

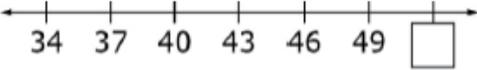
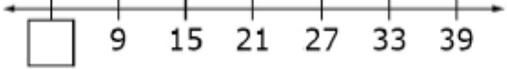
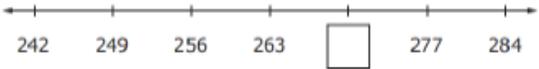
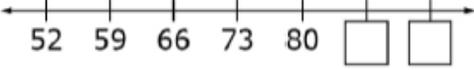
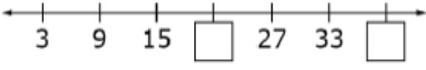
SBACC Grade 3 Analysis of Questions for Claim 1 Domain of Operations and Algebraic Thinking

Standard DOK	Evidence	Question
DOK Level 1 3.OA.3	uses multiplication and division <b>within</b> 100 to solve straightforward one-step word problems in situations involving equal groups, arrays, and measurement quantities such as length, liquid volume and masses of objects.	<p><b>Example Stem 1:</b> There are 3 rows of pictures with 2 pictures in each row. How many pictures are there?</p> <p><b>Example Stem 2:</b> The pictures on a page in a picture album are in 3 rows and 2 columns. How many pictures are on the page?</p> <p><b>Example Stem 3:</b> Tim has 6 pictures arranged into 3 equal rows on a page. How many pictures are in each row?</p> <p><b>Example Stem 4:</b> Claire arranges 6 pictures into an array with 3 rows. How many columns of pictures are in the array?</p> <p><b>Example Stem 5:</b> Chris arranges 6 pictures into equal rows of 2 pictures. How many rows are there?</p> <p><b>Example Stem 6:</b> Lisa arranges 6 pictures into an array with 2 columns. How many rows of pictures are in the array?</p>
DOK Level 1 3.OA.3		<p><b>Example Stem 1:</b> There are 3 bags with 9 blocks in each bag. How many blocks are there in all?</p> <p><b>Example Stem 2:</b> Mary has 27 blocks. She puts them into 3 bags. Each bag has an equal number of blocks. How many blocks are in each bag?</p> <p><b>Example Stem 3:</b> Mary has 27 blocks. She can put 9 blocks in each bag. How many bags does she need for all 27 blocks?</p>
DOK Level 1 3.OA.3		<p><b>Example Stem 1:</b> A penny has a mass of 3 grams. What is the mass, in grams, of 4 pennies?</p> <p><b>Example Stem 2:</b> There are 48 liters of water in a water tank. The water is shared equally into 8 containers. How many liters of water are in each container?</p> <p><b>Example Stem 3:</b> Sarah has 72 inches of string. She cuts the string into pieces that are 9 inches long. How many pieces of string does Sarah have?</p>
DOK Level 1 3.OA.4	determines an unknown whole number in a multiplication or division equation relating three whole numbers	<p><b>Example Stem 1:</b> What unknown number makes this equation true? <math>8 \times \square = 56</math></p> <p><b>Example Stem 2:</b> What unknown number makes this equation true? <math>63 = \square \times 7</math></p> <p><b>Example Stem 3:</b> What unknown number makes this equation true? <math>7 \times 5 = ?</math></p>
DOK Level 1 3.OA.4	whole numbers with single-digit factors <b>within</b> 100.	<p><b>Example Stem 1:</b> What unknown number makes this equation true? <math>24 \div 4 = ?</math></p> <p><b>Example Stem 2:</b> What unknown number makes this equation true? <math>56 \div \square = 8</math></p> <p><b>Example Stem 3:</b> What unknown number makes this equation true? <math>\square \div 7 = 8</math></p>

