

# Merriam-webster online dictionary

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According to Merriam-Webster online dictionary: Gradient is the rate of regular or graded ascent or descent. Vertical change rise Gradient C] horizontal change run When given the graph, it is easier to apply " rise over run". School Of Engineering 11 Gradient of a Straight Line The gradient of the straight line in the figure is defined as: the vertical distance the line rises or falls between the two points P and Q the horizontal distance between P and Q The gradient of the sloping straight line in the figure is given as: day ND its value is denoted by the symbol  $m$  Velocity is the rate of change of displacement with time.

So a body moving with constant velocity travels equal distances in equal successive time intervals. Simple example: Velocity 12 As At time  $t$  distance traveled  $s = At$  Average velocity = time elapsed For constant velocity, the average velocity is the slope or gradient of the line. Displacement  $s$  13 14 Gradient of a Curve If the body is accelerating (decelerating): then the velocity at any particular instant (instantaneous velocity) is the gradient of the curve at that instant.