Students learn the meaning of the equal sign and apply that knowledge to decide if equations involving addition and subtraction are true or false. They find the unknown whole number in an addition or subtraction equation relating three whole numbers.

**COMMON CORE STANDARD(S)**

1.OA.D.7 Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.

1.OA.D.7 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = _ - 3, 6 + 6 = _.

**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

**MATERIALS**

Counters or linking cubes of two different colors

**ENGAGE AND EXPLORE**

Review comparing group sizes with the students, having them use the terms greater than, less than, and equal to.
Have students work in pairs. Give each pair 18 counters (or linking cubes) of one color (red) and 18 counters of another color (blue). Have students show 8 red counters and 5 blue counters. Ask students to compare the groups and remind them that they can use the words greater than, less than, and equal to when comparing groups. Then have them share what they found and talk about how they compared the groups. Some students may have lined up the groups and saw that the number of red counters is greater than the number of blue counters. Others may have counted the number of counters in each group and used their knowledge that 8 is greater than 5.

Next ask them to show 8 counters in one color and 8 counters in another color. Ask them to compare the groups and then share what they found. When students say that the groups are equal, ask them how they know they are equal. Some students may line up the counters side by side and see that each counter of one color has a partner counter in the other color. Others may use their knowledge that the number of counters in each color group is 8, and 8 and 8 are the same amount, so the groups of 8 are equal. $8 = 8$.

Now ask students to imagine that there are 4 big dogs and 7 small dogs in the park. Have students use their counters to find how many dogs in all, using red counters to represent the big dogs and blue counters to represent the small dogs. Then have them put those counters to the side. Now tell them that on another day there were 11 dogs in the park. Have them model 11 with a new group of counters. Now ask them to compare the two groups of counters. Have students explain how they know that the groups are equal. They should recognize that the total number of dogs in each group is 11. Tell students that they will learn more about amounts being equal in this lesson.

**EXPLAIN**

**WATCH THE GENERATION GENIUS MEASURE INTRO TO EQUALITY (FIND A MISSING NUMBER) 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.

**EVALUATE**

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.