HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Read syllabus and explain rules and procedures. Discuss supply list and explain how the science notebook will be organized. Students will take a pretest to determine prior knowledge. Discuss science fair projects. Test prior knowledge of 8th Grade Science. Define Life, Earth, and Physical Science. State examples of life scientists at work. List three ways life science is helpful to living things. Compare and contrast the four major branches of Earth science. Identify four examples of Earth science that are linked to other areas of science. Describe the relationship of matter and energy to physical science. Describe the two branches of physical science. Identify three areas of science that use physical science. Explain what scientific methods are. Introduce the Unit Vocabulary Words: Scientific Processes.

OAS and PASS OBJECTIVES:
PASS: Process Standard 5.4(understand the value of technology), Content Standard 1.2 (matter has physical properties that can be measured; matter is conserved)

HOURS	MONDAY 8/11/14	TUESDAY 8/12/14	WEDNESDAY 8/13/14	THURSDAY 8/14/14	FRIDAY 8/15/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science				**Purpose:** Read syllabus and explain rules and procedures. Discuss supply list and explain how the science notebook will be organized. Students will take a pretest to determine prior knowledge. Discuss science fair projects. Test prior knowledge of 8th Grade Science. **Activities:** • Students will take the Science Pre-test when they enter the classroom. They will be given 10 minutes to complete the test. • Read the syllabus, explain rules and procedures, and give a tour of the room. • Discuss science fair projects. **Eval:** Students will take the Science Pre-test when they enter the classroom. Answers will be discussed at the end of class.	**Purpose:** Define Life, Earth, and Physical Science. State examples of life scientists at work. List three ways life science is helpful to living things. Compare and contrast the four major branches of Earth science. Identify four examples of Earth science that are linked to other areas of science. Describe the relationship of matter and energy to physical science. Describe the two branches of physical science. Identify three areas of science that use physical science. Introduce the Unit Vocabulary Words: Scientific Processes. P. Std. 5.4, C. Std. 1.2 **Activities:** • Bell Activity #1: Identify the examples listed on the TV as either pertaining to Life, Earth, or Physical science. Justify each answer with a complete statement. OCCT Item Spec. • Life, Earth, and Physical Science PowerPoint (Lecture/Discuss/Take Notes) • Scientific Processes Vocabulary PowerPoint (Take Notes) **Eval:** Homework: Vocabulary Word Organizer **Reminder:** Scientific Processes Quiz on Wed., 8/20.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Describe scientific methods. Determine the appropriate design of a controlled experiment. Use information in tables and graphs to analyze experimental results. Explain how scientific knowledge can change. Use the scientific method to answer a question about a pendulum. Students will design and conduct their own experiment. Write a lab report to explain the results. Explain the importance of the International System of Units, and give four examples of SI units. Determine appropriate units to use for particular measurements. Identify lab safety symbols, and determine what they mean. Identify tools used to collect and analyze data. Evaluate understanding of Unit Vocabulary: Scientific Processes. Convert between units of measurements. Identify control groups, experimental groups, independent variables, and dependent variables. Use lab tools to measure volume, length, and mass accurately.

OAS and PASS OBJECTIVES:

PASS: Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 3.1(ask questions and design investigations), Process Standard 3.2(evaluate the design of an investigation), P. Standard 3.3(identify variables and controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 3.5(follow a multistep procedure), P. Standard 3.6 (recognize hazards and safety procedures), P. Standard 4.1 (report and record quantitative/qualitative data), P. Standard 4.3(evaluate data to develop explanations), P. Standard 4.4(determine if results support or reject hypothesis), P. Standard 4.5(communicate scientific processes, procedures, and conclusions)P. Standard 5.1(ask questions that can be answered through investigations), Process Standard 5.2(design and conduct experiments), Process Standard 5.3(use the engineering design process to address a problem or need), Process Standard 5.4(understand the value of technology)

HOURS	MONDAY 8/18/14	TUESDAY 8/19/14	WEDNESDAY 8/20/14	THURSDAY 8/21/14	FRIDAY 8/22/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe scientific methods. Determine the appropriate design of a controlled experiment. Use information in tables and graphs to analyze experimental results. Explain how scientific knowledge can change. P. Std 3.1, P. Std 3.3, P. Std 3.4, P. Std 4.2, P. Std 4.3, P. Std 5.1 **Activities:** • Bell Activity #2: Study the picture on the TV. Write 3 questions you have about this picture. Then, write a hypothesis you could test. OCCT Item Spec. Question • Scientific Methods PowerPoint (Lecture/Discuss/Take Notes) • Discuss how to write a proper lab report in preparation for the lab on Monday. **Eval:** 1. Show experiment examples and have students identify control groups, experimental groups, and variables. 2. Homework: Scientific Method Word Problems	**Purpose:** Use the scientific method to answer a question about a pendulum. Students will design and conduct their own experiment. Write a lab report to explain the results. P. Std 3.1, P. Std. 3.4, P. Std. 3.6, P. Std. 4.1, P. Std. 4.3, P. Std. 4.4, P. Std. 4.5, P. Std. 5.1, P. Std.5.2, P. Std 5.3 **Activities:** • Bell Activity #3: Identify the 7 steps of the scientific method with the example on the TV. OCCT Item Spec. Question • The Pendulum Lab **Eval:** Students will write a lab report for this lab and turn in with the data sheet. Finish the lab report as homework.	**Purpose:** Explain the importance of the International System of Units, and give four examples of SI units. Determine appropriate units to use for particular measurements. Identify lab safety symbols, and determine what they mean. Identify tools used to collect and analyze data. Evaluate understanding of Unit Vocabulary: Scientific Processes. P. Std. 1.2, P. Std. 1.3, P. Std. 3.6, P. Std. 5.4 **Activities:** • Bell Activity #4: One afternoon you decide to pop some popcorn. You put the bag in the microwave, but after a couple of minutes of cooking, it is clear the popcorn is not popping. Write a hypothesis to explain why this happened. What steps could you take to help locate the problem? OCCT Item Spec. Question • Tools, Safety, and Measurement PowerPoint (Lecture/Discuss/Take Notes) **Eval:** Scientific Processes Vocabulary Quiz	**Purpose:** Explain the importance of the International System of Units. Convert between units of measurements. Identify control groups, experimental groups, independent variables, and dependent variables. P Std. 1.3, P. Std. 3.2, P. Std. 3.3, P. Std. 5.4 **Activities:** • Bell Activity #5: What can be measured in centimeters, meters, or kilometers? What can be measured in liters or milliliters? What can be measured in milligrams, grams, or kilograms? OCCT Item Spec. Question • Metric Conversion PowerPoint (Lecture/Discuss/Take Notes) • Controlled Experiment Review **Eval:** Review variables by showing experiment examples and having students identify control groups, experimental groups, and variables.	**Purpose:** Use lab tools to measure volume, length, and mass accurately. P. Std. 1.2, P. Std. 1.3, P. Std. 3.3, P. Std 3.4, P. Std 3.5, P. Std. 3.6, P. Std. 4.1 **Activities:** • Bell Activity #6: Matthew kept track of his weight on a calendar. On April 1 he weighed forty-six kilograms. On May 1 he weighed nine hundred grams more. By June 1 he had gained another two kilograms. How much was his weight, in kilograms, on the first of June? OCCT Item Spec. Question • Scientific Processes Lab **Eval:** During the last 10 minutes of class, review the lab and data.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Convert between units of measurements using the International System of Units. Apply the SI units to real world situations by using word problems when converting. Use lab tools to measure accurately. Determine possible causes for changes found in the lab between Part 1 and Part 2. Review content matter of the Scientific Processes Unit and identify any weaknesses. Evaluate understanding of Scientific Processes.

