


Weekly Lesson Plan November 6 - 10					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Warm Up Days 1-5	Go over Review Worksheet and Crossword homework	Pass out test copies and answer sheets	Return Tests Go over tests	Get out station lab answer sheets
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Continue Tangstar Periodic Table Activity	Dmitri Mendeleev Article  Read article independently	Go over test directions	Introduce <b>Stations Elements, Compounds &amp; Mixtures Watch It</b> <a href="https://www.youtube.com/watch?v=FsscQFVGTml">https://www.youtube.com/watch?v=FsscQFVGTml</a> Answer Watch It Questions	Groups Work on the following stations Organize It Write It Assess It
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Identify the families and fill in notes for groups 1-18 Use Tangstar PowerPoint	,  Discuss and annotate notes  comprehension questions	Test over Periodic table	Groups Lab Stations <b>Read It</b> Steel Production <b>Research It</b> ChromeBooks Table <a href="http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/compounds_mixtures/activity/">http://www.bbc.co.uk/bitesize/ks3/science/chemical_material_behaviour/compounds_mixtures/activity/</a>	Groups Work on the following stations Organize It Write It Assess It  Go over answer sheets
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	Pass out and explain homework Due Tuesday	Review Game		<b>Illustrate It</b>	Collect station answer sheets
	Extended Time 5 <sup>th</sup> Period	Element Wanted Poster Research and Create			
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News Elements Wanted Poster	CNN Student News Elements Wanted Poster	CNN Student News Elements Wanted Poster	CNN Student News Present Elements Wanted Poster in Class	CNN Student News Group Activity

Weekly Lesson Plan October 30- November 3					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Rotation Stations Group Activity Organize It	Interactive Science Notebook Templates Cut out	Warm Up	Warm Up	Warm Up  Place Expanded Periodic table into ISN
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Group Activity Write It Assess It	PowerPoint Metals, Non-Metals & Metalloids Notes in templates for ISN	Guided Practice Students follow teacher directions to create a large foldout periodic table	Finish yesterday's activity	Notebook Read Dmitri Mendeleev Article/ Discuss and answer comprehension questions
<b>Work Period (EXPLORE/EXPLAIN/ EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Notes: Student Discussion Whole Class	Summary of Notes Place into ISN Notebooks	Identify the families and fill in notes for groups 1-18 Use Tangstar PowerPoint	Finish yesterday's activity  Check Homework	Students work independently on The Periodic Table Review Worksheet And Crossword Puzzle
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	Essential Questions *What are metals, nonmetals and metalloids? *How are physical properties used to compare metals, nonmetals, and metalloids?	Mystery Element  Explain *Homework 5E worksheet And Crossword Due Thursday	Quick Qs  Announce upcoming test over the periodic table groups and periods	Check Homework  Announce upcoming test over the periodic table groups and periods	Summary of information on Dmitri Mendeleev  Announce upcoming test over the periodic table groups and periods
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News Discuss and write summary of news stories	CNN Student News IXL Math	CNN Student News IXL Math	CNN Student News IXL Math	CNN Student News Group Activity

Weekly Lesson Plan October 23-27					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Review the periodic table	Finish any stations from last week	Warm Up: Atoms Count as quiz grade.	Rotation Stations Organize It	Turn In Homework
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	SUB PLANS	Check and discuss answers for stations	Stations Metals, Nonmetals & Metalloids	Write It Assess It	Finish placing ISN pieces into the ISN.
<b>Work Period (EXPLORE/EXPLAIN/ EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Students will work in a review booklet for atoms, and elements on the periodic table	ISN: Groups and Periods	Watch It: Whole Class Group Rotations Stations: Read It, Explore It, Illustrate It, Explore It Use Chrome Books	Cornell Notes: Student discussion/Whole Class PowerPoint	5E worksheet Fill in.
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	Sub will collect Packets	Essential Questions *How do valence electrons determine an atom's chemical properties, including reactivity. *How are elements classified on the periodic table?	Pass Out homework and explain assignment Due Friday Pass Out Packets Students finish for homework Due Friday	Summary of Notes	Essential Questions *What are metals, nonmetals and metalloids? *How are physical properties used to compare metals, nonmetals, and metalloids?
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News Comprehension Article and response	CNN Student News IXL Math	CNN Student News Letter Writing to soldier	CNN Student News Edit and Final copy of Letter to soldier	CNN Student News Group Activity

