

# Tiffany's Investigation

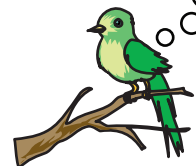
1. **A.** Tiffany did an investigation like *Mass vs. Number* with pieces of chalk. Each piece of chalk had about the same mass. Here is her data table. Complete the missing data.

Mass of Chalk

<i>N</i> Number of Pieces of Chalk	<i>M</i> Mass (in grams)
1	4
2	8
3	12
4	16
5	
6	25
	28
8	33
9	
	40

2. Describe any patterns you see in the data table.
3. Use a sheet of *Centimeter Graph Paper* to make a graph of the chalk and mass data in Question 1.
- Label the horizontal axis Number of Pieces of Chalk (*N*).
  - Label the vertical axis Mass in grams (*M*).
  - Number the axes so you have enough room for the values  $N = 15$  pieces of chalk and  $M = 100$  grams.
  - Use a ruler to draw a best-fit line.
  - Title the graph.

Will you number the vertical axis by 5s or by 10s?



- 4. A.** Use the data table to find the mass of ten pieces of chalk. Show or tell how you know.
- B.** Use the graph to check your answer for Question 4A. Show or tell how you found your answer.
- 5.** If Tiffany kept adding chalk until she had a mass of about 50 grams, about how many pieces of chalk would be in the pan? Show or tell how you know.
- 6.** Predict the mass of 30 pieces of chalk. Solve the problem another way to check. Show your work to explain both strategies.
- 7.** Tiffany decided to weigh big pieces of sidewalk chalk. Each piece was about 25 grams. She recorded a mass of 85 grams. Is that reasonable? Explain how you decided.

Name \_\_\_\_\_ Date \_\_\_\_\_

<b>Tiffany's Investigation Feedback Box</b>	<b>Expect- ation</b>	<b>Check In</b>	<b>Comments</b>
Identify and extend multiplicative patterns represented in a table or graph. [Q# 1, 3]	E1		
Solve multiplication and division problems involving mass. [Q# 4–7]	E3		
Make a point graph using ordered pairs and draw a best-fit line. [Q# 3]	E9		
Read a table to find information about a data set. [Q# 4A–6]	E10		
Read a point graph to find information about a data set. [Q# 4B–6]	E10		
Make predictions about a data set using a data table or point graph with a best-fit line. [Q# 7]	E11		

	Yes . . .	Yes, but . . .	No, but . . .	No . . .
<b>MPE2. Find a strategy.</b> I choose good tools and an efficient strategy for solving the problem. [Q# 4–7]				
<b>MPE3. Check for reason- ableness.</b> I look back at my solution to see if my answer makes sense. If it does not, I try again. [Q# 6–7]				
<b>MPE5. Show my work.</b> I show or tell how I arrived at my answer so someone else can understand my thinking. [Q# 4–7]				
<b>MPE6. Use labels.</b> I use labels to show what numbers mean. [Q# 4–7]				