OAS and PASS OBJECTIVES:
PASS: Process Standard 1.1(identify qualitative/quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), P. Standard 3.3(identify variables and controls in an experiment), Process Standard 3.4(identify a testable hypothesis), P. Standard 3.6 (recognize hazards and safety procedures), P. Standard 4.1 (report and record quantitative/qualitative data), P. Standard 4.2(interpret data tables and graphs), P. Standard 4.3(evaluate data to develop explanations), Process Standard 5.5(develop a logical relationship between evidence and explanation to form a conclusion)

HOURS	MONDAY 8/25/14	TUESDAY 8/26/14	WEDNESDAY 8/27/14	THURSDAY 8/28/14	FRIDAY 8/29/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Convert between units of measurements using the International System of Units. Apply the SI units to real world situations by using word problems when converting. Use lab tools to measure accurately. P. Std 1.1, P. Std 1.2, P. Std. 1.3, P.Std 3.6 **Activities:** • Bell Activity #7: Write a hypothesis to explain why the dog vomited using an If...then...because statement. OCCT Item Spec. Question • Review Metric Conversions. • Begin Part 1 of Measure a Bean Lab **Eval:** 1. Measure a Bean Lab Part 1 2. SI Unit Conversion Word Problems	**Purpose:** Use lab tools to measure accurately. Determine possible causes for changes found in the lab between Part 1 and Part 2. Review content matter of the Scientific Processes Unit and identify any weaknesses. P. Std 1.2, P. Std. 1.3, P.Std 3.6, P.Std. 4.1, P. Std 4.2, P. Std. 4.3, P. Std. 5.5 **Activities:** • Bell Activity #8: Pg. 15 #10 OCCT Item Spec. Question • Finish the second part of the Measure a Bean Lab • Begin working on the Scientific Processes Study Guide. **Eval:** Measure a Bean Lab	**Purpose:** Review content matter of the Scientific Processes Unit and identify any weaknesses. P. Std. 1.3, P. Std. 3.3, P. Std. 3.4, P. Std. 3.6 **Activities:** • Bell Activity #9: pg. 29 #15,17 OCCT Item Spec. Question • Discuss answers to the study guide. • Pass out all graded work for the Scientific Processes Unit. Discuss answers on every paper as a review for the test. **Eval:** Oral Questions	**Purpose:** Evaluate understanding of Scientific Processes. P. Std. 1.3, P. Std. 3.3, P. Std. 3.4, P. Std. 3.6 **Activities:** • Bell Activity #10: Viola wants to bake a cake. The recipe calls for 0.125L of vegetable oil. All of Viola's measuring cups are in milliliters. How many milliliters of vegetable oil does she need? OCCT Item Spec. Question **Eval:** Scientific Processes Unit Test	NO SCHOOL PROFESSIONAL DEVELOPMENT

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Explain how to classify an organism. Practice listing the seven levels of classification. Study scientific names. Describe how dichotomous keys help in identifying organisms. Explain how classification schemes for kingdoms developed as greater numbers of different organisms became known. Catalogue each of the six kingdoms. Review content matter of Chapter 9: Classification and identify any weaknesses. Evaluate understanding of Chapter 9: Classification.

OAS and PASS OBJECTIVES:
OAS: MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.
PASS: Process Standard 2.1 (Using observable properties, place an object into a classification system), Process Standard 2.2 (Identify properties by which a set of objects could be ordered), Content Standard 3.1(By classifying organisms, biologists consider details of internal and external structure to infer the degree of relatedness among organisms)

HOURS	MONDAY 9/1/14	TUESDAY 9/2/14	WEDNESDAY 9/3/14	THURSDAY 9/4/14	FRIDAY 9/5/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**NO SCHOOL LABOR DAY**	**Purpose:** Explain how to classify an organism. Practice listing the seven levels of classification. Study scientific names. Describe how dichotomous keys help in identifying organisms. MS-LS4-2, P. Std. 2.1, P. Std. 2.2, C. Std. 3.1 **Activities:** • Bell Activity #11: Classify the given organisms by putting them in groups. Justify your reasoning. OCCT Item Spec. Question • Classification PowerPoint (Lecture/Discuss/Take Notes) **Eval:** 1. Brain Dump: Students will write about what they learned and then we will discuss as a class.	**Purpose:** Explain how classification schemes for kingdoms developed as greater numbers of different organisms became known. Catalogue each of the six kingdoms. MS-LS4-2, P. Std. 2.1, P. Std. 2.2, C. Std. 3.1 **Activities:** • Bell Activity #12: Draw a cartoon that shows how using different common names for an animal instead of its scientific name creates confusion. You must include the scientific name in the cartoon. OCCT Item Spec. Question • The Six Kingdoms PowerPoint (Lecture/Discuss/Take Notes) **Eval:** Oral questions	**Purpose:** Review content matter of Chapter 9: Classification and identify any weaknesses. MS-LS4-2, P. Std. 2.1, P. Std. 2.2, P. Std. 3.3, C. Std. 3.1 **Activities:** • Bell Activity #13: Create a zoo area layout by grouping the given animals together is a logical order. OCCT Item Spec. Question • Classification Unit Study Guide **Eval:** Classification Unit Study Guide Part of the study guide will include questions about variables in an experiment. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test.	**Purpose:** Evaluate understanding of Chapter 9: Classification. MS-LS4-2, P. Std. 2.1, P. Std. 2.2, P. Std. 3.3, C. Std. 3.1 **Activities:** • Bell Activity #14: Questions about cladograms pg.237 #20-23. OCCT Item Spec. Question **Eval:** Classification Unit Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Classify organisms using a dichotomous key. Recognize ways that seed plants differ from seedless plants. Describe the structure of seeds. Discuss methods of seed dispersal. Compare angiosperms and gymnosperms. Explain the economic and environmental importance of gymnosperms and angiosperms. Explain how placental mammals develop. Give an example of each type of mammal. Give an example of each type of mammal. Review content matter of Chapter 12 and 17: Seed Plants and Mammals.

OAS and PASS OBJECTIVES:
PASS: Process Standard 2.1 (place an object into a classification system), Process Standard 2.2 (identify properties by which objects could be ordered), Process Standard 3.3(identify variables and controls in an experiment), Process Standard 3.5(follow a multistep procedure), P. Standard 3.6 (recognize hazards and safety procedures), Process Standard 4.1(record quantitative/ qualitative data in an appropriate method), Process 4.2(interpret data tables and graphs), Content Standard 3.1(by classifying organisms biologists infer the degree of relatedness among organisms), Content Standard 3.2(organisms have a variety of internal and external structures that enable them to survive such as echolocation and seed dispersal)

