HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Discuss syllabus and explain rules and procedures. Discuss supply list and explain how the science notebook will be organized. Use clues to develop predictions. Students will write a paragraph describing characteristics they share with a scientist. Students will find their way around the textbook by completing the textbook scavenger hunt. They will know where chapters and sections begin and will be able to find answers to questions. They will also be able to look up words in the index.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.WHST 4(produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience) **Pass:** Process Standard 4.3(evaluate to develop explanations and/or predictions)

HOURS	MONDAY 8/6/12	TUESDAY 8/7/12	WEDNESDAY 8/8/12	THURSDAY 8/9/12	FRIDAY 8/10/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science				**Purpose:** Discuss syllabus and explain rules and procedures. Discuss supply list and explain how the science notebook will be organized. Use clues to develop predictions. Process Standard 4.3(evaluate to develop explanations and/or predictions) **Activities:** Discuss the syllabus, explain rules and procedures, and give a tour of the room. **Eval:** Inference Riddles Activity: Have students use the clues given to develop predictions.	**Purpose:** Students will write a paragraph describing characteristics they share with a scientist. Students will find their way around the textbook by completing the textbook scavenger hunt. They will know where chapters and sections begin and will be able to find answers to questions. They will also be able to look up words in the index. 8.WHST 4(produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience) **Activities:** Pick a scientist characteristic from the list on the board. Give an example of why that characteristic describes you and then explain why a scientist needs that characteristic. Discuss as a class how the textbook is organized. **Eval:** Scientific Characteristics Paragraph Textbook Scavenger Hunt

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Explain the importance of asking questions in life science. State examples of life scientists at work. List three ways life science is beneficial to living things. 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. Explain how to write a proper lab report. Give examples of three types of models. Identify the benefits and limitations of models. Compare the ways that scientists use hypotheses, theories, and laws. Discuss how to create a science project. Students will work in the computer lab to find possible ideas for a science fair project. They will pick their favorite idea and write a paragraph explaining what they are testing and give a detailed procedure.

PASS OBJECTIVES AND COMMON CORE STANDARDS: **Common Core:** 8.RST 4(determine the meaning of key terms), 8.RST 5(analyze the structure an author uses to analyze a text),8.RST 7(integrate information in words with version expressed visually), 8.WHST 1(write arguments focused on discipline-specific content), 8.WHST 1a(introduce and distinguish claims), 8.WHST 1.d (maintain a formal style), 8.WHST 1.e(provide a concluding statement), 8.WHST 2a(introduce topic, organize ideas into categories), 8.WHST 2d(use vocabulary to inform), 8.WHST 4(produce clear writing appropriate to task), 8.WHST 10(write routinely) 8.WHST 7(conduct research project to answer)**Pass:** Process Standard 2.1(place an object into a classification system), P. Standard 2.2(identify properties by which objects could be ordered), P. Standard 3.1(ask questions, design investigations, identify testable questions), P. Standard 3.3(identify variables and controls in an experiment), P. 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), 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)

HOURS	MONDAY 8/13/12	TUESDAY 8/14/12	WEDNESDAY 8/15/12	THURSDAY 8/16/12	FRIDAY 8/17/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Explain the importance of asking questions in life science. State examples of life scientists at work. List three ways life science is helpful to living things. Process Standard 5.1(ask questions that can be answered through investigations), 8.RST 4(determine the meaning of key terms in science texts), 8.WHST 2d(use domain-specific vocabulary to inform or explain) **Activities:** Bell Activity #1: List two reasons why it is important for scientists to ask questions. OCCT Item Spec. Question #1 Organize science notebooks. Discuss "Deformed Frogs" pg. 2. Section 1.1 pg.4-7. Lecture/Read/Discuss **Eval:** What did you learn today? If time allows, test knowledge on life science words at http://www.spellingcity.com/life-science.html	**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. Process Standard 3.1(ask questions, design investigations, identify testable questions), Process Standard 3.3(identify variables and/or controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 4.2 (interpret data tables and graphs), Process Standard 4.3(evaluate data to develop explanations or predictions), Process Standard 5.1(ask questions that can be answered through investigations), 8.RST 5(analyze the structure an author uses to analyze a text), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 1a(introduce and distinguish claims, and organize evidence logically) **Activities:** Bell Activity #2: Analyze the structure the author uses to organize the text on pg.6-7. OCCT Item Spec. Question #2 Section 1.2 pg.8-14Read/Lecture/Discuss Show experiment examples and have students identify control groups, experimental groups, and variables. **Eval:** Vocab. Word Box for 2 BAV definitions in Sect.1.2 (Students will write a definition, use the word in a sentence, give an antonym, and draw a picture.	**Purpose:** Design a way to move an object using only four paperclips. Explain how to write a proper lab report. Process Standard 3.4(identify a testable hypothesis), Process Standard 3.6 (recognize potential hazards and safety procedures), Process Standard 4.1 (report and record both quantitative/qualitative data), Process Standard 4.4(determine if results support or reject hypothesis), Process Standard 4.5(communicate scientific processes, procedures, and conclusions), Process Standard 5.1(ask questions that can be answered through investigations), Process Standard 5.2 (design and conduct experiments), 8.WHST 1(write arguments focused on discipline-specific content), 8.WHST 1.d (maintain a formal style), 8.WHST 1.e(provide a concluding statement), 8.WHST 2a(introduce topic, organize ideas into categories), 8.WHST 4(produce clear writing appropriate to task), 8.WHST 10(write routinely) **Activities:** Bell Activity #3: Identify the 7 steps of the scientific method with the example on the board. OCCT Item Spec. Question #3 Save Fred The Gummy Worm Lab **Eval:** Students will write a lab report for this lab and turn in with the data sheet.	**Purpose:** Give examples of three types of models. Identify the benefits and limitations of models. Compare the ways that scientists use hypotheses, theories, and laws. Process Standard 2.1(place an object, organism, or event into a classification system), Process Standard 2.2(identify properties by which a set of objects could be ordered), 8.RST 4(determine the meaning of key terms in science texts) **Activities:** Bell Activity #4: Pg.15 #10 (use graph paper) OCCT Item Spec. Question #4 Section 1.3 pg.16-19 Lecture/Read/Discuss Classify shoes as a class. **Eval:** Students will create a visual organizer and write a paragraph classifying food. Present visual organizer to class.	**Purpose:** Discuss how to create a science project. Students will work in the computer lab to find possible ideas for a science fair project. They will pick their favorite idea and write a paragraph explaining what they are testing and give a detailed procedure. Process Standard 5.1(ask questions that can be answered through investigations), 8.WHST 7(conduct research project to answer) **Activities:** Bell Activity #5: Write the 7 steps of the scientific method and explain why the arrows go both ways on Figure 1 pg. 8. OCCT Item Spec. Question #5 Discuss science fair projects. Write down 5 possible ideas for a science fair project. Choose your favorite idea and write a paragraph explaining what you are testing and how you attempt to do it. **Eval:** Science Fair Ideas Worksheet BAV Word Quiz #1

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Give three examples of how life scientists use computers and technology. Describe three tools life scientists use to observe organisms. Explain the importance of the International System of Units, and give four examples of SI units. Begin writing research plan for a science project. The plan should include the title of the project, hypothesis, procedure, and bibliography. Discuss the proper format of a works cited page. Discuss plagiarism. Find the rest of the 5 sources for the research plan. Type the research plan. Convert between units of measurements. Apply the SI units to real world situations by using word problems when converting. Identify control groups, experimental groups, independent variables, and dependent variables.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms in science texts), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare information gained from various sources with that gained from reading text on the same topic), 8.WHST 6(use technology, including the Internet, to produce and publish writing), 8.WHST 8(gather information from print and digital sources, assess credibility of source, and quote or paraphrase while avoiding plagiarism and following a standard of citation) **Pass:** Process Standard 1.1(identify qualitative or quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 3.3(identify variables and/or controls in an experiment),Process Standard 3.4(identify a testable hypothesis), Process Standard 3.6 (recognize potential hazards and safety procedures), Process Standard 5.1 (ask questions that can be answered through investigations), Process Standard 5.4(understand the value of technology)

HOURS	MONDAY 8/20/12	TUESDAY 8/21/12	WEDNESDAY 8/22/12	THURSDAY 8/23/12	FRIDAY 8/24/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Give three examples of how life scientists use computers and technology. Describe three tools life scientists use to observe organisms. Explain the importance of the International System of Units, and give four examples of SI units. Process Standard 1.1(identify qualitative or quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 5.4(understand the value of technology), 8.RST 4(determine the meaning of key terms in science texts), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare information gained from various sources with that gained from reading text on the same topic) **Activities:** Bell Activity #6: Why do you think scientists use tools such as graduated cylinders and stopwatches? OCCT Item Spec. #6 Section 1.4 pg.20-25 Lecture/Read/Discuss Tools for seeing pg.20, Using a microscope pg.21, X-rays activity pg.21, Measuring mass and volume demonstration pg.23. **Eval:** Verbal and Visual Word Association for BAV definitions in Sect.1.4 (Students will write a definition, draw a picture of the word, and give a person association or characteristic.) Words are mass, technology, volume, control, hypothesis.	**Purpose:** Begin writing research plan for a science project. The plan should include the title of the project, hypothesis, procedure, and bibliography. Discuss the proper format of a works cited page. Discuss plagiarism. Process Standard 5.1 (ask questions that can be answered through investigations), 8.WHST 8(gather information from print and digital sources, assess credibility of source, and quote or paraphrase while avoiding plagiarism and following a standard of citation) **Activities:** Bell Activity #7: pg.28 #13, OCCT Item Spec. #8 Go to the library. Begin writing research plan. Look for sources to use in research paper. Write bibliographies for those sources. **Eval:** Must find at least 1 source for research paper and turn in the bibliography for it.	**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. 3.3, 8.RST 4(determine the meaning of key terms in science texts) **Activities:** Bell Activity #7: pg.28 #1-11, OCCT Item Spec. #7 Metric Conversion Lesson and Controlled Experiment review Show experiment examples and have students identify control groups, experimental groups, and variables. **Eval:** Spongebob Scientific Method Word Problems	**Purpose:** Find the rest of the 5 sources for the research plan. Type the research plan. Process Standard 5.1(ask questions that can be answered through investigations), 8.WHST 6(use technology, including the Internet, to produce and publish writing), 8.WHST 8(gather information from print and digital sources, assess credibility of source, and quote or paraphrase while avoiding plagiarism and following a standard of citation) **Activities:** Bell Activity #9: pg.29 #15, 17, OCCT Item Spec. #9 Work in the computer lab to find the rest of the sources for the research plan. Type detailed research plan and turn in. **Eval:** Finish Research Plan. **Reminder:** Completed research plan is due next Thursday.	**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. P. Std. 1.3, 8.RST 2(determine the central ideas or conclusions of a text), 8.RST 4(determine the meaning of key terms in science texts) **Activities:** Bell Activity #10: OCCT Item Spec. #10, Standardized Test Prep Questions pg.30-31 Review Metric Conversions. Work SI unit conversion examples as a class. **Eval:** SI Unit Conversion Word Problems BAV word Quiz #2 Words are control, hypothesis, independent variable, dependent variable, mass, technology, and volume.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Compare and contrast the four major branches of Earth science. Identify four examples of Earth science that are linked to other areas of science. Explain how scientists begin to learn about the natural world. Explain what scientific methods are and how scientists use them. Reflect on the importance of communicating the results of a scientific investigation. Describe how scientific investigations often lead to new investigations. Explain how models are used in science. Recognize the three types of models. Propose which types of models are best for certain topics. Accept the climate model as an example of a mathematical model. Evaluate the importance of the International System of Units. Determine appropriate units to use for particular measurements. Identify lab safety symbols, and determine what they mean. Discuss the proper research paper format by looking at an example. Evaluate understanding of BAV words. Practice lab safety and demonstrate how to use lab safety tools properly.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 1(Cite textual evidence to support analysis of texts), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare and contrast info. gained from experiments, video with that gained from reading a text on the same topic), 8.WHST 1.b(support claims with reasoning using credible sources), 8.WHST 1.c(use words to create relationships among reasons and evidence), 8.WHST 2(write informative texts), 8.WHST 2.b(develop the topic with well-chosen facts), 8.WHST 2.d(use domain specific vocabulary) **Pass:** Process Standard 1.3(use appropriate SI units),Process Standard 3.1(ask questions, design investigations, identify testable questions), Process Standard 3.2(evaluate the design of an investigation), Process Standard 3.3(identify variables and/or controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 3.5 (follow a multistep procedure), Process Standard 3.6 (recognize potential hazards and safety procedures), Process Standard 4.1 (report and record both quantitative/qualitative data), Process Standard 4.3(evaluate data to develop explanations or predictions), Process Standard 4.4(determine if results support or reject hypothesis), Process Standard 4.5(communicate scientific processes), Process 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 design process to address a problem), Process Standard 5.4(understand the value of technology)Process Standard 5.5(develop a relationship between evidence and explanation to form a conclusion)

HOURS	MONDAY 8/27/12	TUESDAY 8/28/12	WEDNESDAY 8/29/12	THURSDAY 8/30/12	FRIDAY 8/31/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Compare and contrast the four major branches of Earth science. Identify four examples of Earth science that are linked to other areas of science. P. Standard 1.3, P. Standard 5.4, 8.RST 4, 8.WHST 1.b, 8.WHST 1.c, 8.WHST 2, 8.WHST 2.b, 8.WHST 2.d **Activities:** Bell Activity #11: 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 Read and discuss the weekly science current event. Section 2.1 pg.36-41 Lecture/Read/Discuss Verbal and Visual Word Association for BAV definitions: DNA, Dominant/recessive traits, Monohybrid cross, Punnett Square, Comets, Abiotic, Biotic Practice working out Punnett squares. **Eval:** What did you learn today? Students will write about what they learned and then we will discuss as a class.	**Purpose:** Explain how scientists begin to learn about the natural world. Explain what scientific methods are and how scientists use them. Reflect on the importance of communicating the results of a scientific investigation. Describe how scientific investigations often lead to new investigations. P. Standard 3.1, P. Standard 3.2, P. Standard 3.3, P. Standard 3.4, P. Standard 3.5, P. Standard 4.1, P. Standard 4.3, P. Standard 4.4, P. Standard 4.5, P. Standard 5.1, P. Standard 5.2, P. Standard 5.3, P. Standard 5.5, 8.RST 3, 8.RST 4, 8.RST 7 **Activities:** Bell Activity #12: Write a hypothesis to explain why the dog vomited. OCCT Item Spec. Question Section 2.2 pg.42-47 Lecture/Read/Discuss Scientific Detectives pg.42, Scientific Methods pg.43, Discuss kinds of observations pg.45 **Eval:** Group Activity "Solving a Problem" pg.43. Devise a way to place a backpack, 3 textbooks, a notebook, pencils, and a lunch in a locker. Everything must be easily accessible and the lunch cannot be smashed. Draw the locker with the items. Homework: Hypothesizing pg.45 **Reminder:** Stop collecting data for Hypothesizing Homework on Tuesday September 4th. Hypothesizing Homework for science journals due on Thursday September 6th.	**Purpose:** Explain how models are used in science. Recognize the three types of models. Propose which types of models are best for certain topics. Accept the climate model as an example of a mathematical model. Process Standard 5.3, 8.WHST 1.b **Activities:** Bell Activity #13: Identify variables and controls in an experiment. OCCT Item Spec. Question Section 2.3 pg.48-51 Lecture/Read/Discuss Modeling an Airplane Activity pg.48, Critiquing Models pg.50 **Eval:** Reviewing models pg.50. Work independently to come up with 3 examples of each type of model. Identify a use and limitation of each.	**Purpose:** Evaluate the importance of the International System of Units. Determine appropriate units to use for particular measurements. Identify lab safety symbols, and determine what they mean. P. Standard 3.6, 8.RST 4 **Activities:** Bell Activity #14: 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 Section 2.4 pg.52-55 Lecture/Read/Discuss Math pg.53, Math focus pg.54 **Eval:** SI word problems practice	**Purpose:** Discuss the proper research paper format by looking at an example. Evaluate understanding of BAV words. Practice lab safety and demonstrate how to use lab safety tools properly. P. Standard 1.3, P. Standard 3.6, 8.RST 1, 8.RST 4, 8.RST 9 **Activities:** Bell Activity #15: Read the article on Jupiter. Answer reading comprehension questions and cite textual evidence. OCCT Item Spec. Question Lab safety Video Clip Read the Scientific Method Sponge Bob paragraphs. Discuss with a partner and as a class what lab safety rules were broken. Are You Equipped for Science? Lab **Eval:** BAV Word Quiz #3

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Explain that science involves asking questions. 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. Explain how scientific methods are used to answer questions. Describe how a hypothesis is formed and tested. Identify methods that are used to analyze data. Explain how a conclusion can support or disprove a hypothesis. List methods of communicating data. Explain how models represent the natural world. Identify three types of models used in science. Describe theories and law. Identify tools used to collect and analyze data. Explain the importance of the International System of units. Identify the appropriate units to use for particular measurements. Identify safety symbols. Review content matter of chapters 1-3 and identify any weaknesses. Evaluate understanding of chapters 1-3 (The World of Life, Earth, and Physical Science).