Weekly Lesson Plan October 16-20					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Warm up Subatomic Particles	Continue Stations from Monday.	Review Subatomic Particles and energy shells	The Truly Periodic Table Video to be used with first Station Watch It	Continue Stations from Thursday.
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Go over procedures for the 8 Atoms Stations/ Two days		Building Atoms  Students collect all materials needed to create atom models	Go over procedures for the 8 Periodic Table Stations/ Two days	
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Students do station rotation activities in the <b>Station Labs Atoms</b>  Use Promethian Board for Research It Station  Phet interactive website to build atoms		Create the first 10 atoms on the periodic table using M&Ms or Skittles for the protons and neutrons and use chocolate chips for electrons.  Use PPT	Students do station rotation activities in the <b>Station Labs Periodic Table</b>  Use Chromebooks for Research It	
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	How do you know what the neutron count is if you know the atomic mass and the atomic number?	What are valence electrons?	Atoms Family Worksheet  Start and finish for homework	Essential Question:  How are elements arranged on the periodic table?	Turn in Atoms Family Worksheet
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News	CNN Student News	CNN Student News	CNN Student News Food Delicious Science/ Food chemically explained	CNN Student News

**Weekly Lesson Plan October 16-20**

**Simons Science Gifted 8<sup>th</sup> Grade**





	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Warm up Subatomic Particles	Continue Stations from Monday.	Review Subatomic Particles and energy shells	The Truly Periodic Table Video to be used with first Station Watch It	Continue Stations from Thursday.
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Go over procedures for the 8 Atoms Stations/ Two days		Building Atoms Students collect all materials needed to create atom models	Go over procedures for the 8 Periodic Table Stations/ Two days	
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Students do station rotation activities in the <b>Station Labs Atoms</b>  Use Promethian Board for Research It Station  Phet interactive website to build atoms		Create the first 10 atoms on the periodic table using M&Ms or Skittles for the protons and neutrons and use chocolate chips for electrons.  Use PPT	Students do station rotation activities in the <b>Station Labs Periodic Table</b>  Use Chromebooks for Research It	
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	How do you know what the neutron count is if you know the atomic mass and the atomic number?	What are valence electrons?	Atoms Family Worksheet  Start and finish for homework	Essential Question:  How are elements arranged on the periodic table?	Turn in Atoms Family Worksheet

**Weekly Lesson Plan ELT**

ELT	CNN Student News	CNN Student News	CNN Student News	CNN Student News Food Delicious Science/ Food chemically explained	CNN Student News
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**Weekly Lesson Plan October 9-13**

**Simons Science Gifted 8<sup>th</sup> Grade**

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)		Glue in Chemistry and information sheet into ISNB		Cut out foldable for subatomic parts of atoms	Quick Quiz Atom subatomic parts
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)		Big Question What are the parts of an atom's nucleus?		Review definition for subatomic parts of an atom Kesler Powerpoint	What is the difference between the atomic number and the atomic mass?
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)		Atomic Structure Elements Atoms Cornel Notes		Students use information about protons, neutrons and electrons to create an Atom pyramid	Masses of Atoms Kesler Powerpoint Notes and APE MAN ISNB template
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)		Bohr Models For electrons		Secure pyramid into ISNB	Quick practice using template to determine Mass of atoms
<b>Weekly Lesson Plan ELT</b>					
<b>ELT</b>		CNN Student News for Mon and Tues. Discuss current events		CNN Student News for Wed, and Thurs Discuss current events	Group Interactive Activity

**Weekly Lesson Plan October 2-6**

**Simons Science Gifted 8<sup>th</sup> Grade**

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Go over questions that go with illustrations of solids, liquids and gases	Catch up day	Introduction to Chemistry Part 2 of Unit 1		
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Finish Tests  Test: Part One of Unit 1 for matter	Students catch up on any missing parts of their ISNB for Part 1 of Unit 1	Students Work on chemistry worksheet		
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)					
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)					