HOURS	MONDAY 9/8/14	TUESDAY 9/9/14	WEDNESDAY 9/10/14	THURSDAY 9/11/14	FRIDAY 9/12/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Classify organisms using a dichotomous key. P. Std. 2.1, P. Std. 2.2, C. Std. 3.1 **Activities:** • Bell Activity#15: Construct a chart of the six kingdoms. List major characteristics of each kingdom and include a representative organism for each kingdom. OCCT Item Spec. Question • Dichotomous Key Lab **Eval:** Identify the organisms using the dichotomous key. Write the steps taken to identify the organism.	**Purpose:** Recognize ways that seed plants differ from seedless plants. Describe the structure of seeds. Discuss methods of seed dispersal. Compare angiosperms and gymnosperms. Explain the economic and environmental importance of gymnosperms and angiosperms. P. Std 3.5, P. Std 3.6, C. Std. 3.2 **Activities:** • Bell Activity #16: If plants cannot move, how do they disperse their seeds? OCCT Item Spec. Question • Introduction to Plants (Section 12.3 pg.308-309) and (Section 12.3 pg.310-313) PowerPoints Lecture/Discuss/Take Notes **Eval:** Dissecting Seeds Lab Questions pg.309	**Purpose:** Explain how placental mammals develop. Give an example of each type of mammal. P. Std. 2.1, P. Std. 2.2, P. Std. 4.1, P. Std. 4.2, C. Std. 3.1, C. Std. 3.2 **Activities:** • Bell Activity #17: List 20 mammals and organize them into groups based on their similarities. OCCT Item Spec. Question • Placental Mammals (Section 17.4 pg.456-458) PowerPoint Lecture/Discuss/ Take Notes **Eval:** Graph Gestation Periods of various mammals.	**Purpose:** Give an example of each type of mammal. C. Std. 3.1, C. Std. 3.2 **Activities:** • Bell Activity #18: Make inferences about bird feet. OCCT Item Spec. Question • Placental Mammals (Section 17.4 pg.459-462) PowerPoint Lecture/Discuss/Take Notes • Gray Wolf Management PowerPoint **Eval:** Students will write a debate on carnivore conservation. A concluding statement must be included. A peer will read their debates and make suggestions for revisions. Time will be given for students to revise their debate. Some students will read their debate to the class.	**Purpose:** Review content matter of Chapter 12 and 17: Seed Plants and Mammals. P. Std. 3.3, C. Std. 3.1, C. Std. 3.2 **Activities:** • Bell Activity #19: Determine what placental mammal group a raccoon belongs to. OCCT Item Spec. Question • Diversity and Adaptations of Organisms Unit Study Guide **Eval:** 1. Part of the study guide will include questions about variables in an experiment. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test. 2. Checking Ch. 9, 12, and 17 Notes today.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Evaluate understanding of Diversity of Adaptations Unit. Describe the structure of minerals. Describe the two major groups of minerals. Identify seven ways to determine the identity of minerals. Explain special properties of minerals. Describe different uses for metallic and nonmetallic minerals. Describe two ways rocks have been used by humans. Describe four processes that shape Earth's features. Describe how each type of rock changes into another type as it moves through the rock cycle. List two characteristics of rock that are used to help classify it. Describe three ways that igneous rock forms. Explain how the cooling rate of magma affects the texture of igneous rock. Distinguish between igneous rock that cools within the Earth's crust and igneous rock that cools at Earth's surface. Describe the origin of sedimentary rock. Describe the three main categories of sedimentary rock. Describe the three types of sedimentary structures. Review content matter of Chapter 3: Minerals and Chapter 4: Rocks. Describe two ways a rock can undergo metamorphism. Explain how the mineral composition of rocks changes as the rocks undergo metamorphism. Describe the difference between foliated and nonfoliated metamorphic rock. Explain how metamorphic structures are related to deformation.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. MS-ESS3-4: Construct an argument supported by evidence for how increase in human population and per-capita consumption of natural resources impact Earth's systems.

PASS: Process Standard 3.3(identify variables and controls in an experiment), Content Standard 3.1(by classifying organisms biologists infer the degree of relatedness among organisms), Content Standard 3.2(organisms have a variety of internal and external structures that enable them to survive such as echolocation and seed dispersal), Content Standard 4.2(the formation, weathering, sedimentation, and reformation of rock constitute a continuing "rock cycle" in which the total amount of material stays the same as its form changes)

HOURS	MONDAY 9/15/14	TUESDAY 9/16/14	WEDNESDAY 9/17/14	THURSDAY 9/18/14	FRIDAY 9/19/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Evaluate understanding of Diversity and Adaptations of Organisms Unit. P. Std. 3.3, C. Std. 3.1, C. Std. 3.2 **Activities:** • Bell Activity #20: What is echolocation? List two examples of mammals that use echolocation. Then identify which placental mammal group those animals belong to. OCCT Item Spec. Question • Discuss Rock cycle Project (Presentation Due Date is Mon. 9/23) **Eval:** Diversity and Adaptations of Organisms Unit Test	**Purpose:** Describe the structure of minerals. Describe the two major groups of minerals. Identify seven ways to determine the identity of minerals. Explain special properties of minerals. Describe different uses for metallic and nonmetallic minerals. MS-ESS3-4 **Activities:** • Bell Activity #21: Take the Benchmark Test over the Rock Cycle. Discuss and grade as a class. OCCT Item Spec. Question. • Minerals (Section3.1, 3.2, 3.3.3 pg.66-79) PowerPoint Read/Lecture/ Discuss **Eval:** Discuss and grade Benchmark Test	**Purpose:** Describe two ways rocks have been used by humans. Describe four processes that shape Earth's features. Describe how each type of rock changes into another type as it moves through the rock cycle. List two characteristics of rock that are used to help classify it. MS-ESS2-1, C. Std. 4.2 **Activities:** • Bell Activity #22: Match the following minerals to the correct mineral group. Construct a table to organize your information. OCCT Item Spec. Question • The Rock Cycle (Section 4.1 pg.90-97) Lecture/ Read/Discuss • Review variables and controls in experiments. **Eval:** Oral Review Questions	**Purpose:** Describe three ways that igneous rock forms. Explain how the cooling rate of magma affects the texture of igneous rock. Distinguish between igneous rock that cools within the Earth's crust and igneous rock that cools at Earth's surface. Describe the origin of sedimentary rock. Describe the three main categories of sedimentary rock. Describe the three types of sedimentary structures. Review content matter of Chapter 3: Minerals and Chapter 4: Rocks. C. Std. 4.2 • Bell Activity #23: Layers in sedimentary rocks are like rings in a tree. Explain the meaning of this sentence. What information can geologists infer by examining sedimentary layers? OCCT Item Spec. Question • Igneous Rock (Section 4.2 pg.98-101) and Sedimentary Rock (Section 4.3 pg.102-105) PowerPoint Lecture/Read/ Discuss • Begin reviewing for the test on Thursday. **Eval:** Brain Dump: Students will orally discuss as a class what they learned today.	**Purpose:** Describe two ways a rock can undergo metamorphism. Explain how the mineral composition of rocks changes as the rocks undergo metamorphism. Describe the difference between foliated and nonfoliated metamorphic rock. Explain how metamorphic structures are related to deformation. C. Std 4.2 **Activities:** • Bell Activity #24: Write a brief description of how cake is made. How is the mixture of raw ingredients like sedimentary rock? Describe how cake metamorphoses when it is baked in an oven. How is this similar to the way metamorphic rock forms? OCCT Item Spec. Question • Metamorphic Rock (Section 4.4 pg.106-111) PowerPoint Read/ Lecture/Discuss **Eval:** Rock Cycle Worksheet

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Model the changes rocks go through in the rock cycle. Review the types of rocks, how rocks change, and the rock cycle diagram by listening to student Rock Cycle Projects presentations. Review content matter of Chapter 3: Minerals and Chapter 4: Rocks (Minerals Mixtures). Review the rock cycle using the rock cycle interactive question set. Evaluate understanding of the Earth's Resources Unit.

OAS and PASS OBJECTIVES:
OAS: MS-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
PASS: Process Standard 3.3(identify variables and controls in an experiment), Process Standard 3.5(follow a multistep procedure), P. Standard 4.1 (report and record quantitative/qualitative data), Process Standard 4.2(interpret data tables, and graphs), P. Standard 4.3(evaluate data to develop explanations), P. Standard 4.5(communicate scientific processes, procedures, and conclusions), Content Standard 4.2(the formation, weathering, sedimentation, and reformation of rock constitute a continuing "rock cycle" in which the total amount of material stays the same as its form changes)

HOURS	MONDAY 9/22/14	TUESDAY 9/23/14	WEDNESDAY 9/24/14	THURSDAY 9/25/14	FRIDAY 9/26/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Model the changes rocks go through in the rock cycle. MS-ESS2-1, P. Std 3.5, P. Std. 4.1, P. Std. 4.3 **Activities:** • Bell Activity #25: List the 3 processes that shape Earth's surface. Name 5 processes that change rock inside the Earth. What are the 3 main classes of rocks? OCCT Item Spec. Question • Rock Cycle Adventure Lab **Eval:** Lab Questions	**Purpose:** Review the types of rocks, how rocks change, and the rock cycle diagram by listening to student Rock Cycle Projects presentations. MS-ESS2-1, P. Std 4.5, C. Std. 4.2 **Activities:** • Bell Activity #26: Graphing questions pg.115 #22-24 OCCT Item Spec. Question • Students will present their Rock Cycle Projects to the class. They are expected to be able to answer questions about their project and the parts of the rock cycle. **Eval:** Rock Cycle Project Presentations	**Purpose:** Review content matter of Chapter 3: Minerals and Chapter 4: Rocks (Minerals Mixtures). Review the rock cycle using the rock cycle interactive question set. MS-ESS2-1, P. Std. 3.3, C. Std. 4.2 **Activities:** • Bell Activity #27: If you were looking for fossils around your home and the rock type that was closest to your home was metamorphic, do you think that you would find many fossils? Explain your answer. OCCT Item Spec. Question • Rock Cycle Question Set • Earth's Resources Unit Study Guide **Eval:** Part of the study guide will include questions about variables in an experiment. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test.	**Purpose:** Evaluate understanding of the Earth's Resources Unit. MS-ESS2-1, P. Std. 3.3, P. Std. 4.2, C. Std. 4.2 **Activities:** • Bell Activity #28: Identify the variables and the control in an experiment. OCCT Item Spec. Question **Eval:** 1. Earth's Resources Unit Test 2. Take Benchmark test over Rock cycle. Compare to the results of the first test. 3. Turn in Bell Activities #1-28.	NO SCHOOL PARENT/TEACHER CONFERENCES