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 1.b(support claims with reasoning using credible sources), 8.WHST 1.c(use words to create relationships among reasons and evidence), 8.WHST 2(write informative texts), 8.WHST 2.b(develop the topic with well-chosen facts), 8.WHST 2.d(use domain specific vocabulary)**Pass:** Process Standard 1.3(use appropriate SI units),Process Standard 3.1(ask questions, design investigations, identify testable questions), Process Standard 3.3(identify variables and/or controls in an experiment), Process Standard 3.4(identify a testable hypothesis), Process Standard 3.6 (recognize potential hazards and safety procedures), Content Standard 1.2 (matter has physical properties that can be measured; matter is conserved)

HOURS	MONDAY 9/3/12	TUESDAY 9/4/12	WEDNESDAY 9/5/12	THURSDAY 9/6/12	FRIDAY 9/7/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**NO SCHOOL LABOR DAY**	**Purpose:** Explain that science involves asking questions. 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. Explain how scientific methods are used to answer questions. Describe how a hypothesis is formed and tested. Identify methods that are used to analyze data. Explain how a conclusion can support or disprove a hypothesis. List methods of communicating data. Process Standard 3.1, Process Standard 3.3, Process Standard 3.4, Content Standard 1.2, 8.RST 4, 8.WHST 1.b, 8.WHST 1.c, 8.WHST 2, 8.WHST 2.b, 8.WHST 2.d **Activities:** Bell Activity #16: 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 Section 3.1 pg.66-71 and Section 3.2 pg.72-78Lecture/Read/Discuss Matter vs. Energy pg.67, Developing a hypothesis pg.75 Review research plans for students doing science fair projects. **Eval:** What did you learn today? Students will write about what they learned and then we will discuss as a class. Finish hypothesizing homework	**Purpose:** Explain how models represent the natural world. Identify three types of models used in science. Describe theories and law. Identify tools used to collect and analyze data. Explain the importance of the International System of units. Identify the appropriate units to use for particular measurements. Identify safety symbols. Review content matter of chapters 1-3 and identify any weaknesses. Process Standard 1.3, Process Standard 3.6, Content Standard 1.2, 8.RST 4 **Activities:** Bell Activity #17: Questions pg.90 #8-11 OCCT Item Spec. Question Section 3.3 pg.80-83 and Section 3.4 pg.84-87 Lecture/Read/Discuss **Eval:** Chapter 3 Study Guide At the end of class discuss answers to the study guide. Students must also study their notes and review graded work to prepare for the test.	**Purpose:** Review content matter of chapters 1-3 and identify any weaknesses. Process Standard 1.3, Process Standard 3.3, Process Standard 3.4, Process Standard 3.6, 8.RST 4 **Activities:** Bell Activity #18: Questions pg.91 #19, 22, 23 OCCT Item Spec. Question Finish reviewing the answers to the study guide. Work out review problems from chapters 1-3. **Eval:** Discuss answers to the review problems as a class.	**Purpose:** Evaluate understanding of chapters 1-3 (The World of Life, Earth, and Physical Science). Process Standard 1.3, Process Standard 3.3, Process Standard 3.4, Process Standard 3.6, 8.RST 4 **Activities:** Bell Activity #19: 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:** Chapter 1-3 Test

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. Classify organisms using a dichotomous key. Evaluate understanding of Chapter 9: Classification.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 5(analyze the structure an author uses to organize a text), 8.RST 6(analyze the author's purpose in providing an explanation in a text), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 8(distinguish between facts and speculation) **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), Content Standard 3.1(by classifying organisms biologists infer the degree of relatedness among organisms)

HOURS	MONDAY 9/10/12	TUESDAY 9/11/12	WEDNESDAY 9/13/12	THURSDAY 9/14/12	FRIDAY 9/15/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**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. 8.RST 7, 8.RST 8, Process Standard 2.1, Process Standard 2.2, Content Standard 3.1 **Activities:** Bell Activity #20: Distinguish between facts, reasoned judgment based on research, and speculation after reading a passage about dinosaurs. OCCT Item Spec. Question Read and discuss weekly current event. Section 9.1 pg.222-227 Lecture/Read/Discuss Discuss research paper due date. **Eval:** Oral questions	**Purpose:** Explain how classification schemes for kingdoms developed as greater numbers of different organisms became known. Catalogue each of the six kingdoms. 8.RST 6, Process Standard 2.1, Process Standard 2.2, Content Standard 3.1 **Activities:** Bell Activity #21: Read the paragraph on pg.223 named, "Branching Diagrams". Analyze the author's purpose in providing the explanation. OCCT Item Spec. Question Section 9.2 pg.228-233 **Eval:** Oral questions	**Purpose:** Review content matter of Chapter 9: Classification and identify any weaknesses. 8.RST 4, 8.RST 5, Process Standard 2.1, Process Standard 2.2, Process Standard 3.3, Content Standard 3.1 **Activities:** Bell Activity #22: Read the three paragraphs on pg.229. Then analyze the structure the author uses to analyze the text, including how the major sections contribute to the whole and to an understanding of the topic. OCCT Item Spec. Question **Eval:** Chapter 9 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:** Classify organisms using a dichotomous key. Process Standard 2.1, Process Standard 2.2, Content Standard 3.1 **Activities:** Bell Activity#23: Read the two paragraphs about animals on pg.232-233. Analyze the author's purpose in providing the explanation about simple animals. OCCT Item Spec. Question Dichotomous Key Lab **Eval:** Identify the organisms using the dichotomous key. Write the steps taken to identify the organism.	**Purpose:** Evaluate understanding of Chapter 9: Classification. 8.RST 4, 8.RST 7, Process Standard 2.1, Process Standard 2.2, Process Standard 3.3, Content Standard 3.1 **Activities:** Bell Activity #24: Questions about cladograms pg.237 #20-23. OCCT Item Spec. Question **Eval:** Chapter 9 Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND 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. Explain how placental mammals develop. Give an example of each type of mammal. Review content matter of Chapter 12 and 17: Seed Plants and Mammals.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 8(distinguish between facts and speculation), 8.RST 9(compare and contrast info. gained from experiments, video with that gained from reading a text on the same topic), 8.WHST 1(write arguments focused on discipline-specific content), 8.WHST 1b(support claims with logical reasoning), 8.WHST 1d(maintain a formal style), 8.WHST 1e(provide a concluding statement that supports the argument), 8.WHST 2(write informative texts), 8.WHST 2e(maintain a formal style), 8.WHST 2f(provide a concluding statement), 8.WHST 5(with some guidance from peers, develop and strengthen writing as needed), **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 4.1(record quantitative/ qualitative data in an appropriate method), Process 4.2(interpret data tables and graphs), 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 9/17/12	TUESDAY 9/18/12	WEDNESDAY 9/19/12	THURSDAY 9/20/12	FRIDAY 9/21/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Recognize ways that seed plants differ from seedless plants. Describe the structure of seeds. Discuss methods of seed dispersal. 8.RST 4, 8.RST 9, 8.WHST 2, 8.WHST 2e, 8.WHST 2f, Content Standard 3.2 **Activities:** Bell Activity #25: If plants cannot move, how do they disperse their seeds? OCCT Item Spec. Question Read and discuss weekly science current event. Section 12.3 pg.308-309 Lecture/Read/Discuss Dissecting Seeds Lab Pass out Ch. 9 tests and discuss any missed questions. **Eval:** Dissecting Seeds Lab Questions pg.309 Science Journal Entry: Animals That Help Plants pg. 309. Students will write about how animals help plants in seed dispersal. A concluding statement must be included.	**Purpose:** Compare angiosperms and gymnosperms. Explain the economic and environmental importance of gymnosperms and angiosperms. 8.RST 4, 8.RST 8, Content Standard 3.2 **Activities:** Bell Activity #26: Distinguish between facts, reasoned judgment based on research, and speculation after reading a passage about plants in South Africa. OCCT Item Spec. Question Section 13.2 pg.310-313 Lecture/Read/Discuss **Eval:** Review questions pg.313 #2-6, 8-9	**Purpose:** Explain how placental mammals develop. Give an example of each type of mammal. 8.RST 4, 8.RST 7, Process Standard 2.1, Process Standard 2.2, Process Standard 4.1, Process Standard 4.2, Content Standard 3.2 **Activities:** Bell Activity #27: List 20 mammals and organize them into groups based on their similarities. OCCT Item Spec. Question Section 17.4 pg.456-458 Lecture/Read/Discuss **Eval:** Graph Gestation Periods of various mammals.	**Purpose:** Give an example of each type of mammal. 8.RST 8, 8.WHST 1, 8.WHST 1b, 8.WHST 1d, 8.WHST 1e, 8.WHST 5, Content Standard 3.2 **Activities:** Bell Activity #28: Distinguish between facts, reasoned judgment based on research, and speculation after reading a passage about hoofed mammals. OCCT Item Spec. Question Section 17.4 pg.459-462 Lecture/Read/Discuss **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. 8.RST 4, Process Standard 3.3, Content Standard 3.2 **Activities:** Bell Activity #29: Questions pg.463 #8-10 OCCT Item Spec. Question Chapter 12 and 17 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.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Evaluate understanding of Chapter 12 and 17: Seed Plants and Mammals. Use creativity to disperse a seed. Create a plan using available materials to disperse a seed. Test the seed dispersal method and then record the results in a data table. 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.

PASS OBJECTIVES AND COMMON CORE STANDARDS:
Common Core: 8.RST 2(determine the central ideas of a text; provide a summary), **(**8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 2(write informative texts), 8.WHST 2.b(develop the topic with well-chosen facts), 8.WHST 2.d(use domain specific vocabulary) **Pass:** Process Standard 3.3(identify variables and controls in an experiment), Process Standard 5.2(design and conduct experiments), Process Standard 5.3(use the design process to address a problem), 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 9/24/12	TUESDAY 9/25/12	WEDNESDAY 9/26/12	THURSDAY 9/27/12	FRIDAY 9/28/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Evaluate understanding of Chapter 12 and 17: Seed Plants and Mammals. 8.RST 4, Process Standard 3.3, Content Standard 3.2 **Activities:** Bell Activity #30: What is echolocation? List two example s of mammals that use echolocation. Then identify which placental mammal group those animals belong to. OCCT Item Spec. Question Read and discuss weekly science current event. Pass out the Notebook Checklist for the 1st quarter. Science notebooks are due on Friday. **Eval:** Chapter 12,17 Test	**Purpose:** Use creativity to disperse a seed. Create a plan using available materials to disperse a seed. Test the seed dispersal method and then record the results in a data table. Process Standard 5.2, Process 5.3, Content Standard 3.2 **Activities:** Bell Activity #31: Identify the most probable seed dispersal method for a pine tree and a rose bush. Travelin' Seeds Lab **Eval:** Post Lab Questions **Explore Test 1st-3rd hours** **Lesson Plans for 4th and 7th hours.**	**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. 8.RST 2, 8.RST 4, 8.RST 7, Content Standard 4.2 **Activities:** Bell Activity #32: Read the Section "The Value of Rock" on pg.90. Determine the central ideas of the text and provide a one paragraph summary of the text. OCCT Item Spec. Question Section 4.1 pg.90-97 Lecture/ Read/Discuss **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. 8.RST 4, 8.WHST 2, 8.WHST 2.b, 8.WHST 2.d, Content Standard 4.2 **Activities:** Bell Activity #33: List the 4 processes that change rock from one type to another. What are the 3 main classes of rocks? OCCT Item Spec. Question Section 4.2 pg.98-101 Lecture/Read/Discuss **Eval:** What did you learn today? Students will write about what they learned and then we will discuss as a class.	**Purpose:** Describe the origin of sedimentary rock. Describe the three main categories of sedimentary rock. Describe the three types of sedimentary structures. 8.RST 4, Content Standard 4.2 **Activities:** Bell Activity #34: 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 Section 4.3 pg.102-105 **Eval:** Oral Review questions Science Notebooks due today.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND 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. Review content matter of Chapter 4: Rocks (Minerals Mixtures). Review the rock cycle using the rock cycle Smartboard question set. Review the types of rocks, how rocks change, and the rock cycle diagram using the Rock Cycle Interactives website. Evaluate understanding of Chapter 4: Rocks (Mineral Mixtures). 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.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text; provide a summary), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 2(write informative texts), 8.WHST 2.b(develop the topic with well-chosen facts), 8.WHST 2.d(use domain specific vocabulary) **Pass:** Process Standard 3.3(identify variables and controls in an experiment), Process Standard 4.2(interpret data tables, and graphs), 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), Content Standard 5.2(fossils provide evidence of how life and conditions have changed)