**Weekly Lesson Plan ELT**


<b>ELT</b>	CNN Student News	Review Science Kahoot	Review Science Kahoot	Tues, Wed, and Thurs CNN Student News	Group Interactive Activity
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Weekly Lesson Plan August 14-18					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b>  (sponge; bell-ringer; journal; allows attendance to be taken)	Warm Up/ Bell-ringer	<b>Go over MONSTER MUCK Science Lab Sheet</b>	Glue the Lab Sheets from Monster Muck into their Interactive Science Notebooks	MAP TESTING	Students start to read three articles about matter from Science News For Kids
<b>Opening (ENGAGE):</b>  (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	<b>Opening Details:</b> Formative Assessment Probe: <b>Matter or Not?</b>	<b>Go over MONSTER MUCK Science Lab Sheet</b>	<b>Demo Can Crusher</b>  <i>to demonstrate evaporation, condensation, and kinetic energy with the changes in temperature</i>	MAP TESTING	explain the assignment for the day
<b>Work Period</b>  <b>(EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b>  (contains the mini lesson; allows students to practice concept; assess student learning)	Demos Burning Candle, Marshmallow Plunge, Sour Milk, Rusting Steel, Vinegar and Baking soda	<b>MONSTER MUCK Science Lab Investigation DATA AND OBSERVATIONS TABLE</b>	determine what states of matter are involved, what the phase change is called and determine how the temperature had to change to get effects of phase change	MAP TESTING	<b>: Students will read and discuss three articles pertaining to Matter with their table mates and how the information relates to them.</b>
<b>Closing (EVALUATE):</b>  (summarizes lesson; ensures understanding; clarifies misconceptions)	<b>O.W.L Chart</b>	<b>Class discussion and clean up</b>	<b>Moving from State to State</b> handout	MAP TESTING	Students will demonstrate knowledge of real world science
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News	CNN Student News	CNN Student News	CNN Student News	CNN Student News



**Weekly Lesson Plan September 25-29**

**Simons Science Gifted 8<sup>th</sup> Grade**

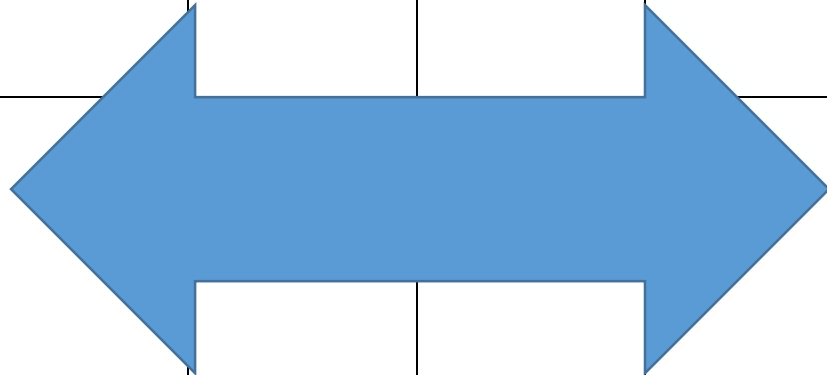
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Matter Seek and Find	Preview task card answer sheet	Turn in homework	Pass out tests and seat students for testing	Return Tests
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	Teacher Demos to represent  Pascal's Principle  Boyle's Law  Charles' Law	Group students and explain task card assignment	Preview Matter Escape Room Student Sheet   Explain Escape Room procedures	Test: Part One of Unit 1 for matter  	Discuss tests  Go over anything that students want to discuss
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	Students write an explanation for each demo as well as draw an illustration representing the demos on the student recording sheet.	Task Card Activity  For Matter	Students work on Chrome Books to access the Matter Escape Room		Get ISN ready for the teacher to grade.
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)	Discuss results of the demo observations	Pass out homework  Due Wednesday	Discuss activity results		Turn in ISN
<b>Weekly Lesson Plan ELT</b>					
<b>ELT</b>	CNN Student News  Cool Math	Review Science Kahoot	Review Science Kahoot	Tues, Wed, and Thurs CNN Student News	Group Interactive Activity

