

They demonstrate understanding of the properties of multiplication and the relationship between multiplication and division

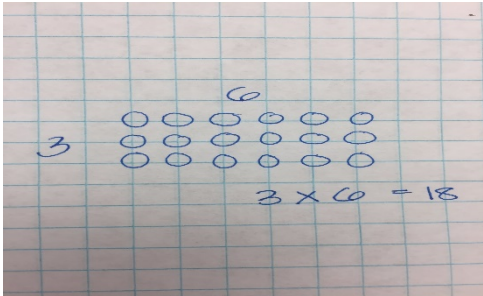
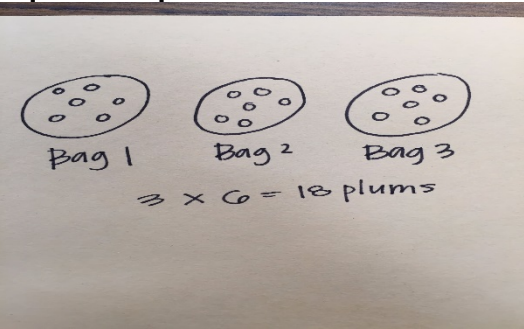
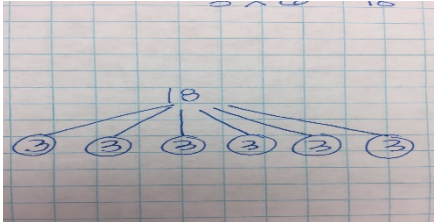
Standard 3.OA.6 Understand division as an unknown-factor problem. Understand the relationship between multiplication and division (multiplication and division are inverse operations). For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.

Key Vocabulary: product, multiplier, commutative, divisor, area, array

Key elements of the standard: Using known multiplication facts to solve unknown division facts. Students should treat division problems as a multiplication problem with an unknown factor. When students understand multiplication and division as **inverse operations** they can visualize division problems as multiplication facts with a missing factor.

Group Size Unknown: If 18 plums are arranged into 3 equal rows, how many plums will be in each row? Students should change the original problem, $18 \div 3 = ?$, into a multiplication problem with an unknown multiplier, $3 \times ? = 18$. Students can use the following models to solve for their unknown factor.

Number of Groups Unknown: If 18 plums are arranged into equal rows of 6 plums, how many rows will there be? Students should change the original problem, $18 \div 6 = ?$, into a multiplication problem with an unknown multiplier, $? \times 6 = 18$. Students can use the following models to solve for their unknown factor.

<p>Area/Array:</p> 	<p>Equal Groups:</p> 
<p>Equal Shares:</p> 	<p>Number Line:</p> 