

Understand and Solve Multiplicative Comparison Problems

Check out the "Parent Quick Smarts" video for this unit by using this link: <https://goo.gl/GAq24e>

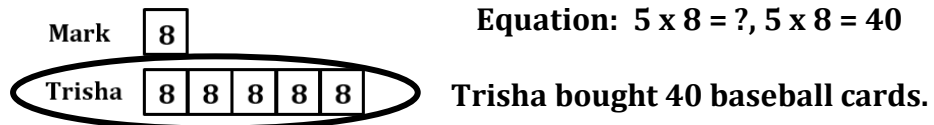
Overarching Student Learning Goals In this unit, your child will work to build an understanding of the following:	Resources/Tasks to support your child at home.
<p>Recognize and model how multiplication can be used as a comparison. In multiplicative comparison problems, there are two different sets being compared. Bar models with labels are used to represent multiplicative comparison problems. Examples include:</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p><i>“Mark bought 8 baseball cards. Trisha bought 5 times the amount of baseball cards Mark bought. How many baseball cards did Trisha buy?”</i></p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Mark</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Trisha</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px;">8</div> </div> </div> <div style="width: 45%;"> <p><i>“Trisha has 40 baseball cards. She has 5 times as many baseball cards as Mark. How many baseball cards does Mark have?”</i></p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Mark</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Trisha</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px;">?</div> </div> <div style="text-align: center; margin-top: 5px;"> } 40 </div> </div> </div>	<ul style="list-style-type: none"> Discuss and draw bar models of real world examples of multiplicative comparison problems. Compare how many times more one child has than the other with candy or cereal. Use it to help your child budget: If they have \$5 and want to purchase an item that is \$40, how many times greater is the cost of the item than what you have? Khan Academy: Comparing with Multiplication Basics https://goo.gl/78hja4
<p>Identify and write an equation to represent a multiplicative comparison problem. Using the bar model, students create an equation to represent the bar model and determine how to use the model to solve for the answer or missing factor.</p> <div style="display: flex; justify-content: space-around;"> <div style="width: 45%;"> <p><i>“Mark bought 8 baseball cards. Trisha bought 5 times the amount of baseball cards Mark bought. How many baseball cards did Trisha buy?”</i></p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Mark</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Trisha</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">8</div> <div style="border: 1px solid black; padding: 2px 5px;">8</div> </div> <p style="margin-top: 10px;">Equation: $5 \times 8 = ?$</p> </div> <div style="width: 45%;"> <p><i>“Trisha has 40 baseball cards. She has 5 times as many baseball cards as Mark. How many baseball cards does Mark have?”</i></p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Mark</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> </div> <div style="display: flex; align-items: center; margin-top: 5px;"> <div style="margin-right: 10px;">Trisha</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">?</div> <div style="border: 1px solid black; padding: 2px 5px;">?</div> </div> <div style="text-align: center; margin-top: 5px;"> } 40 </div> <p style="margin-top: 10px;">Equation: $5 \times ? = 40$</p> </div> </div>	<ul style="list-style-type: none"> Use the previous real world examples of multiplicative comparison problems and extend to have your child record equations. <ul style="list-style-type: none"> Compare how many times more one child has than the other with candy or cereal. One child has 2 pieces, the other has 6. $2 \times ? = 6$ or $6 \div 2 = ?$ Use it to help your child budget: If they have \$5 and want to purchase an item that is \$40, how many times greater is the cost of the item than what you have? $5 \times ? = 40$ or $40 \div 5 = ?$ Khan Academy: Comparing With Multiplication, Money https://goo.gl/xRmmYq

For more information on the learning goals and your child's progress, please contact your child's teacher.

Solve multiplicative comparison problems.

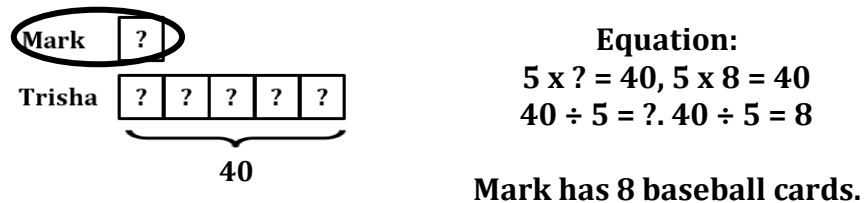
Students use the bar models and equations created to represent the problem and how to use the model to find the answer.

Example: "Mark bought 8 baseball cards. Trisha bought 5 times the amount of baseball cards Mark bought. How many baseball cards did Trisha buy?"



The inverse relationship of division can also be used to solve unknown factor problems.

Example: "Trisha has 40 baseball cards. She has 5 times as many baseball cards as Mark. How many baseball cards does Mark have?"



- Use the previous real world examples of multiplicative comparison problems, then extend to have your child record equations and solve. Remind them to reflect to make sure the answer is reasonable and they used the correct part of the bar model or equation to answer the problem.
 - Compare how many times more one child has than the other with candy or cereal. One child has 2 pieces, the other has 6. $2 \times 3 = 6$ or $6 \div 2 = 3$. So they have 3 times as much candy.
 - Use it to help your child budget: If they have \$5 and want to purchase an item that is \$40, how many times greater is the cost of the item than what you have? $5 \times 8 = 40$ or $40 \div 5 = 8$. So the item is 8 times the amount I have.
- Khan Academy: Comparing With Multiplication, Magic <https://goo.gl/yCXmMi>
- Khan Academy: Comparing With Multiplication, Age <https://goo.gl/QvwD6G>