

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

**Unit 10-** During this unit, students will construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth. Students will also analyze geoscience data and the results from global climate models to make an evidence based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.

### Driving Questions:

- How have the shape and configuration of continents and ocean basins changed through time?
- How do we use the rock record to construct an account of species that lived on Earth in the past?
- What evidence can we use to reconstruct Earth's recent past?

### NYSSLS Standards:

**Lesson 10.1:** In this lesson, students identify and explore lines of evidence that can be used to determine the geologic history of an area (**SEP Constructing Explanations and Designing Solutions, CCC Stability and Change, CCC Structure and Function**). This includes examining and interpreting fossil, stratigraphic and radiometric evidence (**DCI ESS1.C**).

- **HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.**
  - **ESS2.E Biogeology**
    - The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual co-evolution of Earth's surface and the life that exists on it. (HS-ESS2-7)
- **HS-ESS1-6 Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.**
  - **ESS1.C The History of Planet Earth**
    - Although active geologic processes, such as plate tectonics and erosion, have destroyed or altered most of the very early rock record on Earth, other objects in the solar system, such as lunar rocks, asteroids, and meteorites, have changed little over billions of years. Studying these objects can provide information about Earth's formation and early history. (HS-ESS1-6)
  - **PS1.C Nuclear Processes**
    - (NYSED) Spontaneous radioactive decay follows a characteristic exponential decay law allowing an element's half-life to be used for radiometric dating of rocks and other materials. (secondary to HS-ESS1 5),(secondary to HS-ESS1-6)

**Lesson 10.2:** In this lesson, students construct an explanation based on evidence (**SEP Constructing Explanations and Designing Solutions**) for how the geologic time scale is used to organize Earth's history (**DCI ESS1.C, CCC Scale, Proportion, and Quantity**). Students engage in argument from evidence (**SEP Engaging in Argument from Evidence**) to assess the impact of changes in continental structure and climate (**CCC Stability and Change**) on the development of life on Earth (**DCI ESS2.E**). Students also interpret patterns among the development of new life forms and mass extinctions (**CCC Patterns**) to evaluate and communicate information (**SEP Obtaining, Evaluating, and Communicating Information**) regarding Earth's history based on patterns.

- **HS-ESS1-5 Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks.**
  - **ESS1.C The History of Planet Earth**
    - The geologic time scale interpreted from rock strata provides a way to organize Earth's history. Analyses of rock strata and the fossil record provide only relative dates, not an absolute scale. (MS-ESS1-4)
    - Continental rocks, which can be older than 4 billion years, are generally much older than the rocks of the ocean floor, which are less than 200 million years old. (HS-ESS1-5)
- **HS-ESS2-7 Construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth.**
  - **ESS2.E Biogeology**
    - The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual coevolution of Earth's surface and the life that exists on it. (HS-ESS2-7)

**Lesson 10.3:** In this lesson, In this lesson, students synthesize evidence of the past (**SEP Engaging in Argument from Evidence, DCI ESS2.A, CCC Scale, Proportion, and Quantity**) to construct an argument based on evidence about the simultaneous coevolution of Earth's systems and life on Earth. Students use current observations and models (**SEP Developing and Using Models**) to make inferences about the geosphere, climate, and biosphere in the past (**CCC Stability and Change, DCI ESS2.E**) and use models to make predictions about how those systems will evolve in the future (**CCC Systems and System Models, DCI ESS2.D**).

- **HS-ESS2-6 Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.**
  - **ESS2.D Weather and Climate**
    - Gradual atmospheric changes were due to plants and other organisms that captured carbon dioxide and released oxygen. (HS-ESS2-6), (HS-ESS2-7)
- **HS-ESS2-7 Construct an argument based on evidence about the coevolution of Earth's systems and life on Earth.**