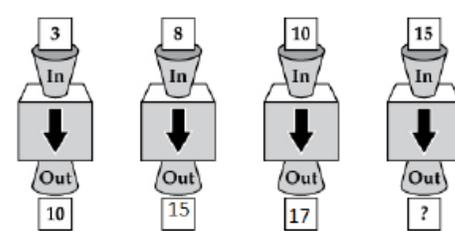
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		<p><b>Example Stem 4:</b> What unknown number makes this equation true?  <math>4 = \square \div 6</math></p>												
DOK Level 1 3.OA.5	uses the properties of operations (Commutative Property of Multiplication, Associative Property of Multiplication, and Distributive Property of Multiplication) as strategies to multiply and divide.	<p><b>Example Stem 1:</b> What unknown number makes the equation true?  <math>8 \times 6 = 6 \times \square</math></p> <p><b>Example Stem 2:</b> What unknown number makes the equation true?  <math>8 \times 6 = 8 \times \square \times 2</math></p> <p><b>Example Stem 3:</b> What unknown number makes the equation true?  <math>5 \times 9 = 5 \times 10 - \square</math></p> <p><b>Example Stem 4:</b> What unknown number makes the equation true?  <math>5 \times 8 = 10 \times 8 \div \square</math></p> <p><b>Example Stem 5:</b> What unknown number makes the equation true?  <math>6 \times 6 = 6 \times 5 + \square</math></p> <p><b>Example Stem 6:</b> What unknown number makes the equation true?  <math>8 \times 7 = 5 \times 7 + \square \times 7</math></p>												
DOK Level 1 3.OA.5		<p>Decide whether each expression is equal to <math>5 \times 9</math>.</p> <table border="1" style="float: right;"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td><math>5 \times (5 + 4)</math></td> <td></td> <td></td> </tr> <tr> <td><math>(5 \times 5) + 4</math></td> <td></td> <td></td> </tr> <tr> <td><math>(5 \times 5) + (5 \times 4)</math></td> <td></td> <td></td> </tr> </tbody> </table> <p>Select Yes or No for each expression.</p>		Yes	No	$5 \times (5 + 4)$			$(5 \times 5) + 4$			$(5 \times 5) + (5 \times 4)$		
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DOK Level 1 3.OA.6	represent division as an unknown-factor problem.	<p><b>Example Stem 1:</b> Which equation has the same unknown value as <math>8 \div 2 = \square</math>?</p> <p>A. <math>8 \times \square = 2</math>          B. <math>2 \times \square = 8</math>          C. <math>\square \div 2 = 8</math>          D. <math>\square \div 8 = 2</math></p> <p><b>Example Stem 2:</b> Which equation has the same unknown value as <math>27 \div 3 = \square</math>?</p> <p>A. <math>27 \times \square = 3</math>          B. <math>\square = 3 \times 27</math>          C. <math>\square \times 3 = 27</math>          D. <math>3 \times 27 = \square</math></p> <p><b>Example Stem 3:</b> Which equation has the same unknown value as <math>48 \div 6 = \square</math>?</p> <p>A. <math>48 \times \square = 6</math>          B. <math>6 \times \square = 48</math>          C. <math>\square \div 6 = 48</math>          D. <math>\square \div 48 = 6</math></p>												
DOK Level 1 3.OA.7	accurately multiplies single-digit factors within 100.	Enter the unknown numbers that make each equation true. $9 \times 3 = \square$ $4 \times 7 = \square$												
DOK Level 1 3.OA.7		Select <b>all</b> expressions that equal the given product. 24 A. $6 \times 4$ B. $7 \times 3$ C. $9 \times 2$ D. $3 \times 8$ E. $4 \times 5$												

# SBACC Grade 3 Analysis of Questions for Claim 1 Domain of Operations and Algebraic Thinking

<p>DOK Level 1 3.OA.7</p>	<p>accurately divides within 100 using single-digit divisors and single-digit quotients.</p>	<p>Enter the unknown numbers that make each equation true.</p> $9 \div 3 = \square$ $28 \div 7 = \square$																
<p>DOK Level 1 3.OA.7</p>	<p>connects multiplication and division to target fluencies.</p>	<p>Decide whether each equation is true or false. Click True or False for each equation.</p> <table border="1" data-bbox="1045 415 1495 554"> <thead> <tr> <th></th> <th>True</th> <th>False</th> </tr> </thead> <tbody> <tr> <td><math>3 \times 6 = 18 \div 2</math></td> <td></td> <td></td> </tr> <tr> <td><math>4 \times 9 = 36 \div 4</math></td> <td></td> <td></td> </tr> <tr> <td><math>2 \times 5 = 20 \div 2</math></td> <td></td> <td></td> </tr> </tbody> </table>		True	False	$3 \times 6 = 18 \div 2$			$4 \times 9 = 36 \div 4$			$2 \times 5 = 20 \div 2$						
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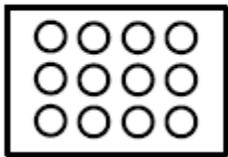
<p>DOK Level 2 3.OA.9</p>		<p><b>Example Stem:</b> An input/output machine is shown.</p> <ul style="list-style-type: none"> <li>• The same rule is used for each number that is put in the machine.</li> <li>• Three numbers that came out of the machine are shown.</li> </ul> <p>What number comes out of the machine when 15 is put in?</p>	
<p>DOK Level 1 3.OA.8</p>	<p>solves one-step, real-world contextual problems using addition and subtraction within 1000</p>	<p><b>Example Stem:</b> There are 392 students in Hall Elementary School and 503 students in Jackson Elementary School. Enter the total number of students in both schools.</p> <p><b>Example Stem:</b> There are 425 boys and 510 girls in Franklin Elementary School. How many more girls than boys are in Franklin Elementary School? Enter your answer in the response box.</p>	

**Claim 2:** (Primary emphasis on operations of numbers and measurement and data.)

Sabina has a jar full of dimes. A pack of cards costs 76 cents. How many dimes would she need to buy the cards if she uses no other coins?

Enter your answer in the response box.

Steven is baking cupcakes. A cupcake pan has 3 rows with a place to put 4 cupcakes in each row. He filled two pans completely and part of another pan.