HOURS	MONDAY 10/1/12	TUESDAY 10/2/12	WEDNESDAY 10/3/12	THURSDAY 10/4/12	FRIDAY 10/5/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**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. 8.RST 4 **Activities:** Bell Activity #1Write 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 Read and discuss weekly science current event. Section 4.1 pg.106-111 Read/ Lecture/Discuss **Eval:** Oral Review Questions	**Purpose:** Review content matter of Chapter 4: Rocks (Minerals Mixtures). Review the rock cycle using the rock cycle Smartboard question set. 8.RST 4, Process Standard 3.3, Content Standard 4.2 **Activities:** Bell Activity #2: 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 Chapter 4 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:** Review the types of rocks, how rocks change, and the rock cycle diagram using the Rock Cycle Interactives website. 8.RST 4, 8.RST 7, Content Standard 4.2 **Activities:** Bell Activity #3: Graphing questions pg.115 #22-24 OCCT Item Spec. Question Students will prepare a lesson or worksheet about the rock cycle to present to a second grade class. They will need to prepare vocabulary lists, illustrations, or a worksheet to help the younger students understand the types of rock, the uses of rock, and the way rocks form. **Eval:** Rock Cycle lesson plan assignment	**Purpose:** Evaluate understanding of Chapter 4: Rocks (Mineral Mixtures). 8.RST 4, Process Standard 3.3, Process Standard 4.2, Content Standard 4.2 **Activities:** Bell Activity #4: Identify the variables and the control in an experiment. OCCT Item Spec. Question **Eval:** Chapter 4 Test	**Purpose:** 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. 8.RST 2, 8.RST 4, 8.WHST 2, 8.WHST 2.b, 8.WHST 2.d, Content Standard 5.2 **Activities:** Bell Activity #5: Read the text titled "Shock Metamorphism" on page 118. Determine the central ideas and write a summary of the text. OCCT Item Spec. Question Section 6.2 pg.156-161 Read/ Lecture/Discuss **Eval:** Science Journal Entry #1: Draw and label disconformities, nonconformities, and angular unconformities. Identify the youngest and the oldest rocks and includes examples of intrusions, folds, and faults.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: 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. 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. Make a model of a geologic column. Interpret the geologic history represented by the geologic column that was made. Evaluate understanding of Chapter 6: The Rock and Fossil Record.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 6(analyze the author's purpose in providing an explanation), W.HST 1(write arguments focused on discipline-specific content), W.HST 1.c (use words to clarify relationships among claims, reasons, and evidence). **PASS:** Process Standard 3.3(identify variables and controls in an experiment), Process Standard 3.5(follow a multistep procedure), Process Standard 4.5(communicate scientific processes), Content Standard 5.2(fossils provide evidence of how life and conditions have changed)

HOURS	MONDAY 10/8/12	TUESDAY 10/9/12	WEDNESDAY 10/10/12	THURSDAY 10/11/12	FRIDAY 10/12/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** 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. 8.RST 4, Content Standard 5.2 **Activities:** Bell Activity #6: pg.161 #3, 5, 7 OCCT Item Spec. Question Read and discuss weekly science current event. Section 6.4 pg.166-171 Read/ Lecture/Discuss **Eval:** Directed reading Questions over Section 6.4.	**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. 8.RST 4, 8.RST 6, Content Standard 5.2 **Activities:** Bell Activity #7: Read the paragraph titled, "Time Marches On". Analyze the author's purpose in providing the explanation. OCCT Item Spec. Question Section 6.5 pg.172-177 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:** Science Journal Entry #2: Draw and give examples of animals alive during the Paleozoic, Mesozoic, and Cenozoic Eras.	**Purpose:** Review content matter of Chapter 6: The Rock and Fossil Record. Process Standard 3.3, Content Standard 5.2 **Activities:** Bell Activity #8:Interpreting Graphics Questions pg.181 #22-25 OCCT Item Spec. Question Chapter 6 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:** Make a model of a geologic column. Interpret the geologic history represented by the geologic column that was made. 8.RST 3, W.HST 1, W.HST 1.c, Process Standard 3.5, Process Standard 4.5, Content Standard 5.2 **Activities:** Bell Activity #9: Read the passage about Feathered Dinosaurs on pg.184. Write an argument stating your opinion on feathered dinosaurs. OCCT Item Spec. Question How Do You Stack Up? Lab pg.178-179 **Eval:** Analyze the Results and Draw Conclusions Questions pg.179	**Purpose:** Evaluate understanding of Chapter 6: The Rock and Fossil Record. Process Standard 3.3, Content Standard 5.2 **Activities:** Bell Activity #10: Identify the variables and the control in an experiment. OCCT Item Spec. Question **Eval:** Chapter 6Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND 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. 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.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.WHST 2(write informative texts), 8.WHST 2a(introduce a topic clearly), 8.WHST 2c(use appropriate and varied transitions to create cohesion among ideas), 8.WHST 2d(use precise language to explain the topic), 8.WHST 2e(establish and maintain a formal style) **PASS:** 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)

HOURS	MONDAY 10/15/12	TUESDAY 10/16/12	WEDNESDAY 10/17/12	THURSDAY 10/18/12	FRIDAY 10/19/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**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. 8.RST 3, 8.RST 4, Process Standard 3.5, Process Standard 4.2, Content Standard 4.1 **Activities:** Bell Activity #11: Graphing Questions pg.183 #1-3 OCCT Item Spec. Question Read and discuss weekly science current event. Section 7.1 pg.190-196 Read/ Lecture/Discuss 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.	**Purpose:** Use the hypothesis of continental drift to piece together the continents into to the single continent of Pangaea. 8.RST 4, 8.WHST 2, 8.WHST 2a, 8.WHST 2c, 8.WHST 2d, 8.WHST 2e, Content Standard 4.1 **Activities:** Bell Activity #12: 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. 8.RST 4, Content Standard 4.1 **Activities:** Bell Activity #13: Questions pg.197 #5-8 OCCT Item Spec. Question Section 7.2 pg.198-201 Read/ Lecture/Discuss **Eval:** Evidence for Continental Drift Assignment: Students will work in groups to analyze evidence that supports the continental drift hypothesis.	NO SCHOOL	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce ten new building academic 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. Review building academic vocabulary words as a class. Identify the most common types of mountains. Explain the difference between uplift and subsidence. Complete the verbal and visual word association organizer for the building academic vocabulary words. Explain how volcanic eruptions can affect climate. Compare three types of volcanic landforms. Demonstrate a volcanic eruption using a model volcano. Describe the formation and movement of magma. Explain the relationship between volcanoes and plate tectonics. Summarize the methods scientists use to predict volcanic eruptions. Evaluate understanding of building academic vocabulary words. Review content matter of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 4(determine the meaning of key terms), 8.RST 5(analyze the structure an author uses to organize a text), 8.RST 6(analyze the author's purpose in providing an explanation), 8.RST 7(integrate information expressed in words with version of that info. expressed visually) **Pass:** Process Standard 3.3(identify variables and controls in an experiment), Process Standard 4.2(interpret data tables, and graphs), Content Standard 4.1(landforms result from constructive forces)

HOURS	MONDAY 10/22/12	TUESDAY 10/23/12	WEDNESDAY 10/24/12	THURSDAY 10/25/12	FRIDAY 10/26/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce ten new building academic 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. 8.RST 4, 8.RST 6, 8.RST 7, Content Standard 4.1 **Activities:** BA#14: Read the two paragraphs titled, "Deforming the Earth's Crust". Analyze the author's purpose in providing the explanation about spaghetti noodles. OCCT Item Spec. Question Read and discuss weekly science current event. Building Academic Vocabulary PowerPoint. The words for this week are dispersal methods, rock cycle, sedimentary rock, igneous rock, metamorphic rock, plate tectonics, continental drift, crustal deformation, landforms, and continental glaciation. Students will write the definitions and draw the pictures. Section 7.4 pg.206-209 Read/ Lecture/Discuss **Eval:** Oral questions	**Purpose:** Review building academic vocabulary words as a class. Identify the most common types of mountains. Explain the difference between uplift and subsidence. 8.RST 4, 8.RST 5, Content Standard 4.1 **Activities:** BA#15: Look at the major headings on pg.207-211. Analyze the structure the author uses to organize the text, including how the minor headings contribute to the major headings and how the major headings contribute to the whole. OCCT Item Spec. Question Read the building academic vocabulary words as a class. Section 7.4 pg.210-213 Read/ Lecture/Discuss **Eval:** Students will write notes as we are discussing the section. They will need to decide what information is important enough to write down. They will turn their notes in for a grade at the end of the class period.	**Purpose:** Complete the verbal and visual word association organizer for the building academic vocabulary words. Explain how volcanic eruptions can affect climate. Compare three types of volcanic landforms. Demonstrate a volcanic eruption using a model volcano. 8.RST 4, 8.RST 7, Content Standard 4.1 **Activities:** BA#16: Questions pg.213 #9-12 OCCT Item Spec. Question Section 9.2 pg.256, 258-259 Read/Lecture/Discuss Volcanic Eruption Model **Eval:** Verbal/Visual word association organizer for BAV.	**Purpose:** Review building 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. 8.RST 2, 8.RST 4, Content Standard 4.1 **Activities:** BA#17: Read the paragraphs about Alfred Wegener on pg.221. Determine the central ideas of the text and provide an accurate summary. OCCT Item Spec. Question Review for the BAV word quiz by having students guess the word when given the definition or picture. Section 9.3 pg.260-265 Read/ Lecture/Discuss **Eval:** Oral questions	**Purpose:** Evaluate understanding of building academic vocabulary words. Review content matter of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes. 8.RST 4, Process Standard 3.3, Process Standard 4.2, Content Standard 4.1 **Activities:** BA#18: Graphing questions pg.269 #21-22 OCCT Item Spec. Question Chapter 7,9 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:** BAV Word Quiz #4

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Review content matter of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes. Determine where explosive and nonexplosive volcanoes are located in the world. Evaluate understanding of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes. 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. Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Look at pictures of various landforms and hypothesize what forces were used to shape them.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 2(write informative texts),**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 and destructive forces)

HOURS	MONDAY 10/29/12	TUESDAY 10/30/12	WEDNESDAY 10/31/12	THURSDAY 11/1/12	FRIDAY 11/2/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Review content matter of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes. Determine where explosive and nonexplosive volcanoes are located in the world. 8.RST 2, 8.RST 3, Process Standard 3.5, Content Standard 4.1 **Activities:** Bell Activity #19: 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 Ch.7, 9 Study Guide Some Go "Pop," Some Do Not Lab pg.733 **Eval:** Location of Volcanoes Map, Analyze the Results pg.733 #1-2	**Purpose:** Evaluate understanding of Chapter 7: Plate Tectonics and Chapter 9: Volcanoes. 8.RST 4, Process Standard 3.3, Process Standard 4.2, Content Standard 4.1 **Activities:** Bell Activity #20: Graphing question OCCT Item Spec. Question **Eval:** Ch. 7, 9 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. 8.WHST 2, 8. RST 4, 8.RST 7, Content Standard 4.1 **Activities:** Bell Activity #21: Write a paragraph that describes how water contributes to the formation of potholes. OCCT Item Spec. Question Section 10.1 pg.278-283 Read/ Lecture/Discuss Acids React Quick Lab 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. 8.WHST 2, 8.RST 4, Content Standard 4.1 **Activities:** Bell Activity #22: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 Section 10.2 pg.284-287 Read/Lecture/Discuss **Eval:** What did you learn today? Students will write about what they learned and then we will discuss as a class.	**Purpose:** Describe the source of soil. Explain how the different properties of soil affect plant growth. Describe how various climates affect soil. Look at pictures of various landforms and hypothesize what forces were used to shape them. 8.RST 4, Content Standard 4.1 **Activities:** Bell Activity #23: Has there always been soil on Earth? What makes soil valuable to humans? OCCT Item Spec. Question Section 10.3 pg.288-293 **Eval:** What on Earth Made This? Interactive Quiz http://www.pbs.org/teachers/connect/resources/4321/preview/

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce ten new building academic vocabulary words. Describe how moving water shapes the surface of the Earth by the process of erosion. Explain how water moves through the water cycle. Describe a water shed. Explain three factors that affect the rate of stream erosion. Identify four ways that rivers are described. Review building academic 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. Complete the word association organizer for the building academic vocabulary words. 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. Evaluate understanding of building academic vocabulary words. 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.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 4(determine the meaning of key terms), 8.RST 8(distinguish between facts, reasoned judgment, and speculation in a text), 8.WHST 2(write informative texts) Pass**:** Content Standard 4.1(landforms result from constructive forces and destructive forces)

HOURS	MONDAY 11/5/12	TUESDAY 11/6/12	WEDNESDAY 11/7/12	THURSDAY 11/8/12	FRIDAY 11/9/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce ten new building academic vocabulary words. Describe how moving water shapes the surface of the Earth by the process of erosion. Explain how water moves through the water cycle. Describe a water shed. Explain three factors that affect the rate of stream erosion. Identify four ways that rivers are described. 8.RST 4, 8.RST 8, Content Standard 4.1 **Activities:** Bell Activity #24: Distinguish between facts, reasoned judgment based on research, and speculation after reading a passage about water conservation. OCCT Item Spec. Question Read and discuss weekly science current event. Building Academic Vocabulary PowerPoint. The words for this week are biosphere, geosphere, hydrosphere, relative age, water cycle, troposphere, stratosphere, mesosphere, ionosphere, thermosphere. Students will write the definitions and draw the pictures. Section 11.1 pg.308--314 Read/ Lecture/Discuss **Eval:** Oral questions	**Purpose:** Review building academic 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. 8.RST 4, 8.WHST 2, Content Standard 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 BAV word quiz by having students guess the word when given the definition or picture. Section 11.2 pg.316-319 Section 11.3 pg.324-325 Read/Lecture/Discuss **Eval:** Students will write notes as we are discussing the section. They will need to decide what information is important enough to write down. They will turn their notes in for a grade at the end of the class period.	**Purpose:** Complete the word association organizer for the building academic vocabulary words. 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. 8.RST 2, 8.RST 4, 8.WHST 2, Content Standard 4.1 **Activities:** Bell Activity #26: Read the passage titled, "Sunken Forests" on pg. 338. Determine the central ideas of the text and provide an accurate summary. OCCT Item Spec. Question Section 12.1 pg.342-347 Read/Lecture/Discuss **Eval:** Word association organizer for BAV.	**Purpose:** Review building academic vocabulary words as a class. 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. 8.RST 4, 8.WHST 2, Content Standard 4.1 **Activities:** Bell Activity #27: What causes wind? OCCT Item Spec. Question Section 12.2 pg.348-351 Read/Lecture/Discuss Review for the BAV word quiz by having students guess the word when given the definition or picture. **Eval:** Oral questions	**Purpose:** Evaluate understanding of building academic vocabulary words. 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. 8.RST 4, 8.WHST 2, Content Standard 4.1 **Activities:** Bell Activity #28: 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 Section 12.3 pg.352-357 Read/Lecture/Discuss **Eval:** BAV Word Quiz #5