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Describe how humans use natural resources. Compare renewable resources with nonrenewable resources. Explain ways that humans can conserve natural resources. Identify 3 different forms of fossil fuels. Describe how fossil fuels are found and obtained. Identify problems with fossil fuels. Describe alternatives to the use of fossil fuels. Identify two kinds of evidence that show that organisms have evolved. Explain how comparing organisms can provide evidence that they have ancestors in common. Explain how fossils can be formed and how their age can be determined. Describe the geologic time scale. Compare uniformitarianism and catastrophism. Explain how relative dating is used in geology. Explain the principle of superposition. Describe how the geologic column is used in relative dating. Identify two events and two features that disrupt rock layers. Explain how physical features are used to determine relative ages. Describe how radioactive decay occurs. Explain how radioactive decay relates to radiometric dating. Identify four types of radiometric dating. Determine the best type of radiometric dating to use to date an object. Describe five ways that different types of fossils form. List three types of fossils that are not part of organisms. Explain how fossils can be used to determine the history of changes in environments and organisms. Explain how index fossils can be used to date rock layers.

OAS and PASS OBJECTIVES:

OAS: MS-PS1-3: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. MS-LS4-1: Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships. MS-ESS1-4: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's geologic history. MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes. MS-ESS3-4: Construct an argument supported by evidence for how increase in human population and per-capita consumption of natural resources impact Earth's systems.

PASS: Content Standard 5.2(fossils provide evidence of how life and conditions have changed)

HOURS	MONDAY 9/29/14	TUESDAY 9/30/14	WEDNESDAY 10/1/14	THURSDAY 10/2/14	FRIDAY 10/3/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	NO SCHOOL PROFESSIONAL DEVELOPMENT	**Purpose:** Describe how humans use natural resources. Compare renewable resources with nonrenewable resources. Explain ways that humans can conserve natural resources. Identify 3 different forms of fossil fuels. Describe how fossil fuels are found and obtained. Identify problems with fossil fuels. Describe alternatives to the use of fossil fuels. MS-PS1-3, MS-ESS3-1. MS-ESS3-4 **Activities:** • Bell Activity #1: Brainstorm a list of different sources of energy, such as oil or wind. Then label whether each source of energy is renewable or nonrenewable. OCCT Item Spec. Question • Energy Resources PowerPoint (Sections 5.1-5.3 pg.122-140) Lecture/Discuss **Eval:** Students will write an essay discussing two main ideas: 1. Explain how the uneven distribution of Earth's energy resources are a result of past and current geoscience processes. 2. Argue about how an increase in human population has impacted Earth's resources. They will cite the textbook as a source of information in their essay.	**Purpose:** Identify two kinds of evidence that show that organisms have evolved. Explain how comparing organisms can provide evidence that they have ancestors in common. Explain how fossils can be formed and how their age can be determined. Describe the geologic time scale. MS-LS4-1, MS-LS4-2, MS-ESS1-4 **Activities:** • Bell Activity #2: Describe physical adaptations that make animals well suited for a specific environment. OCCT Item Spec. Question • Change Over Time PowerPoint (Section 7.1 pg.166-172 and Sect. 8.1-8.2 pg.194-205) Lecture/Discuss/ Take Notes **Eval:** Watch the "Geologic Time" BrainPop video clip. Answer quiz questions that follow.	**Purpose:** Compare uniformitarianism and catastrophism. Explain how relative dating is used in geology. Explain the principle of superposition. Describe how the geologic column is used in relative dating. Identify two events and two features that disrupt rock layers. Explain how physical features are used to determine relative ages. MS-ESS1-4, MS-ESS2-2, C. Std. 5.2 **Activities:** • Bell Activity #3: Imagine not cleaning your room in 30 years. After 30 years, you finally decide to sort through the 2m pile of stuff on your floor. Write a paragraph to describe what you would see on the top, middle, and bottom of the pile. OCCT Item Spec. Question • Earth's Story (Section 6.1 pg.152-155) and Relative Dating (Section 6.2 pg.156-161) PowerPoints Read/ Lecture/Discuss **Eval:** **1.** Draw and label disconformities, nonconformities, and angular unconformities. Identify the youngest and the oldest rocks and includes examples of intrusions, folds, and faults.	**Purpose:** Describe how radioactive decay occurs. Explain how radioactive decay relates to radiometric dating. Identify four types of radiometric dating. Determine the best type of radiometric dating to use to date an object. Describe five ways that different types of fossils form. List three types of fossils that are not part of organisms. Explain how fossils can be used to determine the history of changes in environments and organisms. Explain how index fossils can be used to date rock layers. MS-ESS1-4, MS-ESS2-2, C. Std. 5.2 **Activities:** • Bell Activity #4: List two events and two features that can disturb rock-layer sequences. How does a geologist know when he or she is looking at a disconformity? OCCT Item Spec. Question • Absolute Dating (Section 6.3 pg.162-165) and Looking at Fossils (Section 6.4 pg.166-171) PowerPoints Read/ Lecture/Discuss **Eval:** Oral questions

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Explain how geologic time is recorded in rock layers. Identify important dates on the geologic time scale. Explain how environmental changes resulted in the extinction of some species. Review content matter of Chapter 6: The Rock and Fossil Record. Visit several websites and explore the information presented on fossils, the fossil record, and geologic history. Evaluate understanding of the Rock and Fossil Record Unit. Identify the layers of the Earth by their composition. Identify the layers of the Earth by their physical properties. Describe a tectonic plate. Explain how scientists know about the structure of Earth's interior.

OAS and PASS OBJECTIVES:

OAS: MS-ESS1-4: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's geologic history. MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

PASS: Process Standard 3.3(identify variables and controls in an experiment), Process Standard 3.5(follow a multistep procedure), Process Standard 4.2(interpret data tables, and graphs), Content Standard 4.1(landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion), Content Standard 5.2(fossils provide evidence of how life and conditions have changed)

