Day 1	**Day 2**	**Day 3**	**Day 4**	**Day 5**
Lesson: Geological Change Over Time Essential Question: How do we learn about Earth's History?	**Lesson:** Geological Change Over Time	**Lesson:** Geological Change Over Time	**Lesson:** Geological Change Over Time	**Lesson:** Geological Change Over Time
Clarifying Objective: **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil	**Clarifying Objective:** **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil	**Clarifying Objective:** **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil	**Clarifying Objective:** **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil	**Clarifying Objective:** **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil
Bell Ringer: What do you think the saying means, "The present is the key to the past?" This can be found on page 106 Module E Unit 2 Lesson 1 **Instructional Tasks:**	**Bell Ringer:** KWL chart on Fossils. Students need to list at least four items on each column. **Instructional Tasks:**	**Bell Ringer:** What are some ways that organisms are preserved as fossils? (being trapped in amber or asphalt, buried in rock, or becoming frozen or petrified)	**Bell Ringer:** Besides Fossils, what are some ways scientists learn about how Earth has changed over time? (by studying its landforms and by examining ice cores, trees, and sea-floor	**Bell Ringer:** How can sedimentary rock show Earth's History? **Instructional Tasks:** **One Day Options-** **-Lesson Review pg 90**

Use Science Fusion (Module E- Dynamic Earth) **Pg. 106- 119 teacher pages** **Student pages 78-90** **Options:** **-Read Unit 2 Lesson 1 pg. 106-119** **-Powerpoint with skeletal notes** **-Digital Lesson with skeletal notes** **Summarizer:** **3-2-1 on powerpoint notes or digital lesson** **-3 things you liked, 2 new ideas you learned, 1 question you have.**	**-Continue/finish day 1 lesson** **-Vocabulary activity on Geological Change Over Time** **Card Sort- Found in teacher resources- vocabulary strategies.** **Word Splash- Found in teacher resources- vocabulary strategies.** **(use any strategy you like: ex- Frayer model, word triangle, Four Square, etc.)** **Summarizer:** **Create an Acrostic Poem using one of your vocabulary words. Make sure the words or sentences match the definition of the vocabulary word.** **Card Sort and Word Splash can be used as summarizer.**	**Instructional Tasks:** **Options:** **-Students can take a "book walk" through the lesson. Each page of the student book has questions they will answer after reading each section. If using laptops, the program will read to the student. If laptops are not available, you can make a class set of the lesson for students to use.** **-Activity- Reconstructing Pangaea pg 106** **~Quick Lab- Fossil Flipbook pg 106- worksheet can be found online in Lesson Inquiry Resources.** **Summarizer:** Think-pair-Share will work for all activities listed.	sediments for evidence of climate change.) **Instructional Tasks:** **Options-** **2 or more days to complete- S.T.E.M. Lab- Exploring Landforms pg 107. Worksheet can be found online in Lesson Inquiry Resources.** **Or choose an option from the previous three days that has not been completed.** **Summarizer:** **Review KWL chart from previous activity. Students should be able to fill in the learned column.**	**Module E- Student Edition** **-Traditional Quiz/ Test** **~Complete the previous activity from the previous day.** **Option 2- Two day activities-** **Alternative Assessment- Fossil Hunters- pg 111** **Summarizer:** **Students could present their alternative assessment.** **You can review the Lesson review as a class.**
Assessment: Observation/ Summarizer	**Assessment:** Observation	**Assessment:** summarizer, observation	**Assessment:** summarizer, observation/	**Assessment:** Observation

Day 6	Day 7	Day 8	Day 9	Day 10
Lesson: Geological Change Over Time	**Lesson: Relative Dating** **Essential Question: How are relative ages of rock measured?**	**Lesson: Relative Dating**	**Lesson: Relative Dating**	**Lesson: Relative Dating**
Clarifying Objective: **8. E.2.2:** Explain the use of fossils, ice cores, composition of sedimentary rocks, faults and igneous rock formations found in rock layers as evidence of the history of the Earth and its changing life forms. **Academic Vocabulary:** Uniformitarianism, climate, fossil, ice core, trace fossil	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**
Bell Ringer: **Instructional Tasks:** **Teachers can take this day to re-teach a concept students did**	**Bell Ringer:** **Uncovering student ideas in science. Vol. 1** • **Mountain Age p.167** **Instructional Tasks:** **Use Science Fusion (Module E- Dynamic Earth) Unit 2 Lesson 2**	**Bell Ringer:** **Instructional Tasks:** **-Continue/finish day 1 lesson** **-Vocabulary activity on Geological Change**	**Bell Ringer:** **Uncovering student ideas in science. Vol. 2** • **Mountaintop fossils. p.165** **Instructional Tasks:** **Options:** **-Students can take a**	**Bell Ringer:** **Uncovering student ideas in science. Vol. 2** • **Is it a rock, version 1 and 2. p.151 and 158** **Instructional Tasks:** **Choose an option from the previous three**