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: 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. Describe how moving water shapes the surface of the Earth by the process of erosion. Explain how water moves through the water cycle. Describe a water shed. Explain three factors that affect the rate of stream erosion. Identify four ways that rivers are described. Review content matter and evaluate understanding of Chapter 10: Weathering and Soil Formation, Chapter 11: The Flow of Fresh Water, and Chapter 12: Agents of Erosion and Deposition.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 4(determine the meaning of key terms), **Pass:** Process Standard 3.3(identify variables and controls in an experiment), Process Standard 4.2(interpret data tables, and graphs), Content Standard 4.1(landforms result from constructive forces and destructive forces)

HOURS	MONDAY 11/12/12	TUESDAY 11/13/12	WEDNESDAY 11/14/12	THURSDAY 11/15/12	FRIDAY 11/16/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** 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. 8.RST 4, Content Standard 4.1 **Activities:** Bell Activity #29: 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 Read and discuss weekly science current event. Section 12.4 pg.358-361 Read/Lecture/Discuss **Eval:** Questions pg.361 #1-7 Write the page numbers where the answers are found.	**Purpose:** Describe how moving water shapes the surface of the Earth by the process of erosion. Explain how water moves through the water cycle. Describe a water shed. Explain three factors that affect the rate of stream erosion. Identify four ways that rivers are described. 8.RST 4, Content Standard 4.1 **Activities/Eval:** Directed Reading worksheet over Section 11.1 pg.308-314: The Active River.	**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. 8.RST 4, Process Standard 3.3, Content Standard 4.1 **Activities/Eval:** Chapter 10,11,12 Study Guide	**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. 8.RST 2, 8.RST 4, Process Standard 3.3, Content Standard 4.1 **Activities:** Bell Activity #30: 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 Discuss answers to the Chapter 10,11,12 Study Guide **Eval:** Review for the test by asking review questions. Go over the Section 11.1 Directed Reading Worksheet answers as a class. If time allows go over the Chapter 12 review questions and answers as a class.	**Purpose:** Evaluate understanding of Chapter 10: Weathering and Soil Formation, Chapter 11: The Flow of Fresh Water, and Chapter 12: Agents of Erosion and Deposition. 8.RST 2, 8.RST 4, Process Standard 3.3, Process Standard 4.2, Content Standard 4.1 **Activities:** Bell Activity #31: Read Passage 1 on pg.366. Answer the 4 reading comprehension questions that follow. OCCT item Spec. Question **Eval:** Chapter 10,11,12 Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce ten new academic vocabulary words. Explain how water moves through the water cycle. Explain how rivers forms and how they cause erosion and deposition. Review academic 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. Explain how currents affect climate. Describe the effects of El Nino. Explain how scientists study and predict the pattern of El Nino. Demonstrate the effects of temperature and salinity on the density of water. Describe why some parts of the ocean turn over, while others do not. Evaluate understanding of academic 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.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 5(analyze the structure an author uses to organize a text), 8.RST 6(analyze the author's purpose in providing an explanation), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic), 8.WHST 2(write informative texts), 8.WHST 2b(develop the topic with relevant fact, definitions, or examples), 8.WHST 2d(use precise language to explain the topic), 8.WHST 2e(establish and maintain a formal style) **PASS:** Process Standard 3.4(identify a 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), Content Standard 4.3(Atmospheric and ocean circulation patterns affect weather)

HOURS	MONDAY 11/26/12	TUESDAY 11/27/12	WEDNESDAY 11/28/12	THURSDAY 11/29/12	FRIDAY 11/30/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce ten new academic vocabulary words. Explain how water moves through the water cycle. Explain how rivers forms and how they cause erosion and deposition. 8.RST 2, 8.RST 4, 8.RST 9 **Activities:** Bell Activity #32: 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 Read and discuss weekly science current event. Academic Vocabulary PowerPoint. The words for this week are aerobic, anaerobic, photosynthesis, respiration, transpiration, carbon cycle, climate, conduction, convection, and asteroids. Students will write the definitions and draw the pictures. 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 academic 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. 8.RST 4, 8.RST 5, 8.WHST 2, 8.WHST 2b, 8.WHST 2d, 8.WHST 2e, Content Standard 4.3 **Activities:** Bell Activity #33: Look at the major heading titled, "Surface Currents," on pg.417 and the 4 minor headings that follow. Analyze the structure the author uses to organize the text, including how the minor headings contribute to the major headings and how the major headings contribute to the whole. OCCT Item Spec. Question Review for the AV word quiz by having students guess the word when given the definition or picture. Section 14.1 pg.416-421 Read/ Lecture/Discuss **Eval:** What did you learn today? Students will write about what they learned and then we will discuss as a class.	**Purpose:** Explain how currents affect climate. Describe the effects of El Nino. Explain how scientists study and predict the pattern of El Nino. Complete the word association organizer for the academic vocabulary words. 8.RST 4, 8.RST 6, Content Standard 4.3 **Activities:** Bell Activity #34: 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 Section 14.2 pg.422-425 Read/Lecture/Discuss **Eval:** Word association organizer for academic vocabulary.	**Purpose:** Review academic vocabulary words as a class. Demonstrate the effects of temperature and salinity on the density of water. Describe why some parts of the ocean turn over, while others do not. 8.RST 3, 8.RST 7, 8.RST 9, Process Standard 3.4, 3.5, 3.6, 4.1, 4.3, 4.5, 5.2, 5.5 **Activities:** Bell Activity #35: Many marine organisms depend on upwelling to bring nutrients to the surface. How might El Nino affect a fisher's way of life? OCCT Item Spec. Question Review for the AV word quiz by having students guess the word when given the definition or picture. Up From the Depths Lab pg.436-437 **Eval:** Students will write a lab report for this lab.	**Purpose:** Evaluate understanding of academic 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. 8.RST 4, Content Standard 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 Section 14.3 pg.426-427 Read/Lecture/Discuss Making Waves Demonstration pg.426 Modeling Waves pg.427 **Eval:** Academic Vocabulary Quiz #6

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce ten new academic vocabulary words. Classify types of waves. Review academic vocabulary words as a class. 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. Examine the link between global warming and stronger hurricanes. Explain the concept of global warming. 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. Evaluate understanding of academic vocabulary words. Review content matter of Chapter 14: The Movement of Ocean Water and Chapter 17: Changes in Climate.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas of a text and provide and accurate summary), 8.RST 4(determine the meaning of key terms), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic), 8.WHST 2(write informative texts), 8.WHST 2b(develop the topic with relevant fact, definitions, or examples), 8.WHST 2d(use precise language to explain the topic), 8.WHST 2e(establish and maintain a formal style) **PASS:** Content Standard 4.3(Atmospheric and ocean circulation patterns affect weather), Content Standard 5.1(Earth's history has been punctuated by occasional catastrophic events)

HOURS	MONDAY 12/3/12	TUESDAY 12/4/12	WEDNESDAY 12/5/12	THURSDAY 12/6/12	FRIDAY 12/7/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce ten new academic vocabulary words. Classify types of waves. 8.RST 2, 8.RST 4, Content Standard 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 Read and discuss weekly science current event. Academic Vocabulary PowerPoint. The words for this week are carnivore, commensalism, ecosystem, energy pyramid, species diversity, food web, herbivore, mutualism, parasitism, and niche. Students will write the definitions and draw the pictures. Section 14.3 pg.428-431 Read/Lecture/Discuss Show the Tsunami video clip. **Eval:** Doing the Wave Quick lab pg.428	**Purpose:** Review academic vocabulary words as a class. 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. 8.RST 4, 8.WHST 2, 8.WHST 2b, 8.WHST 2d, 8.WHST 2e, Content Standard 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 Review for the AV word quiz by having students guess the word when given the definition or picture. Section 14.4 pg.432-435 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:** Complete the word association organizer for the academic vocabulary words. Examine the link between global warming and stronger hurricanes. Explain the concept of global warming. 8.RST 4, 8.RST 9, Content Standard 5.1 **Activities:** Bell Activity #39: Explain how the position of the moon relates to the occurrence of high tides and low tides? OCCT Item Spec. Question Show "Stronger Hurricanes" video clip. Discuss global warming and its effect on the strength of hurricanes. http://www.pbs.org/teachers/connect/resources/564/preview/ Watch the Brain POP video clip over global warming. Take the quiz and review answers as a class. **Eval:** Word association organizer for academic vocabulary.	**Purpose:** Review academic vocabulary words as a class. 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. 8.RST 4, 8.RST 9, Content Standard 5.1 **Activities:** Bell Activity #40: Imagine that the climate in Oklahoma has changed, and is now warmer than it used to be. Write down five different ways you think the area would be affected by warmer temperatures. OCCT Item Spec. Question Review for the AV word quiz by having students guess the word when given the definition or picture. Section 17.4 pg.536-541 Read/Lecture/Discuss **Eval:** Watch the Brain Pop video clip over the greenhouse effect. Take the quiz that follows and review answers as a class.	**Purpose:** Evaluate understanding of academic vocabulary words. Review content matter of Chapter 14: The Movement of Ocean Water and Chapter 17:Changes in Climate. 8.RST 4, Content Standard 4.3, Content Standard 5.1 **Activities:** Bell Activity #41: Read Passage 2 on pg.547. Answer the three reading comprehension questions that follow. OCCT Item Spec. Question Chapter 14,17 Study Guide **Eval:** Academic Vocabulary Quiz #7 **Reminder**: Chapter 14,17 Test Tuesday, 12/11/12

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Review content matter of Chapter 14: The Movement of Ocean Water and Chapter 17: Changes in Climate. Evaluate understanding of Chapter 14: The Movement of Ocean Water and Chapter 17: Changes in Climate. Prepare for the semester exam by reviewing the 54 academic vocabulary words covered this semester.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.WHST 2(write informative texts), 8.WHST 2b(develop the topic with relevant fact, definitions, or examples), 8.WHST 2c(use appropriate and varied transitions to create cohesion among ideas), 8.WHST 2d(use precise language to explain the topic), 8.WHST 2e(establish and maintain a formal style) **PASS:** Process Standard 1(observe and measure), Process Standard 3(experimenting), Process Standard 4(interpret and communicate), Content Standard 4.3(Atmospheric and ocean circulation patterns affect weather), Content Standard 5.1(Earth's history has been punctuated by occasional catastrophic events)

HOURS	MONDAY 12/10/12	TUESDAY 12/11/12	WEDNESDAY 12/13/12	THURSDAY 12/14/12	FRIDAY 12/15/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Review content matter of Chapter 14: The Movement of Ocean Water and Chapter 17:Changes in Climate. 8.RST 4, 8.WHST2, 8.WHST 2b, 8.WHST 2c, 8.WHST 2d, 8.WHST 2e, Content Standard 4.3, Content Standard 5.1 **Activities:** Bell Activity #42: Write a two paragraph essay explaining what global warming is, the consequences, of global warming, and ways to reduce the effects of it. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas. OCCT Item Spec. Question Review answers to the Chapter 14,17 Study Guide. Pass out Notebook Checklist. **Eval:** If time allows, watch Brain Pop video clips over global warming and the greenhouse effect. Take the quizzes and review answers as a class. **Reminder:** 2nd Nine Weeks Notebook due on Wednesday, 12/13/12.	**Purpose:** Evaluate understanding of Chapter 14: The Movement of Ocean Water and Chapter 17:Changes in Climate. 8.RST 4, Content Standard 4.3, Content Standard 5.1 **Activities:** Students will answer an OCCT Item Spec. Question. **Eval:** Chapter 14,17 Test	**Purpose:** Prepare for the semester exam by reviewing the 54 academic vocabulary words covered this semester. 8.RST 4 **Activities:** Students will answer an OCCT Item Spec. Question. Students will complete their study guide as we review the academic vocabulary words. **Eval:** 2nd Nine Weeks Notebook due today!	**Purpose:** Finish reviewing the 54 academic vocabulary words covered this semester. Prepare for the OCCT by taking a practice test over observing, measuring, experimenting, interpreting, and communicating. Process Standard 1, Process Standard 3, Process Standard 4 **Activities:** 50 question OCCT practice test	**Purpose:** Prepare for the OCCT by reviewing answers to the OCCT practice test that was taken on Thursday. Process Standard 1, Process Standard 3, Process Standard 4 **Activities/Eval:** Discuss answers to the OCCT practice test.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the semester exam by reviewing the 54 academic vocabulary words covered this semester.

PASS OBJECTIVES AND COMMON CORE STANDARDS: 8.RST 4(determine the meaning of key terms)

HOURS	MONDAY 12/17/12	TUESDAY 12/18/12	WEDNESDAY 12/19/12	THURSDAY 12/20/12	FRIDAY 12/21/12
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the semester exam by reviewing the 54 academic vocabulary words covered this semester. 8.RST 4 **Activities:** Students will answer an OCCT Item Spec. Question. **Eval:** Review for the semester test by playing a review game with dry erase boards and markers.	SEMESTER EXAMS	SEMESTER EXAMS	NO SCHOOL	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE:
Introduce ten new academic vocabulary words. Determine an object's identity based on the object's properties. Describe the two properties of all matter. Identify the units used to measure volume. Determine the relationship between pitch and volume of water in glass containers. Measure volume using a graduated cylinder.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core:
8.WHST 4(produce clear and coherent writing), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic)
PASS: (Process Standard 1.1(identify quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 2.1(identify properties by which a set of objects could be ordered), Process Standard 3.5(follow a multistep procedure), Process Standard 4.3(evaluate data to develop reasonable explanations), Process Standard 5.5(develop a logical relationship between evidence and explanation to form a conclusion), Content Standard 1.2 (matter has physical properties that can be measured)

HOURS	MONDAY 12/31/12	TUESDAY 1/1/13	WEDNESDAY 1/2/13	THURSDAY 1/3/13	FRIDAY 1/4/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	NO SCHOOL	NO SCHOOL	NO SCHOOL	**Purpose:** Introduce thirteen new academic vocabulary words. Determine an object's identity based on the object's properties. 8.WHST 4, 8.RST 3, Process Standard 3.5, Process Standard 4.3, Process Standard 5.5 **Activities:** Bell Activity #1: Think of a present you received for Christmas. Write a paragraph describing the item, but do not say what the item is. We will read some out loud and other students will guess based on the description given. OCCT Item Spec. Question Read and discuss weekly science current event. Academic Vocabulary PowerPoint. The words for this week are chemical compound, chemical element, chemical energy, chemical reaction, Newton's three laws of motion, constant velocity, elements, forces, inertia, Law of Conservation of Matter, net forces, and pH. Students will write the definitions and draw the pictures. **Eval:** Matter Sounds Quick Lab pg.37	**Purpose:** Describe the two properties of all matter. Identify the units used to measure volume. Determine the relationship between pitch and volume of water in glass containers. Measure volume using a graduated cylinder. 8.RST 4, 8.RST 9, Process Standard 1.1, Process Standard 1.2, Process Standard 1.3, Process Standard 2.1, Process Standard 3.5, Process Standard 4.3, Process Standard 5.5, Content Standard 1.2 **Activities:** Bell Activity #2: What is the difference between volume and mass? What units of measurement would you use to measure each? Section 2.1 pg.38-39 Read/Lecture/Discuss Explaining Volume Demo pg.38 Water Music Experiment pg.38 Measure volume correctly using a graduated cylinder. **Eval:** Measuring Liquid Volume Worksheet

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Identify the units used to measure volume and mass. Compare mass and weight. Explain the relationship between mass and inertia. Accurately measure volume, mass, and weight. Use the correct SI units when measuring. Identify tools used in the lab. Evaluate understanding of academic vocabulary words. Define physical properties of matter and list examples. Determine the importance of using a variety of properties when describing objects. Identify six examples of physical properties of matter. Describe how density is used to identify substances. List six examples of physical changes. Explain what happens to matter during a physical change. Review physical properties of matter and ways that objects can undergo physical changes. Practice using the density formula to solve word problems.

