

Test Outline: What are some ways to describe matter?

(Topic 2.2, Science 8)

Concept 1: Matter can be described by its physical properties.

Concept 2: Matter can be described by its chemical properties.

Concept 3: Matter can be described based on physical and chemical changes.

Concept 4: Matter can be classified based on how it responds to physical and chemical changes.

LEARNING MAP CRITERIA:

Relevance	Extending	Proficient	Developing	Emerging
☑	Recognize that the law of conservation of mass only holds in an isolated system. Identify flaws in measurement or experimental technique that could lead to the apparent 'failure' of the law of conservation of mass.	Define and give examples of chemical and physical properties. Given a list of processes, determine whether they are examples of chemical or physical change. Justify decisions. Make predictions using the law of conservation of mass.	Differentiate between, and list examples of, qualitative and quantitative properties. Given a list of properties, determine whether they are chemical or physical in nature. Define physical change and chemical change. State the law of conservation of mass.	Describe an object or process with adjectives and basic descriptors.
☑	Propose creative techniques to separate mixtures based on the properties of the mixture components.	Define, differentiate between and identify compounds and elements. Differentiate between and identify homogenous and heterogenous mixtures.	Define, identify, and give examples of mixtures and pure substances.	
☑	Calculate the density, mass, or volume of an object when given two of the three values. Express answer with appropriate units. Differentiate conceptually between mass and density; identify instances where either might be useful.	Calculate the density of an object when given its mass and volume. Express answer with appropriate units.	Define mass, volume, and density. Identify masses, volumes, and densities based on their units. Determine the mass of an object using a scale. Determine the volume of a liquid or a solid using appropriate measurement techniques (including water displacement method). Make predictions about whether substances will sink or float, based on their densities.	Have an everyday understanding of mass, weight, and volume. Identify instances where these might be used.

VOCABULARY:

(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)

- Matter
- Physical property
 - o Qualitative physical property
 - Luster
 - Malleable
 - Texture
 - State of matter (solid, liquid, gas)
 - o Quantitative physical property
 - Melting point
 - Boiling point
 - Solubility
 - Hardness
 - Viscosity
 - o Density
 - o Mass
 - o Volume
- Chemical property
 - o Reactivity
 - o Combustibility
 - o Inert
- Physical change
 - o Change of state
- Chemical change
 - o Chemical reaction
 - o Reactants
 - o Products
 - o Law of conservation of mass
- Mixture
- Pure substance
 - o Element
 - o Compound

PRIMARY STUDY MATERIAL:

- Powerpoints:
 - o 2.2 Powerpoint
- Textbook topic 2.2 concept 1-3 (tb page 112-122)
- Practice:
 - o Notes:

- Mass, volume, density
- Physical properties of matter
- Chemical properties of matter
- Chemical change, physical change
- Solubility lab
- Density lab (available online)
- Density worksheet
- Physical and Chemical Change Lab
- Physical and Chemical Properties and Change Worksheet
- Workbook pg. 66-72, 74-77