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Math 3

1-7a Model Division as an Unknown Factor

Name:		**Date:**	

Common Core Standards	**CCSS.MATH.CONTENT.3.OA.A.2** Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

[CCSS.MATH.CONTENT.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.

[CCSS.MATH.CONTENT.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 $8 \times ? = 48$, $5 = \_ \div 3$, $6 \times 6 = ?$.*
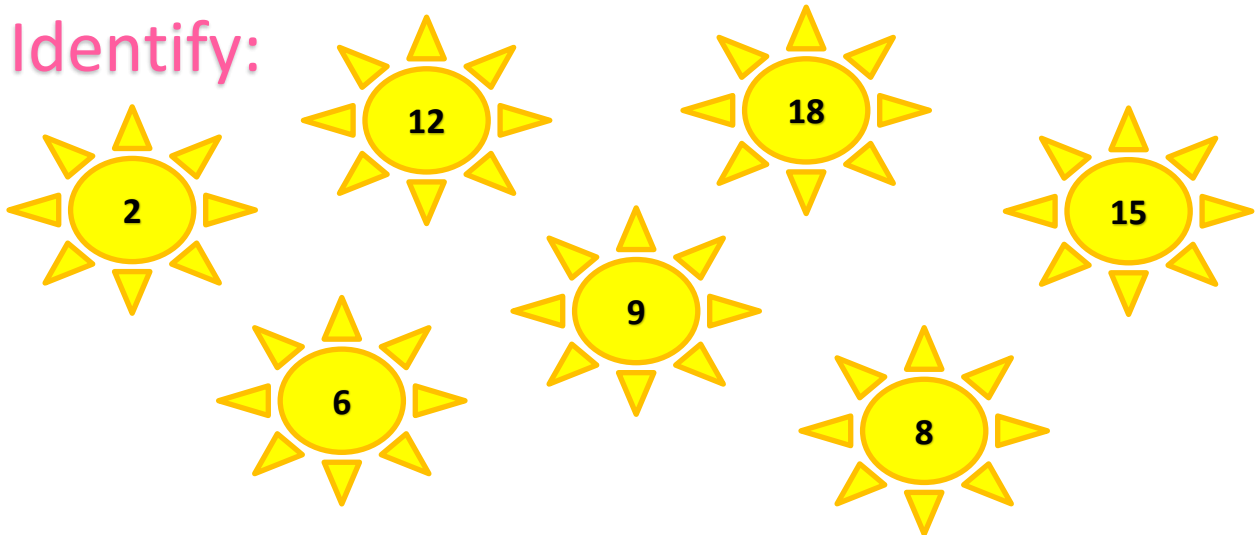
[CCSS.MATH.CONTENT.3.OA.B.6](#)

Understand division as an unknown-factor problem. *For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.*

1-7a Model Division as an Unknown Factor

Unknown Factor

Identify:

What are the numbers that have 2 as a factor?

Answer: 2, 6, 8, 12, 15

What are the numbers that have 3 as a factor?

Answer: 6, 9, 12, 15, 18

Situation:

Penelope gathered 12 roses. She placed them in an array wherein each row has 3 roses each.

Complete he equation below:

$$\_ \ x \ \_ = 12$$

How rows are there?

Part A: Complete the division equation based on the following arrays.

1.

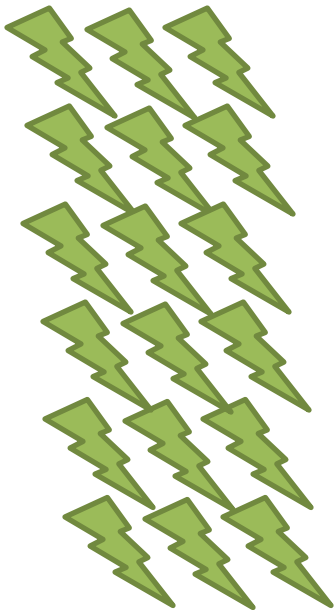$$\_\_ \div \_\_ = 3$$

2.
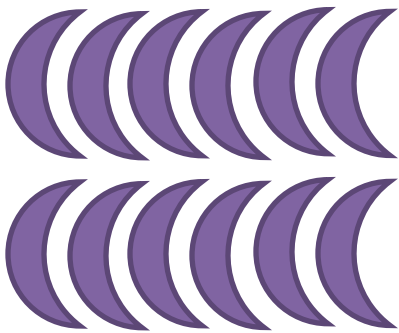
$$\_\_ \div \_\_ = 2$$

3.

$$\_\_ \div \_\_ = 6$$

Part B: Draw a tape diagram to represent the equation. Identify the unknown factor.

1. $3 \times \underline{} = 12$

2. $2 \times \underline{} = 14$

3. 9 x ___ = 18

Part C: What's the Factor?

Encircle the number that is a factor of the following numbers.

1. | **16** | **2** | **3** |

2. | **18** | **4** | **3** |

3. | **14** | **7** | **6** |

4. | 6 | 3 | 4

5. | 27 | 2 | 3

6. | 21 | 2 | 3

7. | 15 | 5 | 2

8. | 24 | 5 | 3

9. | 10 | 3 | 2

10. | 8 | 2 | 3

ANSWER KEY

Situation 1   **3 x 4**
                    4 rows

   Part A: **1. 15 ÷ 5**
                   2. 12 ÷ 6
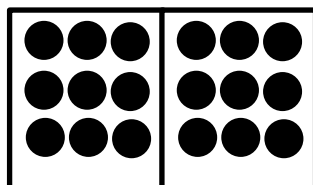   **3. 18 ÷ 3**
   Part B:

1.

4   ●●● | ●●● | ●●● | ●●●

2.

7   ●● | ●● | ●● | ●● | ●● | ●● | ●●

3.

2
⬛ ●●● ●●● | ●●● ●●● (two boxes, each 3x3 dots)

   Part C:

1.   **2**

2.   **3**

3.   7

4.   3

5.   3

6.   3

7.   5

8.   3

9.   2

10.   2