

Science: Y3, 8th grade

Unit Title, MYP Year, Duration,	Key Concept	Related Concept(s)	Global Context	Statement of inquiry	MYP Subject Group Objectives	ATL Skills	Content (topics, knowledge, skills)
Law of Conservation of Mass	Change	Interaction transformation	Scientific and technical innovation	Change in matter is dependent on interactions between and transformation of elements and contribute to scientific and technical innovation.	<p>Criterion A: Knowing and Understanding</p> <p>ii. Apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations.</p> <p>iii. Analyze information to make scientifically supported judgements.</p> <p>Criterion B:</p> <p>i. Describe a problem or question to be tested by a scientific investigation.</p> <p>ii. Outline and explain a testable hypothesis using correct scientific reasoning.</p> <p>Criterion C:</p> <p>i. Correctly collect, organize and present data in numerical and/or visual forms</p> <p>ii. Accurately interpret data and describe results using correct scientific investigation.</p> <p>iii. Discuss the validity of the hypothesis based on the outcome of a scientific investigation.</p>	<p><u>Communication</u></p> <p>In order for students to apply scientific knowledge and understanding to solve problems, students must use a variety of media to communicate with a range of audiences.</p> <p>Self-management skills:</p> <p><u>Organization</u></p> <p>In order for students to apply scientific knowledge and understanding to solve problems, students must bring necessary equipment and supplies to class.</p>	<p>During these hands on activities, students will:</p> <p>Atoms Family PowerPoint and Activity</p> <p>-learn how atoms bond to form molecules</p> <p>-learn about electron shells and valence</p> <p>-learn to draw structural formulas</p> <p>-learn the rules of bonding</p> <p>- build 3D molecular models</p> <p>-Journal Activity: Ultimate Element Study Guide</p> <p>Molecules Matter Investigate some characteristics of water. Begin to explain, on the molecular level, why water acts the way it does.</p> <p>Gummy Molecules</p> <p>-Construct several molecular models.</p> <p>Molecules to the Max!</p> <p>-Character of Elements</p> <p>-Periodic Table</p>

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Newton's Laws of Motion	Change	Energy Transformation	Identities and relationships	Change in energy and transformation have an impact on the relationship between people and the forces of the earth.	<p>Criterion A: Knowing and Understanding i. Describe scientific knowledge ii. Apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations.</p> <p>Criterion B: ii. Outline and explain a testable hypothesis using correct scientific reasoning.</p>	<p><u>Thinking:</u> Creative Thinking In order for students to describe the ways in which science is applied and used to address a specific problem or issue, students must apply existing knowledge to generate new ideas, products or processes.</p> <p>Self-management skills: <u>Affective Skills</u> In order for students to apply scientific knowledge and understanding to solve problems, students must</p>	<p>-Newton meets Buzz and Woody -Barbie Bungee Jump -Newton's Laws Task Cards -Inquiry Wheel: Alka-Seltzer -Chemistry of Alka-Seltzer -Completion of Alka-Seltzer Rockets Lab</p>

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						practice "bouncing back" after adversity, mistakes and failures.	
Native Americans and U.S. Government: Oppression and Resistance (Interdisciplinary Unit w/ Individuals and Societies)	Change	Environments Consequences	Scientific and Technical Innovation What are the consequences of our common humanity? Students will explore rights and responsibility; the relationship between communities; sharing finite resources with other people and other living things; access to equal opportunities; peace and conflict resolution.	Conflicts within nations bring about changes that often benefit those with the most social or political power.	A. Knowing and understanding i. describe scientific knowledge ii. apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations iii. interpret information to make scientifically supported judgements. D. Reflecting on the impacts of science iii. apply scientific language to communicate understanding iv. Document sources correctly	ATL Skills: Thinking: Transfer In order for students to apply scientific knowledge and understanding of atomic molecular functions to solve problems, students must combine knowledge, understanding and skills to create products or solutions. Self-management skills: Organization In order for students to apply scientific knowledge and understanding to solve problems, students must keep an organized and logical system of information files/notebooks.	Intro to American Indian experience: The fight over the Dakota Access Pipeline Displacement and Relocation: The Long Walk
Nuclear Energy	Change	Interaction transformation	Scientific and Technical Innovation	Change in matter is dependent on interactions or transformation of elements and contribute to scientific and technical innovation.	Criterion A: Knowing and Understanding i. Describe scientific knowledge ii. Apply scientific knowledge and understanding to solve problems set in familiar and unfamiliar situations. iii. Analyze information to make scientifically supported judgements.	Critical Thinking: Analyzing and evaluating issues and ideas Communication: Exchanging thoughts, messages and information	Students will present a google slide show to their class that explains where they choose to place the nuclear waste that is currently being housed in

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					<p>Criterion D: Reflecting on the Impact of Science</p> <p>i. describe the ways in which science is applied and used to address a specific problem or issue</p> <p>ii. discuss and analyze the implications of using science and its application to solve a specific problem or issue, interacting with a factor</p> <p>iii. consistently apply scientific language to communicate understanding clearly and precisely</p> <p>iv. document sources completely.</p>	<p>effectively through interaction. Reading, writing and using language to gather and communicate information.</p> <p>In order for students to reflect on the impact of science, students must analyze and evaluate issues and ideas.</p> <p>In order for students to reflect on the impacts of science, students must exchange thoughts, messages and information effectively through interaction</p>	<p>nuclear facilities.</p> <p>GRASP Task.</p> <p>The presentations will be followed with the activity, philosophical chairs where students get to discuss the statement: It is unfair to dump our nuclear waste in other communities.</p>
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