					Total Trip Values:
Location	Distance	Time	Instantaneous	Average	Total Distance =
	(cm)	(seconds)	Speed	Speed (total D	l otal Displacement =
Point A $\rightarrow$ B		3 seconds		, total 0)	Total Time =
Point $B \rightarrow C$		<del>6 s</del>			
Point $C \rightarrow D$		<del>9s</del>			Average Speed =
Point D→ E		12s			
Point E→ F		15s			
Point F→ G		18s			
Point $G \rightarrow H$		21s			
Point H→ I		24s			
Point I→ J		27s			
Point J→ K		30s			
Location	Distance (cm)	Time (seconds)	Instantaneous Speed	Average Speed (total D	Total Trip Values:
	(0)	(00001110)	opeed	/ total s)	Total Distance =
Point A $\rightarrow$ B		3 seconds		,	Total Displacement =
Point $B \rightarrow C$		6 s			
Point $C \rightarrow D$		9s			Total Time =
Point $D \rightarrow E$		12s			
Point $E \rightarrow F$		15s			Average Speed =
Point $F \rightarrow G$		18s			
Point $G \rightarrow H$		21s			
Point H→ I		24s			
Point I $\rightarrow$ J		27s			
Point J→ K		30s			
Location	Distance (cm)	Time (seconds)	Instantaneous Speed	Average Speed (total D	
				/ total s)	
Point A $\rightarrow$ B		3 seconds			
Point $B \rightarrow C$		6 s			
Point C $\rightarrow$ D		9s			
Point $D \rightarrow E$		12s			Iotal Irip Values:
Point $E \rightarrow F$		15s			Total Distance -
Point $F \rightarrow G$		18s			
Point $G \rightarrow H$		21s			i otal Displacement =

Point H $\rightarrow$  I

Point I $\rightarrow$  J

Point J $\rightarrow$  K

24s

27s

30s

Total	Time =	•
Total	Time =	

Average Speed = \_\_\_\_\_

# Warm-up:

# Enter this week's schedule into your planner.

### **Acceleration Investigation**

#### Purpose:

To identify points of acceleration on a motion graph.

Skip a line here. . .

Investigation:

Acceleration is.... (3 ideas from table)

Skip a line or two.

#### Hypothesis:

If we speed up during the path, then our data will reflect acceleration changes.

Skip a line or two.

#### **Experimental Procedure:**

1. The runner will put a marker every 3 seconds on a path until we use up the 11 markers. There will also be one at the beginning of the path.

- 2. During the 30 second run, the runner will walk, jog, stop and run at least once each.
- 3.We will measure each distance between markers.
- 4.We will calculate instantaneous speed and average speed.
- 5. We will graph the motion of the path.

# <u>Results</u>:

Location	Distance (cm)	Time (seconds)	Instantaneous Speed	Average Speed (total D / total s)
Point A $\rightarrow$ B		3 seconds		
Point $B \rightarrow C$		6 s		
Point C $\rightarrow$ D		9s		
Point D→ E		12s		
Point E $\rightarrow$ F		15s		
Point F→ G		18s		
Point $G \rightarrow H$		21s		
Point H→ I		24s		
Point I $\rightarrow$ J		27s		
Point J→ K		30s		

Total Trip Values:

Total Distance =	Total Displacement =

Total Time = \_\_\_\_\_ Average Speed = \_\_\_\_\_

## 3 Graphs here:

a. Draw your pathway you ran.b.Distance (y) vs. time (x)c.Speed (y) vs. Time (x)

**<u>Conclusion</u>**: (answer questions then complete conclusion paragraph)

- 1.How did you know you were changing speeds?
- 2. At which points were you acceleration and how do you know?
- 3.If a bike rider goes from home to the park, up a hill, to the store and then home, where is it accelerating 3 points minimum).

**Conclusion paragraph:**