# Answer on Question #55407, Physics / Mechanics | Kinematics | Dynamics

In an experiment to verify Newton's law of cooling, the temperature of hot water in a calorimeter  T °C is plotted against time t/min. Which of the following is true about the graph?

A. The graph is linear and parallel to the T-axis
B. The slope of the graph is positive
C. The slope of the graph is negative
D. The graph is hyperbola

**Solution:**

Newton's Law of Cooling states that the rate of temperature of the body is proportional to the difference between the temperature of the body and that of the surrounding medium. This statement leads to the classic equation of exponential decline over time.
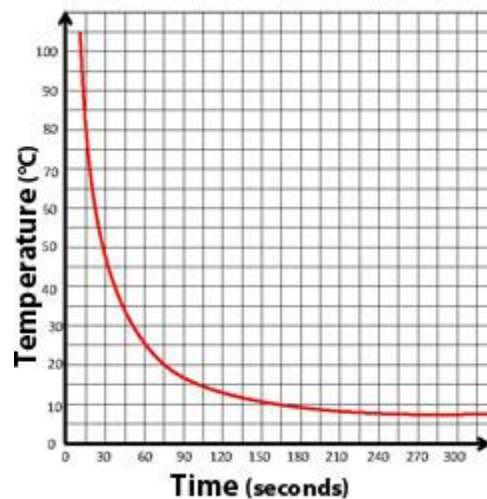


Example exponential curve graph. Notice the changing slope (steepness) of the line.

**Answer:  C. The slope of the graph is negative**