

8 <sup>th</sup> Grade Science Unit 1: Structure & Properties of Matter (S8P1 & S8P2c&d) Proficiency Sheet		
S5E1. Obtain, evaluate, and communicate information about the structure and properties of matter.		
Lessons	Learning Target	Achievement Level Descriptors
<b>Elements, Compounds, &amp; Mixtures</b>	<b>S8P1.a</b> I can develop and use a model to compare and contrast pure substances (elements and compounds) and mixtures.	<b>Beginning:</b> I can identify pure substances and mixtures.
		<b>Developing:</b> I can compare and contrast models of pure substances (elements, compounds) and mixtures.
		<b>Proficient:</b> I can develop and use a model to compare and contrast pure substances (elements and compounds) and mixtures.
		<b>Distinguished:</b> I can justify models used to compare and contrast pure substances and mixtures.
<b>States of Matter Particle Movement</b>	<b>S8P1.b</b> I can develop and use models to describe the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.	<b>Beginning:</b> I can recognize the movement of particles in solids, liquids, gases, and plasma states.
		<b>Developing:</b> I can use provided models to describe the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.
		<b>Proficient:</b> I can develop and use models to describe the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.
		<b>Distinguished:</b> I can compare models that illustrate the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.

		<b>Beginning:</b> I can recognize a phase change when thermal energy is added or removed.
		<b>Developing:</b> I can compare and contrast chemical and physical properties of matter.
		<b>Proficient:</b> I can plan and carry out investigations to compare and contrast chemical (i.e., reactivity, combustibility) and physical (i.e., density, melting).
		<b>Distinguished:</b> I can refine investigations that compare and contrast chemical and physical properties of matter.
<b>Chemical &amp; Physical Properties of Matter</b>	<b>S8P1.c</b> I can plan and carry out investigations to compare and contrast chemical (i.e., reactivity, combustibility) and physical (i.e., density, melting point, boiling point) properties of matter.	<b>Beginning:</b> I can identify chemical and physical properties of matter.
		<b>Developing:</b> I can explain a given argument based on observational evidence that when a change in a substance occurs, it can be classified as either chemical or physical.
		<b>Proficient:</b> I can construct an argument based on observational evidence to support the claim that when a change in a substance occurs, it can be classified as either chemical or physical.
		<b>Distinguished:</b> I can evaluate arguments based on observational evidence to determine which best supports a claim that when a change in a substance occurs, it can be classified as either chemical or physical.
<b>Chemical &amp; Physical Changes of Matter</b>	<b>S8P1.d</b> I can construct an argument based on observational evidence to support the claim that when a change in a substance occurs, it can be classified as either chemical or physical.	<b>Beginning:</b> I can recognize that when a change in a substance occurs, it can be classified as either chemical or physical.
		<b>Developing:</b> I can explain a given argument based on observational evidence that when a change in a substance occurs, it can be classified as either chemical or physical.

		<b>Proficient:</b> I can construct an argument based on observational evidence to support the claim that when a change in a substance occurs, it can be classified as either chemical or physical.
		<b>Distinguished:</b> I can evaluate arguments based on observational evidence to determine which best supports a claim that when a change in a substance occurs, it can be classified as either chemical or physical.
<b>Atomic Structure</b>	<b>S8P1.e</b> I can develop models (e.g., atomic-level models, including drawings, and computer representations) by analyzing patterns within the periodic table that illustrate the structure, composition, and characteristics of atoms (protons, neutrons, and electrons) and simple molecules.	<b>Beginning:</b> I can identify patterns within the periodic table that illustrate the structure, composition, and characteristics of atoms and simple molecules.
		<b>Developing:</b> I can use provided models to identify and analyze patterns within the periodic table that illustrate the structure, composition, and characteristics of atoms and simple molecules.
		<b>Proficient:</b> I can develop models (e.g., atomic level models, including drawings, computer representations) by analyzing patterns within the periodic table that illustrate the structure, composition, and characteristics of atoms (protons, neutrons, and electrons) and simple molecules.
		<b>Distinguished:</b> I can evaluate models that represent patterns of the periodic table that illustrate the structure, composition, and characteristics of atoms and simple molecules.
<b>Law of Conservation of Matter</b>	<b>S8P1.f</b> I can construct an explanation based on evidence to describe conservation of matter in a chemical reaction including the resulting differences between products and reactants.	<b>Beginning:</b> I can recognize an example of the conservation of matter in a chemical reaction.

		<b>Developing:</b> From provided evidence, I can construct a limited explanation that describes the concept of the conservation of matter in a chemical reaction.
		<b>Proficient:</b> I can construct an explanation based on evidence to describe conservation of matter in a chemical reaction including the resulting differences between products and reactants.
		<b>Distinguished:</b> I can evaluate an explanation based on evidence to describe conservation of matter in a chemical reaction including the resulting differences between products and reactants.

**Vocabulary**

Element    Compound    Heterogeneous mixture    Homogeneous mixture    Solid    Liquid    Gas    Plasma  
 Thermal energy    Chemical property    Physical property    Reactivity    Combustibility    Solubility    Density    Boiling point  
 Melting point    Atom    Proton    Neutron    Electron    Law of Conservation of Matter    Products    Reactants

**Graph Your Grade**

