PAP Algebra I Unit 9 - Exponential Functions

## Practice - Introduction to Exponential Functions

Name $\qquad$ Date $\qquad$ Period $\qquad$

1. Complete the table below based on the pattern.


Stage 1


Stage 2


Stage 3

| $x$ | $y$ |
| :---: | :---: |
| 0 |  |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

2. Shade in the graph based on your table.
3. Plot the ordered pairs from the table, connect with a smooth curve.
4. How many blocks would be needed for the $5^{\text {th }}$ stage?

Draw this on the graph.

5. If the equation $y=2 \cdot 2^{x}$ represents this function and 131,072 blocks were used, what would be the stage number?

6. Give an example of an exponential growth scenario. Explain why this models exponential growth.
8. Determine the domain and range of the function in this situation.