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

- **ESS2.E Biogeology**
  - The many dynamic and delicate feedbacks between the biosphere and other Earth systems cause a continual coevolution of Earth's surface and the life that exists on it. (HS-ESS2-7)
- **HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.**
  - **ESS2.A Earth Materials and Systems**
    - Earth's systems, being dynamic and interacting, cause feedback effects that can increase or decrease the original changes. (HS-ESS2-2)
- **HS-ESS3-5 Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.**
  - **ESS3.D Global Climate Change**
    - Though the magnitudes of human impacts are greater than they have ever been, so too are human abilities to model, predict, and manage current and future impacts. (HS-ESS3-5)

### Science & Engineering Practices ([link to SEP break-down](#)):


- Constructing Explanations and Designing Solutions
- Engaging in Argument from Evidence
- Obtaining, Evaluating, and Communicating Information
- Developing and Using Models
- Scientific Knowledge is Based on Empirical Evidence

### Crosscutting Concepts ([link to guiding questions for CCC](#)):







- Stability and Change
- Systems and System Models
- Scale, Proportion, and Quantity
- Structure and Function
- Patterns

### Opportunities for Student Collaboration p. 557H (Complete Collaboration Strategy Guide):




- Self-Assessment pp. 558, 598 ● Think, Pair, Share pp. 563, 564, 572, 582, 588, 590, 592, 594 ● Claims, Evidence, Reasoning pp. 564, 566, 589 ● One Move p. 568 ●
- Group Activity pp. 580, 587 ● Four Corners p. 562, 585 ● Models p. 600 ● Think Fast p. 600 ●

Time Frame	Lesson Framework	Instructional Sequence	Resources- HMH Dimensions- Earth & Space Science Textbook	Resources- HMH Dimensions Digital Component	Additional Resources
4/10/23-4/28/23	<b>Unit 10: Exploring Earth's History</b>		<ul style="list-style-type: none"> <li>● <b>Unit Opener (Pre-Assessment):</b> <b>Predict-</b> Why is it important to understand the formation and breakup of past supercontinents? (pp.556-557)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Unit Project: Exploring Pangaea-</b> Students investigate fossils, climate change, and other lines of evidence to understand how the supercontinent Pangaea formed and broke apart and the landmasses came to occupy their current locations. They demonstrate how fossil and climate considerations support the theory of plate tectonics. They present their explanations in the form of maps or computer simulations.</li> </ul>	
	<u><b>Lesson 10.1- The Rock and Fossil Record</b></u>  In this lesson, you will explain how fossils and rock records provide insight into Earth's distant past.	<b>Engage</b>	<ul style="list-style-type: none"> <li>● <b>Phenomenon: Can You Explain It?-</b> How do the 40 distinct layers of rock and fossil exposed in the canyon cut by the Colorado River tell us about Earth's history? (p. 558)</li> </ul>		<b>ESRT:</b> <ul style="list-style-type: none"> <li>● Geologic History of New York State (pp. 8 &amp; 9)</li> <li>● Radioactive Decay Data (p. 1)</li> </ul>
		<b>Explore/ Explain</b>	<ul style="list-style-type: none"> <li>● <b>Exploration 1-</b> Fossil Formation and Types of Fossils (pp. 559-562)</li> <li>● <b>Exploration 2-</b> Evidence Provided by Fossils (pp. 563-567)</li> <li>● <b>Exploration 3-</b> The Relative Ages of Rocks (pp. 568-570)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Lesson 1- The Rock and Fossil Record PPT (editable)</b></li> <li>● <b>Exploration 2:</b>  <b>Hands-On Lab- History in the Rocks-</b> In this lab, students demonstrate the use of index fossils for determining relative and absolute ages.</li> </ul>	<a href="#">What Can Rocks Tell Us About Earth's History? Pre-Assessment Probe</a>

