



All sections marked with a  are considered essential concepts and must be completed to receive full credit on WS.


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	E. One quantity decreases as another quantity increases.

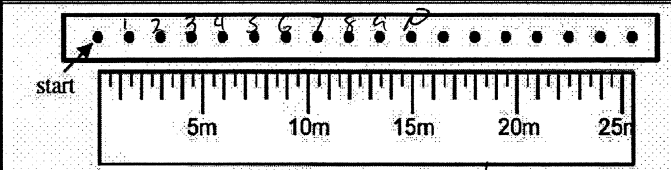
Will Speed Increase or Decrease? 

- D Distance is constant and time increases.
- D Time is constant and distance decreases.
- F Time is constant and distance increases.
- I Distance is constant and time decreases.


Mark these as Speed, Distance, Time, or Other 

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

True or false (and why): "A fast car goes farther." 
 Just takes longer to get there.
 Can a slow object travel as far as a fast object?
 Explain. Yes, it will just take longer.
 Why do we have to use change of distance (ΔD) instead of just distance (D)?
 Because the object must move



- Is the above motion at constant speed? Yes
- Why or why not? equal distance between dots
- Each dot = 1 sec. How long did it take to go 15 m? 10 sec
- Calculate the object's speed. $s = d/t$
 $s = \frac{15m}{10s}$ $s = 1.5 m/s$
- How would the dots change if it were moving faster?
Further apart from each other


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

Step 1: Variables:
 $S = \underline{\quad}$
 $\Delta D = 50m$
 $\Delta T = 10s$

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

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

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

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

Step 1: Variables:
 $S = \underline{\quad}$
 $\Delta D = 200mi$
 $\Delta T = 4hrs$

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

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

Step 4: Give answer with units:
 $S = 50 \frac{mi}{hr}$

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

Step 1: ~~Given~~
 $S = 60m/s$
 $d = \underline{\quad}$
 $t = 10s$
 Step 2: equation
 $S = d/t$

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

Step 4: Calculate
 $d = 60m/s \cdot 10s$
 $d = 600m$

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

Step 1: G
 $S = \underline{\quad}$
 $\Delta D = 70m - 10mi = 60mi$
 $t = 3hrs$

Step 2: E
 $S = d/t$

Step 3: R

Step 4: C
 $s = \frac{60mi}{3hrs}$ $S = 20 \frac{mi}{hr}$