



MOHAWK

Local School District

Preparing today's students for tomorrow's challenges

Mohawk Local Schools Physical Science - SCIENCE

Quarter 3 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:

- Matter
- 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....."

Classification of Matter (DOK 3)

- Categorize matter as either homogeneous or heterogeneous in nature. (K)
- Calculate the density of a substance using a formula and

	<p>a mass vs. volume graph. (R)</p> <ul style="list-style-type: none"> • Determine quantitatively the physical properties of a substance (including density, melting point, boiling point, viscosity, hardness, and solubility) (R) • Describe a substance qualitatively by odor, color, malleability, reactivity, & flammability. (R) • Use a particle model to describe the flow of energy as a substance heats or cools (R) • Graph the changes in phase for substances using given data. (R) • Conduct an investigation that focuses on the change from solid to liquid to gas state of a substance. (PS) • Interpret phase changes at the atomic level as change in the KE and strength of attraction between atoms. (PS) • Explain the difference between an endothermic reaction and exothermic reactions. (R)
<p>Atoms (DOK 2)</p>	<ul style="list-style-type: none"> • Understand that an atom consists of different particles with a measurable mass and specific electrical charge (neutron is 0). (K) • Recognize technology has allowed us to study the atom in greater detail over time. (K) • Explain the process scientists used to determine that atoms are mostly space. (R) • Explain that all atoms of an element have the same atomic number. (R) • Compare isotopes of an element by their protons, neutrons, and electrons. (R) • Identify an element, its mass and charge by its number of protons, neutrons, and electrons. (K) • Demonstrate that atoms may become ions by gaining or losing electrons (K) • Examine the spectra of several common atoms to determine that each element has a unique pattern of light emitted. (R)

Periodic Trends of Elements (DOK 2)

- Describe how elements are organized on the periodic table. (K)
- Describe distinguishing characteristics of halogens, alkali metals, alkaline earth metals, and noble gases. (K)
- Identify and describe metalloids. (K)
- Explain what is the same among all elements in a group. (R)
- Identify elements that belong in the same period. (K)
- Identify physical and chemical properties of elements based on their location on the periodic table. (K)