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

<p><b>Vocabulary:</b> fossil relative age absolute age</p>		<ul style="list-style-type: none"> <li>● <b>Exploration 4-</b> The Absolute Ages of Rocks (pp. 571-573)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Exploration 3:</b>  <b>Hands-On Lab- Determining the Relative Age of Rock Strata-</b> In this lab, students model how large-scale forces change rock strata.</li> </ul>	<p> <a href="#">Investigating Radioactive Decay and Absolute Dating</a></p> <ul style="list-style-type: none"> <li>● <a href="#">Radioactive Dating Game</a></li> </ul> <p> <a href="#">Index Fossil &amp; Correlation Lab</a></p> <p><a href="#">Rock Correlation and NYS History</a></p> <p><a href="#">Sequencing Events in Geologic History</a></p>
	<b>Elaborate</b>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration-</b>  <b>Hands-On Lab- Modeling Molds and Casts</b> (p. 574)- In this lab, students model how different types of fossils form.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration:</b> <ul style="list-style-type: none"> <li>○ Natural History Museum Curator</li> <li>○ William Smith</li> </ul> </li> </ul>	
	<b>Evaluate</b>	<ul style="list-style-type: none"> <li>● <b>Lesson Self Check</b> (pp.575-577)- Can You Explain It- Revisit</li> <li>● <b>Make Your Own Study Guide</b> (p. 577)</li> <li>● <b>Checkpoint Questions</b> (pp. 576-577)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Can You Explain It?</b> Revisit</li> <li>● <b>Checkpoint Questions</b></li> <li>● <b>Make Your Own Study Guide</b></li> <li>● <b>Unit 10- Lesson 1 Quiz</b></li> </ul>	
<p><b>Lesson 10.2- Geologic Time</b></p> <p>In this lesson, you will use fossils to explain evolution and to describe changes during Earth's geologic eras.</p> <p><b>Vocabulary:</b> Precambrian supercontinent cyanobacteria Paleozoic era Mesozoic era Cenozoic era ice age</p>	<b>Engage</b>	<ul style="list-style-type: none"> <li>● <b>Phenomenon: Can You Explain It?-</b> What caused the mass extinctions that have taken place in the past 550 million years?</li> </ul>		<p><b>ESRT:</b></p> <ul style="list-style-type: none"> <li>● Geologic History of New York State (pp. 8 &amp; 9)</li> <li>● Generalized Bedrock Geology of New York State (p. 3)</li> </ul> <p><a href="#">Geologic History of New York State: Three Level Guide to Diagram Interpretation</a></p> <p>*In the Community-Turning Back Time (p. 557H)</p>
	<b>Explore/ Explain</b>	<ul style="list-style-type: none"> <li>● <b>Exploration 1-</b> Early Earth (pp. 579-582)</li> <li>● <b>Exploration 2-</b> Earth During the Paleozoic Era (pp. 583-586)</li> <li>● <b>Exploration 3-</b> Earth During the Mesozoic Era (pp. 587-590)</li> <li>● <b>Exploration 4-</b> Earth During the Cenozoic Era (pp. 591-594)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Lesson 2- Geologic Time PPT (editable)</b></li> <li>● <b>Exploration 3:</b>  <b>Hands-On Lab- Matching Lines of Evidence-</b> In this lab, students model the lines of evidence for the age of the Atlantic Ocean.</li> </ul>	
	<b>Elaborate</b>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration-</b>  <b>Hands-On Lab- Build Your Own Timescale</b> (p. 595)- In this lab, students make a model to show the scale of time since Earth's creation.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration:</b> <ul style="list-style-type: none"> <li>○ The Late Heavy Bombardment</li> <li>○ The “Snowball Earth”</li> </ul> </li> </ul>	
	<b>Evaluate</b>	<ul style="list-style-type: none"> <li>● <b>Lesson Self Check</b> (pp.596-597)- Can You Explain It- Revisit</li> <li>● <b>Make Your Own Study Guide</b> (p. 597)</li> <li>● <b>Checkpoint Questions</b> (p. 597)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Can You Explain It?</b> Revisit</li> <li>● <b>Checkpoint Questions</b></li> <li>● <b>Make Your Own Study Guide</b></li> <li>● <b>Unit 10- Lesson 2 Quiz</b></li> </ul>	
<p><b>Lesson 10.3- Earth: Past, Present, and Future</b></p> <p>In this lesson, you will use evidence to explain changes in Earth's past and predict changes in Earth's future.</p>	<b>Engage</b>	<ul style="list-style-type: none"> <li>● <b>Phenomenon: Can You Explain It?-</b> What processes led to the formation of the Great Lakes?</li> </ul>		<p><b>ESRT:</b></p> <ul style="list-style-type: none"> <li>● Geologic History of New York State (pp. 8 &amp; 9)</li> </ul>
	<b>Explore/ Explain</b>	<ul style="list-style-type: none"> <li>● <b>Exploration 1-</b> Evidence of Earth's Recent Past (pp. 599-600)</li> <li>● <b>Exploration 2-</b> Earth's Recent Past (pp. 601-603)</li> <li>● <b>Exploration 3-</b> Models of the Future (pp. 604-605)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Lesson 3- Earth: Past, Present, and Future PPT (editable)</b></li> </ul>	

