

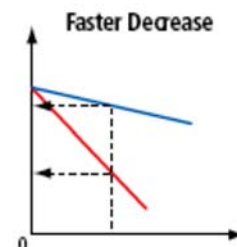
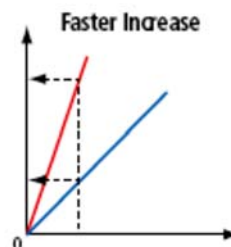
Unit 4: Linear Relations & Functions

4.1 Graphs of Relations

A graph is an effective way to show the relationship between two quantities. A constant rate of change is represented graphically by a _____ line.

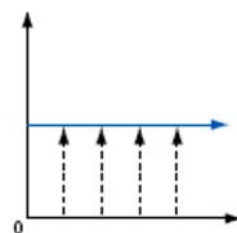
The steepness of the line indicates the rate at which one quantity is changing in relation to the other.

A steeper line indicates a _____ rate of vertical change on the red line than on the blue line. This change may indicate an increase or a decrease.

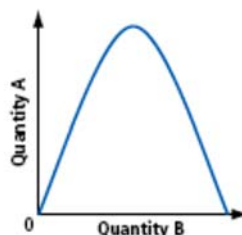
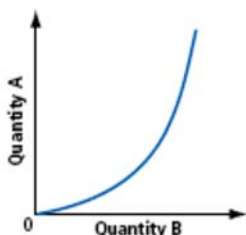


A horizontal line means that there is _____ rate of change.

Every value on the horizontal axis is related to the same value on the vertical axis.



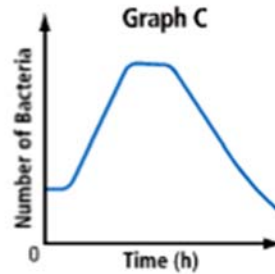
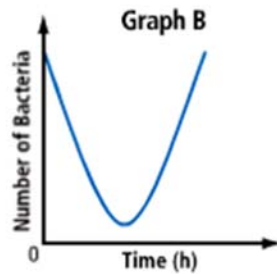
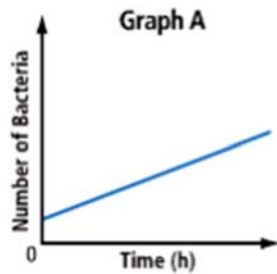
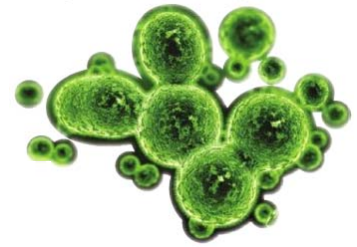
Not all relationships are represented by a straight line. A curve shows that the rate of change is not constant.



As quantity B increases, the increase in quantity A is gradual at first. It then becomes much greater.

As quantity B increases, the increase in quantity A slows until quantity A reaches a maximum value. Then, quantity A decreases.

Ex. Which graph best represents bacteria growth if the bacteria's food supply is limited? Explain your choice.



Ex. Josephine leaves her home and walks to the store. After buying a drink, she slowly jogs to her friend's house. Josephine visits with her friend for a while and then runs directly home. Using the distances shown, draw a distance-time graph that shows Josephine's distance from her house. Explain each section of your graph.