HOURS	MONDAY 10/6/14	TUESDAY 10/7/14	WEDNESDAY 10/8/14	THURSDAY 10/9/14	FRIDAY 10/10/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Explain how geologic time is recorded in rock layers. Identify important dates on the geologic time scale. Explain how environmental changes resulted in the extinction of some species. MS-ESS1-4, MS-ESS2-2, C. Std. 5.2 **Activities:** • Bell Activity #5: Which organisms would make good index fossils for marking the end of the 21st century? Explain your reasoning. OCCT Item Spec. Question • The Rock and Fossil Record (Section 6.5 pg.172-177) PowerPoint Read/ Lecture/Discuss • Pass out fossil boxes. Students will look at the fossils and determine which period on the geologic time scale they came from. **Eval:** **1.** Draw and give examples of animals alive during the Paleozoic, Mesozoic, and Cenozoic Eras. **2.** Watch the BrainPop video clip over carbon dating and natural selection. Answer the quiz questions that follow.	**Purpose:** Review content matter of Chapter 6: The Rock and Fossil Record. MS-ESS1-4, MS-ESS2-2, P. Std. 3.3, C. Std. 5.2 **Activities:** • Bell Activity #6:Interpreting Graphics Questions pg.181 #22-25 OCCT Item Spec. Question • The Rock and Fossil Record Unit Study Guide **Eval:** 1. Part of the study guide will include questions about variables in an experiment. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test. 2. Checking Ch. 4 and 6 Notes today.	**Purpose:** Visit several websites and explore the information presented on fossils, the fossil record, and geologic history. MS-ESS1-4, MS-ESS2-2, C. Std. 5.2 **Activities:** • Work in the computer lab to complete the On-Line Fossil Lab **Eval:** On-Line Fossil Lab	**Purpose:** Evaluate understanding of the Rock and Fossil Record Unit. MS-ESS1-4, MS-ESS2-2, P. Std. 3.3, C. Std. 5.2 **Activities:** • Bell Activity #7: Identify the variables and the control in an experiment. OCCT Item Spec. Question **Eval:** The Rock and Fossil Record Unit Test	**Purpose:** Identify the layers of the Earth by their composition. Identify the layers of the Earth by their physical properties. Describe a tectonic plate. Explain how scientists know about the structure of Earth's interior. MS-ESS2-3, P. Std. 3.5, P. Std. 4.2, C. Std. 4.1 **Activities:** • Bell Activity #8: Graphing Questions pg.183 #1-3 OCCT Item Spec. Question • Inside the Earth (Section 7.1 pg.190-196) Lecture/ Discuss/Take Notes • Make a notes foldable that models the layers of the Earth by composition and physical properties. **Eval:** Continental Collisions Activity pg.189 Answer analysis questions for Continental Collisions Activity.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Use the hypothesis of continental drift to piece together the continents into to the single continent of Pangaea. Describe Wegener's hypothesis of continental drift. Explain how sea-floor spreading provides a way for continents to move. Describe how new oceanic lithosphere forms at mid-ocean ridges. Explain how magnetic reversals provide evidence for sea-floor spreading. Describe the three types of tectonic plate boundaries. Describe three forces thought to move tectonic plates. Explain how scientists measure the rate at which tectonic plates move. Introduce the Restless Earth Unit Vocabulary words. Describe the two types of stress that deform rocks. Describe three major types of folds. Explain the difference between the three major types of faults.

OAS and PASS OBJECTIVES:
OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
PASS: Content Standard 4.1(landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion)

HOURS	MONDAY 10/13/14	TUESDAY 10/14/14	WEDNESDAY 10/15/14	THURSDAY 10/16/14	FRIDAY 10/17/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Use the hypothesis of continental drift to piece together the continents into to the single continent of Pangaea. MS-ESS2-2, MS-ESS2-3, C. Std. 4.1 **Activities:** • Bell Activity #9: Describe your journey to the center of the Earth. In your description, tell about the characteristics of the layers. OCCT Item Spec. Question • Plate Tectonics Smartboard activity **Eval:** Plate Tectonics Puzzle	**Purpose:** Describe Wegener's hypothesis of continental drift. Explain how sea-floor spreading provides a way for continents to move. Describe how new oceanic lithosphere forms at mid-ocean ridges. Explain how magnetic reversals provide evidence for sea-floor spreading. Describe the three types of tectonic plate boundaries. Describe three forces thought to move tectonic plates. Explain how scientists measure the rate at which tectonic plates move. MS-ESS2-3, C. Std. 4.1 **Activities:** • Bell Activity #10: As you travel deeper into the Earth, what will happen to the pressure? What will happen to the temperature? Draw a picture of the physical structure of the Earth and label the 5 layers. Then, tell if each layer is solid or liquid. OCCT Item Spec. Question • Plate Tectonics (Section 7.2 pg.198-201) and The Theory of Plate Tectonics (Section 7.3 pg.202-205) PowerPoints Lecture/ Discuss/Take Notes **Eval:** Evidence for Continental Drift Assignment: Students will work in groups to analyze evidence that supports the continental drift hypothesis.	**Purpose:** Introduce the Restless Earth Unit Vocabulary words. Describe the two types of stress that deform rocks. Describe three major types of folds. Explain the difference between the three major types of faults. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #11: Questions pg.197 #5-8 OCCT Item Spec. Question • The Restless Earth Unit Vocabulary PowerPoint. Students will write the definitions and draw the pictures. • Deforming the Earth's Crust (Section 7.4 pg.206-209) PowerPoint Lecture/ Discuss/Take Notes **Eval:** Oral questions	NO SCHOOL	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Review academic vocabulary words as a class. Identify the most common types of mountains. Explain the difference between uplift and subsidence. Identify the forces that shape the features of the Earth. Predict land features resulting from gradual changes. Represent the natural world using models and identify their limitations. Explain what causes earthquakes. Explain how earthquakes are detected. Compare methods of earthquake forecasting. Identify features of a volcano. Explain how volcanic eruptions can affect climate. Compare three types of volcanic landforms. Demonstrate a volcanic eruption using a model volcano. Review academic vocabulary words as a class. Describe the formation and movement of magma. Explain the relationship between volcanoes and plate tectonics. Summarize the methods scientists use to predict volcanic eruptions.

OAS and PASS OBJECTIVES:
OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
PASS: Content Standard 4.1(landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion)

HOURS	MONDAY 10/20/14	TUESDAY 10/21/14	WEDNESDAY 10/22/14	THURSDAY 10/23/14	FRIDAY 10/24/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Review academic vocabulary words as a class. Identify the most common types of mountains. Explain the difference between uplift and subsidence. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity#12: Read the two paragraphs titled, "Deforming the Earth's Crust". Explain the author's purpose in providing the explanation about spaghetti noodles. • Review the academic vocabulary words as a class. • Deforming the Earth's Crust continued (Section 7.4 pg.210-213) PowerPoint Lecture/ Discuss/Take Notes **Eval:** Watch BrainPop video clip over Plate Tectonics. Answer quiz questions that follow.	**Purpose:** Identify the forces that shape the features of the Earth. Predict land features resulting from gradual changes. Represent the natural world using models and identify their limitations. MS-ESS2-2, P. Std. 3.5, C. Std. 4.1 **Activities:** • Bell Activity#13: Do you think that the total amount of lithosphere formed on the Earth is about equal to the amount destroyed? OCCT Item Spec. Question • Graham Cracker Plate Tectonics Lab **Eval:** 1. Post Lab Questions 2. Shape it up An Earth Changing Erosion Activity http://sciencenetlinks.com/media/filer/2011/10/07/forces.swf	**Purpose:** Explain what causes earthquakes. Explain how earthquakes are detected. Compare methods of earthquake forecasting. MS-ESS2-2, MS-ESS3-2 **Activities:** • Bell Activity #14: Interpreting Graphics Questions pg.217 #21-24 OCCT Item Spec. Question • Earthquakes (Chapter 8 pg.224-239) PowerPoint Lecture/Discuss/ Take Notes **Eval:** Oral Brain Dump: Students will discuss out loud what they learned today.	**Purpose:** Identify features of a volcano. Explain how volcanic eruptions can affect climate. Compare three types of volcanic landforms. Demonstrate a volcanic eruption using a model volcano. MS-ESS2-2, MS-ESS3-2, C. Std 4.1 **Activities:** • Bell Activity#15: Questions pg.213 #9-12 OCCT Item Spec. Question • Volcanic Eruptions(Section 9.1 pg.250-255) and Effects of Volcanic Eruptions (Section 9.2 pg.256, 258-259) PowerPoints Lecture/ Discuss/Take Notes • Volcanic Eruption Model **Eval:** Word association organizer for unit vocabulary words.	**Purpose:** Review academic vocabulary words as a class. Describe the formation and movement of magma. Explain the relationship between volcanoes and plate tectonics. Summarize the methods scientists use to predict volcanic eruptions. MS-ESS2-2, MS-ESS3-2, C. Std 4.1 **Activities:** • Bell Activity#16: Think of a situation in which you might want to leave a car during an earthquake? OCCT Item Spec. Question • Review for the AV word quiz by having students guess the word when given the definition or picture. • Causes of Volcanic Eruptions (Section 9.3 pg.260-265) PowerPoint Lecture/ Discuss/Take Notes **Eval:** Oral questions

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Evaluate understanding of the Restless Earth unit vocabulary words. Review content matter of Chapter 7: Plate Tectonics, Chapter 8: Earthquakes, and Chapter 9: Volcanoes. Review content matter of Chapter 7: Plate Tectonics, Chapter 8: Earthquakes, and Chapter 9: Volcanoes. Determine where explosive and nonexplosive volcanoes are located in the world. Evaluate understanding of the Restless Earth Unit. Describe how ice, water, wind, gravity, plants, and animals cause mechanical weathering. Describe how water, acids, and air cause chemical weathering of rocks. Explain how the composition of rock affects the rate of weathering. Describe how a rock's total surface area affects the rate at which the rock weathers. Describe how differences in elevation and climate affect the rate of weathering.