How many cupcakes could Steven have made? Enter your answer in the response box.

Vera is making 6 picture frames. Each picture frame requires 8 craft sticks. Craft sticks are sold in packs of 10.

What is the **fewest** number of packs of craft sticks Vera can buy to get the total she needs?

Enter your answer in the response box.

Billy has 9 full cans of juice. He has  $9 \times 8$  ounces of juice all together. What could the 8 mean?

- A. There are 8 ounces of juice in one full can.
- B. There are 8 people who want juice.
- C. He already drank 8 cans of juice.
- D. He spilled 8 ounces of juice.

## SBACC Grade 3 Analysis of Questions for Claim 2-4 Domain of Operations and Algebraic Thinking

**Claim 3:** (Primary emphasis on operations of numbers, fractions, and measurement and data.)

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Marquis said, "The more numbers you multiply, the greater the product." Then he wrote:

$$2 \times 8 = 16$$

$$2 \times 5 \times 5 = 50$$

$$2 \times 3 \times 5 \times 2 = 60$$

$$60 > 50 > 16$$

Give an example of a product of two numbers that is greater than  $2 \times 5 \times 5$ .

$$[ ] \times [ ] > (2 \times 5 \times 5)$$

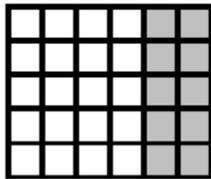
Enter the numbers in the two response boxes.

---

Bev said, "I can find  $5 \times 6$  by adding  $5 \times 4$  and  $5 \times 2$ ."

She wrote this equation and drew this picture to show her thinking.

$$5 \times 6 = 5 \times 4 + 5 \times 2$$



Mel wrote this equation:  $4 \times 7 = 4 \times 3 + 4 \times 4$

Is this equation true? Click on Yes or No.

Yes

No

Click on the squares to draw a picture that supports your answer.



---

A bird ate 400 grams of food in 3 days. The bird ate 120 grams of food on Day 1, 150 grams of food on Day 2, and  $g$  grams of food on Day 3.

Day	Grams of Food
1	120
2	150
3	$g$

How many grams of food did the bird eat on Day 3? Enter your answer in the first response box.

In the second response box, enter an equation that you could solve to find the amount of food the bird ate on Day 3.

---

A 20 meter rope is cut into 4 pieces. Jenny says you can find the length of each piece by finding  $20 \div 4$ .

What statement best describes Jenny's claim?

- A. Jenny's claim is false. She should add 4 and 20 instead.
- B. Jenny's claim is false. She should multiply 4 and 20 instead.
- C. Jenny's claim is true if you assume that each piece is 4 meters long.
- D. Jenny's claim is true if you assume that the pieces are all equal in length.

---

Select **all** the ways can you divide 15 children into equal groups with none left over.

- A. 2 groups
- B. 3 groups
- C. 4 groups
- D. 5 groups

# SBACC Grade 3 Analysis of Questions for Claim 2-4 Domain of Operations and Algebraic Thinking

---

$n$  is a whole number and  $n \times 5 = 5$ .

Identify which values of  $n$  make this equation true.

	True	False
When $n = 0$		
When $n = 1$		
When $n > 1$		
This is never true		

---

Tasha is solving this problem:

There 4 tanks with 10 fish in each tank. How many fish are there all together?

Tasha claims, "There are  $4 + 10 = 14$  fish all together."

Which statement best describes Tasha's claim?

- A. Tasha correctly added to find the total.
- B. Tasha should subtract instead.
- C. Tasha should multiply instead.
- D. Tasha should divide instead.

---

## Claim 4: (Primary emphasis on operations of numbers and measurement and data.)

Jenny went to the store to buy 15 bottles of water.

- The bags at the store can each hold 6 kilograms.
- The bottles of water each weigh 2 kilograms.
- Jenny bought 15 bottles of water.

What is the fewest number of bags that Jenny needs to hold all 15 water bottles?

-----

Eva has 2 quarters, 4 dimes, and 6 nickels. She wants to buy a different gift for each of her 3 friends. Click on the gifts in the table to show 3 gifts that Eva could buy.

Gift	Cost
Balloon	60 ¢
Eraser	35 ¢
Gumball	25 ¢
Kazoo	75 ¢
Mood ring	50 ¢
Pencil	35 ¢
Sticker	20 ¢

---

Tina has 4 packs of gum. Each pack has the same number of pieces of gum. Altogether there are 60 pieces of gum.

**Part A**

Make an equation to find the number of pieces of gum in each pack. Use  $n$  for the number of pieces in each pack.

**Part B**

How many pieces of gum are in each pack?

---

There are 123 girls and 135 boys in the third grade at a school. Today there are 9 third grade students absent.

Which equation can be used to find the total number of third grade students ( $s$ ) in school today?

- A.  $123 + 135 = s$
- B.  $135 - 9 = s$
- C.  $123 + 135 + 9 = s$
- D.  $123 + 135 - 9 = s$