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

<b>Vocabulary:</b> glacials interglacials			<ul style="list-style-type: none"> <li>● <b>Exploration 2:</b>  <b>Hands-On Lab- Glaciers and Sea Level Change-</b> In this lab, students model the melting of an ice sheet and analyze the effects of melting ice on sea level.</li> </ul>	<a href="#">Performance Task- Does This Fossil Exist in New York State? Version A</a>
	<b>Elaborate</b>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration-</b>  <b>Hands-On Lab- Design Your Own Timeline-</b> In this lab, students design timelines for the Cenozoic era- or longer alone- and extend them into the future.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Continue Your Exploration:</b> <ul style="list-style-type: none"> <li>○ Explore Proxy Data</li> <li>○ Migration Routes</li> <li>○ Future Supercontinents</li> </ul> </li> </ul>	<a href="#">Performance Task- Does This Fossil Exist in New York State? Version B</a>
	<b>Evaluate</b>	<ul style="list-style-type: none"> <li>● <b>Lesson Self Check</b> (pp. 607-609)- Can You Explain It- Revisit</li> <li>● <b>Make Your Own Study Guide</b> (p. 609)</li> <li>● <b>Checkpoint Questions</b> (pp. 608-609)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Can You Explain It?</b> Revisit</li> <li>● <b>Checkpoint Questions</b></li> <li>● <b>Make Your Own Study Guide</b></li> <li>● <b>Unit 10- Lesson 3 Quiz</b></li> </ul>	
	<b>Thing Explainer</b>	<ul style="list-style-type: none"> <li>● <b>Earth's Past</b> (pp. 610-613)</li> </ul>		
<b>Enrichment: Unit Connection Activities</b> (Optional)	<ul style="list-style-type: none"> <li>● <b>Engineering-</b> Pangea</li> <li>● <b>Art-</b> Artistic License</li> <li>● <b>Computer Science-</b> Mapping Fossils</li> </ul>			
<b>Unit Close</b>	<ul style="list-style-type: none"> <li>● <b>Synthesize the Unit</b> (p. 615)</li> <li>● <b>Driving Questions</b> (revisit)</li> <li>● <b>Practice and Review Questions</b> (pp. 615-616)</li> <li>● <b>Unit Project</b> Revisited (p. 616)</li> <li>● <b>Unit Performance Task</b> (p. 617)</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Assessment Guide:</b> <ul style="list-style-type: none"> <li>○ Unit Test A- provides an in-depth assessment of the Performance Expectations aligned to the unit.</li> <li>○ Unit Test B can be used to assess students who need extra support</li> </ul> </li> </ul>	 <a href="#">HMH Earth &amp; Space Science Unit 10- History of Earth</a> (Editable item bank available under Public Assignments in Castle Learning)	

### Resources

<http://ngss.nsta.org/Classroom-Resources.aspx> - Searchable NYSSLS/NGSS aligned resources curated by NSTA

[BPS Earth Science Website](#)– BPS Earth Science curriculum resource hub

[BPS Science Department Recommended Virtual Labs](#) – Virtual lab resources with embedded links to virtual labs and student sheets. Must be logged into BPS google account through BPS Gmail account to access.

[BPS Science Department CER Student Writing Template](#) ([BPS Science Department CER Practice with a Graph](#))

[NYSED's Office of State Assessment webpage](#) - Access to Released Regents Earth Science Examinations

[Science Learning Standards \(HS\)](#) – NYSSLS High School Standards for Earth Science

[NYSED Bilingual Glossaries](#) – NYS Statewide Language Regional Bilingual Education Resource for NYSED approved bilingual glossaries.

