

1. Speed C	A How far an object moves between two positions.	1. Slow speed B	A An object that travels a long distance quickly.
2. Distance Traveled A	B When an object covers equal amounts of time each second.	2. Fast speed A	B Can travel a long distance, but requires a lot of time.
3. Elapsed Time D	C The rate of how fast an object travels a particular distance.	3. Photogate C	C Uses a beam of light to start and stop a timer.
4. Δ E	D How many seconds it takes for an event to occur.	4. Directly Proportional D	D One quantity increases as another quantity increases.
5. Constant Speed B	E Delta: means "change of".	5. Indirectly Proportional E	A One quantity decreases as another quantity increases.

Will Speed Increase or Decrease?	Mark these as Speed, Distance, Time, or Other
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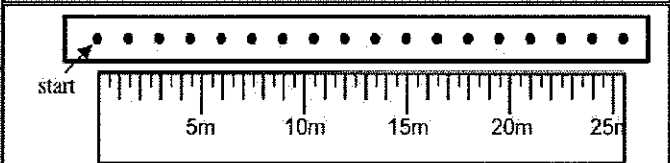
- D** Distance is constant and time increases.
- D** Time is constant and distance decreases.
- I** Time is constant and distance increases.
- I** Distance is constant and time decreases.

- | | | |
|------------------------------|------------------------|--------------------|
| S 5 mm/sec | S 20 meters/sec | S 15 ft/min |
| D 10 inches | D 228 meters | t 78 sec |
| O 50 m/s ² | t 8 minutes | O 6 Newtons |

True or false (and why): "A fast car goes farther." **False**
It just there is less time

Can a slow object travel as far as a fast object? **Yes**
Explain.
takes more time

Why do we have to use change of distance (ΔD) instead of just distance (D)?
object must move



- Is the above motion at constant speed? **Yes**
- Why or why not? *equal dist. dots*
- Each dot = 1 sec. How long did it take to go 15 m?
- Calculate the object's speed. $D = 15m$, $t = 10s$
 $S = d/t = \frac{15m}{10s} = 1.5m/s$
- How would the dots change if it were moving faster?
wider spacing

A bike moves 50 m in 10 seconds.
 Calculate the speed of the bike.

A car travels 200 miles in 4 hours.
 Calculate the car's speed.

Step 1: Variables:
 $S =$
 $\Delta D = 50m$
 $\Delta T = 10sec$

Step 2: Formula:
 $S = d/t$

Step 3: Plug in numbers and solve:
 $S = \frac{50m}{10sec}$

Step 4: Give answer with units:
 $S = 5m/s$

Step 1: Variables:
 $S =$
 $\Delta D = 200mi$
 $\Delta T = 4hr$

Step 2: Formula:
 $S = d/t$

Step 3: Plug in numbers and solve:
 $S = \frac{200mi}{4hr}$

Step 4: Give answer with units:
 $S = 50mi/hr$

A car travels 60 m/s for 10 secs.
 Calculate how far it traveled.

On holiday, a family travels from Meyerville (10 miles away) to Sprytown (70 miles away), in 3 hours. Find their speed.

Step 1: Given
 $S = 60m/s$
 $D = ?$
 $t = 10sec$

Step 2: Equation
 $S = d/t$

Step 3: Rearrange
 $d = S \cdot t$

Step 4: Calc.
 $d = 60m/s \cdot 10sec = 600m$

Step 1: Given
 S
 ΔD
 t

Step 2: Equ

Step 3: Rearrange
 $S = \frac{60mi}{3hrs}$

Step 4: _____
 $S = 20mi/hr$

