Madison Public Schools
STEM Grade 4 Curriculum

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Reviewed by:
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Madison Public Schools
359 Woodland Road
Madison, NJ 07940
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Course Overview

Description

The goal of STEAM is to integrate science, technology, engineering, art, and math. This cross-curricular unit is designed to build on what students have learned or will learn in their science curriculum, math, language arts, and technology. Students are given a series of tasks to complete throughout the unit and then culminates with a final project.

Goals

This course aims to:

- Develop engineering and design principles
- Develop research skills and analyze information
- Develop critical thinking skills to solve real world problems
- Make observations and collection data
- Develop the appropriate use of technology
- Present information to an audience
- Support the Fourth grade science, math, and language arts curriculum

Resources

NJ Technology Standards https://www.state.nj.us/education/cccs/2014/tech/8.pdf
NGSS http://ngss.nsta.org/AccessStandardsByTopic.aspx
Madison 4th grade Curriculum

Modifications and Adaptations for Special Needs Learners
(Gifted and Talented Students, English Language Learners, Special Education Students, At-Risk Students)

Unit 1 Overview

Unit Title: Circuitry and Sound

Unit Summary:
In this unit, students will develop an understanding of basic circuitry and wave motion.

Suggested Pacing: 18 lessons

Learning Targets

Unit Essential Questions:

- What are the parts of a circuit?
- How do transverse waves travel?
- How do compression waves travel?

Unit Enduring Understandings:

- All energy travels in waves.
- Circuits have four basic parts.

Evidence of Learning

Unit Benchmark Assessment Information: There are a variety of ways students will demonstrate their learning: research, discussions, performance tasks, design challenges and reflections.

Objectives (Students will be able to...)	Essential Content/Skills	Suggested Assessments	Standards	Pacing
Demonstrate an understanding of the engineering design process.	Explain and model the various steps of the engineering design process. Use simple quick build projects to demonstrate the engineering design process.	Students will create an engineering company Students will create a logo and a mission statement for their company. They will record their project in Google Docs.	**ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.	Week 1-3

			8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	
Demonstrate an understanding of basic circuitry.	Explain/model the construction of a basic circuit. Students will design and construct a series of circuits out of the materials.	Using Google slides, have students document the construction of the circuits.	**Science** **4-PS3-2.** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using	Week 4-6

			diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data **Career Ready Practices** CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence. CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	
Demonstrate an understanding of energy waves.	Explain and demonstrate how energy travels in both compression	Have students include photos and video of the waves in their	**Science** **4-PS3-2.** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	Week 7-8

	and transverse waves. Students will demonstrate both types of waves using a slinky.	Google Slides presentation.	**ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data	

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Design, engineer, and construct a wave machine	Explain and model a wave machine. Provide students with a variety of materials to construct a working wave machine. https://www.flinnsci.com/api/library/Download/302eb8450d264a99b0e72b14bcff9994	Students will work in groups to design and build their wave machine. Students will use the engineering design process to build a wave machine that demonstrate how transverse waves travel. Have students take photos/videos their working wave machine to add their Google Slides presentation.	**Science** **4-PS3-2.** Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. **4-PS3-3.** Ask questions and predict outcomes about the changes in energy that occur when objects collide **4-PS3-4.** Apply scientific ideas to design, test, and refine a device that converts energy from one form to another **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2)	Week 9-11

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Design, engineer and construct a electrical musical instrument.	Demonstrate the use of a Makey Makey. Provide students with a Makey Makey and variety of materials to construct a working musical instrument.	Students will work in groups to design an electronic musical instrument. Students will use the engineering design process to build a working musical instrument.	**Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data **Career Ready Practices** CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills.	Week 12-17

			CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	
Final presentation	Present Google Slides	Students will present their final Google Slide presentation summarizing Unit One..	**Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data **Career Ready Practices** CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	Week 18

Unit 2 Overview

Unit Title: Natural Disasters

Unit Summary:
In this unit, students will develop an understanding of the impact of earthquakes and hurricanes on local communities. We will examine how technology can lessen the devastation caused by these natural disasters. The 18 week unit is comprised of several projects hurricanes and earthquakes.