PASS OBJECTIVES AND COMMON CORE STANDARDS:
Common Core: 8.RST 1(cite specific textual evidence to support analysis of science), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic), 8.WHST 2b(develop the topic with relevant, well chosen facts), 8.WHST 2d(use precise language and domain specific vocabulary to inform), 8.WHST 3(write precise enough that others can replicate procedures and reach the same results), 8.WHST 4(produce clear and coherent writing), **PASS:** (Process Standard 1.1(identify quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 3.5(follow a multistep procedure), Process Standard 4.1(record data in an appropriate method), Content Standard 1.2 (matter has physical properties that can be measured)

HOURS	MONDAY 1/7/13	TUESDAY 1/8/13	WEDNESDAY 1/9/13	THURSDAY 1/10/13	FRIDAY 1/11/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Identify the units used to measure volume and mass. Compare mass and weight. Explain the relationship between mass and inertia. 8.RST 1, 8.RST 3, 8.RST 4, 8.RST 9, 8.WHST 2b, 8.WHST 2d, 8.WHST 4, Process Standard 1.1, Process Standard 1.2, Process Standard 1.3, Process Standard 3.5, Process Standard 4.1, Content Standard 1.2 **Activities:** Bell Activity #3: Explain the difference between mass and volume and cite specific textual evidence to support your explanation. Refer to pg. 38 in the book. OCCT Item Spec. Question Section 2.1 pg.40-43 Read/Lecture/Discuss **Eval:** Measuring Volume, Mass, and Weight Lab	**Purpose:** Accurately measure volume, mass, and weight. Use the correct SI units when measuring. Identify tools used in the lab. 8.RST 3, 8.RST 4, 8.RST 9, 8.WHST 2b, 8.WHST 4, Process Standard 1.1, Process Standard 1.2, Process Standard 1.3, Process Standard 3.5, Process Standard 4.1, Content Standard 1.2 **Activities:** Bell Activity #4: Do objects with large masses always have large weights? Explain your answer. OCCT Item Spec. Question Finish the Measuring Volume, Mass, and Weight Lab **Eval:** Word Association for AV words **Reminder:** AV Quiz #8 on Wednesday	**Purpose:** Evaluate understanding of academic vocabulary words. Define physical properties of matter and list examples. Determine the importance of using a variety of properties when describing objects. 8.RST 4, 8.WHST 2b, 8.WHST 4, Content Standard 1.2 **Activities:** Bell Activity #5: If you were asked to describe a cheeseburger to someone who had never seen a cheeseburger, what would you tell the person? Write your response in complete sentences. OCCT Item Spec. Question Section 2.2 pg.44 Read/Lecture/ Discuss An Accurate Description Activity Students will examine various objects and describe each in terms of color, odor, texture, size, shape, and state. **Eval:** Academic Vocabulary Quiz #8	**Purpose:** Identify six examples of physical properties of matter. Describe how density is used to identify substances. List six examples of physical changes. Explain what happens to matter during a physical change. 8.RST 4, 8.WHST 2b, 8.WHST 4, Content Standard 1.2 **Activities:** Bell Activity #6: Read the passage about electronic coin testers in vending machines. Then describe the physical properties of the coins that the coin tester looks for. OCCT Item Spec. Question Section 2.2 pg.45-49 Read/ Lecture/Discuss Demonstrate how a density column works. **Eval:** Arrange various items in order of density on the Smart Board. Students will work in teams and the must explain why they chose the order they did.	**Purpose:** Review physical properties of matter and ways that objects can undergo physical changes. Practice using the density formula to solve word problems. 8.RST 4, 8.WHST 2b, 8.WHST 3, 8.WHST 4, Content Standard 1.2 **Activities:** Bell Activity #7: Explain how you would find the density of an unknown liquid if you have all of the lab equipment that you need. Write the procedure you would follow to accomplish this task. OCCT Item Spec. Question Review physical properties of matter and how to work out density problems as a class. **Eval:** Science Journal Entry #1: Physical Changes of a Sugar Cube Students will write down the physical properties of a sugar cube and then they will describe three things they can do to the sugar cube to cause it to undergo a physical change. Density Word Problems

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce new academic vocabulary words. Describe two examples of chemical properties. Review academic vocabulary words as a class. Explain what happens during a chemical change. Distinguish between physical and chemical changes. Separate different dyes found in an ink mixture. Describe pure substances. Describe the characteristics of elements, and give examples. Explain how elements can be identified. Classify elements according to their properties. Explain how elements make up compounds. Describe the properties of compounds. Explain how a compound can be broken down into its elements. Give examples of common compounds. Complete the word association organizer for the academic vocabulary words. Evaluate understanding of academic vocabulary words. Describe three properties of mixtures. Describe four methods of separating the parts of a mixture. Analyze a solution in terms of its solute and solvent. Explain how concentration affects a solution. Describe the particles in a suspension. Explain how a colloid differs from a solution and a suspension.

PASS OBJECTIVES AND COMMON CORE STANDARDS: C**ommon Core:** 8.RST 1(cite specific textual evidence to support analysis of science), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 6(analyze the author's purpose in providing an explanation in a text), .RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic), 8.WHST 2b(develop the topic with relevant, well chosen facts), 8.WHST 2d(use precise language and domain specific vocabulary to inform), 8.WHST 4(produce clear and coherent writing) **PASS:** Process Standard 1.2(use appropriate tools), Process Standard 3.5(follow a multistep procedure), Process Standard 4.2(interpret tables and graphs), Content Standard 1.2 (matter has physical properties that can be measured and chemical properties)

HOURS	MONDAY 1/14/13	TUESDAY 1/15/13	WEDNESDAY 1/16/13	THURSDAY 1/17/13	FRIDAY 1/18/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce new academic vocabulary words. Describe two examples of chemical properties. 8.RST 4, 8.RST 6, 8.WHST 2b, Content Standard 1.2 **Activities:** Bell Activity #8: Read the 1st paragraph on pg.50 in italics. Analyze the author's purpose in providing the explanation. OCCT Item Spec. Question Read and discuss weekly science current event. Academic Vocabulary PowerPoint. The words for this week are acceleration, conservation of energy, density, electric current, electrical energy, electromagnet, electromagnetic spectrum, energy transformation, magnetic field, balanced force, unbalanced force. Students will write the definitions and draw the pictures. Section 2.3 pg.50-51 Read/ Lecture/Discuss **Eval:** Oral Questions	**Purpose:** Review academic vocabulary words as a class. Explain what happens during a chemical change. Distinguish between physical and chemical changes. 8.RST 4, Process Standard 4.2, Content Standard 1.2 **Activities:** Bell Activity #9: Interpreting Graphics Questions pg. 61 #1-4 OCCT Item Spec. Question Section 2.3 pg.52-55 Read/ Lecture/Discuss **Eval:** Physical vs. Chemical Changes Worksheet	**Purpose:** Separate different dyes found in an ink mixture. Describe pure substances. Describe the characteristics of elements, and give examples. Explain how elements can be identified. Classify elements according to their properties. 8.RST1, 8.RST 3, 8.RST4, 8.RST 9, 8.WHST 2b, 8.WHST 2d, 8.WHST 4, Process Standard 1.2, Process Standard 3.5, Content Standard 1.2 **Activities:** Bell Activity #10:What is the difference between an element, molecule, and a compound? Cite evidence from the book to support your thoughts. Give an example of each. Use the index or glossary to help you. OCCT Item Spec. Question Section 4.1 pg.90-93 Read/ Lecture/Discuss **Eval:** Mystery Mixture Activity pg.89	**Purpose:** Explain how elements make up compounds. Describe the properties of compounds. Explain how a compound can be broken down into its elements. Give examples of common compounds. Complete the word association organizer for the academic vocabulary words. 8.RST 4, 8.WHST 2b, 8.WHST 2d, 8.WHST 4, Content Standard 1.2 **Activities:** Bell Activity #11: Compare the properties of metals, nonmetals, and metalloids. OCCT Item Spec. Question Section 4.2 pg.94-97 Read/ Lecture/Discuss **Eval:** Word Association Organizer for academic vocabulary words.	**Purpose:** Evaluate understanding of academic vocabulary words. Describe three properties of mixtures. Describe four methods of separating the parts of a mixture. Analyze a solution in terms of its solute and solvent. Explain how concentration affects a solution. Describe the particles in a suspension. Explain how a colloid differs from a solution and a suspension. 8.RST 4, Content Standard 2.1 **Activities:** Bell Activity: Study for quiz. Section 4.3 pg.98-104 Read/ Lecture/ Discuss **Eval:** Academic Vocabulary Quiz #9

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Review content matter of Chapter 2: The Properties of Matter and Chapter 4: Elements, Compounds, and Mixtures. Describe the physical properties of four substances. Identify physical and chemical changes. Classify four substances by their chemical properties. Evaluate understanding of Chapter 2: The Properties of Matter and Chapter 4: Elements, Compounds, and Mixtures. Describe the motion of an object by the position of the object in relation to a reference point. Identify the two factors that determine speed. Explain the difference between speed and velocity. Analyze the relationship between velocity and acceleration. Demonstrate that changes in motion can be measured and represented on a graph.

PASS OBJECTIVES AND COMMON CORE STANDARDS: **Common Core:** 8.RST 2(determine the central ideas or conclusions of a text), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic), 8.WHST 4(produce clear and coherent writing), **PASS:** Process Standard 1.1(identify quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use appropriate SI units), Process Standard 3.5(follow a multistep procedure), Process Standard 4.1(record data in an appropriate method), Process Standard 4.2(interpret tables and graphs), Content Standard 1.2 (matter has physical properties that can be measured and chemical properties), Content Standard 2.1(the motion of an object can be measured), Content Standard 2.2(an object that is not being subjected to a net force will continue to move at a constant velocity)

HOURS	MONDAY 1/21/13	TUESDAY 1/22/13	WEDNESDAY 1/23/13	THURSDAY 1/24/13	FRIDAY 1/25/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**NO SCHOOL**	**Purpose:** Review content matter of Chapter 2: The Properties of Matter and Chapter 4: Elements, Compounds, and Mixtures. 8.RST 4, Process Standard 4.2, Content Standard 1.2 **Activities:** Bell Activity #12: Interpreting Graphics Questions pg.111 #1-4 OCCT Item Spec. Question Chapter 2-4 Study Guide **Eval:** Review answers to the study guide at the end of class.	**Purpose:** Describe the physical properties of four substances. Identify physical and chemical changes. Classify four substances by their chemical properties. 8.RST 3, 8.RST 9, Process Standard 1.1, Process Standard 1.2, Process Standard 3.5, Process Standard 4.1, Content Standard 1.2 **Activities:** Bell Activity #13: Interpreting graphics Questions pg.85 #1-3 OCCT Item Spec. Question White Before Your Eyes Lab pg.56 **Eval:** Student will complete data table and answer post lab questions.	**Purpose:** Evaluate understanding of Chapter 2: The Properties of Matter and Chapter 4: Elements, Compounds, and Mixtures. 8.RST 2, 8.RST 4, Content Standard 2.1 **Activities:** Bell Activity #14: Read passage 1 on pg.84 and answer the three reading comprehension questions that follow. OCCT Item Spec. Question **Eval:** Chapter 2, 4 Test	**Purpose:** Describe the motion of an object by the position of the object in relation to a reference point. Identify the two factors that determine speed. Explain the difference between speed and velocity. Analyze the relationship between velocity and acceleration. Demonstrate that changes in motion can be measured and represented on a graph. 8.RST 4, 8.WHST 4, Process Standard 1.3, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #15: Describe your position in the classroom two different ways using a reference point and a set of reference directions. OCCT Item Spec. Question Section 5.1 pg.118-123 Read/ Lecture/Discuss **Eval:** Begin working on questions #3-11 pg.123

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Introduce new academic vocabulary words. Practice working out speed and acceleration problems. Review academic vocabulary words as a class. Describe forces, and explain how forces act on objects. Determine the net force when more than one force is acting on an object. Compare balanced and unbalanced forces. Describe ways that unbalanced forces cause changes in motion. Explain why friction occurs. List the two types of friction, and give examples of each type. Explain how friction can be both harmful and helpful. Complete the word association organizer for the academic vocabulary words. Describe gravity and its effect on matter. Explain the law of universal gravitation. Describe the difference between mass and weight. Explain the effect of gravity and air resistance on falling objects. Explain why objects in orbit are in free fall and appear to be weightless. Describe how projectile motion is affected by gravity.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 2(determine the central ideas or conclusions of a text), 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.WHST 2a(introduce a topic clearly), 8.WHST 2b(develop the topic with relevant information and examples), 8.WHST 2c(use appropriate transitions to create cohesion), 8.WHST 2e(maintain a formal style), 8.WHST 2f(provide a concluding statement), 8.WHST 4(produce clear and coherent writing) **PASS:** Process Standard 3.5(follow a multistep procedure), Process Standard 4.2(interpret tables and graphs), Content Standard 2.1(the motion of an object can be measured), Content Standard 2.2(an object that is not being subjected to a net force will continue to move at a constant velocity)

