

Math: Grade 3, Lesson 4, Meaning of the Unknown in Division

Lesson Objective: Meaning of the Unknown in Division

Practice Focus: Understand the meaning of the unknown as the size of the group in division.

TN Standard: 3.OA.A.2

Teacher Video Materials:


- White board and markers
- 18 counters

Student materials:

- paper and pencil,
- 18 counters (concrete objects)
- the student packet for Math, Grade 3, Lesson 4 which can be found at www.tn.gov/education

Teacher Do	Student Do
<p>Opening</p> <p>Hello! Welcome to Tennessee's At Home Learning Series for math! Today's lesson is for all our 3rd graders out there, though all children are welcome to tune in. This lesson is the fourth in our series.</p> <p>My name is _____ and I'm a _____ grade teacher in Tennessee schools! I'm so excited to be your teacher for this lesson! Welcome to my virtual classroom!</p> <p>Today, we're going to think about the meaning of an unknown group in division problems. If you didn't see our previous lesson, you can find it on www.tn.gov/education. You can still tune in to today's lesson if you haven't seen any of our others, but it might be more fun if you first go back and watch our other lessons, since we'll be talking about things we learned previously. Before we get started, to participate fully in our lesson today, you will need:</p> <ul style="list-style-type: none"> • 18 counters – these can be any object that you have around you, such as crayons, pieces of candy, pieces of cereal, or torn pieces of paper • paper and a pencil, and a surface to write on • the student packet for Math, Grade 3, Lesson 4 which can be found at www.tn.gov/education <p>Okay, let's begin!</p>	<p>Students get materials ready for the lesson.</p>
<p>Intro</p> <p>Yesterday, my friend bought a pack of 18 markers and shared them with me by dividing them into two equal groups. Now, I have a bunch more markers! Do you want to know how many my friend gave me? [Pause.]</p> <p>You can use your counters to model this thinking along with me.</p>	<p>Student answers.</p>

<p>We're trying to find the size of each group. Our counters can represent the markers my friend gave me. Let's divide the 18 counters into 2 equal groups. [As you count, divide your counters into two groups.]</p> <p>One for my friend, one for me, one for my friend, one for me... [Continue this until all 18 counters are divided into two groups.]</p>	
<p><u>Teacher Model</u></p> <p>What are we trying to find, the number of groups or the size of each group? [Pause.]</p> <p>Right, we are trying to find the size of each group. How many do we have now in each group? [Pause.]</p> <p>Yes, there are 9 in each of the two groups. So, now we know that my friend gave me 9 markers.</p> <p>Let's write a number sentence to show the work we just did. What's our total number of markers? [Pause.]</p> <p>Our total number of markers was 18 [write 18 on white board]. We divided our 18 counters into how many equal groups? [Pause.]</p> <p>Good! We divided them into 2 equal groups. [Write $\div 2 =$ ____ on the board next to the 18.]</p> <p>If 18 is our total and 2 represents our equal groups, then remind me, what does our unknown factor represent? [Pause.]</p> <p>Yes, the size of the groups, which is 9. 18 divided by 2 equals 9. [Finish writing as you read.] $18 \div 2 = 9$. So, my friend gave me 9 markers.</p>	<p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p>
<p><u>Guided Practice</u></p> <p>In what way does this remind you of our work with multiplication? [Pause.]</p> <p>Correct! Like multiplication, division is also about the number of groups and the size of groups; division also uses factors and a total. We multiply when we want to find the total. Here, we divided when we knew the total and wanted to find the size of the groups.</p> <p>Let's practice the work we just did. You will need paper and something to write with.</p>	<p>Student answers.</p>

<p>Look at this picture. [Show stars.]</p>  <p>This is how Diana arranges her star stickers. What does 12 represent in the picture? [Pause.]</p> <p>Yes, the total amount of stickers. What does 3 represent? [Pause.]</p> <p>Yes, the number of equal groups. What does 4 represent? [Pause.]</p> <p>Good! The size of each group. Let's write a number sentence to represent Diana's stickers where the answer represents the size of the group.</p> <p>[Write $12 \div 3 = 4$ and $12 \div 4 = 3$] I've written two division equations; what is the difference between these division equations? [Pause.]</p> <p>Yes, in the first one, the answer represents the size of each group. In the second one, the answer represents the number of groups. So, if we're writing a division sentence where the answer represents the size of the group, then which number sentence should we use? [Pause.]</p> <p>Yes, we should use $12 \div 3 = 4$.</p> <p>I'm going to write an equation and let you draw a picture that models it. $8 \div 4 =$ blank. [Write $8 \div 4 = \underline{\quad}$]. Take a minute to draw a model of this equation. [Pause for student to draw picture.]</p> <p>If 8 is the total and 4 is the <i>number of groups</i>, then what does the unknown factor represent? [Pause.]</p> <p>Yes, 2 represents <i>the size of the groups</i>. Did your model show 8 objects divided into 4 groups of 2? [Pause.]</p> <p>Thank you for your creative work! You should share that with someone in your home!</p>	<p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p> <p>Student answers.</p> <p>Student draws picture.</p> <p>Student answers.</p> <p>Student answers.</p>
<p><u>Independent Practice</u></p> <p>Great work, boys and girls! Today, we reviewed the meaning of an unknown group in division problems. I hope you're seeing some connections to equal groups and repeated</p>	

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addition in multiplication! You sure did a great job! After the video, you will have some problems to practice on your own. Good luck and do your best!	
<u>Closing</u> Boys and Girls, I enjoyed learning about math with you today! Thank you for inviting me into your home. I look forward to seeing you in our next lesson in Tennessee's At Home Learning Series! Bye!	

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