

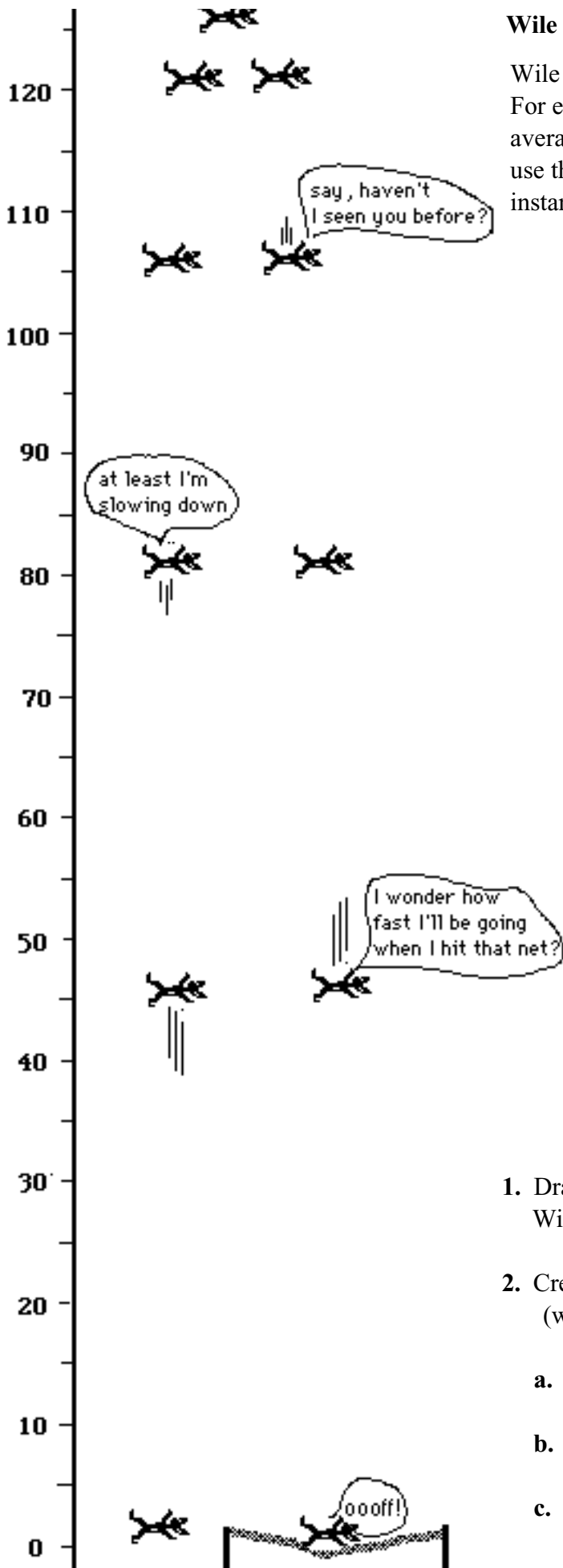
## Wile E. Coyote Shot from a Cannon on Earth

Wile E. is shot upward from a cannon with  $V_i = 50\text{m/s}$ . For each second, determine the displacement and the average velocity over the interval to that point. Then, use the derivation below to help you calculate the instantaneous velocity,  $V_f$ , at each second.

$$\bar{v} = \frac{v_i + v_f}{2}$$

$$2\bar{v} = v_i + v_f$$

$$2\bar{v} - v_i = v_f$$



T (s)	Y (m)	$\bar{v}$ (m/s)	$V_f$ (m/s)
0	0	xxxxx	50
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

1. Draw velocity and acceleration vectors on each picture of Wile E.
2. Create a Velocity vs. Time graph for Wile E's flight. (which velocity do you use? - Justify your answer.)
  - a. What is Wile E's velocity at 5 s?
  - b. What is his acceleration at 5 s?
  - c. From the graph, determine his displacement