HOURS	MONDAY 1/28/13	TUESDAY 1/29/13	WEDNESDAY 1/30/13	THURSDAY 1/31/13	FRIDAY 2/1/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Introduce new academic vocabulary words. Practice working out speed and acceleration problems. 8.RST 4, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #16: Explain what the following words mean: velocity, acceleration, net force, friction, and gravity. OCCT Item Spec. Question Read and discuss weekly science current event. Academic Vocabulary PowerPoint. The words for this week are amplitude, wave length, wave, refraction, reflection, six forms of energy, and frequency. Students will write the definitions and draw the pictures. **Eval:** Finish questions #3-11 pg.123 from Friday. Speed and Acceleration Math Problems	**Purpose:** Review academic vocabulary words as a class. Describe forces, and explain how forces act on objects. Determine the net force when more than one force is acting on an object. Compare balanced and unbalanced forces. Describe ways that unbalanced forces cause changes in motion. 8.RST 4, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #17: Where do you see a force happening in the room right now? Which object is exerting the force, and which is receiving it? Give two examples. OCCT Item Spec. Question Section 5.2 pg.124-127 Read/ Lecture/Discuss **Eval:** Science Journal Entry #2: Draw 3 examples of balanced forces and then draw 3 more pictures showing what happens when the forces become unbalanced.	**Purpose:** Explain why friction occurs. List the two types of friction, and give examples of each type. Explain how friction can be both harmful and helpful. Complete the word association organizer for the academic vocabulary words. 8.RST 3, 8.RST 4, 8.RST 9, Process Standard 3.5, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #18: Questions pg.127 #7-9 OCCT Item Spec. Question Section 5.3 pg.128-133 Read/ Lecture/Discuss Reducing Friction Quick Lab pg.132 **Eval:** Word Association Organizer for academic vocabulary words.	**Purpose:** Review academic vocabulary words as a class. Describe gravity and its effect on matter. Explain the law of universal gravitation. Describe the difference between mass and weight. 8.RST 4, 8.WHST 2a, 8.WHST 2b, 8.WHST 2c, 8.WHST 2e, 8.WHST 2f, Process Standard 4.2, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #19: Interpreting Graphics Questions pg.145 #1-3 OCCT Item Spec. Question Section 5.4 pg.134-139 **Eval:** Gravity Story pg.138 The story must be introduced clearly, have appropriate transitions, and have a concluding statement. The story must be three paragraphs in length.	**Purpose:** Explain the effect of gravity and air resistance on falling objects. Explain why objects in orbit are in free fall and appear to be weightless. Describe how projectile motion is affected by gravity. 8.RST 2, 8.RST 4. 8.RST 7, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #20: If Wile E. Coyote and a boulder fall off a cliff at the same time, which do you think will hit the ground first? Answer this question. Then read the first two paragraphs on pg.150. Write a summary of what you read. OCCT Item Spec. Question Section 6.1 pg.150-157 Read/ Lecture/ Discuss Answer questions pg.157 #8-10 **Eval:** Academic Vocabulary Quiz #10

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Describe Newton's first law of motion, and explain how it relates to objects at rest and objects in motion. State Newton's second law of motion, and explain the relationship between force, mass, and acceleration. State Newton's third law of motion and give examples of force pairs. Students will be assigned the task of designing a parachute that descends the slowest. Then they will write a detailed procedure explaining how they made the parachute. Review content matter of Chapter 5: Matter in Motion and Chapter 6: Forces and Motion. Determine the speed of a toy car by following a procedure and using the formula for speed. Evaluate understanding of Chapter 5: Matter in Motion and Chapter 6: Forces and Motion.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually) **PASS:** Process Standard 1.1 (identify quantitative changes), Process Standard 1.2(use appropriate tools), Process Standard 1.3(use SI units), Process Standard 3.5(follow a multistep procedure), Process Standard 4.1(report data in an appropriate method), Process Standard 4.3(evaluate to develop reasonable explanations), Process Standard 4.5(communicate scientific processes), Content Standard 2.1(the motion of an object can be measured), Content Standard 2.2(an object that is not being subjected to a net force will continue to move at a constant velocity)

HOURS	MONDAY 2/4/13	TUESDAY 2/5/13	WEDNESDAY 2/6/13	THURSDAY 2/7/13	FRIDAY 2/8/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe Newton's first law of motion, and explain how it relates to objects at rest and objects in motion. State Newton's second law of motion, and explain the relationship between force, mass, and acceleration. State Newton's third law of motion and give examples of force pairs. 8.RST 4, 8.RST 7, Content Standard 2.2 **Activities:** Bell Activity #21: Draw a series of pictures that shows what happens to an egg in a cart as the cart moves across the floor and strikes the wall. Then draw a picture of how the egg could be protected in the cart. Which one of Newton's laws does this example attempt to explain? OCCT Item Spec. Question Section 6.2 pg.158-165 Read/ Lecture/Discuss **Eval:** Science Journal Entry #3: Draw and label examples of all three of Newton's laws.	**Purpose:** Students will be assigned the task of designing a parachute that descends the slowest. Then they will write a detailed procedure explaining how they made the parachute. Review content matter of Chapter 5: Matter in Motion and Chapter 6: Forces and Motion. 8.RST 3, 8.RST 4, Process Standard 4.5, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #22: Questions # 8-9 pg.165 OCCT Item Spec. Question Parachute Design Lab Chapter 5-6 Study Guide **Eval:** Parachute Design Procedure and Table of Results	**Purpose:** Review content matter of Chapter 5: Matter in Motion and Chapter 6: Forces and Motion. 8.RST 4, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #23: Math Questions pg.175 #1-3 OCCT Item Spec. Question Chapter 5, 6 Study Guide **Eval:** At the end of class, review the study guide answers.	**Purpose:** Determine the speed of a toy car by following a procedure and using the formula for speed. 8.RST 3, Process Standard 1.1, Process Standard 1.2, Process Standard 1.3, Process Standard 3.5, Process Standard 4.1, Process Standard 4.3, Content Standard 2.1 **Activities:** Bell Activity #24: Interpreting Graphics Questions pg.175 #1-2 OCCT Item Spec. Question Speed of a Toy Car Lab **Eval:** Data Sheet and Post Lab Questions	**Purpose:** Evaluate understanding of Chapter 5: Matter in Motion and Chapter 6: Forces and Motion. 8.RST 4, Content Standard 2.1, Content Standard 2.2 **Activities:** Bell Activity #25: Reading passage #2 pg.174 Questions #1-2 OCCT Item Spec. Question **Eval:** Chapter 5, 6 Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Describe some of the experiments that led to the current atomic theory. Compare the different models of the atom. Explain how the atomic theory has changed as scientists have discovered new information about the atom. Describe the size of an atom. Name the parts of an atom. Describe the relationship between numbers of protons and neutrons and atomic number. State how isotopes differ. Calculate atomic masses. Describe the forces within an atom. Describe how Mendeleev arranged elements in the first periodic table. Explain how elements are arranged in the modern periodic table. Compare metals, nonmetals, and metalloids based on their properties and on their location in the periodic table.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 5(analyze the structure and author uses to organize a text, including how major sections contribute to the whole), 8.RST 7(integrate information expressed in words with version of that info. expressed visually) **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 1.1 (substances react chemically with other substances to form new substances with different characteristics), Content Standard 1.2 (matter has physical properties that can be measured and chemical properties)

HOURS	MONDAY 2/11/13	TUESDAY 2/12/13	WEDNESDAY 2/13/13	THURSDAY 2/14/13	FRIDAY 2/15/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe some of the experiments that led to the current atomic theory. Compare the different models of the atom. Explain how the atomic theory has changed as scientists have discovered new information about the atom. 8.RST 4, Process Standard 2.2 **Activities:** Bell Activity #1: Explain what you think this statement means: "Color exists by convention, sweet by convention, bitter by convention; in reality nothing exists but atoms and the void." OCCT Item Spec. Question Section 11.1 pg.312-317 Read/ Lecture/Discuss **Eval:** Pass out the list of elements students will have to memorize. Play elements review game on Smart Board. Turn in Bell Activities #1-25 and Science Journal Entries #1-3.	**Purpose:** Describe some of the experiments that led to the current atomic theory. Compare the different models of the atom. Explain how the atomic theory has changed as scientists have discovered new information about the atom. 8.RST 4, Process Standard 2.2 **Activities/Eval:** Directed Reading Worksheet over Section 11.1 and Section Review for Section 11.1.	**Purpose:** Describe the size of an atom. Name the parts of an atom. Describe the relationship between numbers of protons and neutrons and atomic number. State how isotopes differ. Calculate atomic masses. Describe the forces within an atom. 8.RST 4, Process Standard 2.2 **Activities/Eval:** Directed Reading Worksheet over Section 11.2.	**Purpose:** Describe the size of an atom. Name the parts of an atom. Describe the relationship between numbers of protons and neutrons and atomic number. State how isotopes differ. Calculate atomic masses. Describe the forces within an atom. 8.RST 4, 8.RST 5, 8.RST 7, Process Standard 2.2 **Activities:** Bell Activity #2: Write down the five major headings in Section 11.2 starting on pg.318. Analyze the structure the author uses to organize the text, including how the major sections contribute to the whole. OCCT Item Spec. Question Section 11.2 pg.318-324 Read/Lecture/Discuss **Eval:** Review Directed Reading worksheet 11.1 and 11.2	**Purpose:** Describe how Mendeleev arranged elements in the first periodic table. Explain how elements are arranged in the modern periodic table. Compare metals, nonmetals, and metalloids based on their properties and on their location in the periodic table. 8.RST 4, 8.RST 7, Process Standard 2.1, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #3: Think of all of the ways a deck of cards could be laid out so that the cards form some sort of identifiable pattern. Write down as many patterns as you can think of. OCCT Item Spec. Question Section 12.1 pg.336-343 Read/Lecture/Discuss **Eval:** Ch. 11Vocabulary Activity

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Explain why elements in a group often have similar properties. Describe the properties of the elements in the groups of the periodic table. Review content matter of Chapter 11: Introduction to Atoms and Chapter 12: The Periodic Table. Evaluate understanding of Chapter 11: Introduction to Atoms and Chapter 12: The Periodic Table.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually) **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 1.1 (substances react chemically with other substances to form new substances with different characteristics), Content Standard 1.2 (matter has physical properties that can be measured and chemical properties)

HOURS	MONDAY 2/18/13	TUESDAY 2/19/13	WEDNESDAY 2/20/13	THURSDAY 2/21/13	FRIDAY 2/22/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**NO SCHOOL**	**Purpose:** Explain why elements in a group often have similar properties. Describe the properties of the elements in the groups of the periodic table. 8.RST 4, 8.RST 7, Process Standard 2.1, Process Standard 2.2, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #4: Interpreting Graphics pg.329 #19-21 OCCT Item Spec. Question Read and discuss weekly science current event. Section 12.2 pg.344-350 Read/ Lecture/Discuss **Eval:** Oral Questions	**Purpose:** Review content matter of Chapter 11: Introduction to Atoms and Chapter 12: The Periodic Table. 8.RST 4, Process Standard 2.1, Process Standard 2.2, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #5: Using Key Terms Questions pg. 351 #1-4 OCCT Item Spec. Question Chapter 11-12 Study Guide **Eval:** At the end of class, begin reviewing study guide answers.	**Purpose:** Review content matter of Chapter 11: Introduction to Atoms and Chapter 12: The Periodic Table. 8.RST 4, Process Standard 2.1, Process Standard 2.2, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #6:Interpreting Graphics pg.331 #1-2 OCCT Item Spec. Question Review the element symbols and names by using the interactive periodic table on the Smart Board. **Eval:** Finish reviewing study guide answers.	**Purpose:** Evaluate understanding of Chapter 11: Introduction to Atoms and Chapter 12: The Periodic Table. 8.RST 4, Process Standard 2.1, Process Standard 2.2, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #7: Read the passages on pg.330 and answer the 4 reading comprehension questions that follow. OCCT Item Spec. Question **Eval:** Chapter 11-12 Test

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Describe chemical bonding. Identify the number of valence electrons in an atom. Predict whether an atom is likely to form bonds. Explain how ionic bonds form. Describe how positive ions form. Describe how negative ions form. Explain why ionic compounds are neutral. Explain how covalent bonds form. Describe molecules. Explain how metallic bonds form. Describe the properties of atoms. Use cereal to represent electrons when making electron-dot diagrams. Describe how chemical reactions produce new substances that have different chemical and physical properties. Identify four signs that indicate that a chemical reaction might be taking place. Explain what happens to chemical bonds during a chemical reaction. Interpret and write simple chemical formulas. Write and balance simple chemical equations. Explain how a balanced equation shows the law of conservation of mass.

PASS OBJECTIVES AND COMMON CORE STANDARDS:
Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic) **PASS:** Process Standard 1.1 (identify qualitative and quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 3.5(follow a multistep procedure), Process Standard 3.6(practice safety procedures in labs), Process Standard 4.5(communicate scientific processes), Process Standard 5.5(form and communicate a valid conclusion), Content Standard 1.1(substances react chemically to form new substances), Content Standard 1.2(in chemical reactions and physical changes, matter is conserved)

HOURS	MONDAY 2/25/13	TUESDAY 2/26/13	WEDNESDAY 2/27/13	THURSDAY 2/28/13	FRIDAY 3/1/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe chemical bonding. Identify the number of valence electrons in an atom. Predict whether an atom is likely to form bonds. 8.RST 3, 8.RST 4, 8.RST 7, 8.RST 9, Process Standard 1.1, Process Standard 1.2, Process Standard 3.5, Process Standard 3.6, Process Standard 4.5, Process Standard 5.5, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #8:Identify the elements in different chemical formulas. Then predict whether the compounds are similar to each other and explain why. Finally, identify and discuss the compounds. OCCT Item Spec. Question Section 13.1 pg.364-367 Read/ Lecture/Discuss **Eval:** From Glue to Goop (chemical bonding lab activity) pg.363. Students will answer the lab analysis questions and turn in.	**Purpose:** Explain how ionic bonds form. Describe how positive ions form. Describe how negative ions form. Explain why ionic compounds are neutral. 8.RST 4, 8.RST 7, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #9: Critical thinking questions pg.367 #5-6 and Interpreting graphics question #7 OCCT Item Spec. Question Section 13.2 pg.368-371 Read/ Lecture/Discuss **Eval:** Science Journal Entry #1: Draw electron shell diagrams for various atoms. Identify the number of valence electrons in each atom, the charge on each atom, and if they could form ionic bonds with other atoms.	**Purpose:** Explain how covalent bonds form. Describe molecules. Explain how metallic bonds form. Describe the properties of atoms. Use cereal to represent electrons when making electron-dot diagrams. 8.RST 4, 8.RST 7, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #10: Math Skills question pg.371 #6 OCCT Item Spec. Question Section 13.3 pg.372-377 Read/ Lecture/Discuss **Eval:** Cereal Dot Diagrams pg.372 (Students will use different colors of cereal to make electron dot diagrams of water and ammonia.)	**Purpose:** Describe how chemical reactions produce new substances that have different chemical and physical properties. Identify four signs that indicate that a chemical reaction might be taking place. Explain what happens to chemical bonds during a chemical reaction. 8.RST 4, 8.RST 7, 8.RST 9, Process Standard 1.1, Process Standard 4.5, Process Standard 5.5, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #11: Applying Concepts Questions pg.381 #18 OCCT Item Spec. Question Section 14.1 pg.388-391 **Eval:** Reaction Ready Quick Lab pg. 391 Observe the chemical reaction of chalk and vinegar. Answer quick lab questions pg.391 #3-4	**Purpose:** Interpret and write simple chemical formulas. Write and balance simple chemical equations. Explain how a balanced equation shows the law of conservation of mass. 8.RST 4, 8.RST 7, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #12: Critical Thinking and Interpreting Graphics Questions pg.391 #4-7 OCCT Item Spec. Question Section 14.2 pg.392-396 **Eval:** Balancing Chemical Reactions Worksheet

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Write and balance simple chemical equations. Explain how a balanced equation shows the law of conservation of mass. Review how elements are arranged in the modern periodic table. Compare metals, nonmetals, and metalloids based on their properties and on their location in the periodic table. Compare exothermic and endothermic reactions. Explain activation energy. Interpret an energy diagram. Describe five factors that affect the rate of reaction. Describe the properties of ionic and covalent compounds. Classify compounds as ionic or covalent based on their properties. Describe chemical bonding. Identify the number of valence electrons in an atom. Predict whether an atom is likely to form bonds. Explain how ionic bonds form. Explain how covalent bonds form. Describe molecules. Explain how metallic bonds form.