**Weekly Lesson Plan September 11-15**

**Simons Science Gifted 8<sup>th</sup> Grade**

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)					Finish Changes In States of Matter Notes  PPT-Colon
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)					PPT-Kesler Phase Change Diagram
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)					Fill in Phase Change Diagram  Phase Change Chart Example/ Illustration  ISNB PG 23
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)					out Flipable Booklet  ISNB PG 23
<b>Weekly Lesson Plan ELT</b>					
<b>ELT</b>	CNN Student News  Media Center  Sputnik Prezi	CNN Student News  Media Center  Sputnik Prezi	CNN Student News  Media Center  Sputnik Prezi	CNN Student News  Show  Sputnik Prezi	Student group interactive activity

No School Hurricane  
Irma



Weekly Lesson Plan September 4-8					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b> (sponge; bell-ringer; journal; allows attendance to be taken)	Labor Day	Warm up: Why is the grass wet in the morning when it didn't rain the night before?	Fernbank In School Fieldtrip		Go over Morsels for a Monster Inquiry Lab Packet
<b>Opening (ENGAGE):</b> (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	School Holiday	*PPT Solids, Liquids and Gases	Fernbank In School Fieldtrip	*Bullying PPT	Discuss the procedure of the Morsels for a Monster Inquiry Lab Part 1
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b> (contains the mini lesson; allows students to practice concept; assess student learning)	No School	*Changes in states of matter/ Cornell Notes  ISNB PG 21	Fernbank In School Fieldtrip	Solids, Liquids & Gases Flipable ISNB PG 22	Morsels for a Monster Inquiry Lab Part 2 and 3  While snacking on Monster Morsels
<b>Closing (EVALUATE):</b> (summarizes lesson; ensures understanding; clarifies misconceptions)		What changes occur in particle motion, temp. and state of a pure substance when thermal energy is added or removed?	Fernbank In School Fieldtrip	Turn in to teacher to be finished on Monday	Clean Up
Weekly Lesson Plan ELT					
<b>ELT</b>		CNN Student News Discuss October Sky	CNN Student News Fernbank In School Fieldtrip	CNN Student News	CNN Student News

Weekly Lesson Plan August 21-25					
Simons Science Gifted 8 <sup>th</sup> Grade					
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
<b>Pre-Instructional Activity:</b>  (sponge; bell-ringer; journal; allows attendance to be taken)	<b>Eclipse Lesson</b>	Composition of Matter video clip	Homework	Set up ISNB activity Mixture Mart	Read the direction for the day's activity
<b>Opening (ENGAGE):</b>  (introduces the lesson; summarizes previous lesson; clarifies misconceptions)	<b>Eclipse Lesson</b>	Power Point/ Notes Composition of Matter	Set up graphic organizer. Use pictures from homework assignment	Students categorize items into either solutions, colloids or suspensions  Quick Quiz Types of Mixtures	Discuss what a page in a newspaper looks like. Show an example of the front page of a real newspaper
<b>Work Period (EXPLORE/EXPLAIN/EXTEND/ELABORATE):</b>  (contains the mini lesson; allows students to practice concept; assess student learning)	<b>Eclipse Lesson</b>	Describe Substance: element and compound, Mixture: heterogeneous and homogeneous	<i>Work Period</i> Quick Quiz Composition of Matter  Types of Matter: Solution, Colloid, Suspension Power Point and Cornell Notes	Describing Matter Power Point/ Cornell Notes	Write three headline stories and create one comic strip for physical and chemical changes. Two of each type of change. Use the Newspaper Template.
<b>Closing (EVALUATE):</b>  (summarizes lesson; ensures understanding; clarifies misconceptions)	<b>Eclipse Lesson</b>	Assign Homework 2 pictures each of mixture, compound, homogeneous and heterogeneous to use in graphic organizer tomorrow.	Summarize Cornell Notes by answering the question: How can you determine which type of mixture something is?	Cornell notes summary	Students will share their articles with one other student in class. Partners. Teacher will collect and use as a daily class grade. Looking ahead.....MONDAY: Describing Matter Quick Quiz
Weekly Lesson Plan ELT					
<b>ELT</b>	CNN Student News	CNN Student News	CNN Student News	CNN Student News	CNN Student News

