



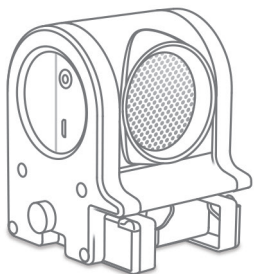
## **MatchGraph!**<sup>TM</sup>

graphing (position vs time) and (velocity vs time)

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### MATERIALS

PASCO Wireless Motion Sensor  
Data Collection System  
*MatchGraph!*



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### SAFETY

Follow all standard lab safety procedures.  
Clear all loose items off the floor to prevent tripping.

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### PROCEDURE


1. Open the *MatchGraph!* App.

Enter the names of those who will be doing the activity using the Add New User icon.   
Switch the names of the participants as you take turns matching the graphs.

2. Connect the motion sensor to the data collection system. Set the motion sensor on a table or chair so that the round screen is at the height of your waist. Adjust the height by placing books under the sensor.

3. Clear an area in front of the motion sensor so you can walk back and forth for three or four meters while facing the sensor's metal screen.

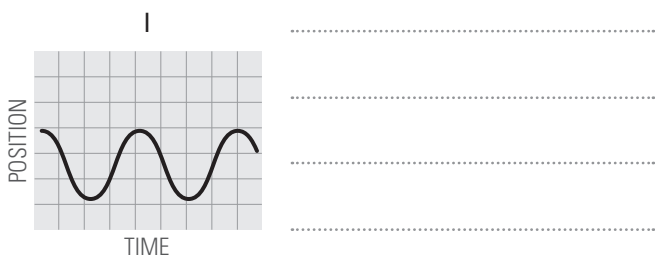
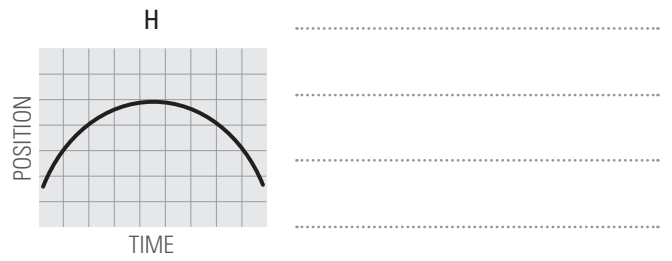
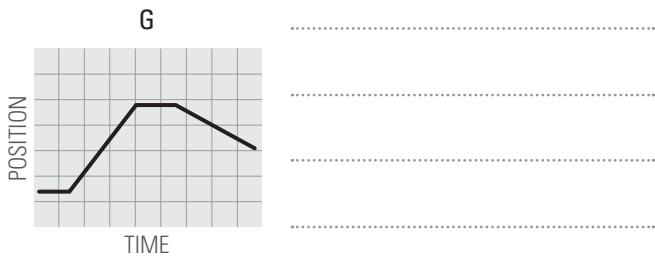
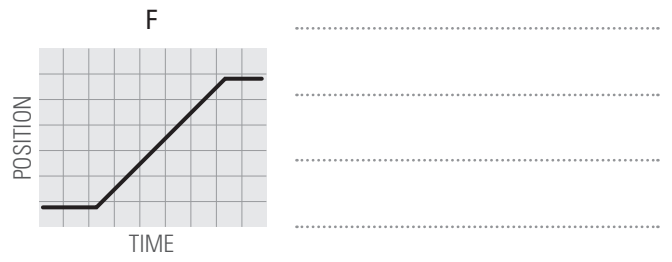
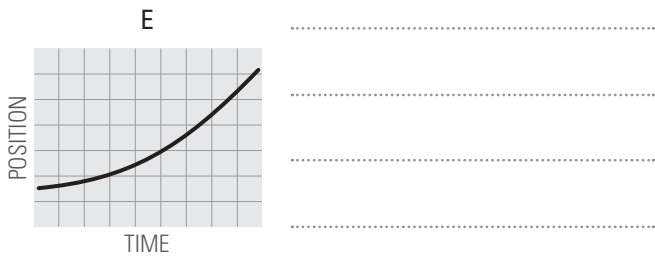
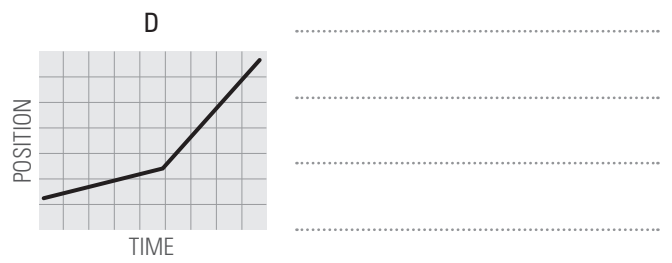
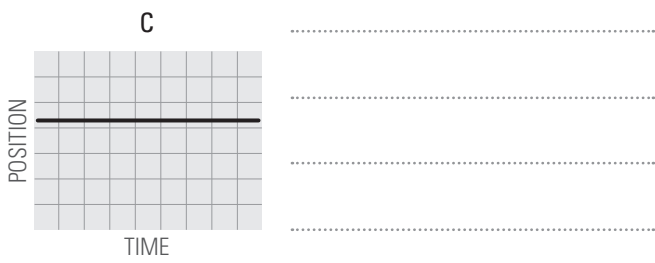
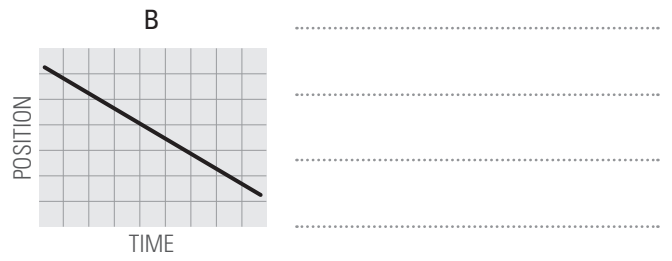
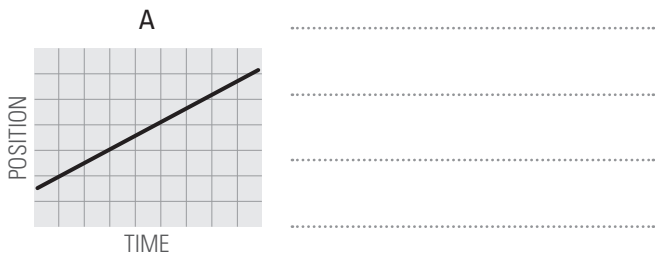
4. Set the motion sensor's range selection to the "person" icon. 

