Date _

Stencilrama Lab



Draw a picture of what you are going to do to compare the Number of Stencils (N) to the Length of Border (L).





Work with your partner to collect data. The data will help you solve problems about the length of a border and the number of times you used your stencil.

<i>N</i> Number of Stencils	<i>L</i> Length of Border (in inches)



Use the stencil border you made with your stencil and your data table to answer the following questions.

1. Measure the length of six stencils to the nearest inch.

2. Show how to use the length of one stencil to predict the length of a border with six stencils.

3. Show how to use the length of two stencils to predict the length of a border with six stencils.

4. Compare your answers to Questions 2 and 3. Are they the same? Why or why not?

5. Show how to use the length of six stencils to predict the length of a border with 60 stencils.

6. How many stencils are needed to make a border that is 30 inches long? Show or tell how you know.

7. How many stencils are needed to make a border that is 15 inches?

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8. How many stencils are needed to make a border that is 21 inches?

9. How long is a border that is made with 10 stencils?

10. How many stencils are needed to make a border that is 100 inches? Show or tell how you know. Show how you checked that your prediction is reasonable.

11. How many stencils are needed to make a border for the front of your desk? Show or tell how you know.

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12. Choose a place you can decorate with a border. Decide how many stencils are needed to make a border that length. Show or tell how you know.

Show how you checked that your prediction is reasonable.



Professor Peabody's Stencil Border



Check-In: Question 13

- **13.** Professor Peabody made a stencil and a border. He organized his data into a table.
 - A. Help Professor Peabody complete his table.

<i>N</i> Number of Stencils	<i>L</i> Length of Border (in inches)		
1			
2	20		
3	30		
5			
8	80		
10	100		

Professor Peabody's Stencil Border

B. Show how to use the length of two stencils to predict the length of a border with 6 stencils.

C. How many stencils are needed to make a border that is 70 inches long? Show or tell how you know.

D. How many stencils are needed to make a border that is 200 inches long? Show or tell how you know.

E. Show how to use the length of three stencils to predict the length of a border with 12 stencils.

F. After Professor Peabody looked at his data table he wrote the following number sentence.

 $0 \times 10 = 10$

What would you tell Professor Peabody to help him see his error?

Stencilrama Lab Check-In: Question 13 Feedback Box	Expectation	Check In	Comments
Use patterns in data tables to make predictions and solve problems. [A–F]	E8		
Use strategies to solve multiplication and division problems (e.g., skip counting, repeated addition, repeated subtraction, reasoning from known facts, and invented). [B–F]	E2		
Use the multiplication properties of 0 and 1 to solve multiplication problems. [F]	E3		