Peachtree Charter Middle School		
Weekly Components		
<b>Teacher:</b>	Tina Simons	<b>Week of:</b>
<b>Course:</b>	40.2170011G	<b>Unit Name:</b> Unit 1 Structure and Properties of Matter
<b>Priority Standards:</b> (content specific)	<p>S8P1. OBTAIN, EVALUATE, and COMMUNICATE information about the structure and properties of matter.</p> <p>a. DEVELOP and USE a model to COMPARE and CONTRAST pure substances (elements and compounds) and mixtures. (Clarification statement: Include heterogeneous and homogeneous mixtures. Types of bonds and compounds will be addressed in high school physical science.)</p> <p>b. DEVELOP and USE models to DESCRIBE the movement of particles in solids, liquids, gases, and plasma states when thermal energy is added or removed.</p> <p>c. 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.</p> <p>d. 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. (Clarification statement: Evidence could include ability to separate mixtures, development of a gas, formation of a precipitate, change in energy, color, and/or form.)</p> <p>e. DEVELOP models (e.g., atomic-level models, including drawings, and computer representations) by ANALYZE patterns within the periodic table that illustrate the structure, composition, and characteristics of atoms (protons, neutrons, and electrons) and simple molecules.</p>	
<b>Supporting Standards:</b> (content specific)	<p><i>Standard: S8P1</i></p> <p><i>f. Construct an explanation based on evidence to describe conservation of matter in a chemical reaction including the resulting differences between products and reactants. (Clarification statement: Evidence could include models such as balanced chemical equations.)</i></p> <p><i>S8P2. Obtain, evaluate, and communicate information about the law of conservation of energy to develop arguments that energy can transform from one form to another within a system.</i></p>	

	<p><i>d. Plan and carry out investigations on the effects of heat transfer on molecular motion as it relates to the collision of atoms (conduction), through space (radiation), or in currents in a liquid or a gas (convection).</i></p> <p><i>Crosscutting Concepts:</i></p> <ul style="list-style-type: none"> <li>• <i>Cause and Effect</i></li> <li>• <i>Energy and Matter</i></li> <li>• <i>Structure and Change</i></li> <li>• <i>Patterns</i></li> <li>• <i>Scale, Proportion, and Quantity</i></li> </ul>
<p><b>Non-Content Standards:</b></p> <p>(WIDA; interdisciplinary standards, literacy, etc.)</p>	
<p><b>Learning Targets:</b></p> <p>(what learners will be able to do at the end of the learning activity)</p>	<p>*Explain what changes will occur in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</p> <p>*Observe and describe physical and chemical changes as well as state of matter changes and record the findings on lab sheets</p>
<p><b>Essential Question(s):</b></p> <p>(address philosophical foundations; contain multiple answers; provoke inquiry)</p>	<ol style="list-style-type: none"> <li>1. What's the difference between substances and mixtures? How do particles combine into new substances? What evidence can show how the physical and chemical properties of the substances change?"</li> <li>2. How can one explain the structure, properties, and interactions of matter?</li> <li>3. How do substances/particles combine or change (react) to make new substances? How does one characterize and explain these reactions and make predictions about them?</li> <li>4. What makes objects attract or repel each other?</li> </ol>
<p><b>Big Ideas(s):</b></p> <p>(address philosophical foundations; contain multiple answers; provoke inquiry)</p>	<ol style="list-style-type: none"> <li>1. Mixtures can be separated by physical means whereas substances cannot. Students develop their own procedures to separate a mixture and then carry out their plan using lab tools of their choice!</li> <li>2. The properties of matter can influence a structure and its function.</li> <li>3. Energy has a direct relation to the cause and effect of the properties and structure of matter.</li> <li>4. There is an attraction between positive protons and negative electrons that hold an atom together.</li> </ol>