OAS and PASS OBJECTIVES:
OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.
PASS: Process Standard 3.3(identify variables and controls in an experiment), Process Standard 3.5(follow a multistep procedure), Process Standard 4.2(interpret data tables, and graphs), Content Standard 4.1(landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion)

HOURS	MONDAY 10/27/14	TUESDAY 10/28/14	WEDNESDAY 10/29/14	THURSDAY 10/30/14	FRIDAY 10/31/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Evaluate understanding of the Restless Earth unit vocabulary words. Review content matter of Chapter 7: Plate Tectonics, Chapter 8: Earthquakes, and Chapter 9: Volcanoes. MS-ESS2-2, MS-ESS2-2, MS-ESS3-2, P. Std. 3.3, P. Std. 4.2, C. Std. 4.1 **Activities:** • Bell Activity#17: Graphing questions pg.269 #21-22 OCCT Item Spec. Question • The Restless Earth Unit Study Guide Part of the study guide will include questions about variables in an experiment. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test. **Eval:** The Restless Earth Unit Vocabulary Quiz	**Purpose:** Review content matter of Chapter 7: Plate Tectonics, Chapter 8: Earthquakes, and Chapter 9: Volcanoes. Determine where explosive and nonexplosive volcanoes are located in the world. MS-ESS2-2, MS-ESS2-2, MS-ESS3-2, P. Std. 3.5, C. Std. 4.1 **Activities:** • Bell Activity #18: Read the paragraph on pg.272 "Fighting Lava with Fire Hoses." Determine the central ideas of the text and provide an accurate summary. OCCT Item Spec. Question • Discuss answers to The Restless Earth Unit Study Guide • Some Go "Pop," Some Do Not Lab pg.733 **Eval:** Location of Volcanoes Map, Analyze the Results pg.733 #1-2 **Reminder:** Bring a soil sample to school by Monday, November 3rd.	**Purpose:** Evaluate understanding of the Restless Earth Unit. MS-ESS2-2, MS-ESS2-2, MS-ESS3-2, P. Std. 3.3, P. Std. 4.2, C. Std. 4.1 **Activities:** • Bell Activity #19: Graphing question OCCT Item Spec. Question **Eval:** The Restless Earth Unit Test	**Purpose:** Describe how ice, water, wind, gravity, plants, and animals cause mechanical weathering. Describe how water, acids, and air cause chemical weathering of rocks. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #20: Write a paragraph that describes how water contributes to the formation of potholes. OCCT Item Spec. Question • Weathering (Section 10.1 pg.278-283) PowerPoint Lecture/Discuss/Take Notes • Acids React Quick Lab (with pennies and ketchup) pg.282 **Eval:** Chemical Weathering Smart Board Interactive Activity	**Purpose:** Explain how the composition of rock affects the rate of weathering. Describe how a rock's total surface area affects the rate at which the rock weathers. Describe how differences in elevation and climate affect the rate of weathering. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #21: Imagine that you are in a sand castle-building contest. Describe ways to protect your castle against the weathering effects of the wind and waves. OCCT Item Spec. Question • Rates of Weathering (Section 10.2 pg.284-287) PowerPoint Lecture/Discuss/Take Notes **Eval:** Brain Dump: Students will write about what they learned and then we will discuss as a class.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Test to see if decomposers found in soil affect the rate of mold on bread. Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Test to see if decomposers found in soil affect the rate of mold on bread. Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Review unit vocabulary words as a class. Describe the four different types of stream deposits. Describe how the deposition of sediment affects the land. Explain how caves and sinkholes form as a result of erosion and deposition. Identify forms of water pollution. Explain how the properties of water influence the health of a water system. Describe two ways that wastewater can be treated. Describe how water can be conserved.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes. MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

PASS: P. Standard 3.3(identify variables and controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 3.5(follow a multistep procedure), CS 4.1: Landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.

HOURS	MONDAY 11/3/14	TUESDAY 11/4/14	WEDNESDAY 11/5/14	THURSDAY 11/6/14	FRIDAY 11/7/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Test to see if decomposers found in soil affect the rate of mold on bread. MS-ESS3-1, P. Std.3.3, P. Std. 3.4, P. Std. 3.5, C. Std. 4.1 **Activities:** • Bell Activity #22: Has there always been soil on Earth? What makes soil valuable to humans? OCCT Item Spec. Question • From Bedrock to Soil (Section 10.3 pg.288-293) PowerPoint **Eval:** Living Soil Lab pg.290 Begin writing a lab report for the living soil lab.	**Purpose:** Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Test to see if decomposers found in soil affect the rate of mold on bread. MS-ESS3-1 **Activities:** • Bell Activity #23: Franklin D. Roosevelt said, "The nation that destroys its soil destroys itself." Write a paragraph discussing the meaning of this quote. OCCT Item Spec. Question • Soil Conservation (Section 10.4 pg.294-297) PowerPoint Lecture/Discuss/Take Notes • If time allows, go over practice OCCT questions. **Eval:** Work on Living Soil Lab Report	**Purpose:** Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #24: List 5 reasons why humans need soil to survive. OCCT Item Spec. Question • Reshaping the Land Unit Vocabulary PowerPoint. Students will write the definitions and draw the pictures. • The Active River (Section 11.1 pg.308-314) PowerPoint Lecture/Discuss/Take Notes **Eval:** Oral questions	**Purpose:** Review unit vocabulary words as a class. Describe the four different types of stream deposits. Describe how the deposition of sediment affects the land. Explain how caves and sinkholes form as a result of erosion and deposition. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #25: Even though flooding along rivers is potentially harmful, many farms are located near rivers. Why do people build farms along rivers? If you had access to all resources, how would you deal with this problem? OCCT Item Spec. Question • Review for the unit vocabulary quiz by having students guess the word when given the definition or picture. • Stream and River Deposits (Section 11.2 pg.316-319) and Water underground (Section 11.3 pg.324-325) PowerPoints Lecture/Discuss/Take Notes **Eval:** Oral Questions	**Purpose:** Identify forms of water pollution. Explain how the properties of water influence the health of a water system. Describe two ways that wastewater can be treated. Describe how water can be conserved. MS-ESS3-4 **Activities:** • Bell Activity #26: List 15 ways that people use water. Then, describe how a person can conserve water. OCCT Item Spec. Question • Using Water Wisely (Section 11.4 pg.326-331) PowerPoint Lecture/Discuss/Take Notes **Eval:** Students will write an essay discussing the following idea: 1. Argue about how an increase in human population has impacted Earth's resources (soil and water). They will cite the textbook as a source of information in their essay.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Explain how energy from waves affects a shoreline. Identify six shoreline features created by wave erosion. Explain how wave deposits form beaches. Describe how sand moves along a beach. Explain why some areas are more affected by wind erosion than other areas are. Describe the process of saltation. Identify three landforms that result from wind erosion and deposition. Explain how dunes move. Explain the difference between alpine glaciers and continental glaciers. Describe two ways in which glaciers move. Identify five landscape features formed by alpine glaciers. Identify four types of moraines. Review for the academic vocabulary quiz. Evaluate understanding of Reshaping the Land Unit Vocabulary words. Explain the role of gravity as an agent of erosion and deposition. Explain how angle of repose is related to mass movement. Describe three factors that affect creep. Review content matter of Chapter 10: Weathering and Soil Formation, Chapter 11: The Flow of Fresh Water, and Chapter 12: Agents of Erosion and Deposition. Examine a stream's speed and its effect on erosion.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

PASS: P. Standard 3.3(identify variables and controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 3.5(follow a multistep procedure), Process Standard 3.6(practice safety procedures), Process Standard 4.1(record qualitative data), Process Standard 4.3(develop reasonable explanations), Process Standard 4.5(communicate scientific processes), Process Standard 5.2(conduct experiments), Process Standard 5.5(form a valid conclusion), Process Standard 4.2(interpret data tables, and graphs), Content Standard 2.1(The motion of an object can be measured and its speed can be represented on a graph), CS 4.1: Landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.

