



Grade 3 Science
Unit 2 Earth and Space Science
Topic 4 Climate - 26 days

Unit Overview: Students will analyze and interpret data about weather. Students will look for patterns in data to explore water on Earth and how the weather changes season to season. Students will explore the different types of climates on Earth and the patterns associated with them. Students will build on this knowledge as they learn about climate change, climate zones, and world climate.

Topic Essential Question: How can you explain what climate is like in different places?

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Climates
- Lesson 2 Climate Change
- Lesson 3 World Climates
- Topic Close –Assessment, Quest Findings

NYSSLS Performance Expectations (PE)

3-ESS2-2. Obtain and combine information to describe climates in different regions of the world. [Clarification Statement: Emphasis should be on various climates in different regions rather than on localized weather conditions.]

Higher Order Thinking Skills (HOTS)

Higher Order Thinking Skills (HOTS) will be identified within each topic plan. Grade 3 HOTS include:

sequencing	reasoning
categorizing	recognizing attributes
identifying pattern	determining relevant/irrelevant information
cause and effect	distinguishing fact vs. opinion
researching	using complete sentences
brainstorming	inferencing
using logic	academic vocabulary

Topic Opener

PE: 3-ESS2-2

SEP: Obtaining, Evaluating, and Communicating Information*

DCI:

ESS2.D - Weather and Climate

- Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.
- Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.
- (NYSED) Earth's processes continuously cycle water, contributing to weather and climate.

CCC: Patterns*

***Denotes Higher Order Thinking Skill**

Savvas

Highlighted labs are important to the understanding of the instructional concepts in this lesson and must be completed during Science instructional time.

- ***u*Connect Lab – How does temperature change on a mountain?***
- Quest Kickoff – Climates on Location!*
- Leveled Readers
- STEM Engineering Reader

Lesson 1- Climates

PE: 3-ESS2-2

SEP: Obtaining, Evaluating, and Communicating Information*

DCI:

ESS2.D - Weather and Climate

- Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.

CCC: Patterns*

***Denotes Higher Order Thinking Skill**

Savvas

Guiding Objective

- Students will describe some factors that affect climate.

Literacy skill

- Compare and Contrast

Vocabulary

- | | |
|-------------|-------------|
| ● climate | ● equator |
| ● polar | ● latitude |
| ● temperate | ● elevation |
| ● tropical | |

Connect - TE/SB p. 132

- SPORTS Connection
- Infer*

Investigate - TE/SB pp. 133-137

- ***u*Investigate Lab – How does the Sun's radiation vary on Earth's surface?***
- Video – Climates
- Reading Check – Compare and Contrast*
- Crosscutting Concepts Toolbox – Patterns*
- Virtual Lab – Climbing for Climate
- ***u*Be a Scientist – Evaporation Investigation***

- Quest Connection*

Synthesize - TE/SB pp. 138-140

- Interactivity – Classifying Weather and Climate
- Literacy Toolbox – Compare and Contrast*
- **Quest Check-In – Moody Weather***

Demonstrate - TE/SB p. 139

- Lesson 1 Quiz
- Lesson 1 Check

<p>Lesson 2 Climate Change</p> <p>PE: 3-ESS2-2</p> <p>SEP: Obtaining, Evaluating, and Communicating Information*</p> <p>DCI:</p> <p>ESS2.D - Weather and Climate</p> <ul style="list-style-type: none"> Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. <p>CCC: Patterns*</p> <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas</p> <p>Guiding Objective</p> <ul style="list-style-type: none"> Students will describe ways in which climate can change. Students will explain how the global climate is changing. <p>Literacy Skill</p> <ul style="list-style-type: none"> Compare and Contrast <p>Vocabulary</p> <ul style="list-style-type: none"> greenhouse effect greenhouse gas climate change <p>Connect - TE/SB p.142</p> <ul style="list-style-type: none"> STEM Connection Infer* <p>Investigate - TE/SB pp. 143-145</p> <ul style="list-style-type: none"> Video – Climate Change <i>Investigate Lab – What do tree rings show?*</i> Visual Literacy Connection – What is the greenhouse effect?* <p>Synthesize - TE/SB pp.146-147</p> <ul style="list-style-type: none"> Interactivity – Climate Changes Quest Connection* Reading Check – Compare and Contrast* <p>Demonstrate - TE/SB pp.147-148</p> <ul style="list-style-type: none"> Lesson 2 Check Lesson 2 Quiz <i>Quest Check In-How do changing glaciers show climate change?*</i>
<p>Lesson 3 World Climates</p> <p>PE: 3-ESS2-2</p> <p>SEP: Developing and Using Models*</p> <p>DCI:</p> <p>ESS2.D - Weather and Climate</p> <ul style="list-style-type: none"> Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. <p>CCC: Patterns*</p> <p>*Denotes Higher Order Thinking Skill</p>	<p>Savvas</p> <p>Guiding Objective</p> <ul style="list-style-type: none"> Students will describe climates in different parts of the world. <p>Literacy Skill</p> <ul style="list-style-type: none"> Compare and Contrast <p>Vocabulary</p> <ul style="list-style-type: none"> arid <p>Academic Vocabulary</p> <ul style="list-style-type: none"> classify <p>Connect - TE/SB p.152</p> <ul style="list-style-type: none"> LOCAL-TO-GLOBAL Connection Describe* <p>Investigate - TE/SB pp.153-155</p> <ul style="list-style-type: none"> Video – World Climates <i>Investigate Lab – How do mountains affect climate?*</i> <i>Be a Scientist – Compare Mini Climates*</i> <p>Synthesize - TE/SB pp. 156-159</p> <ul style="list-style-type: none"> Interactivity – Earth’s Climates Question It!* Reading check – Compare and Contrast* Crosscutting Concepts Toolbox – Patterns* Quest Connection* <i>Quest Check-In – Explore the World*</i> <p>Demonstrate - TE/SB pp.158</p> <ul style="list-style-type: none"> Lesson 3 Check Lesson 3 Quiz

Topic Close

- Assessment and Remediation TE/SE pp. 162-167
- Quest Finding p.160

Topic 4 Enrichment

Topic 4- Lesson 1 Enrichment - TE p.138 - This activity extends student understanding of the lesson by having students learn about how El Niño causes climate change. Then, students use a graphic organizer to identify the cause and effects of El Niño.

