

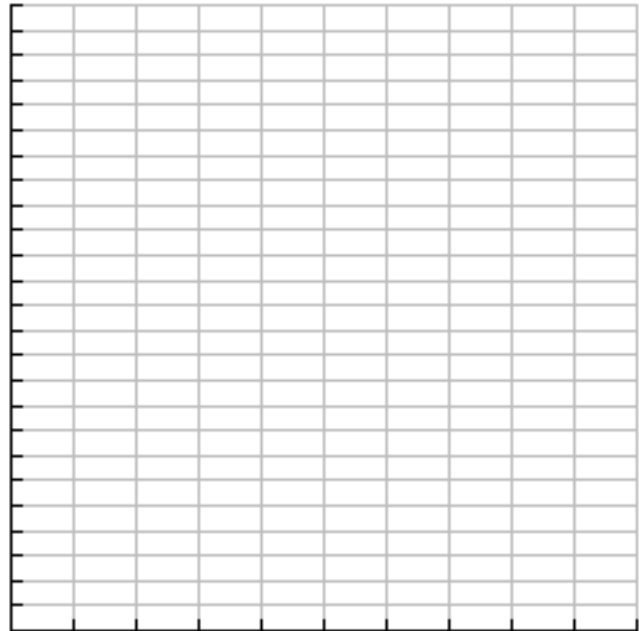
## Attack of the Buzz Bugs

### Reflect and Apply

A population of buzz bugs was discovered in your teacher's garage. When your teacher first noticed them, there existed 3 bugs in her garage. Your teacher watched them for a period of 6 days and tracked the population. The table below contains your teacher's findings.

1. Use the set of axes below to plot the ordered pairs. Make sure to label the axes and to set an appropriate scale.

Day	Population
0	3
1	6
2	12
3	24
4	48
5	96



2. Which of the variables is the independent variable?
3. Use your graphing calculator to determine a regression equation that best fits the data. What **type** of function best fits the data?
4. Write the equation you found for the data.

5. What is a reasonable domain for this situation?
  
6. What is a reasonable range for this situation?
  
7. What is the y-intercept of the graph? What does it mean in terms of the situation?
  
8. How many buzz bugs live in the garage after 15 days? Explain the process you used to find your answer.
  
9. After how many days are there 24,576 buzz bugs? Explain the process you used to find your answer.
  
10. What is the growth rate for the buzz bug population? How do you know?