students to discuss the differences between the way these two methods look and the ways in which they show the same information.

**EXPLAIN**

**WATCH THE GENERATION GENIUS LONG DIVISION (STANDARD ALGORITHM FOR DIVISION) VIDEO AS A GROUP**
Facilitate a conversation using the Discussion Questions.

**ELABORATE**

Direct students to use their new understanding to complete the practice problem worksheets. Page 1 contains bare mathematical problems to solidify understanding of the process. Page 2 contains application problems for students to apply the process to solve real-world problems.
Have students gather in groups of 2 or 4 to compare and discuss their answers to the problems. Allow students enough time to communicate with their peers about their process and their thinking. Encourage students to use correct mathematical language when discussing their process. Have each group choose two questions they want more information about, or they want to discuss as a class.

When groups are ready, take questions from students. Encourage groups to answer questions brought up by other groups.

Students can play the online Kahoot! quiz game located below the video. It provides downloadable scores at the end of the quiz game. Alternatively, you can use the paper quiz, or the exit ticket questions. All these resources are located below the video in the assessment section.