PASS OBJECTIVES AND COMMON CORE STANDARDS: **Common Core:** 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic) , 8.WHST 2(write informative/explanatory texts), 8.WHST 2a(introduce a topic clearly; include graphics when useful to aiding comprehension), 8.WHST 2b(develop the topic with relevant, well-chosen facts), 8.WHST 2d(use precise language and domain-specific vocabulary), 8.WHST 2e(establish and maintain a formal style), 8.WHST 2f(provide a concluding statement), 8.WHST 4(produce clear and coherent writing) **PASS:** Content Standard 1.1(substances react chemically to form new substances), Content Standard 1.2(in chemical reactions and physical changes, matter is conserved)

HOURS	MONDAY 3/4/13	TUESDAY 3/5/13	WEDNESDAY 3/6/13	THURSDAY 3/7/13	FRIDAY 3/8/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Write and balance simple chemical equations. Explain how a balanced equation shows the law of conservation of mass. Review how elements are arranged in the modern periodic table. Compare metals, nonmetals, and metalloids based on their properties and on their location in the periodic table.8.RST 9, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #13: Questions pg.397 #5-6 OCCT Item Spec. Question Practice balancing chemical equations using the interactive SmartBoard lesson. Watch the BrainPop video clip over balancing chemical equations and the periodic table. **Eval:** Answer the quiz questions over the BrainPop video clips.	**Purpose:** Compare exothermic and endothermic reactions. Explain activation energy. Interpret an energy diagram. Describe five factors that affect the rate of reaction. 8.RST 4, 8.RST 7, 8.WHST 2, 8.WHST 2a, 8.WHST 2b, 8.WHST 2d, 8.WHST 2e, 8.WHST 2f, 8.WHST 4, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #14: Question pg. 397 #8 OCCT Item Spec. Question Section 14.4 pg.402-407 Read/ Lecture/Discuss **Eval:** Students will **w**rite a paragraph summarizing what they learned today. They must also include drawings of the energy diagrams with an explanation for each one.	**Purpose:** Describe the properties of ionic and covalent compounds. Classify compounds as ionic or covalent based on their properties. 8.RST 4, Content Standard 1.1, Content 1.2 **Activities:** Bell Activity #15: Interpreting graphics questions pg.413 #1-3 OCCT Item Spec. Question Section 15.1 pg.418-421 Read/ Lecture/Discuss **Eval:** Science Journal #2: Students will predict whether a compound is ionic or covalent by considering the elements that compose it.	**Purpose:** Describe chemical bonding. Identify the number of valence electrons in an atom. Predict whether an atom is likely to form bonds. Explain how ionic bonds form. Explain how covalent bonds form. Describe molecules. Explain how metallic bonds form. 8.RST 4, Content Standard 1.1, Content 1.2 **Activities/Eval:** Chapter 13 Review #1-23 and Chapter 13 Vocabulary Activity Worksheet	**Purpose:** Compare exothermic and endothermic reactions. Explain activation energy. Interpret an energy diagram. Describe five factors that affect the rate of reaction. Describe the properties of ionic and covalent compounds. Classify compounds as ionic or covalent based on their properties. 8.RST 4, Content Standard 1.1, Content 1.2 **Activities/Eval:** Directed Reading Worksheet 14.4 and Directed Reading Worksheet 15.1.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Describe four properties of acids. Identify four uses of acids. Describe four properties of bases. Identify four uses of bases. Determine if certain household liquids are acids or bases. Use blue and red litmus paper to determine if the liquids are acids or bases. Use pH paper to determine the pH of the liquids. Create a graph of the results and formulate conclusions. Explain the difference between strong acids and bases and weak acids and bases. Identify acids and bases by using the pH scale. Describe the formation and uses of salts. Review content matter of Chapters 13-15: Chemical Bonding, Reactions, and Compounds. Practice drawing electron shell diagrams, electron dot diagrams, and balancing equations. Evaluate understanding of Chapters 13-15: Chemical Bonding, Reactions, and Compounds.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms), 8.RST 7(integrate information expressed in words with version of that info. expressed visually), 8.RST 9(compare info. gained from experiments and videos with that gained from reading a text on the same topic) , 8.WHST 2(write informative/explanatory texts), 8.WHST 2a(introduce a topic clearly; include graphics when useful to aiding comprehension), 8.WHST 2b(develop the topic with relevant, well-chosen facts), 8.WHST 2d(use precise language and domain-specific vocabulary), 8.WHST 2e(establish and maintain a formal style), 8.WHST 2f(provide a concluding statement), 8.WHST 4(produce clear and coherent writing) **PASS:** Process Standard 1.1 (identify qualitative and quantitative changes given conditions), Process Standard 1.2(use appropriate tools), Process Standard 3.5(follow a multistep procedure), Process Standard 3.6(practice safety procedures in labs), Process Standard 4.5(communicate scientific processes), Process Standard 5.5(form and communicate a valid conclusion), Content Standard 1.1(substances react chemically to form new substances acid/base reactions), Content Standard 1.2(in chemical reactions and physical changes, matter is conserved)

HOURS	MONDAY 3/11/13	TUESDAY 3/12/13	WEDNESDAY 3/13/13	THURSDAY 3/14/13	FRIDAY 3/15/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Describe four properties of acids. Identify four uses of acids. Describe four properties of bases. Identify four uses of bases. 8.RST 4, Content Standard 1.1 **Activities:** Bell Activity #16: Read Passage 1 on pg.412. Then answer the 3 reading comprehension questions that follow. OCCT Item Spec. Question Section 15.2 pg.422-427 Read/ Lecture/Discuss If time allows, watch the Brain Pop video over Acids and Bases. Complete the review activity and quiz over the video. **Eval:** Allow students time to finish Chapter 13 worksheet and Directed reading worksheets from last week. Answer any questions about the worksheets.	**Purpose:** Determine if certain household liquids are acids or bases. Use blue and red litmus paper to determine if the liquids are acids or bases. Use pH paper to determine the pH of the liquids. Create a graph of the results and formulate conclusions. 8.RST 3, 8.RST 7, 8.RST 9, 8.WHST 2, 8.WHST 2a, 8.WHST 2d, 8.WHST 2e, 8.WHST 2f, 8.WHST 4, Process Standard 1.1, Process Standard 1.2, Process Standard 3.5, Process Standard 3.6, Process Standard 4.5, Process Standard 5.5 **Activities:** Bell Activity #17: Read passage 2 on pg.412. Then answer the two reading comprehension questions that follow. OCCT item Spec. Question **Eval:** Students will complete the table for the lab, create a graph of the pH results, and write a conclusion.	**Purpose:** Explain the difference between strong acids and bases and weak acids and bases. Identify acids and bases by using the pH scale. Describe the formation and uses of salts. Review content matter of Chapters 13-15: Chemical Bonding, Reactions, and Compounds. 8.RST 4, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #18: Suppose you are given an unknown chemical solution. What two tests could you perform on the chemical to determine whether it is an acid or abase? What results would help you decide if the chemical was an acid or a base? OCCT Item Spec. Question Section 15.3 pg.428-431 Read/ Lecture/Discuss **Eval:** Begin working on the Chapter 13-15 Study Guide.	**Purpose:** Review content matter of Chapters 13-15: Chemical Bonding, Reactions, and Compounds. Practice drawing electron shell diagrams, electron dot diagrams, and balancing equations. 8.RST 4, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #19: Interpreting Graphics Questions pg.443 #1-3 OCCT Item Spec. Question Finish Chapter 13-15 Study Guide **Eval:** At the end of the class period, review all answers to the study guide.	**Purpose:** Evaluate understanding of Chapters 13-15: Chemical Bonding, Reactions, and Compounds. 8.RST 4, Content Standard 1.1, Content Standard 1.2 **Activities:** Bell Activity #20: Read passage 2 on pg.442. Answer the 3 reading comprehension questions that follow. OCCT Item Spec. Question **Eval:** Chapters 13-15 Test: Chemical Bonding, Reactions, and Compounds

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the OCCT by identifying qualitative and quantitative changes. Use appropriate tools to measure. Use appropriate SI units. Use observable properties to place an object in a classification system such as biological hierarchy and dichotomous keys. Identify properties by which a set of objects could be ordered. Prepare for the OCCT by designing investigations that lead to scientific inquiry. Identify testable questions based on prior knowledge and evaluate the design of a scientific investigation. Identify a testable hypothesis, variables, and controls in an experimental setup. Follow a multistep procedure when carrying out experiments and recognize potential hazards and in science activities. Ask questions that can be answered through scientific investigation. Record data in an appropriate method. Interpret tables and graphs, Evaluate data to develop explanations. Determine is results support or reject hypotheses. Communicate scientific processes. Use the design process to address a problem or need. Prepare for the OCCT by reviewing how substances react chemically with other substances to form new substances with different characteristics. Review the physical properties and chemical properties of matter. Explain how in chemical reactions and physical changes, matter is conserved. Compare and contrast physical and chemical changes. Prepare for the OCCT by reviewing how the motion of an object can be measured. Represent the position of an object, its speed, and direction on a graph. Explain why an object that is not being subjected to a net force will continue to move at a constant velocity. Review the terms inertia, balanced forces, and unbalanced forces.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 3(follow a multistep procedure), 8.RST 4(determine the meaning of key terms) **PASS:** Process Standard 1.1 (identify qualitative and quantitative changes), Process Standard 1.2(use appropriate tools to measure), Process Standard 1.3(Use appropriate SI units), 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 3.1(ask questions and design investigations), Process Standard 3.2(evaluate the design of an investigation), Process Standard 3.3(identify variables and controls), Process Standard 3.4(identify hypotheses), Process Standard 3.5(follow a multistep procedure), Process Standard 3.6(practice safety procedures), Process Standard 4.1(record data in an appropriate method), Process Standard 4.2(interpret data tables and graphs), Process Standard 4.3(evaluate to develop explanations), Process Standard 4.4(determine is results support hypotheses), Process Standard 4.5(communicate scientific processes), Process Standard 5.1(ask questions that can be answered through investigations), Process Standard 5.3(use the design process to address a problem), Content Standard 1.1(substances react to form new substances), Content Standard 1.2(matter has physical and chemical properties that can be observed), Content Standard 2.1(the motion of an object can be measured), Content Standard 2.2(an object that is not being subjected to a net force will continue to move at a constant velocity).

HOURS	MONDAY 3/25/13	TUESDAY 3/26/13	WEDNESDAY 3/27/13	THURSDAY 3/28/13	FRIDAY 3/29/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the OCCT by identifying qualitative and quantitative changes. Use appropriate tools to measure. Use appropriate SI units. Use observable properties to place an object in a classification system such as biological hierarchy and dichotomous keys. Identify properties by which a set of objects could be ordered. 8.RST 4, Process Standard 1.1, 1.2, 1.3, 2.1, 2.2 **Activities:** Bell Activity #1: Write down three qualitative and three quantitative characteristics about the organism. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 1 (Observe and Measure) pg.6-10, 15-16. Complete Review 2 (Classify) pg.17-25.	**Purpose:** Prepare for the OCCT by designing investigations that lead to scientific inquiry. Identify testable questions based on prior knowledge and evaluate the design of a scientific investigation. Identify a testable hypothesis, variables, and controls in an experimental setup. Follow a multistep procedure when carrying out experiments and recognize potential hazards and in science activities. Ask questions that can be answered through scientific investigation. Record data in an appropriate method. Interpret tables and graphs, Evaluate data to develop explanations. Determine is results support or reject hypotheses. Communicate scientific processes. Use the design process to address a problem or need. 8.RST 3, 8.RST 4, Process Standards 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 4.1, 4.2, 4.3, 4.4, 4.5, 5.1, 5.3 **Activities:** Bell Activity #2: Identify the variables and control after reading about an experiment. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 3(Experiment) pg.26-31, 37-38. Complete Review 4 (Communicate and Interpret) pg.39-50.	**Purpose:** Prepare for the OCCT by reviewing how substances react chemically with other substances to form new substances with different characteristics. Review the physical properties and chemical properties of matter. Explain how in chemical reactions and physical changes, matter is conserved. Compare and contrast physical and chemical changes. 8.RST 4, Content Standard 1.1, 1.2 **Activities:** Bell Activity #3: Identify changes as physical or chemical. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 5(Physical Properties of Matter) pg.52-60, 63-64. Complete Review 6(Chemical Properties of Matter) pg.65-68, 72.	**Purpose:** Prepare for the OCCT by reviewing how the motion of an object can be measured. Represent the position of an object, its speed, and direction on a graph. Explain why an object that is not being subjected to a net force will continue to move at a constant velocity. Review the terms inertia, balanced forces, and unbalanced forces. 8.RST 4, Content Standard 2.1, 2.2 **Activities:** Bell Activity #4: Identify the type of energy used in various examples. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 7(Motions and Forces) pg.73-86. Complete Review 8 (Transfer of Energy) pg.87-93, 96.	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the OCCT by considering the details of internal and external structures to infer the degree of relatedness among organisms. Describe some of the internal and external structures organisms have that enable them to survive in a specific habitat. Prepare for the OCCT by taking a practice test. Prepare for the OCCT by reviewing answers to the practice test.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Core: 8.RST 4(determine the meaning of key terms) **PASS:** Content Standard 3.1(consider details of internal and external structure of organisms to infer the degree of relatedness), Content Standard 3.2(organisms have internal and external structures that enable them to survive a specific habitat)