Enrichment Skill- Cause and Effect

Topic 4- Lesson 2 Enrichment - TE p. 146 - This activity provides students the opportunity to discover that scientists learn about climate change by studying ice cores. Then, students will use a graphic organizer to record the main idea and two supporting details of the passage.

Enrichment Skill- Reasoning

Topic 4- Lesson 3 Enrichment - TE p. 156 - This activity extends student understanding of the lesson by having students learn about one of Earth’s polar sub climate zones, the tundra. Then, students will use the graphic organizer to describe the differences of the tundra’s climate in winter and in summer.

Enrichment Skill- Categorize

English Language Learners (ELL) Enhancements

To access [hyperlinked](#) material, you must be logged into your BPS Google Drive

Listening

- **Cross- Linguistic Practices:** 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).
- **Activating Prior Knowledge** Activating prior knowledge means both eliciting from students what they already know and building initial knowledge that they need in order to access upcoming content.
- **Activating Prior Knowledge**
- **Visuals** - GIFs, pictures- will assist students in understanding what they are listening to. Use [visual thinking strategies](#) to set the lens for learning.
- Video to review or introduce a topic – use [closed captioning](#) to help students see the words and pronunciations while they listen to the content.
- **Word stretching / Vowel stretching** when instructing allows student to listen closely to the pronunciation of the word.
- **Performance Level Descriptors** 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 grade 3.

Speaking

- **Sentence Stems/Frames** - to begin a sentence - such as *Evolution is...* or *I think that evolution is...*
- **Academic Conversation Starters:** Have a visual of a list of academic sentence starters that students can refer to in a discussion.
- **Choral Reading** - To build fluency, self-confidence and motivation with [reading/speaking](#).
- Create **movement** to go with the word. Movement can be a motivating factor, as well as a kinesthetic tool for conceptualizing the rhythm and flow of fluent reading while triggering brain function for optimal learning.
- **Performance Level Descriptors** 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 grade 3.

	<p><u>Reading</u></p> <ul style="list-style-type: none"> ● Supplementary Text to help reinforce concepts. ● <u>Visual Aids</u> - Pictures or models to support vocabulary words and concepts ● Video to review or introduce a topic - use <u>closed captioning</u> to help students read along while they listen to the content. ● <u>4 Square / Frayer models</u> to help students gain a deeper understanding of vocabulary. ● <u>Highlighting</u> important text to assist students in answering questions after the reading. ● <u>Chunking</u>-Break reading of text into chunks or paragraphs ● <u>Performance Level Descriptors</u> 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 grade 3. ● <u>Vocabulary Morphology</u>- Morphology relates to the segmenting of words into affixes (prefixes and suffixes) and roots or base words, and the origins of words. Understanding that words connected by meaning can be connected by spelling can be critical to expanding a student’s vocabulary.
	<p><u>Instructional Accommodations (depending on the student’s needs)</u></p> <ul style="list-style-type: none"> ● Extended time for tests in class, projects and assignments ● Directions read. Broken down as necessary ● Model how to complete the activity in the lesson ● Oral simplification of directions or questions ● Translated version of test when available. Student may have both version English and native language version ● Use of <u>approved bilingual glossaries</u> from NYS in each subject

<p>Special Education Modifications Special Education students must have accommodations as per Individual Educational Plan (IEP)</p>	<p><u>Instructional</u></p> <ul style="list-style-type: none"> ● Pre-teach vocabulary ● Use picture vocabulary ● Scaffold Depth of Knowledge questions ● Provide copy of notes/notes in “cloze” form ● Use of Think, Pair, and Share strategy to help process information ● Scaffold written assignments with the use of graphic organizers ● Allow for multiple ways to respond (verbal, written, response board) ● Provide model of performance task ● Modify informational text to fit the needs of the students ● Provide a digital or paper interactive notebook ● Present complex tasks in multiple ways ● Provide mnemonic strategies for scientific concepts
	<p><u>Technology:</u></p> <ul style="list-style-type: none"> ● Audio reading of text ● Text to type functions ● Videos to clarify/visualize science concepts ● Record class lecture/discussions and make accessible to student ● Nearpod- interactive presentations of notes
	<p><u>In Class Assessments</u></p> <ul style="list-style-type: none"> ● Provide multiple options for projects ● Use of timer in class ● Break all complex tasks into chunks

<p>Step Up to Writing Step Up to Writing materials can be found in BPS Science K-12 Schoology Folder Grade 3 Resources Grade 3 Curriculum Materials SUTW materials</p>	<ul style="list-style-type: none"> • Breaking Down Definitions • Four-Step summary Paragraph • Sketch Then Write Responses • Traffic Light Colors for Informative/Explanatory Paragraphs • Performance Level Descriptors 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 grade 3.
<p>Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom</p>	<ul style="list-style-type: none"> • Materials, resources, and/or discussions address diverse cultural backgrounds and real-world applications • Artifacts (posters, charts, etc.) in the science classroom are representative of the cultures of the student population • All students are given an opportunity to engage in science discourse • Teacher demonstrates high expectations for all students