

**ACROSS**

1. Change in position; a vector quantity.
5. A quantity that has only magnitude.
7. A vector has both magnitude and \_\_\_\_\_  
"which way"
8. Ratio of change in position (displacement) to time interval over which the change takes place; a vector quantity.
10. If the position of an object is decreasing, the representation of its velocity on a position vs. time graph will have a \_\_\_\_\_ slope.
12. Nature's way of keeping everything from happening at once. Always plotted on the x-axis.
15. The \_\_\_\_\_ of a line on a position vs. time graph represents velocity.
17. \_\_\_\_\_ speed...what you read on your speedometer.
19. Prefix that means 1/1000.
23. \_\_\_\_\_ system: tells you the location of the zero point and the direction in which the values increase.
27. A straight line on a position vs. time graph represents a object that is moving at \_\_\_\_\_ velocity.
29. \_\_\_\_\_ velocity... total displacement divided by total time.
30. There are 100 \_\_\_\_\_ in one meter
31. Separation between an object and the origin.

**DOWN**

2. \_\_\_\_\_ model; simplified version of a motion diagram where object is replaced by a series of dots.
3. Prefix that means 1/1,000,000
4. Size or how much.
6. The sum of 2 or more vectors.
9. The point at which both variables in a coordinate system have the value zero.
11. The slope of the line on a position vs. time graph represents \_\_\_\_\_.
13. There are 1000 \_\_\_\_\_ in one kilometer (km)
14. \_\_\_\_\_ diagram: series of images showing the positions of a moving object at equal time intervals.
16. A \_\_\_\_\_ line on a position vs. time graph represents a object that is standing still.
18. \_\_\_\_\_ velocity means you're moving back toward the motion detector or origin.
20. the absolute value of the slope on a position-time graph.
21. a scalar quantity that describes how far an object is from the origin.
22. Prefix that means 1000.
24. The change in \_\_\_\_\_ of an object is known as its displacement.
25. \_\_\_\_\_ is the magnitude of velocity.
26. Science guy.
28. Quantity that has both magnitude and direction...such as displacement, velocity and acceleration.