<b>English Language Learners (ELL) Enhancements</b>  To access <a href="#">hyperlinked</a> material, you	<b>Listening</b> <ul style="list-style-type: none"> <li>● <b>Cross- Linguistic Practices:</b> Gives students opportunities to make connections between what they hear and their home language (For example, allow students to listen to a passage and identify cognates.)</li> </ul>	<b>Speaking</b> <ul style="list-style-type: none"> <li>● <b>Sentence Frames</b> - to begin a sentence - such as <i>Evolution is...</i> or <i>I think that evolution is...</i></li> <li>● <b>Academic Conversation Starters:</b> Have a visual of a list of academic sentence starters that students can refer to in a</li> </ul>	<b>Reading</b> <ul style="list-style-type: none"> <li>● <b>Supplementary Text</b> to reinforce concepts. If necessary, use lower Lexile levels to ensure comprehension.</li> <li>● <b>Visual Aids</b> - Pictures or models to support vocabulary words/ concepts</li> </ul>	<b>Writing</b> <ul style="list-style-type: none"> <li>● <b>Sentence Frames</b> - to begin a sentence- such as <i>Biodiversity is...</i> or <i>An example of competition is....</i></li> <li>● <b>Cloze passages</b> with word banks</li> <li>● <b>Word banks</b></li> </ul>	<b>Instructional Accommodations (depending on the student's needs)</b> <ul style="list-style-type: none"> <li>● <b>Extended time</b> for tests in class, projects and assignments</li> <li>● <b>Directions read.</b> Broken down as necessary</li> <li>● <b>Model</b> how to complete the activity in the lesson</li> </ul>
--	--	--	---	---	---

