Free Fall Concept Sheet

On the surface of the earth, the acceleration due to gravity is about 10 m/s^2. Ignoring air resistance, this means that all objects speed up (or slow down) at a constant rate of 10 m/s/s. On this sheet, you will calculate and draw the position of a falling object.

1. Calculate the speed of a falling object for each second of its fall for the first 6 seconds of its fall. Record your answers in the column marked "Speed." (Show your work below the chart.)
2. Calculate the total distance the object would have fallen for each second of its fall. Record the answers in the "Distance Fallen" column of the chart below. (Show your work below the chart.)
3. For each of the calculated values, place a circle next to the appropriate mark in the diagram. Label it with the appropriate time and speed. (The initial position is already done.)
4. Draw in arrows that could represent the velocity of the ball at each moment.

Time (s)	*Speed (m/s)*	*Distance Fallen (m)*
0	0	0
1		
2		
3		
4		
5		
6