5. Begin the *MatchGraph!* activity by selecting the Start Sampling button. 

6. Change to different graph profiles using the Choose Curve Icon. 

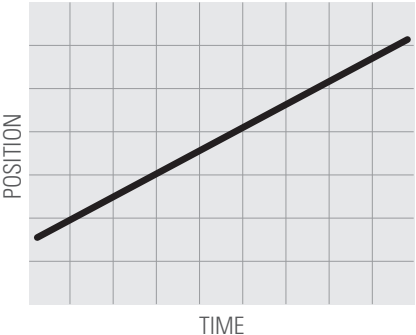
→ Explore the velocity profiles after you have become skilled at the position profiles.

Describe the motion you used to match the position vs time graphs, using words like:  
 distance / increases / decreases / constant / speed / speeding up / slowing down



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A



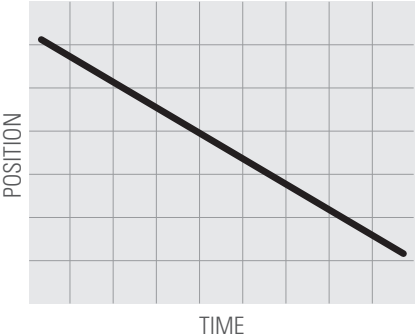
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B



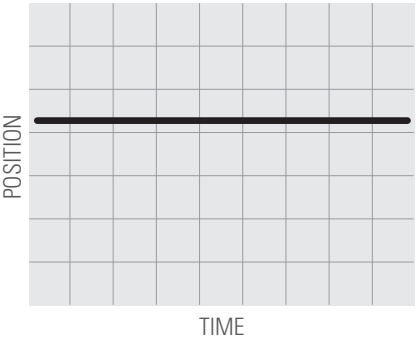
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C



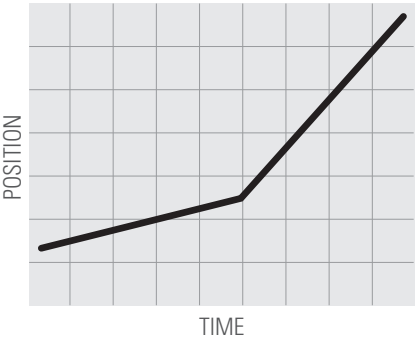
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D



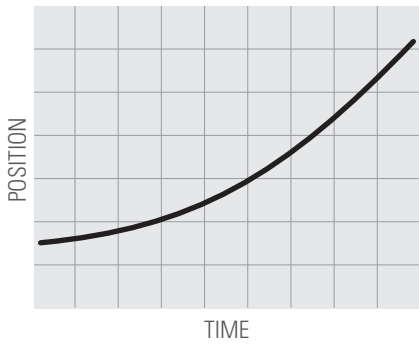
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E



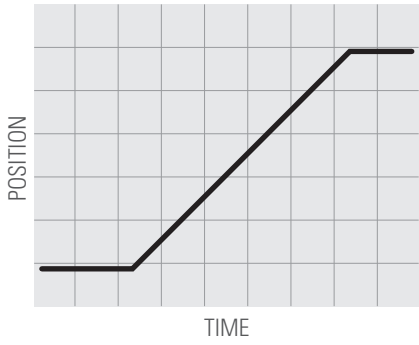
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F



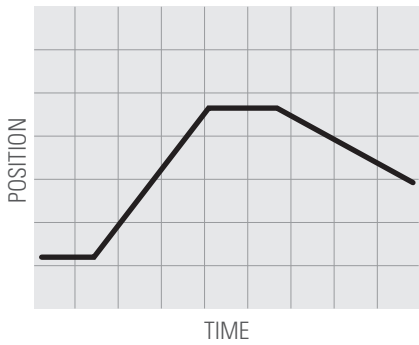
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G



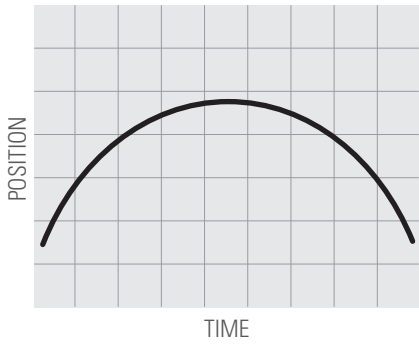
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H



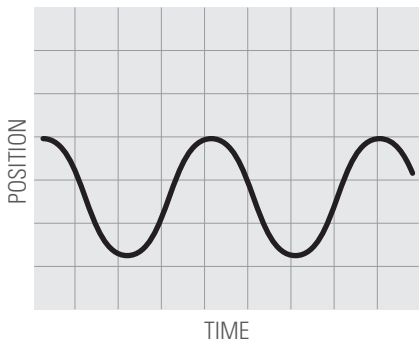
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I



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