not understand, or pick an instructional task they were unable to get to at the time. This will help solidify student's knowledge and prepare for benchmarks and/or end of unit test. Option 2- Bill Nye the Science Guy- found on youtube. Archeologist or ParrMr also found on youtube. Hundreds of science songs.	Pg. 120- 133 teacher pages Student pages 92-103 Options: -Read Unit 2 Lesson 2 pg. 120-133 -Powerpoint with skeletal notes -Digital Lesson with skeletal notes Summarizer: 3-2-1 on powerpoint notes or digital lesson -3 things you liked, 2 new ideas you learned, 1 question you have.	Over Time Card Sort- Found in teacher resources- vocabulary strategies. Word Splash- Found in teacher resources- vocabulary strategies. ~Three panel flip chart- pg 141 for directions Module E (use any strategy you like: ex- Frayer model, word triangle, Four Square, etc.) Summarizer: Create an Acrostic Poem using one of your vocabulary words. Make sure the words or sentences match the definition of the vocabulary word. Card Sort and Word Splash can be used as summarizer.	"book walk" through the lesson. Each page of the student book has questions they will answer after reading each section. If using laptops, the program will read to the student. If laptops are not available, you can make a class set of the lesson for students to use. ~Quick Lab- Ordering Rock Layers pg 123- worksheet can be found online in Lesson Inquiry Resources. ~Virtual Lab- Ordering Rock Layers- pg 123. Worksheets ca nbe found online. Summarizer: Graphic Organizer- Cluster Diagram, Venn Diagram, Concept Mapping, Main Idea Web. Choose a graphic organizer for students to complete their ideas of the concept they are	days that has not been completed. 2 day options- WTL-Science 6 9.1 What are rocks and minerals? Cold Case: Dinosaurs Part 1 Cold Case: Dinosaurs Part 2 Cold Case: Dinosaurs Part 3 Summarizer: **Take it Home- Relative Age. Can be found online in Lesson Student Resources.

			learning.	
Assessment: Observation/ summarizer	**Assessment:** Observation	**Assessment:** summarizer, observation	**Assessment:** summarizer, observation/	**Assessment:** Observation

Day 11	**Day 12**	**Day 13**	**Day 14**	**Day 15**
Lesson: Relative Dating	**Lesson: Relative Dating**	**Lesson: Absolute Dating**	**Lesson: Absolute Dating** **Essential Questions: How is absolute age of rock measured?**	**Lesson: Absolute Dating**
Clarifying Objective: **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Relative dating, fossil, superposition, unconformity, geological column**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**
Bell Ringer: Why is the law of superposition most easily applied to undisturbed	**Bell Ringer:** **Instructional Tasks:**	**Bell Ringer:** **Instructional Tasks:**	**Bell Ringer:** Draw a picture of a fossil and list everything you know about a fossil.	**Bell Ringer:** **Instructional Tasks:**

rock layers? **Instructional Tasks:** **-Lesson Review pg 103 Module D- Student Edition** **-Traditional Quiz/ Test** **~Complete the previous activity from the previous day.** **Option 2- Two day activities-** **Alternative Assessment- Relative Dating pg 127** **Summarizer:** Discuss how the students felt they did on the test. What could they do to improve their scores?	**Teachers can take the next two days to re-teach a concept students did not understand, or pick an instructional task they were unable to get to at the time. This will help solidify student's knowledge and prepare for benchmarks and/or end of unit test.** **Option 2- Bill Nye the Science Guy- found on youtube. Dinosaurs** **or ParrMr also found on youtube. Hundreds of science songs.** **Summarizer:**	**Teachers can take the next two days to re-teach a concept students did not understand, or pick an instructional task they were unable to get to at the time. This will help solidify student's knowledge and prepare for benchmarks and/or end of unit test.** **Option 2- Bill Nye the Science Guy- found on youtube. Archeologist** **or ParrMr also found on youtube. Hundreds of science songs.** **Summarizer:**	**Instructional Tasks:** **Use Science Fusion (Module E- Dynamic Earth) Unit 2 Lesson 3** **Pg. 138- 149 teacher pages** **Student pages 106-117** **Options:** **-Read Unit 2 Lesson 3pg. 138-149** **-Powerpoint with skeletal notes** **-Digital Lesson with skeletal notes** **Summarizer:** **3-2-1 on powerpoint notes or digital lesson** **-3 things you liked, 2 new ideas you learned, 1 question you have.**	**-Continue/finish day 1 lesson** **-Vocabulary activity on Geological Change Over Time** **Card Sort- Found in teacher resources- vocabulary strategies.** **Word Splash- Found in teacher resources- vocabulary strategies.** **(use any strategy you like: ex- Frayer model, word triangle, Four Square, etc.)** **Summarizer:** **Create an Acrostic Poem using one of your vocabulary words. Make sure the words or sentences match the definition of the vocabulary word.** **Card Sort and Word Splash can be used as summarizer.**
Assessment:	**Assessment:**	**Assessment:**	**Assessment:**	**Assessment:**

