

Semester 1 of 1					
Unit Number: Title and Duration	Purpose	Priority Grade-Level Standards	Content Goals	Learner Outcomes	Resources and Materials
Unit 1: Structure & Properties of Matter 5 Weeks	To determine: <ul style="list-style-type: none"> <li>• What is matter and how does it change?</li> </ul>	MS PS1-1Develop models to describe the atomic composition of simple molecules and extended structures.  MS PS1-3Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	The student will:	The student will be able to:	Kessler Science 5E Lessons: <ul style="list-style-type: none"> <li>• Atoms</li> <li>• Elements/Compounds</li> <li>• Kessler Science:</li> <li>• Synthetic Materials Inquiry Lab</li> </ul>
Unit 2: Chemical Reactions 2 Weeks	To determine: <ul style="list-style-type: none"> <li>• What happens when new materials are formed?</li> <li>• What stays the same and what has changed?</li> </ul>	MS PS1-2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.  MS-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or	The student will:	The student will be able to do:	Kessler Science 5E Lessons: <ul style="list-style-type: none"> <li>• Physical &amp; Chemical Changes</li> </ul>

		absorbs thermal energy by chemical processes.			
Unit 3: Forces & Interactions 4 Weeks	To determine: <ul style="list-style-type: none"> <li>How can one describe physical interactions between objects and within systems of objects?</li> </ul>	MS-PS2-1. Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding.  MS-PS2-2. Plan an investigation to provide evidence that the change in an object's motion depends on the sum.	The student will:	The student will be able to do:	Kessler Science 5E Lessons: <ul style="list-style-type: none"> <li>Balanced, Unbalanced, &amp; Net Forces</li> <li>Newton's Laws</li> </ul>
Unit 4: Energy 3 Weeks	To determine: <ul style="list-style-type: none"> <li>How can energy be transferred from one object or system to another?</li> </ul>	MS-PS3-1. Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.  MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes.  MS-PS3-3. Apply scientific principles to	The student will:	The student will be able to do:	Kessler Science 5E Lessons: <ul style="list-style-type: none"> <li>Potential/Kinetic Energy</li> <li>Kessler Science: Potential Energy Inquiry Lab</li> <li>Energy Transformations</li> <li>Conduction, Convection, Radiation</li> </ul>

		design, construct, and test a device that either minimizes or maximizes thermal energy transfer.			
<b>End of Semester 1</b>					