

Lesson Title	Walker lab w/Moving Man Sim
Standards (TEKS)	4A, 4B
Objective(s):	<ul style="list-style-type: none"> • Graph the position and time of a walker of three speeds. • Distinguish between distance and displacement. • Interpret and draw position and velocity graphs for situations.

AGENDA	KEY POINTS
<ol style="list-style-type: none"> 1. Walker Lab Intro 2. Walker Lab 3. Graphing 4. Conclusions 5. Moving Man Simulation 	<ul style="list-style-type: none"> -Displacement is a vector quantity that holds magnitude and direction. -Distance is a scalar quantity that has only magnitude. - Displacement of an object can be positive or negative depending on the direction of the motion.

Teacher notes – this lesson takes a minimum of 3 days. Days 1 – 2 are the hands-on Walker Lab and Day 3 is the PhET simulation.

Time	Type	Learning Activity	Materials
Day 1			
10		Students will receive their Walker Lab handout. Before collecting data teams will read the procedure as a group and assign roles.	Walker Lab
50		Purpose of the lab: In this lab, you will record the distance and time for several 5-meter intervals as a walker travels at a constant velocity on a football field. You will then plot graphs of distance vs. time for three walkers and interpret the meaning of the slope of the graph.	Meter stick Stop watch
Day 2			
20		Students will graph their data individually. This will serve as a grade. Criteria for Success: produce a position versus time graph of the slow walker. After completing your graph, compute the slope of the line. Remember that the slope should have units. On the same axes plot position vs time for the two other Walkers. Use a different symbol to draw the best fit line for each set of data.	Graph paper Rulers
20		Students will write a conclusion paragraph on the lab.	Lined paper (student provided)
10		Teacher will define distance, displacement and velocity using the students' experience in the lab to guide discussion.	
Day 3			

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10	Students will receive white boards and summarize their Walker Lab in one sentence with a partner. Students will share their one sentence summaries with another group.	White boards Markers
30	Students will receive the Moving Man PhET simulation sheet and laptops. They will work through several scenarios and draw graphs to represent the motion of the moving man on their paper.	

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Monday	Tuesday	Wednesday	Thursday	Friday
Modern	Modern Quiz Dimens Analysis	Walker Lab Distance, Displacement		Quiz Practice Prob

Day & Date:	Friday Sept. 13	Lesson Title: Motion Quiz 1
Standards	4A, 4B	
Objective(s):	<ul style="list-style-type: none"> Graph the position and time of a walker of three speeds. Distinguish between distance and displacement. 	
Assessment:	Post-lab Quiz	
Homework	Get progress report signed	

AGENDA	KEY POINTS
6. Unit 2 Wk 1 Quiz 7. Practice Problems	-Displacement is a vector quantity that holds magnitude and direction. -Distance is a scalar quantity that has only magnitude. - Displacement of an object can be positive or negative depending on the direction of the motion.

Time	Type	Learning Activity	Materials
20	ASM	Students will take a quiz which covers modern physics and their walker lab	Quiz
20	GP	Students will work practice problems on distance, displacement, average speed and velocity.	Practice problems.