

Name _____ Date _____

Taste of TIMS

Picture

Draw a picture of the experiment.

1. What is the manipulated variable? _____

2. What is the responding variable? _____

3. What variable or variables are controlled during the experiment?

Data Table

Collect your data taking just 1, 2, and 4 bites.
Record the information in Table I.

Table I

N of _____	M in _____			
	1 gm	5 gm	8 gm	Total
0				
1				
2				
4				

Graph

Put your sandwich aside after 4 bites, cover it up, and plot the data.

4. What data point must the curve pass through? _____

Explain. _____

Fit a curve to the data points.

Comprehension Questions

5. Use your graph to predict the mass of the sandwich after your third bite.

Can you check your prediction? _____

Explain. _____

6. Use your graph to predict the mass of the sandwich after your sixth bite.

Check your prediction.

$$M(6) = \underline{\hspace{2cm}}$$

7. Predict how many bites it would take for you to eat your entire sandwich.

Check your prediction and finish your lunch.

8. How close was your prediction in Question 6? Show your work below.

9. On the average, how much mass do you swallow each bite? Show your work.

10. Plot your partner's data on your graph. In what way is it the same as yours?

In what ways is your partner's curve different? Be as quantitative as possible.

11. a. Who has a bigger mouth, you or your partner? _____

Explain. _____

b. Who has the biggest mouth in the class? _____

Explain. _____

12. Your little brother ate your sandwich (assuming you had one). He took an average of 3 grams of the sandwich each bite. Draw his curve on your graph.

13. How many bites would it take him to finish your sandwich?

14. Determine how much of your sandwich was initially bread, and how much was initially filling.

$M_{\text{bread}} =$ _____

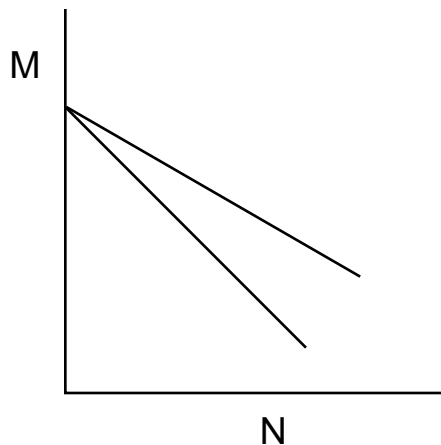
$M_{\text{filling}} =$ _____

15. Draw in the curve of M vs. N for bread alone.

16. The three pairs of partners do the experiment using apples with the results shown below.

List what is the same or different about each pair of graphs.

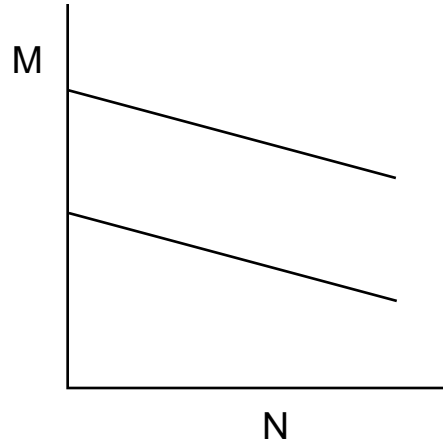
Partners A



Same

Different

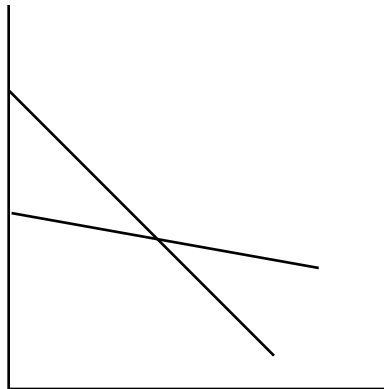
Partners B



Same

Different

Partners C



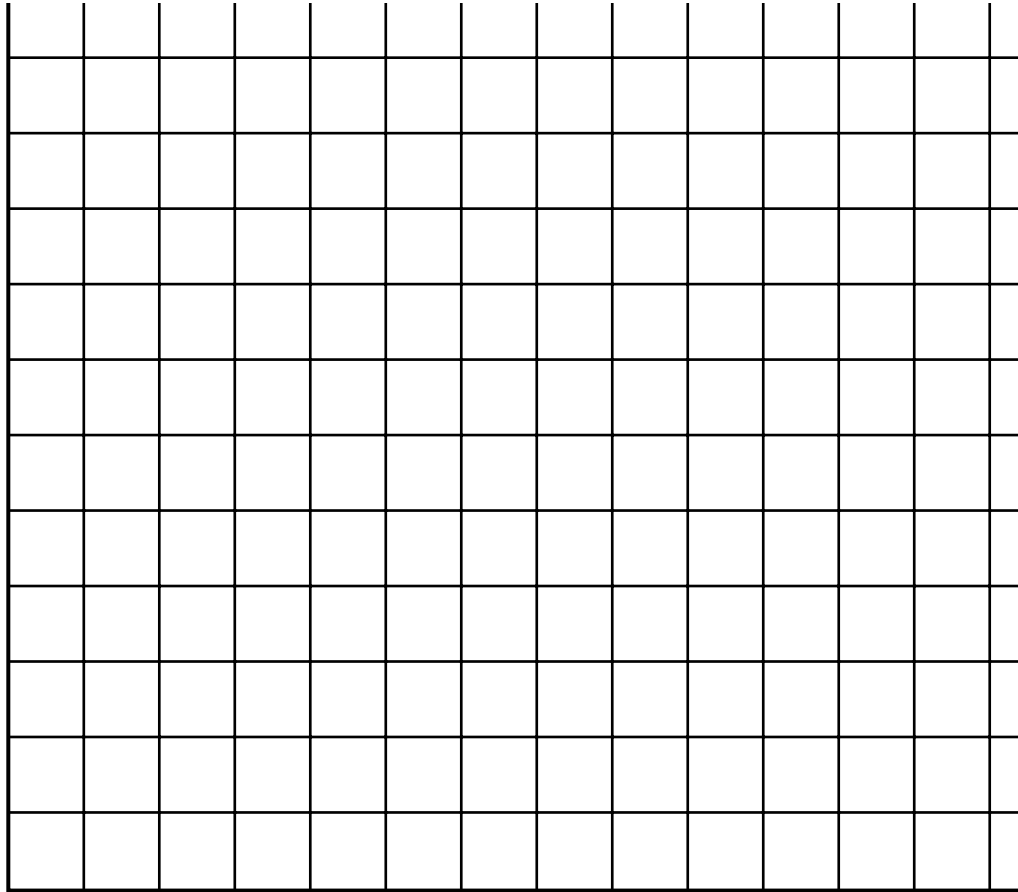
Same

Different

17. a. Here is data from eating an apple.

N of bites	M in grams
0	168
1	160
2	150
4	125

Draw in the curve.



b. What would be the mass of the apple after 9 bites? _____

c. How many bites would it take to eat the entire apple (core and all)?

18. What is the average mass of apple bitten off in one bite? _____

TIMS Challenge Question

19. Are the variables N and M proportional in these experiments?

Explain. _____
