Twizzlers Lab

How many bites does it take to eat one piece of licorice?

Bite Number	**Length of Licorice (cm)**
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

After you are finished with your piece of licorice (length of licorice = 0 cm), cross out the remaining lines of the table.

1. What is the independent variable?
(We will graph this on the x-axis.)

2. What is the dependent variable?
(We will graph this on the y-axis.)

3. What is the rate of change between bite 1 and bite 2?
Be sure to include units!

4. What is the rate of change between bite 3 and bite 4?
Be sure to include units!

5. Would you expect these to be the same? Why or why not?

6. Use your calculator to create a scatter plot.
Does the relationship appear to be linear? Why?

7. Does this relation appear to be a function? Why?

8. Is the relation increasing or decreasing?
How do you know?

9. Whether the relation appears to be linear or not, use your calculator to perform a linear regression of the form $y = a + bx$. Write the regression equation below.

10. The value of a represents the y-intercept of the regression equation. What is your a value? Be sure to include units!

11. What does the y-intercept tell you in this situation?

12. What would you expect the y-intercept of your graph to be? What variables could account for this difference in the expected y-intercept and the actual y-intercept of your regression equation?

13. The value of b represents the slope (or rate of change) of the regression equation. What is your b value? Be sure to include units!

14. Use the regression equation to predict the number of bites it would take you to eat 5 centimeters of licorice.

15. Use the regression equation to determine the amount of licorice you could eat in 7 bites.