HOURS	MONDAY 11/10/14	TUESDAY 11/11/14	WEDNESDAY 11/12/14	THURSDAY 11/13/14	FRIDAY 11/14/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Explain how energy from waves affects a shoreline. Identify six shoreline features created by wave erosion. Explain how wave deposits form beaches. Describe how sand moves along a beach. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #27: Should water conservation be enforced? OCCT Item Spec. Question • Shoreline Erosion and Deposition (Section 12.1 pg.342-347) PowerPoint Read/Lecture/ • Discuss **Eval:** Word association organizer for unit vocabulary words.	**Purpose:** Explain why some areas are more affected by wind erosion than other areas are. Describe the process of saltation. Identify three landforms that result from wind erosion and deposition. Explain how dunes move. Explain the difference between alpine glaciers and continental glaciers. Describe two ways in which glaciers move. Identify five landscape features formed by alpine glaciers. Identify four types of moraines. Review for the academic vocabulary quiz. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #28: What causes wind? OCCT Item Spec. Question • Wind Erosion and Deposition (Section 12.2 pg.348-351) and Erosion and Deposition by Ice (Section 12.3 pg.352-357) Read/Lecture/ Discuss • Review for the unit vocabulary quiz by having students guess the word when given the definition or picture. **Eval:** Finish Living Soil Lab by observing bread samples. **Homework:** Finish Living Soil Lab Report.	**Purpose:** Evaluate understanding of Reshaping the Land Unit Vocabulary words. Explain the role of gravity as an agent of erosion and deposition. Explain how angle of repose is related to mass movement. Describe three factors that affect creep. MS-ESS2-2, C. Std. 4.1 **Activities:** • Bell Activity #29: Much of North America was once covered by a continental glacier. Describe what a continental glacier does to the land. What would be different today if that event had not occurred? OCCT Item Spec. Question • The Effect of Gravity on Erosion and Deposition (Section 12.4 pg.358-361) Read/ Lecture/Discuss **Eval:** 1. Reshaping the Land Unit Vocabulary Word Quiz 2. Living Soil Lab Report Due	**Purpose:** Review content matter of Chapter 10: Weathering and Soil Formation, Chapter 11: The Flow of Fresh Water, and Chapter 12: Agents of Erosion and Deposition. MS-ESS2-2, MS-ESS3-1, P. Std. 3.3, C. Std. 4.1 **Activities:** • Bell Activity #30: Describe a place where a warning sign saying, "Watch for falling rocks," might be located. List factors that contribute to making a rock-fall zone. OCCT Item Spec. Question • Reshaping the Land Study Guide **Eval:** 1. At the end of class discuss answers to the study guide. Students must also study their notes and to prepare for the test. 2. Checking Ch. 7-12 Notes today.	**Purpose:** Examine a stream's speed and its effect on erosion. MS-ESS3-1, P. Std. 3.4, P. Std. 3.5, P. Std. 3.6,P. Std. 4.1, P. Std. 4.3, P. Std. 4.5, P. Std. 5.2, P. Std. 5.5, C. Std. 2.1, C. Std. 4.1 **Activities:** • Bell Activity #31: Why is a stream table a good model for showing the effects of erosion? OCCT Item Spec. Question • Stream Table Lab **Eval:** Post-lab questions and Graphs

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Evaluate understanding of Reshaping the Land Unit. Examine a stream's speed. Practice solving for speed, distance, and time. Describe the cause of tsunamis and the impact they can have on the environment. Introduce Oceanography Unit Vocabulary words. Identify three different types of point-source ocean pollution. Describe what is being done to control ocean pollution. Review unit vocabulary words as a class. Describe surface currents. List the three factors that control surface currents. Describe deep currents. Identify the three factors that form deep currents.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

PASS: P. Standard 3.3(identify variables and controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 4.2(interpret data tables, and graphs), Content Standard 2.1(The motion of an object can be measured and its speed can be represented on a graph), CS 4.1: Landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediment and destructive forces such as weathering and erosion.

HOURS	MONDAY 11/17/14	TUESDAY 11/18/14	WEDNESDAY 11/19/14	THURSDAY 11/20/14	FRIDAY 11/21/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Evaluate understanding of Reshaping the Land Unit. MS-ESS2-2, MS-ESS3-1, P. Std. 3.3, P. Std. 4.2, C. Std. 2.1, C. Std. 4.1 **Activities:** • Bell Activity #32: If the large ice sheet covering Antarctica were to melt completely, what type of landscape would you expect Antarctica to have? OCCT Item Spec. Question • After the test, work on the Stream Table Lab Report. **Eval:** Reshaping the Land Unit Test	**Purpose:** Examine a stream's speed. Practice solving for speed, distance, and time. **Activities/Eval:** • Finish lab report and graphs for the Stream Table lab. • Speed Problems Practice Worksheets **Reminder:** Hilldale Middle School Science Fair is today.	**Purpose:** Describe the cause of tsunamis and the impact they can have on the environment. C. Std. 5.1 **Activities/Eval:** • Finish watching the Tsunami video. Students will take notes (25 facts) over the video and turn in at the end of the hour.	**Purpose:** Introduce Oceanography Unit Vocabulary words. Identify three different types of point-source ocean pollution. Describe what is being done to control ocean pollution. MS-ESS3-4 **Activities:** • Bell Activity #33: Read the passage titled, "The Lost Squadron," on pg.368. Determine the central ideas of the text and provide an accurate summary. Then imagine that you were part of the crew that had to wait 10 days to be rescued. What would you have done to survive? OCCT Item Spec. Question • Oceanography Unit Vocabulary PowerPoint. Students will write the definitions and draw the pictures. • Ocean Pollution(Section 13.5 pg.400-405) PowerPoint Lecture/Discuss/Take Notes • Watch the BrainPOP video clips over the water cycle and rivers. Take the quizzes for each topic. Then review the answers as a class. **Eval:** BrainPOP video quizzes (Water Cycle and Rivers)	**Purpose:** Review unit vocabulary words as a class. Describe surface currents. List the three factors that control surface currents. Describe deep currents. Identify the three factors that form deep currents. C. Std. 4.3 **Activities:** • Bell Activity #34: How can trash dumping and sludge dumping affect food chains in the oceans? OCCT Item Spec. Question • Review for the unit vocabulary quiz by having students guess the word when given the definition or picture. • Currents (Section 14.1 pg.416-421) PowerPoint Lecture/Discuss/Take Notes **Eval:** Brain Dump: Students will discuss what they learned as a class.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Explain how currents affect climate. Describe the effects of El Nino. Explain how scientists study and predict the pattern of El Nino. Evaluate understanding of Oceanography unit vocabulary words. Identify the parts of a wave. Explain how the parts of a wave relate to wave movement. Describe how ocean waves form and move.