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

<p>must be logged into your BPS Google Drive</p>	<ul style="list-style-type: none"> <li>● <a href="#">Build background knowledge</a></li> <li>● <a href="#">Activating Prior Knowledge</a></li> <li>● <a href="#">Activating prior knowledge</a> means both eliciting from students what they already know and building initial knowledge that they need in order to access upcoming content</li> <li>● <a href="#">Visuals</a> - GIFs, pictures- will assist students in understanding what they are listening to. <a href="#">Visual thinking strategies</a> set the lens for learning.</li> <li>● Video to review/ introduce a topic – use <a href="#">closed captioning</a> so students see the words and pronunciations while they listen to the content.</li> <li>● <a href="#">Word stretching / Vowel stretching</a> allows student to listen closely to the pronunciation words</li> <li>● <a href="#">Performance Level Descriptors</a> - this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of listening Scroll for grades 9-12.</li> </ul>	<p>discussion such as <i>I expect __ to happen.</i> or <i>My data shows that...</i> This aids students in having more science focused dialogue.</p> <ul style="list-style-type: none"> <li>● <a href="#">Choral Reading</a> - Build fluency, self-confidence and motivation with <a href="#">reading/speaking</a></li> <li>● Create <a href="#">movement</a> to go with the word. Movement can be a motivating factor and kinesthetic tool for conceptualizing the rhythm and flow of fluent reading while triggering brain function for optimal learning</li> <li>● <a href="#">Performance Level Descriptors</a> - this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of speaking. Scroll for grades 9-12</li> </ul>	<ul style="list-style-type: none"> <li>● Video to review introduce a topic - use <a href="#">closed captioning</a> so students can read along and listen to content</li> <li>● <a href="#">4 Square / Frayer models</a> to help students gain a deeper understanding of vocabulary.</li> <li>● <a href="#">Highlighting</a> important text to assist students in answering questions after the reading.</li> <li>● <a href="#">Chunking</a>-Break reading of text into chunks or paragraphs</li> <li>● <a href="#">Vocabulary Morphology</a>- segmenting words into affixes (prefixes/suffixes) and roots/base words. Understanding that words connected by meaning/origin can be connected by spelling can be critical to expanding a student's vocabulary.</li> <li>● <a href="#">Performance Level Descriptors</a>- this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of reading. Scroll for grades 9-12.</li> </ul>	<ul style="list-style-type: none"> <li>● <a href="#">Graphic Organizers</a> to help break down the writing process and organize thoughts</li> <li>● <a href="#">Standards-based sentence stems</a></li> <li>● <a href="#">Performance Level Descriptors</a>- this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of writing. Scroll for grades 9-12.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Oral simplification</b> of directions or questions</li> <li>● <b>Translated version</b> of test when available. Student may have both version English and native language version</li> <li>● Use of <a href="#">approved bilingual glossaries</a> from NYS in each subject</li> </ul>
<p><b>Special Education Modifications</b></p> <p>Special Education students must have accommodations as per Individual Educational Plan (IEP)</p>	<p><b>Instructional</b></p> <ul style="list-style-type: none"> <li>● <b>Pre-teach</b> vocabulary</li> <li>● Use <b>picture vocabulary</b></li> <li>● Scaffold <b>Depth of Knowledge</b> questions</li> <li>● Provide copy of notes/<b>notes in “cloze”</b> form</li> <li>● Use of <b>Think, Pair, and Share</b> strategy to help process information</li> <li>● Scaffold written assignments with the use of <b>graphic organizers</b></li> <li>● Allow for <b>multiple ways to respond</b> (verbal, written, response board)</li> <li>● Provide <b>model of performance task</b></li> <li>● <b>Modify informational text</b> to fit the needs of the students</li> <li>● Provide a digital or paper <b>interactive notebook</b></li> <li>● Present complex <b>tasks in multiple ways</b></li> <li>● Provide <b>mnemonic strategies</b> for Living Environment concepts</li> </ul>	<p><b>Technology:</b></p> <ul style="list-style-type: none"> <li>● <b>Audio</b> reading of text</li> <li>● <b>Text to type</b> functions</li> <li>● <b>Videos</b> to clarify/visualize Living Environment concepts</li> <li>● <b>Record class lecture/discussions</b> and make accessible to student</li> <li>● <b>Nearpod</b>- interactive presentations of notes</li> <li>● <b>Playposit</b> - show a video clip about the topic and add your own questions for them to answer as they watch</li> <li>● Allow students to type answers in chat on <b>Teams</b></li> </ul> <p><b>Other:</b></p> <ul style="list-style-type: none"> <li>● Arrange seating for maximum engagement and minimum distraction</li> <li>● Accessible lab space (counter level)</li> </ul>	<p><b>In Class Assessments</b></p> <ul style="list-style-type: none"> <li>● Provide <b>review packet or review sheet</b> of concepts covered on the test</li> <li>● Practice similar questions prior to the test</li> <li>● Provide <b>multiple options</b> for projects</li> <li>● Give a <b>timeline</b> of when things are due and remind them of the process often.</li> <li>● <b>Use of timer</b> in class</li> <li>● Break all complex tasks into chunks</li> </ul>		

## BPS Science Department Earth Science - Unit 10- Exploring Earth's History

<p><b>BPS Science K-12 Schoology Folder:</b> 9-12 Resources Earth Science Resources Curriculum Materials</p>	<p><b><u>SUTW Strategies</u></b></p> <ul style="list-style-type: none"> <li>● Informal Outline</li> <li>● Color-Coding – Informative/Explanatory Text</li> <li>● Two-column notes</li> <li>● I-V-F Topic Sentence progressing to Four Step Summary Paragraph</li> <li>● CUPS – Capitalization, Usage, Punctuation, Spelling</li> <li>● Transitions</li> </ul>
<p><b>Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom</b></p>	<p>Materials, resources, and/or discussions address diverse cultural backgrounds and real-world applications</p> <ul style="list-style-type: none"> <li>● Artifacts (posters, charts, etc.) in the science classroom are representative of the cultures of the student population</li> <li>● All students are given an opportunity to engage in science discourse</li> <li>● Teacher demonstrates high expectations for all students</li> </ul> <p>CLRT resources which align to Science content are denoted with a *</p>