Suggested Pacing: 18 lessons

Learning Targets

Unit Essential Questions:

- What causes a hurricane?
- How do hurricanes impact local communities?
- How can hurricane devastation be minimized by technology?
- What causes earthquakes?
- How do earthquakes impact local communities?
- How can earthquake damage be minimized by technology?

Unit Enduring Understandings:

- Earthquakes and hurricanes cause massive amounts of damage every year.
- Properly engineered structures reduce the the damage caused by hurricanes and earthquakes.

Evidence of Learning

Unit Benchmark Assessment Information: There are a variety of ways students will demonstrate their learning: research, discussions, performance tasks, design challenges and reflections.

Objectives (Students will be able to…)	Essential Content/Skills	Suggested Assessments	Standards	Pacing
Demonstrate an understanding of the engineering design process.	Explain and model the various steps of the engineering design process. Use simple quick build projects to demonstrate the engineering design process.	Students will create an engineering company Students will create a logo and a mission statement for their company. They will record their project in Google Docs.	**Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data **Career Ready Practices** CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	Week 1-2
Demonstrate an understanding of hurricanes and their destruction.	Discuss formation of hurricanes and their classification.	Using Google slides, have students create a presentation on hurricanes.	**Science** **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1)	Week 4-6

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Design, engineer and construct a hurricane resistant structure	Explain how engineers and scientists minimize hurricane damage. Provide students with a variety of	Students will work in groups to design and build their tower. Students will use the engineering	**Science** **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2)	Week 7-8

	materials to create a one meter tall tower capable of withstanding high winds.	design process to build a tower. Have students include photos/video of the construction of their tower in their Google Slides presentation.	**RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data	
Test student built hurricane resistant structure		Have students take photos/videos of	**Science** **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans	Week 9

		the testing to add their Google Slides presentation.	**ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data	

Demonstrate an understanding of earthquakes.	Discuss the causes of earthquakes and their classification. Demonstrate seismic plate activity using computer generated models and/or model Plate activity with simple objects(desks, blocks of wood)	Using Google slides, have students create a presentation on Earthquakes. Students will make a small model that demonstrates tectonic plates activity.	**Science** **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures. 8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.	Week 12-13

			8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data	
Final presentation	Present Google Slides	Students will present their final Google Slide presentation summarizing the unit.	**Science** **4-ESS3-2.** Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans **ELA/Literacy** **RI.4.1** - Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text. (4-ESS3-2) **RI.4.7** - Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears. (4-ESS2-2) **RI.4.9 -** Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably. (4-ESS3-2) **W.4.7 -** Conduct short research projects that build knowledge through investigation of different aspects of a topic. (4-ESS1-1), (4-ESS2-2) **W.4.8 -** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources. (4-ESS1-1), (4-ESS2-1) **W.4.9 -** Draw evidence from literary or informational texts to support analysis, reflection, and research. (4-ESS1-1) **Mathematics** **4.MD.A.1 -** Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. (4-ESS1-1), (4-ESS2-1) **4.MD.A.2 -** Use the four operations to solve word problems involving distances, intervals of time problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. (4-ESS2-1), (4-ESS2-2) **4.OA.A.1 -** Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations. (4-ESS3-2) **MP.2 -** Reason abstractly and quantitatively. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.4 -** Model with mathematics. (4-ESS1-1), (4-ESS2-1), (4-ESS3-2) **MP.5 -** Use appropriate tools strategically. (4-ESS2-1) **Understand and use technology systems.** 8.1.5.A.1 Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems. Select and use applications effectively and productively. 8.1.5.A.2 Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.	Week 18

			8.1.5.A.3 Use a graphic organizer to organize information about problem or issue. 8.1.5.A.4 Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data. 8.1.5.A.5 Create and use a database to answer basic questions. 8.1.5.A.6 Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data **Career Ready Practices** CRP1.Act as a responsible and contributing citizen and employee. CRP2. Apply appropriate academic and technical skills. CRP4. Communicate clearly and effectively and with reason. CRP5. Consider the environmental, social and economic impacts of decisions. CRP6. Demonstrate creativity and innovation. CRP7. Employ valid and reliable research strategies. CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. CRP11. Use technology to enhance productivity. CRP12. Work productively in teams while using cultural global competence.	