Unit 2- Matter

Content Area: **Science**
Course(s): **Chemistry CP**
Time Period: **October**
Length: **6 weeks**
Status: **Published**

Transfer Skills

Recognizing and identifying the identity of matter based on characteristics and properties. Students will learn about chemical and physical properties and changes; classify matter as solid, liquid, or gas; classify matter as element, compound, mixture; heterogeneous and homogeneous mixtures; and how to separate mixtures.

Enduring Understandings

Properties can be used to classify, identify, separate matter, and explain structure function.

Matter has characteristic properties that are related to the structure and function of the matter.

Essential Questions

How is matter classified?

What properties are used to describe matter?

How can matter change its form?

Content

filtration, distillation, precipitate, chemical change and physical change

Skills

Identify and describe physical properties like density.

Identify chemical properties.

Classify matter: solid, liquid, gas

State the Law of Conservation of Energy and Mass

Distinguish between mixtures, compounds, and pure elements.

Classify matter as homogeneous or heterogeneous.

List observations that suggest a chemical change has occurred.

Describe how to separate mixtures.

Resources

Standards

SCI.9-12.5.1.12.A	Students understand core concepts and principles of science and use measurement and observation tools to assist in categorizing, representing, and interpreting the natural and designed world.
SCI.9-12.5.1.12.A.1	Refine interrelationships among concepts and patterns of evidence found in different central scientific explanations.
SCI.9-12.5.1.12.A.2	Develop and use mathematical, physical, and computational tools to build evidence-based models and to pose theories.
SCI.9-12.5.1.12.A.3	Use scientific principles and theories to build and refine standards for data collection, posing controls, and presenting evidence.
SCI.9-12.5.1.12.A.a	Mathematical, physical, and computational tools are used to search for and explain core scientific concepts and principles.
SCI.9-12.5.1.12.A.b	Interpretation and manipulation of evidence-based models are used to build and critique arguments/explanations.
SCI.9-12.5.1.12.A.c	Revisions of predictions and explanations are based on systematic observations, accurate measurements, and structured data/evidence.
SCI.9-12.5.1.12.B	Students master the conceptual, mathematical, physical, and computational tools that need to be applied when constructing and evaluating claims.
SCI.9-12.5.1.12.B.1	Design investigations, collect evidence, analyze data, and evaluate evidence to determine measures of central tendencies, causal/correlational relationships, and anomalous data.
SCI.9-12.5.1.12.B.2	Build, refine, and represent evidence-based models using mathematical, physical, and computational tools.
SCI.9-12.5.1.12.B.3	Revise predictions and explanations using evidence, and connect explanations/arguments to established scientific knowledge, models, and theories.
SCI.9-12.5.1.12.B.4	Develop quality controls to examine data sets and to examine evidence as a means of generating and reviewing explanations.
SCI.9-12.5.1.12.B.b	Mathematical tools and technology are used to gather, analyze, and communicate results.
SCI.9-12.5.1.12.B.c	Empirical evidence is used to construct and defend arguments.
SCI.9-12.5.1.12.B.d	Scientific reasoning is used to evaluate and interpret data patterns and scientific

conclusions.

SCI.9-12.5.1.12.C	Scientific knowledge builds on itself over time.
SCI.9-12.5.1.12.C.1	Reflect on and revise understandings as new evidence emerges.
SCI.9-12.5.1.12.C.2	Use data representations and new models to revise predictions and explanations.
SCI.9-12.5.1.12.C.3	Consider alternative theories to interpret and evaluate evidence-based arguments.
TECH.8.1.12.A.1	Create a personal digital portfolio which reflects personal and academic interests, achievements, and career aspirations by using a variety of digital tools and resources.
TECH.8.1.12.C.1	Develop an innovative solution to a real world problem or issue in collaboration with peers and experts, and present ideas for feedback through social media or in an online community.