OAS and PASS OBJECTIVES:
PASS: Content Standard 4.3 (Atmospheric and ocean circulation patterns affect weather on a global scale (e.g., El Niño, La Niña, Gulf Stream)

HOURS	MONDAY 11/24/14	TUESDAY 11/25/14	WEDNESDAY 11/26/14	THURSDAY 11/27/14	FRIDAY 11/28/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Explain how currents affect climate. Describe the effects of El Nino. Explain how scientists study and predict the pattern of El Nino. C. Std. 4.3 **Activities:** • Bell Activity #35: Read the introductory paragraph on pg.422. Analyze the author's purpose in providing the explanation about Scilly Isles and Newfoundland. OCCT Item Spec. Question • Currents and Climate (Section 14.2 pg.422-425) PowerPoint Lecture/Discuss/Take Notes **Eval:** Word association organizer for unit vocabulary.	**Purpose:** Evaluate understanding of Oceanography unit vocabulary words. Identify the parts of a wave. Explain how the parts of a wave relate to wave movement. Describe how ocean waves form and move. C. Std. 4.3 **Activities:** • Bell Activity #36: Describe how global winds, the Coriolis Effect, and continental deflections form a pattern of surface currents on Earth. OCCT Item Spec. Question • Waves (Section 14.3 pg.426-427) PowerPoint Read/ Lecture/Discuss • Making Waves Demonstration pg.426 • Modeling Waves pg.427 **Eval:** Oceanography Unit Vocabulary Quiz	NO SCHOOL	NO SCHOOL	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Classify types of waves. Explain tides and their relationship with the Earth, sun, and moon. Describe four different types of tides. Analyze the relationship between tides and coastal land. Review content matter of Chapter 13: Resources from the Ocean and Chapter 14: The Movement of Ocean Water. Evaluate understanding of the Oceanography Unit. Compare primary and secondary pollutants. Identify major sources of air pollution. Explain the effects of an ozone hole. List five effects of air pollution on the human body. Identify ways to reduce air pollution.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

PASS: Content Standard 4.3 (Atmospheric and ocean circulation patterns affect weather on a global scale (e.g., El Niño, La Niña, Gulf Stream

HOURS	MONDAY 12/1/14	TUESDAY 12/2/14	WEDNESDAY 12/3/14	THURSDAY 12/4/14	FRIDAY 12/5/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Classify types of waves. MS-ESS3-2, C. Std. 4.3 **Activities:** • Bell Activity #37: Read the passage titled, "Red Tides," on pg.442. Determine the central ideas of the text and provide an accurate summary. OCCT Item Spec. Question • Waves (Section 14.3 pg.428-431) PowerPoint Read/ Lecture/Discuss • Show the Tsunami video clip. **Eval:** Doing the Wave Quick lab pg.428	**Purpose:** Explain tides and their relationship with the Earth, sun, and moon. Describe four different types of tides. Analyze the relationship between tides and coastal land. C. Std.4.3 **Activities:** • Bell Activity #38: If the moon had the mass of a golf ball, the sun would have the mass of approximately 110 school buses. Why do you think that the moon exerts more influence over tides on Earth than the sun does? OCCT Item Spec. Question • Tides (Section 14.4 pg.432-435) PowerPoint Read/Lecture/Discuss **Eval:** Watch the Brain POP video clip on tides. Take the quiz that follows for a grade. Also, students will write a paragraph summarizing what they learned.	**Purpose:** Review content matter of Chapter 13: Ocean Pollution and Chapter 14: The Movement of Ocean Water. MS-ESS3-2, C. Std.4.3 **Activities:** • Bell Activity #39: Explain how the position of the moon relates to the occurrence of high and low tides. OCCT Item Spec. Question • Oceanography Unit Study Guide **Eval:** Answers to the study guide will be discussed at the end of class.	**Purpose:** Evaluate understanding of the Oceanography Unit. MS-ESS3-4, MS-ESS3-2, C. Std 4.3 **Activities:** • Bell Activity #40: Read passage 2 on pg.440.Answer the 2 reading comprehension questions that follow. OCCT Item Spec. Question **Eval:** Oceanography Unit Test	**Purpose:** Compare primary and secondary pollutants. Identify major sources of air pollution. Explain the effects of an ozone hole. List five effects of air pollution on the human body. Identify ways to reduce air pollution. MS-ESS3-4 **Activities:** • Bell Activity #41: Make a list of three situations in which one might need to wear a filter mask. Write your answers in complete sentences. OCCT Item Spec. Question • Air Pollution (Section 15.4 pg.464-470) PowerPoint Lecture/Discuss/ Take Notes **Eval:** Students will write an essay discussing the following idea: 1. Argue about how an increase in human population has impacted Earth's resources (air). They will cite the textbook as a source of information in their essay.

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Describe the characteristics of thunderstorms, tornadoes, and hurricanes. Explain how radar and weather satellites help meteorologists forecast the weather. Describe how the Earth's climate has changed over time. Summarize four different theories that attempt to explain why the Earth's climate has changed. Explain the greenhouse effect and its role in global warming. Explain how cosmic impacts may affect life on Earth. Review content matter from the Weather and Climate Unit. Evaluate understanding of the Weather and Climate Unit.

OAS and PASS OBJECTIVES:

OAS: MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

PASS: Content Standard 4.3 (Atmospheric and ocean circulation patterns affect weather on a global scale (e.g., El Niño, La Niña, Gulf Stream)), Content Standard 5.1 (Earth's history has been punctuated by occasional catastrophic events (e.g., the impact of asteroids or comets, enormous volcanic eruptions, periods of continental glaciations, and the rise and fall of sea level))

HOURS	MONDAY 12/8/14	TUESDAY 12/9/14	WEDNESDAY 12/10/14	THURSDAY 12/11/14	FRIDAY 12/12/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe the characteristics of thunderstorms, tornadoes, and hurricanes. Explain how radar and weather satellites help meteorologists forecast the weather. MS-ESS3-2 **Activities:** • Bell Activity #42: Read passage 2 on pg.546. Answer the 3 reading comprehension questions that follow. OCCT Item Spec. Question • Severe Weather (Section 16.3 pg.496-502) and Forecasting the Weather (Section 16.4 pg.504-507) PowerPoints Lecture/Discuss/Take Notes **Eval:** Turn in Bell Activities #1-42	**Purpose:** Describe how the Earth's climate has changed over time. Summarize four different theories that attempt to explain why the Earth's climate has changed. Explain the greenhouse effect and its role in global warming. C. Std. 5.1 **Activities:** • Students will answer an OCCT Item Spec. Question • Review for the unit vocabulary quiz by having students guess the word when given the definition or picture. • Changes in Climate (Section 17.4 pg.536-541) PowerPoint Lecture/Discuss/Take Notes **Eval:** Watch the Brain Pop video clip over the greenhouse effect. Take the quiz that follows and review answers as a class.	**Purpose:** Explain how cosmic impacts may affect life on Earth. MS-ESS2-2 **Activities:** • Students will answer an OCCT Item Spec. Question. • Small Bodies in the Solar System (Section 21.5 pg.668-673) PowerPoint Lecture/Discuss/Take Notes **Eval:** Weather and Climate Unit Vocabulary Quiz	**Purpose:** Review content matter from the Weather and Climate Unit. MS-ESS2-2, MS-ESS3-2, MS-ESS3-4, C. Std. 5.1 **Activities:** • Students will answer an OCCT Item Spec. Question. • Weather and Climate Unit Study Guide **Eval:** Answers to the study guide will be discussed at the end of class.	**Purpose:** Evaluate understanding of the Weather and Climate Unit. MS-ESS2-2, MS-ESS3-2, MS-ESS3-4, C. Std. 5.1 **Activities:** • Students will answer an OCCT Item Spec. Question. **Eval:** Weather and Climate Unit Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

GRADE LEVEL: 8TH SUBJECT: SCIENCE TEACHER: AMBER HORN

OVERVIEW AND PURPOSE: Prepare for the semester exam by completing the semester exam study guide. Prepare for the OCCT by taking a practice test over observing, measuring, experimenting, interpreting, and communicating.

OAS and PASS OBJECTIVES:
PASS: Process Standard 1(observe and measure), Process Standard 3(experimenting), Process Standard 4(interpret and communicate)

HOURS	MONDAY 12/15/14	TUESDAY 12/16/14	WEDNESDAY 12/17/14	THURSDAY 12/18/14	FRIDAY 12/19/14
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the semester exam by completing the semester exam study guide. P. Std. 1, P. Std. 3, P. Std. 4 **Activities:** • Students will answer an OCCT Item Spec. Question. • Students will complete their study guide for the semester exam.	**Purpose:** Prepare for the semester exam by finishing the semester exam study guide. P. Std. 1, P. Std. 3, P. Std. 4 **Activities:** • Students will answer an OCCT Item Spec. Question. • Students will finish the semester exam study guide. **Eval:** Go over the answers to the study guide as a class.	**Purpose:** Prepare for the OCCT by taking a practice test over observing, measuring, experimenting, interpreting, and communicating. P. Std. 1, P. Std. 3, P. Std. 4 **Activities/Eval:** • OCCT practice test. • Go over the 25 questions as a class.	SEMESTER EXAMS	SEMESTER EXAMS