HOURS	MONDAY 4/1/13	TUESDAY 4/2/13	WEDNESDAY 4/3/13	THURSDAY 4/4/13	FRIDAY 4/5/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the OCCT by considering the details of internal and external structures to infer the degree of relatedness among organisms. Describe some of the internal and external structures organisms have that enable them to survive in a specific habitat. 8.RST 4, Content Standard 3.1, 3.2 **Activities:** Bell Activity #5: List as many cell organelles as possible. Then tell if they are found in animal cells, plant cells, or both. OCCT Item Spec. Question Take the practice test found in the parent, student, and teacher guide. Review answers. **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 9 (Structure and Function in Living Systems) pg.98-103, 107. Complete Review 10 (Adaptations and Interactions) pg.108-115, 119.	**Purpose:** Prepare for the OCCT by considering the details of internal and external structures to infer the degree of relatedness among organisms. Describe some of the internal and external structures organisms have that enable them to survive in a specific habitat. 8.RST 4, Content Standard 3.1, 3.2 **Activities:** Bell Activity #6: Given a list of factors, determine if they are biotic or abiotic. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 11 (Populations and Ecosystems) pg.120-127, 131-132. Complete Review 12 (Diversity and Adaptations of Organisms) pg.133-138, 142	8TH Grade Writing Test (Morning and Afternoon) 3rd, 4th, and 7th Hours will be back in class. **Purpose:** Increase understanding about tsunamis. **Activities:** Watch the video over the 2004 tsunami that affected people in Thailand, Sri Lanka, and India.	**Purpose:** Prepare for the OCCT by taking a practice test. 8.RST 4 **Activities:** Bell Activity #7: Name one adaptation a bobcat living in Oklahoma may have. OCCT Item Spec. Question **Eval:** Buckle Down OCCT Practice Test A (50 questions)	**Purpose:** Prepare for the OCCT by reviewing answers to the practice test. 8.RST 4 **Activities:** Bell Activity #8: Name a common structure that scientists look at when trying to infer the degree of relatedness between two organisms. OCCT Item Spec. Question **Eval:** Review and discuss all of the practice test answers from yesterday.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the OCCT by reviewing how atmospheric and ocean circulation patterns affect weather on a global scale. Recognize that landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediments. Recognize that landforms also form from destructive forces such as weathering and erosion. Prepare for the OCCT by reviewing the parts of the rock cycle including the formation, weathering, sedimentation, and reformation of rock. List examples of occasional catastrophic events in Earth's history such as asteroids, comets, volcanic eruptions, continental glaciations, and changes in sea levels. Explain how fossils provide evidence of how life and environmental conditions have changed. Prepare for the OCCT by reviewing the parts of the rock cycle including the formation, weathering, sedimentation, and reformation of rock. List examples of occasional catastrophic events in Earth's history such as asteroids, comets, volcanic eruptions, continental glaciations, and changes in sea levels. Explain how fossils provide evidence of how life and environmental conditions have changed. Prepare for the OCCT by **p**laying a review game. Prepare for the OCCT by taking a practice test and reviewing the answers.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms) **PASS:** Content Standard 4.1 (landforms result from constructive forces and destructive forces), Content Standard 4.2(the formation, weathering, sedimentation, and reformation of rock constitute a continuing rock cycle), Content Standard 4.3(Atmospheric and ocean circulation patterns affect weather on a global scale), Content Standard 5.1(Earth's history has been punctuated by occasional catastrophic events), Content Standard 5.2(fossils provide evidence of how life has changed)

HOURS	MONDAY 4/8/13	TUESDAY 4/9/13	WEDNESDAY 4/10/13	THURSDAY 4/11/13	FRIDAY 4/12/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the OCCT by reviewing how atmospheric and ocean circulation patterns affect weather on a global scale. Recognize that landforms result from constructive forces such as crustal deformation, volcanic eruption, and deposition of sediments. Recognize that landforms also form from destructive forces such as weathering and erosion. 8.RST 4, Content Standard 4.1, 4.3 **Activities:** Bell Activity #9: Compare and contrast the terms constructive forces and destructive forces. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 13 (Earth Systems) pg.144-154, 157-158. Complete Review 14 (Features on the Earth's Surface) pg.159-172, 175-176.	**Purpose:** Prepare for the OCCT by reviewing the parts of the rock cycle including the formation, weathering, sedimentation, and reformation of rock. List examples of occasional catastrophic events in Earth's history such as asteroids, comets, volcanic eruptions, continental glaciations, and changes in sea levels. Explain how fossils provide evidence of how life and environmental conditions have changed. 8.RST 4, Content Standard 4.2, 5.1, 5.2 **Activities:** Bell Activity #10: Draw a picture of the rock cycle. The picture should include the three types of rocks and the processes that form them. OCCT Item Spec. Question **Eval:** Work in the Buckle Down OCCT workbook. Complete Review 15 (The Rock Cycle) pg. 177-182, 185. Complete Review 16 (Earth's History) pg. 186-190, 193. Complete Review 17 (The Solar System) pg.194-202, 205.	8th Grade Online Testing for Reading **Purpose:** Prepare for the OCCT by **p**laying a review game. **Activities/Eval: T**he released test questions will be used to play the review game. Answers to the test questions will be discussed after each player answers.	8th Grade Online Testing for Reading **Purpose:** Prepare for the OCCT by taking a practice test and reviewing the answers. 8.RST 4 **Activities/Eval:** Begin taking the Buckle Down OCCT Practice Test B (50 questions). Students will be given substantial time to complete 5 questions. Then the questions will be reviewed and discussed as a class. This process of answering 5 questions and then discussing answers will continue until the end of the hour.	8th Grade Online Testing for Math **Purpose:** Prepare for the OCCT by taking a practice test and reviewing the answers. 8.RST 4 **Activities/Eval:** Finish taking the Buckle Down OCCT Practice Test B (50 questions). Students will be given substantial time to complete 5 questions. Then the questions will be reviewed and discussed as a class. This process of answering 5 questions and then discussing answers will continue until the end of the hour.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the OCCT by taking a practice test and reviewing the answers. Learn interesting facts about various elements on the periodic table. Introduce new academic vocabulary words. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the parts of the cell when shown on a cell diagram. Review the academic vocabulary words. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the parts of the cell when shown on a cell diagram.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 9(compare and contrast information gained from video with that gained from reading a text on the same topic) **PASS:** Process Standard 2.1(using observable characteristics, place an object into a classification system such as a periodic table), Process Standard 2.2(identify properties by which a set of objects could be ordered)

HOURS	MONDAY 4/15/13	TUESDAY 4/16/13	WEDNESDAY 4/17/13	THURSDAY 4/18/13	FRIDAY 4/19/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	8th Grade Online Testing for Math **Purpose:** Prepare for the OCCT by taking a practice test and reviewing the answers. 8.RST 4 **Activities/Eval: T**ake the practice test of the released test items from 2011-2012. Students will be given substantial time to complete 5 questions. Then the questions will be reviewed and discussed as a class. This process of answering 5 questions and then discussing answers will continue until the end of the hour.	8th Grade Science Test 4th, 5th, and 7th hours will be back in class. **Purpose:** Learn interesting facts about various elements on the periodic table. Process Standard 2.1 **Activities:** Begin watching the video "Hunting the Elements". **Eval:** Write down ten elements mentioned in the video. Then write one interesting fact about each.	8th Grade History Test 4th, 5th, and 7th hours will be back in class. **Purpose:** Learn interesting facts about various elements on the periodic table. Process Standard 2.1 **Activities:** Finish watching the video "Hunting the Elements". **Eval:** Write down ten elements mentioned in the video. Then write one interesting fact about each.	**Purpose:** Introduce new academic vocabulary words. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the parts of the cell when shown on a cell diagram. 8.RST 4, Process Standard 2.2 **Activities:** Bell Activity #11: Draw a picture of a plant cell and label as many organelles as you can. Academic Vocabulary PowerPoint. The words for this week are cell wall, cell membrane, cytoplasm, nucleus, nuclear membrane, organelles, vacuole, chloroplast, ribosome, mitochondria, and lysosome. Students will write the definitions and draw the pictures. **Eval:** Identify the parts of a plant and animal cell using the Smartboard.	**Purpose:** Review the academic vocabulary words. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the parts of the cell when shown on a cell diagram. 8.RST 4, 8.RST 9, Process Standard 2.2 **Activities:** Bell Activity #12: Which organelle in the cell produces energy? Watch the Brain Pop video clip over cell structures. Take the review quiz as a class. Label the parts of the cell and complete the graphic organizer on Brain Pop. **Eval:** Complete the academic vocabulary word organizer.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Review the academic vocabulary words #11. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the functions of major organelles in a cell and think critically to describe as a structure in a city. Evaluate understanding of the academic vocabulary words #11. Introduce new academic vocabulary words #12. Present Cell City posters to the class. Review the academic vocabulary words #12.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 9(compare and contrast information gained from video with that gained from reading a text on the same topic) **PASS:** Process Standard 4.5(communicate scientific processes with a poster and oral presentation)

HOURS	MONDAY 4/22/13	TUESDAY 4/23/13	WEDNESDAY 4/24/13	THURSDAY 4/25/13	FRIDAY 4/26/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Review the academic vocabulary words. Describe the function of each of the cell organelles. Identify if the organelles are found in plant cells, animal cells, or both. Identify the functions of major organelles in a cell and think critically to describe as a structure in a city. 8.RST 4 **Activities/Eval:** Bell Activity #13: If the cell was a functioning city, what building in the city would represent the nucleus of a cell? Students will draw a cell city with each organelle representing a structure or function in the city.	**Purpose:** Evaluate understanding of the academic vocabulary words. Present Cell City posters to the class. 8.RST 4, Process Standard 4.5 **Activities:** Bell Activity #14: If you had to be a cell organelle, which one would you choose to be and why? Your answer must be based on the function of the organelle. Finish Cell City poster and begin presenting them to the class. **Eval:** Academic Vocabulary Quiz #11	**Purpose:** Introduce new academic vocabulary words. Present Cell City Drawings to the class. 8.RST 4, Process Standard 4.5 **Activities:** Bell Activity #15: Compare and contrast multicellular and unicellular organisms using a Venn diagram. Academic Vocabulary PowerPoint. The words for this week are asexual reproduction, chromosome, gene, heredity, homeostasis, mitosis, meiosis, multicellular, unicellular, sexual reproduction. Students will write the definitions and draw the pictures. **Eval:** Finish presenting Cell City posters to the class.	**Purpose:** Review the academic vocabulary words. 8.RST 4, 8.RST 9 **Activities:** Bell Activity #16: Look at the pictures of the phases of mitosis and explain what is happening in each one. Watch the Brain Pop video clips over mitosis and heredity. Take the review quizzes as a class. **Eval:** Complete the academic vocabulary word organizer.	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Explain how probability is used to predict the results of genetic crosses. Use Punnett squares to predict genetic results. Evaluate understanding of the academic vocabulary words. Correctly identify the phases of mitosis. Introduce new academic vocabulary words. Review the academic vocabulary words.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 9(compare and contrast information gained from video with that gained from reading a text on the same topic) **PASS:** Process Standard 1.1(identify qualitative and quantitative changes given conditions)

HOURS	MONDAY 4/29/13	TUESDAY 4/30/13	WEDNESDAY 5/1/13	THURSDAY 5/2/13	FRIDAY 5/3/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Explain how probability is used to predict the results of genetic crosses. Use Punnett squares to predict genetic results. 8.RST 4 **Activities:** Bell Activity #17: Compare and contrast sexual and asexual reproduction using a Venn diagram. Human Genetics Lab **Eval:** Lab Questions	**Purpose:** Evaluate understanding of the academic vocabulary words. Correctly identify the phases of mitosis. 8.RST 4 **Activities:** Bell Activity #18: Write one way that mitosis and meiosis are different. Then, write one way that mitosis and meiosis are similar. When everyone is finished with the quiz, we will work on the Mitosis webquest as a class. We will visit websites and answer questions about the various phases of mitosis. **Eval:** Academic Vocabulary Quiz #12	**Purpose:** Introduce new academic vocabulary words. Correctly identify the phases of mitosis. 8.RST 4, Process Standard 1.1 **Activities:** Bell Activity #19: List three qualitative characteristics and three quantitative characteristics about the animal. Academic Vocabulary PowerPoint. The words for this week are organ, organ system, tissue, diffusion, osmosis, transport, molecule, atoms, qualitative, and quantitative. Students will write the definitions and draw the pictures. **Eval:** Finish the mitosis webquest. If time allows, play the "Control of the cell cycle" game on Brain pop.	**Purpose:** Review the academic vocabulary words. 8.RST 4, 8.RST 9 **Activities:** Bell Activity #20: How are tissues, organs, and organ systems related? Watch the Brain Pop video clips over Active Transport, Passive Transport, and Human Body Systems. Take the review quizzes as a class. **Eval:** Complete the academic vocabulary word organizer. Turn in bell activities #1-20	NO SCHOOL

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Review the steps of the scientific method. Distinguish between observations and inferences. Write scientific hypotheses. Define independent variable, dependent variable, and control. Evaluate understanding of the academic vocabulary words. Review for the semester test. Learn about the history of HIV and AIDS. Discuss the modes of transmission, symptoms, and treatment of HIV, AIDS, and STDs. Recognize how easily STDs can spread to a large number of people. Inform and discuss statistics about tobacco, alcohol, and various drugs.

PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core: 8.RST 4(determine the meaning of key terms), 8.RST 9(compare and contrast information gained from video with that gained from reading a text on the same topic) **PASS:** Process Standard 1.1(identify qualitative and quantitative changes given conditions), Process Standard 3.3 (identify variables and controls in an experiment), Process Standard 3.4 (identify a testable hypothesis for an experiment).

HOURS	MONDAY 5/6/13	TUESDAY 5/7/13	WEDNESDAY 5/8/13	THURSDAY 5/9/13	FRIDAY 5/10/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Review the steps of the scientific method. Distinguish between observations and inferences. Write scientific hypotheses. Define independent variable, dependent variable, and control. 8.RST 4, 8.RST 9, Process Standard 3.3, Process Standard 3.4 **Activities:** Watch the Brain Pop video on the Scientific Method. Review observations, inferences, hypotheses, and variables. **Eval:** Scientific Method worksheet and Attributes of an Experiment Worksheet	**Purpose:** Evaluate understanding of the academic vocabulary words. Review for the semester test. 8.RST 4, Process Standard 1.1 **Activities:** Begin working on the Semester Test Study Guide after the quiz. **Eval:** Academic Vocabulary Quiz #13	**Purpose:** Review for the semester test. 8.RST 4 **Activities/Eval:** Semester Test Study Guide Go over the answers to the study guide at the end of the class period.	**Purpose:** Learn about the history of HIV and AIDS. Discuss the modes of transmission, symptoms, and treatment of HIV, AIDS, and STDs. Recognize how easily STDs can spread to a large number of people. **Activities:** Complete the anonymous questionnaire, "Talking with you parents/guardians". Lecture and discuss the HIV, AIDS, and STDs PowerPoint. Complete the HIV/STD Handshake Activity.	**Purpose:** Inform and discuss statistics about tobacco, alcohol, and various drugs. **Activities:** Lecture and discuss the Tobacco, Alcohol, and Drugs PowerPoint. Work in groups to complete the Choosing Abstinence and Saying No to Tobacco, Alcohol, and Drug Use Worksheets.

HILLDALE MIDDLE SCHOOL LESSON PLANS

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

OVERVIEW AND PURPOSE: Prepare for the semester exam by playing a review game. Prepare for the semester exam by taking a practice test on the Smart Board.	**PASS OBJECTIVES AND COMMON CORE STANDARDS: Common Core:** 8.RST 4(determine the meaning of key terms)

HOURS	MONDAY 5/13/13	TUESDAY 5/14/13	WEDNESDAY 5/15/13	THURSDAY 5/16/13	FRIDAY 5/17/13
1st, 2nd, 3rd, 4th, 7th Hours 8th Grade Science	**Purpose:** Prepare for the semester exam by playing a review game. 8.RST 4 **Activities:** Review for the semester test by playing a review game with dry erase boards and markers.	**Purpose:** Prepare for the semester exam by taking a practice test on the Smart Board. 8.RST 4 **Activities:** Take the practice test using the information on the Smart Board. Grade the practice test and review answers as a class.	SEMESTER EXAMS	SEMESTER EXAMS	**NO SCHOOL**