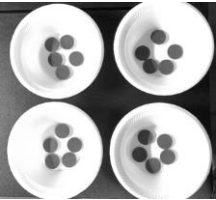
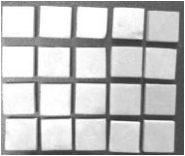
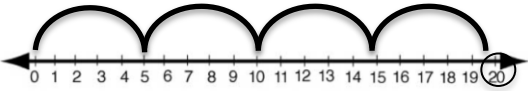





Understanding Multiplication and Division

Check out the "Parent Quick Smarts" video for this unit by using this link: <https://goo.gl/Ueq4XM>

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>Using concrete models to represent equal groups situations.</p> <p><i>Tim has 4 bags of cookies. Each bag has 5 cookies. How many cookies does Tim have?</i></p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>"Four groups of five is 20."</p> </div> <div style="text-align: center;">  <p>"Four rows of five is 20."</p> </div> </div> <div style="text-align: center; margin-top: 10px;">  <p>"Four jumps of five is twenty."</p> </div>	<ul style="list-style-type: none"> Look for real-world examples of situations with equal groups. For example: packs of candy, cartons of eggs, six-pack of soda, tires on vehicles, etc. (If we bought 3 six-packs of Pepsi, how many Pepsi cans did we buy?) Parent Quick Smarts Video: Understanding Multiplication and Division Conceptually https://goo.gl/TNRj5x LearnZillion Video: Solve Word Problems using the Idea of Equal Groups https://bit.ly/2K600ty LearnZillion Video: Represent Multiplication Using Arrays https://bit.ly/2LsiwBK 																				
<p>Identifying the number of groups and the number of items in each group (depending on the situation).</p> <p>Multiplication:</p> <div style="text-align: center; margin: 10px 0;"> $\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array} = ?$ <p># of groups # of objects in a group</p>  </div> <p>Division:</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>How many groups?</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Whole Set</td> <td style="padding: 5px;">÷</td> <td style="padding: 5px;">Number in each group</td> <td style="padding: 5px;">=</td> <td style="padding: 5px;">Number of groups</td> </tr> <tr> <td style="padding: 5px;">6 apples</td> <td style="padding: 5px;">÷</td> <td style="padding: 5px;">2 apples per group</td> <td style="padding: 5px;">=</td> <td style="padding: 5px;">? people</td> </tr> </table>  </div> <div style="width: 45%;"> <p><i>How many in each group?</i></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Whole Set</td> <td style="padding: 5px;">÷</td> <td style="padding: 5px;">Number of groups</td> <td style="padding: 5px;">=</td> <td style="padding: 5px;">Number in each group</td> </tr> <tr> <td style="padding: 5px;">6 apples</td> <td style="padding: 5px;">÷</td> <td style="padding: 5px;">3 friends</td> <td style="padding: 5px;">=</td> <td style="padding: 5px;">?</td> </tr> </table>  </div> </div>	Whole Set	÷	Number in each group	=	Number of groups	6 apples	÷	2 apples per group	=	? people	Whole Set	÷	Number of groups	=	Number in each group	6 apples	÷	3 friends	=	?	<ul style="list-style-type: none"> Task: Sarah is putting 20 cookies on plates. She wants the same number of cookies on each plate. Create as many different equal groups models as you can to represent how Sarah could arrange her cookies. Write a multiplication equation to match each model. LearnZillion Video: Visualizing a Division Word Problem https://bit.ly/2Lrr0Jo
Whole Set	÷	Number in each group	=	Number of groups																	
6 apples	÷	2 apples per group	=	? people																	
Whole Set	÷	Number of groups	=	Number in each group																	
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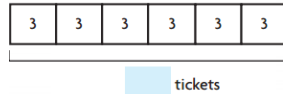
For more information on the learning goals and your child's progress, please contact your child's teacher.

Grade 3

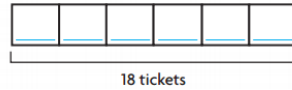
Demonstrating understanding of the concepts of multiplication and division.

Identify the following story problems as multiplication or division. Explain how you know.

Pam went on a ride 6 times and used 3 tickets each time. How many tickets did she use in all?



Pam went on the same ride 6 times. She used the same number of tickets each time. If she used 18 total tickets, how many tickets did she use each time she went on the ride?



- As your child is making sense of multiplication and division story problems, ask them questions such as:
 - What is the total amount?
 - How many groups are there?
 - How many are there in each group?
 - How do you know it is a multiplication/division story problem?
- Math Playground Thinking Blocks: Multiplication and Division <https://goo.gl/gvnvnyP> (Select “Parts and Whole”)

Beginning to discover the relationship between multiplication and division.

$\# \text{ groups} \times \# \text{ in each group} = \text{total}$

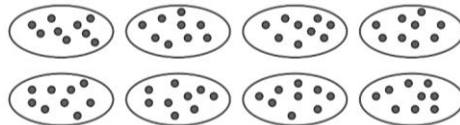
Justin has 72 gumballs. He is putting an equal number of gumballs into 8 bags. How many gumballs will be in each bag?



$8 \times ? =$

Equal groups
 $\# \text{ groups} \times \text{amount in each} = \text{total}$

$8 \times \underline{\quad} = 72 \text{ gumballs}$



8, 16, 24, 32, 40, 48, 56, 64, 72

- Khan Academy: Relating Division to Multiplication <https://goo.gl/aMWqPY>

Creating and interpreting equations to represent multiplication and division situations.

Write an equation to represent each of the problems below.

There are 4 boxes of crayons, with 6 crayons in each box. How many crayons are there?

The teacher is making boxes of 6 crayons. She has 24 crayons. How many boxes can she make?

- In addition to writing and justifying equations that match a given story problem, challenge your child to write story problems for a given multiplication or division equation.