GRADE 5– Unit 1: Matter & Its Interactions

Mission Statement
The primary goal of the Swedesboro-Woolwich School District is to prepare each student with the real life skills needed to compete in a highly competitive global economy. This will be achieved by providing a comprehensive curriculum, the integration of technology, and the professional services of a competent and dedicated faculty, administration, and support staff. Guiding this mission will be Federal mandates, including No Child Left Behind, the New Jersey Core Curriculum Content Standards, and local initiatives addressing the individual needs of our students as determined by the Board of Education. The diverse resources of the school district, which includes a caring PTO and active adult community, contribute to a quality school system. They serve an integral role in supporting positive learning experiences that motivate, challenge and inspire children to learn.

Unit/Module Overview
In this unit, students investigate the properties of matter by dissolving everyday chemicals to make solutions and by exploring simple yet surprising chemical reactions. Through these investigations, students begin to build conceptual models for the particulate nature of matter.

Standards Covered in Current Unit/Module
Related Standards and Learning Goals **5-PS1-1**: Develop a model to describe that matter is made of particles too small to be seen. **5-PS1-2**: Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

5-PS1-3: Make observations and measurements to identify materials based on their properties.

5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

3-5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

I can demonstrate an understanding of the Scientific Method & Engineering Design Process.

I can measure and graph quantities to provide evidence that regardless of the type of change, the total weight of matter is conserved.

I can develop a model to describe that matter is made of particles too small to be seen.

I can make observations and measurements to identify materials based on their properties.

I can conduct an investigation to determine whether the mixing of two or more substances results in new substances.

Unit/Module Weekly Learning Activities and Pacing Guide			
Topic & # Days	**NJ Standards**	**Critical Knowledge & Skills**	**Possible Resources & Activities**
Week 1: Science and Engineering Practice Slideshow	**3-5 ETS 1-2.6.1, 3-5 ETS1-2, and ETS1.B.2**	**Obj. We are learning to**: ● Students will demonstrate an understanding of the Scientific Method & Engineering Design Process. **Suggested Formative Assessment(s)**:	**Curriculum**: Mystery Science 1. Use the Promethean to display Google Slides to review the Scientific Method & Engineering Design Process https://docs.google.com/presentation/d/1rOT

		• Mystery Science Assessment for each lesson	KmO7Jf18Pp_Gl_xhrCtizodLggj8pk4ylLtsqTwo/edit?usp=sharing 2. Review and discuss the slides together as a class. **Material**: Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits) generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361 https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975 Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico

			Readworks article: Talk about Dense Better Lessons Online Plans & Activities
Week 2: Lesson 1: Are Magic Potions real?	5-PS1-1 5-PS1-2	**Obj. We are learning to**: ● I can measure and graph quantities to provide evidence that regardless of the type of change, the total weight of matter is conserved. **Suggested Formative Assessment(s)**: ● Mystery Science Assessment for each lesson	**Curriculum**: Mystery Science **Day 1**: Introduction Video & Discussion **Day 2**: Lab & Lab Paper **Day 3 & 4**: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson **Day 5**: Test **Material**: **Test**: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing **Key**: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits) generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361

			https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975 Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico Readworks article: Talk about Dense Better Lessons Online Plans & Activities
Weeks 3: Lesson 2: Could you transform something worthless into gold?	5-PS1-1 5-PS1-2	**Obj. We are learning to**: ● I can develop a model to describe that matter is made of particles too small to be seen. **Suggested Formative Assessment(s)**: ● Mystery Science Assessment for each lesson	**Curriculum**: Mystery Science **Day 1**: Introduction Video & Discussion **Day 2**: Lab & Lab Paper **Day 3 & 4**: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson **Day 5:** **Test:** https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing **Key**: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing **Material**: Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits)

			generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361 https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975 Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico Readworks article: Talk about Dense Better Lessons Online Plans & Activities
<u>Week 4:</u> Lesson 3: What would happen if you drank a glass of	5-PS1-3	**Obj. We are learning to**: ● I can make observations and measurements to identify materials based on their properties. **Suggested Formative Assessment(s)**: ● Mystery Science Assessment for each lesson	**<u>Curriculum</u>**: Mystery Science **<u>Day 1</u>: Introduction Video & Discussion** **<u>Day 2</u>: Lab & Lab Paper** **<u>Day 3 & 4</u>: End of Video, Discussion & Teacher pay teacher worksheet to go along with lesson** **<u>Day 5</u>: Test**

acid?			**Materials:** **Test:** https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing **Key:** https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits) generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361 https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975

			Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico Readworks article: Talk about Dense Better Lessons Online Plans & Activities
Week 5 & 6: Lesson 4: What do fireworks, rubber and Silly Putty have in common?	5-PS1-4	**Obj. We are learning to**: ● I can conduct an investigation to determine whether the mixing of two or more substances results in new substances. **Suggested Formative Assessment(s)**: ● Mystery Science Assessment for each lesson	**Curriculum**: Mystery Science **Day 1**: Play the first three slides (2 videos & a discussion) **Day 2**: Lab Day Slides 4 (Stop at Step 11 of 17 which is testing all substances, writing it down & clean up) **Day 3**: Mystery Goo (Slides 12 through 17.) **Day 4**: Property of Matter Worksheet: https://drive.google.com/drive/u/0/my-drive **Day 5**: Physical and Chemical Change: Video: https://www.youtube.com/watch?v=x49BtB5dOwg Physical and Chemical Cut and Paste **Day 6**: Lab #4 Assessment **Day 7**: Genius Generation: Properties of Matter **Day 8**: Genius Generation Quiz **Day 9**: TPT Worksheet **Day 10**: Atoms Family Packet **Material**: **Day 6 Test**: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing **Key**: https://docs.google.com/presentation/d/1nT7

			uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits) generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361 https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975 Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico Readworks article: Talk about Dense Better Lessons Online Plans & Activities

Week 7 & 8: Lesson 5: Why do some things explode?	5-PS-1-1	**Obj. We are learning to**: ● I can develop a model to describe that matter is made of particles too small to be seen. **Suggested Formative Assessment(s)**: ● Mystery Science Assessment for each lesson	**Curriculum**: Mystery Science **Day 1**: Solid, Liquid and Gas Discussion & worksheet about how the particles look **Day 2**: Mystery Science Intro **Day 3**: Lab Day 1 **Day 4**: Lab Day 2 **Day 5**: Discussion of the results **Day 6**: Review of the gas particle https://www.youtube.com/watch?v=wclY8F-UoTE TPT worksheet **Day 7**: Assessment **Material**: Mystery Science Lab Sheets & Assessments Readworks readings Student Readers (English & Spanish Carolina Science Kits) generationgenius.com Atom's Family Packet (Google Drive) Periodic Table of Elements chrome-extension://bpmcpldpdmajfigpchkicefoigmkfalc/views/app.html (powerpoint) http://sciencespot.net/Media/atomsfam.pdf (worksheets) Teachers Pay Teachers: Supplemental Mystery Science papers https://www.teacherspayteachers.com/Product/Molecule-Learning-Stations-Intro-to-Modeling-Molecules-with-QR-code-fun-850361 https://www.teacherspayteachers.com/Product/NGSS-Matter-and-Its-Interactions-Bundle-241935 (Separating Mixtures Lab, Oil Spills Lab, Apples and Oranges Lab, Talk about Dense

			Lab,) https://www.teacherspayteachers.com/Product/NGSS-Aligned-Chemical-Reactions-Lab-5-PS1-4-and-MS-PS1-2-2314975 Lego Atom Building Activity: http://periodictable.com/; https://ed.ted.com/lessons/the-genius-of-mendeleev-s-periodic-table-lou-serico Readworks article: Talk about Dense Better Lessons Online Plans & Activities
Week 9: Review & Unit Test	**PS1-1** **PS1-2** **PS1-3** **PS1-4**	**Obj. We are learning to**: ● I can develop a model to describe that matter is made of particles too small to be seen. ● I can conduct an investigation to determine whether the mixing of two or more substances results in new substances. ● I can make observations and measurements to identify materials based on their properties. ● I can measure and graph quantities to provide evidence that regardless of the type of change, the total weight of matter is conserved. **Suggested Formative Assessment(s)**: ● Mystery Science Unit Assessment	**Curriculum**: Mystery Science **Review concepts**: **Genius Generation Videos**: 1. Conservation of Matter 5-PS1-2 2. Particle Nature of Matter 5-PS1-1 3. Properties of Matter 5-PS1-3 4. Properties of Matter: Chemical vs. Physical 5-PS1-4 **Material**: **Unit Test Test**: https://docs.google.com/presentation/d/1tVNVK-R8qL7AsqhJ2CZWhc01UmieuJ4w3oaJsG5rdrw/edit?usp=sharing **Key**: https://docs.google.com/presentation/d/1nT7uBgD0uEfOuLy1v3U4V3PRLv91gDurYRPdynaUmws/edit?usp=sharing

Link to Additional Components including Cross Curricular Connections, Accommodations, Assessments, Etc

ELA Enduring Understanding Statements