

# Wk 22 Projectile Motion

name: \_\_\_\_\_

## 3. $V_x$ vs $V_y$

Open the Components of Projectile Motion simulation at [mrmont.com](http://mrmont.com)

	angle	total time	Dx range
down angle			
flat angle			
low angle			
medium angle			
high angle			
almost vertical			

What happens to the time as the angle gets higher and higher?

What happens to the range as the angle gets higher and higher (look closely!)

What is the purpose of the velocity in the y-direction ( $V_y$ )?

What is the purpose of the velocity in the x-direction ( $V_x$ )?

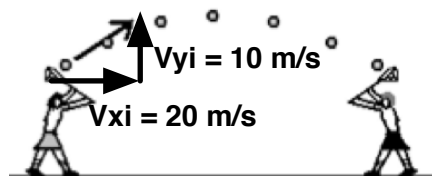
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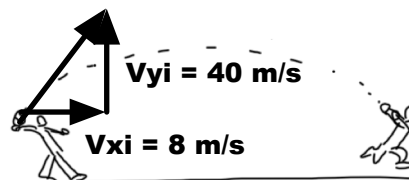
## 4. Find Time & Dx

$$Dx = (V_{xi})(t)$$

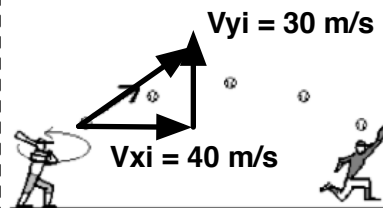
$$V_y = V_{yi} - 10t$$



- Find the time to get to the top.
- Find the time to go all the way.
- Find Dx (the range of the projectile).



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