Observation	Observation	summarizer, observation	summarizer, observation/	Observation

Day 16	**Day 17**	**Day 18**	**Day 19**	**Day 20**
Lesson: Absolute Dating **Essential Questions: How is absolute age of rock measured?**	**Lesson: Absolute Dating**	**Lesson: Absolute Dating**	**Lesson: Absolute Dating**	**Lesson: Absolute Dating**
Clarifying Objective: **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**	**Clarifying Objective:** **8. E.2.1:** Infer the age of Earth and relative age of rocks and fossils from index fossils and ordering of rock layers (relative dating and radioactive dating). **Academic Vocabulary:** **Absolute dating, radioactive decay, radiometric dating**
Bell Ringer: How old is Earth and how did scientist find this out? (about 4.6 billion yrs; radiometric dating moon rocks and meteorites) **Instructional Tasks:**	**Bell Ringer:** Why can't radiometric dating of Earth rocks be used to determine the age of Earth? (rocks are constantly changed through erosion and	**Bell Ringer:** **On what type of organism remains is radiocarbon dating useful? (only on remains that have NOT been altered by fossilization)** **Instructional Tasks:**	**Bell Ringer:** **(Depends on what needs to be reviewed)** **Instructional Tasks:** **Teachers can take the next two days to re-**	**Bell Ringer:** **(Depends on what needs to be reviewed)** **Instructional Tasks:** **Teachers can take the**

Options: **-Students can take a "book walk" through the lesson. Each page of the student book has questions they will answer after reading each section. If using laptops, the program will read to the student. If laptops are not available, you can make a class set of the lesson for students to use.** **~Quick Lab- Radioactive Decay pg 139- worksheet can be found online in Lesson Inquiry Resources.** **~Quick Lab- Index Fossils pg 139. Worksheets can be found online.** **<u>Summarizer:</u>** **Graphic Organizer- Cluster Diagram, Venn Diagram, Concept Mapping, Main Idea**	melting) **<u>Instructional Tasks:</u>** **Options:** **Choose an option from the previous three days that has not been completed.** • Radioactive Dating: Looking at Half-Lives Using M&Ms http://serc.carleton.edu/sp/mnstep/activities/34884.html • Half-life game http://phet.colorado.edu/en/simulation/radioactive-dating-game **<u>Summarizer:</u>** **Think-pair- share Radioactive dating activity.**	**<u>One Day Options-</u>** **-Lesson Review pg 117 Module E- Student Edition** **-Traditional Quiz/ Test** **~Unit Test** **~Complete the previous activity from the previous day.** **<u>Option 2- Two day activities-</u>** **Alternative Assessment- Create a Museum Exhibit- pg 143** **<u>Summarizer:</u>** **Students could present their alternative assessment.** **You can review the Lesson review as a class.**	**teach a concept students did not understand, or pick an instructional task they were unable to get to at the time. This will help solidify student's knowledge and prepare for benchmarks and/or end of unit test.** **<u>Summarizer:</u>**	**next two days to re-teach a concept students did not understand, or pick an instructional task they were unable to get to at the time. This will help solidify student's knowledge and prepare for benchmarks and/or end of unit test.** **<u>Summarizer:</u>**

Web. **Choose a graphic organizer for students to complete their ideas of the concept they are learning.**				
<u>Assessment:</u> Observation	**<u>Assessment:</u>** Observation	**<u>Assessment:</u>** summarizer, observation	**<u>Assessment:</u>** summarizer, observation/	**<u>Assessment:</u>** Observation