Task Model 1a
 	
Response Type: Equation/Numeric
 	
DOK Level 1
 	
3.OA.A.3
Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
 	
Evidence Required:
1. The student uses multiplication and division **within** 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.
 	
Tools: None
	Prompt Features: The student is prompted to solve a one-step contextual word problem.
	
	Stimulus Guidelines:
	• Products for multiplication problems must be **within** 100 and single-digit factors.
	• Item difficulty can be adjusted via these example methods:
	  ○ Student solves for the unknown product.
	  ○ Student solves for the unknown factor.
	
	TM1a
	Stimulus: The student is presented with a one-step word problem for a situation involving an **array** composed of objects familiar to 8–9 year olds.
	
	Example Stem 1: There are 3 rows of pictures with 2 pictures in each row.
	
	How many pictures are there?
	
	Example Stem 2: The pictures on a page in a picture album are in 3 rows and 2 columns.
	
	How many pictures are on the page?
	
	Example Stem 3: Tim has 6 pictures arranged into 3 equal rows on a page.
	
	How many pictures are in each row?
	
	Example Stem 4: Claire arranges 6 pictures into an array with 3 rows.
	
	How many columns of pictures are in the array?
	
	Example Stem 5: Chris arranges 6 pictures into equal rows of 2 pictures.
	
	How many rows are there?
	
	Example Stem 6: Lisa arranges 6 pictures into an array with 2 columns.
	
	How many rows of pictures are in the array?
	
	Rubric: (1 point) The student correctly enters the solution (e.g., 6; 6; 2; 2; 3; 3).
	
	Response Type: Equation/Numeric

Task Model 1b **Response Type: Equation/Numeric** **DOK Level 1** **3.OA.A.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **Evidence Required:** 1. The student uses multiplication and division **within** 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. **Tools:** None	**Prompt Features:** The student is prompted to solve a one-step contextual word problem. **Stimulus Guidelines:** • Dividends for division problems must be **within** 100 and single-digit divisors. • Item difficulty can be adjusted via these example methods: ○ Student solves for the unknown product (multiplication problem where the number of items and groups are given). ○ Student solves for the unknown group size (division problem where the total number of items and number of groups are given). ○ Student solves for the unknown number of groups (division problem where the total number of items and the number of items in each group are given). **TM1b** **Stimulus:** The student is presented with a one-step word problem for a situation involving **equal groups** composed of objects familiar to 8–9 year olds. **Example Stem 1:** There are 3 bags with 9 blocks in each bag. How many blocks are there in all? **Example Stem 2:** 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? **Example Stem 3:** Mary has 27 blocks. She can put 9 blocks in each bag. How many bags does she need for all 27 blocks? **Rubric:** (1 point) The student enters the correct solution (e.g., 27; 9; 3). **Response Type:** Equation/Numeric

Task Model 1c **Response Type: Equation/Numeric** **DOK Level 1** **3.OA.A.3** Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. **Evidence Required:** 1. The student uses multiplication and division **within** 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. **Tools:** None	**Prompt Features:** The student is prompted to solve a one-step contextual word problem. **Stimulus Guidelines:** • Indicate that the objects are exactly the same. • Products for multiplication problems and dividends for division problems must be **within** 100 and single-digit factors. **TM1c** **Stimulus:** The student is presented with a word problem involving **measurement quantities** such as length, liquid volume, or mass of objects familiar to 8–9 year olds. **Example Stem 1:** A penny has a mass of 3 grams. What is the mass, in grams, of 4 pennies? **Example Stem 2:** 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? **Example Stem 3:** 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? **Rubric:** (1 point) The student enters the correct solution (e.g., 12; 6; 8). **Response Type:** Equation/Numeric

Task Model 2a **Response Type: Equation/Numeric** **DOK Level 1** **3.OA.A.4** Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = ☐ ÷ 3, and 6 × 6 = ?.* **Evidence Required:** 2. The student determines an unknown whole number in a multiplication or division equation relating three whole numbers with single-digit factors **within** 100. **Tools:** None	**Prompt Features:** The student is prompted to identify an unknown whole number in a multiplication equation. **Stimulus Guidelines:** • Item difficulty can be adjusted via these example methods: ○ Unknown is the product. ○ Unknown is the second factor. ○ Unknown is the first factor. ○ Product is listed first in equation and unknown is first/second factor. **TM2a** **Stimulus:** The student is presented with a multiplication equation with an unknown factor or product represented by a box (□) or "*?*". **Example Stem 1:** What unknown number makes this equation true? 8 × □ = 56 **Example Stem 2:** What unknown number makes this equation true? 63 = □ × 7 **Example Stem 3:** What unknown number makes this equation true? 7 × 5 = ? **Rubric:** (1 point) The student correctly identifies the unknown product (e.g., 7; 9; 35). **Response Type:** Equation/Numeric

Task Model 2b **Response Type: Equation/Numeric** **DOK Level 1** **3.OA.A.4** Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = ☐ ÷ 3, and 6 × 6 = ?.* **Evidence Required:** 2. The student determines an unknown whole number in a multiplication or division equation relating three whole numbers with single-digit factors **within** 100. **Tools:** None **Version 3 Update:** Added new Example Stem to TM2b	**Prompt Features:** The student is prompted to identify an unknown whole number in a division equation. **Stimulus Guidelines:** • Item difficulty can be adjusted via these example methods: ○ Unknown is the quotient. ○ Unknown is the divisor. ○ Unknown is the dividend. ○ Quotient is listed first in equation and unknown is dividend. **TM2b** **Stimulus:** The student is presented with a division equation with an unknown number represented by either a box (□) or "*?*". **Example Stem 1:** What unknown number makes this equation true? 24 ÷ 4 = ? **Example Stem 2:** What unknown number makes this equation true? 56 ÷ □ = 8 **Example Stem 3:** What unknown number makes this equation true? □ ÷ 7 = 8 **Example Stem 4:** What unknown number makes this equation true? 4 = □ ÷ 6 **Rubric:** (1 point) The student correctly identifies the unknown dividend (e.g., 6; 7; 56; 24). **Response Type:** Equation/Numeric