<b>Academic Vocabulary:</b>	<p>S8P1.a</p> <ul style="list-style-type: none"> <li>• Element</li> <li>• Compound</li> <li>• Mixtures</li> <li>• Solute</li> <li>• Solvent</li> <li>• Solution</li> <li>• Homogeneous mixtures</li> <li>• Heterogeneous Mixtures</li> <li>• Pure substance</li> </ul> <p>Supplemental:</p> <ul style="list-style-type: none"> <li>• Bonds</li> </ul>	<p>S8P1.b</p> <ul style="list-style-type: none"> <li>• Solids</li> <li>• Gases</li> <li>• Plasma</li> </ul> <p>S8P1.c</p> <ul style="list-style-type: none"> <li>• Density</li> <li>• Reactivity</li> <li>• Melting point</li> <li>• Freezing point</li> <li>• Combustibility</li> <li>• Chemical properties</li> <li>• Physical properties</li> </ul>
	<p>S8P1.c</p> <p>Supplemental</p> <ul style="list-style-type: none"> <li>• Odor</li> <li>• Volume</li> <li>• Size</li> <li>• Mass</li> <li>• Color</li> <li>• Luster</li> <li>• Hard</li> <li>• Volume</li> <li>• Condensing</li> <li>• Conductivity</li> <li>• Composition</li> <li>• Chemical reaction</li> <li>• Precipitate</li> </ul>	<p>Examples of Physical Change</p> <ul style="list-style-type: none"> <li>• Breaking</li> <li>• Bending</li> <li>• Cutting</li> <li>• Freezing</li> <li>• Condensing</li> <li>• Evaporating</li> </ul> <p>Examples of Chemical Change</p> <ul style="list-style-type: none"> <li>• Burning</li> <li>• Rusting</li> <li>• Fermenting</li> <li>• Color change</li> <li>• Respiration</li> <li>• Liquids • Digestion</li> <li>• Photosynthesis</li> <li>• Decomposition</li> </ul>

		<ul style="list-style-type: none"> <li>• Energy change</li> <li>• Emission of light</li> </ul>
	<p>S8P1.d</p> <ul style="list-style-type: none"> <li>• Matter</li> <li>• Element</li> <li>• Molecule</li> <li>• Law of conservation of matter</li> </ul> <p>Supplemental:</p> <ul style="list-style-type: none"> <li>• Protons</li> <li>• Product</li> <li>• Electrons</li> <li>• Neutrons</li> <li>• Reactant</li> <li>• Reaction</li> <li>• Energy level</li> <li>• Closed system</li> </ul>	<p>S8P1.e</p> <ul style="list-style-type: none"> <li>• Element</li> <li>• Periodic table of elements</li> <li>• Atoms</li> <li>• Neutrons</li> <li>• Protons</li> <li>• Electrons</li> <li>• Molecules</li> <li>• Patterns in the periodic table</li> <li>• Atomic levels</li> <li>• Bohr's Models</li> <li>• Lewis Dot Electrons</li> <li>• Supplemental</li> <li>• Metals</li> <li>• Non-metals• Metalloids</li> <li>• Atomic mass</li> <li>• Atomic number</li> <li>• Periods/Rows</li> <li>• Groups/Families Columns</li> <li>• Chemical symbol</li> </ul>



<p><b>STEM/STEAM/ Interdisciplinary Integration:</b></p>	<p>Develop</p> <p>Identify an Argument</p> <p>Explain</p> <p>Illustrate</p>	<p>Model</p> <p>Plan</p> <p>Evidence</p>	<p>Compare</p> <p>Carry out</p> <p>Draw</p>	<p>Contrast</p> <p>Construct</p> <p>Sketch</p>
<p><b>Engaging Performance Scenario:</b></p>	<p>Science and Engineering Practices in the NGSS</p> <ol style="list-style-type: none"> <li>1. Asking questions (for science) and defining problems (for engineering)</li> <li>2. Developing and using models</li> <li>3. Planning and carrying out investigations</li> <li>4. Analyzing and interpreting data</li> <li>5. Using mathematics and computational thinking</li> <li>6. Constructing explanations (for science) and designing solutions (for engineering)</li> <li>7. Engaging in argument from evidence</li> <li>8. Obtaining, evaluating, and communicating information</li> </ol> <p>Crosscutting Concepts in the NGSS</p> <ul style="list-style-type: none"> <li>• Patterns: observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.</li> <li>• Cause and Effect: Mechanism and Prediction: Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering</li> <li>• Scale, Proportion, and Quantity: In considering phenomena, it is critical to recognize what is relevant at different size, time and energy scales, and to recognize proportional relationships between different quantities as scales change.</li> <li>• Systems and System Models: A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.</li> <li>• Energy and Matter: Flows, Cycles, and Conservation: Tracking energy and matter flows, into, out of, and within systems helps one understand their system’s behavior.</li> <li>• Structure and Function: The way an object is shaped or structured determines many of its properties and functions.</li> <li>• Stability and Change: For both designed and natural systems, conditions that affect stability and factors that control rates of change are critical elements to consider and understand.</li> </ul>			

