



MOHAWK

Local School District

Preparing today's students for tomorrow's challenges

Mohawk Local Schools Physics - SCIENCE

Quarter 1 Curriculum Guide

Guiding Principles of the Scientific Inquiry/Learning Cycle:

Evaluate...Engage...Explore...Explain...Extend...Evaluate

- Identify ask valid and testable questions
- Research books, other resources to gather known information
- Plan and Investigate
- Use appropriate mathematics, technology tools to gather, interpret data.
- Organize, evaluate, interpret observations, measurements, other data
- Use evidence, scientific knowledge to develop explanations
- Communicate results with graphs charts, tables

Critical Areas of Focus Being Addressed:

- Motion
- Scientific Inquiry

Content Statements Addressed and Whether they are Knowledge, Reasoning, Performance Skill, or Product:
 (DOK1) (DOK2) (DOK3) (DOK4)

Underpinning Targets Corresponding with Standards and Whether they are Knowledge, Reasoning, Performance Skill, or Product: "I can.....", "Students Will Be Able To....."

Motion Graphs (DOK 2)

- Describe motions of an object in terms of positive and negative displacement and velocities. (R)
- Calculate the slope of a tangent line for some specific

	<p>instant on a position-time graph. (K)</p> <ul style="list-style-type: none"> • Interpret a position-time graph for an object moving at constant speed or standing still (R) • Make generalizations from position-time graphs about the motion of an object. (K) • Recognize that instantaneous velocity will be the same as average velocity for conditions of constant velocity (K) • Calculate average velocity from the initial velocity and the final velocity (K) • Calculate the slope of a tangent line on a velocity-time graph and identify the slope as the acceleration with correct units. (K) • Identify that a horizontal line on a velocity-time graph indicates constant speed (i.e. not accelerating), and that a diagonal line on a velocity-time graph indicates accelerated motion. (K) • Describe acceleration as positive for an object speeding up and as negative for an object slowing down on a velocity-time graph (K) • Recognize that the word “deceleration” should not be used to describe an object slowing down, and that the words “negative acceleration” should be used instead (K) • Find the area under the curve on a velocity-time graph and identify the area as the displacement. (K) • Objects moving with uniform acceleration will have a horizontal line on an acceleration-time graph. (K) • Find the area under the curve on an acceleration-time graph as the change in the object’s velocity (K)
Problem Solving (DOK 2)	<ul style="list-style-type: none"> • Solve complex problems for an object moving with uniform acceleration which includes problem describing objects in free fall (R)
Projectile Motion (DOK 2)	<ul style="list-style-type: none"> • Analyze the vertical and horizontal components of a

projectile's velocity as two vectors that are independent of each other (R)

- Solve problems involving the range, time, initial height, and velocity of a horizontally launched projectile (R)