Unit 3: Climate and Weather

Content Area: **Science**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

Unit Overview

In this unit of study, students organize and use data to describe typical weather conditions expected during a particular season. By applying their understanding of weather-related hazards, students are able to make a claim about the merit of a design solution that reduces the impacts of such hazards. The crosscutting concepts of patterns, cause and effect, and the influence of engineering, technology, and science on society and the natural world are called out as organizing concepts for these disciplinary core ideas. Students demonstrate grade-appropriate proficiency in asking questions and defining problems, analyzing and interpreting data, engaging in argument from evidence, and obtaining, evaluating, and communicating information. Students are also expected to use these practices to demonstrate understanding of the core ideas. Students will also explore and learn about climate change over the world. Students will learn about the effects and changes of climate change. Lessons in this unit satisfy the climate change mandate.

Enduring Understandings

Students are expected to apply their understanding of weather-related hazards.
Students are expected to understand weather in different parts of the world during different times of the year.
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.
Cause and effect relationships are routinely identified, tested, and used to explain change.

Essential Questions

What is typical weather in different parts of the world and during different times of the year?
How can the impact of weather-related hazards be reduced?

Learning Objectives

Represent data in tables and graphical displays
Describe typical weather conditions expected during particular seasons
Obtain and combine information to describe climates in different regions of the world.
Explore how weather is predicted and measured.
Learn about the difference between weather and climate.
Identify the impact of severe weather on society and nature.
Identify and understand the basic concept of insurance and how it helps reduce financial risk when a

catastrophe happens.
Justify reasons to have insurance.
Discuss climate change and possible solutions.
Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. (Climate Change)
What the word climate means and explore the world's five major climates.
Climate Change – Objectives in this unit satisfy Climate Change law.
What is Climate (reading) Climate Change
Career Exploration - Explore careers related to weather.

Standards: Content

3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
3-ESS2-1	Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
3-ESS2-2	Obtain and combine information to describe climates in different regions of the world.
3-ESS3-1	Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Standards: Interdisciplinary

RI.CR.3.1	Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers.
RI.CI.3.2	Recount in oral and written form the key details from a multi-paragraph informational text and explain how they support the main idea.
RI.IT.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
RI.TS.3.4	Utilize and reference features of a text when writing or speaking about a text, using text features (e.g., graphics, images, captions, headings) and search tools (e.g., key words, sidebars, hyperlinks) to locate and integrate information relevant to a given topic efficiently.
RI.PP.3.5	Distinguish their own point of view from that of the author of a text.
RI.MF.3.6	Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
RI.AA.3.7	Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence) to support specific points the author makes in a text.
RI.CT.3.8	Compare and contrast the elements of informational texts regarding the most important points and key details presented in two texts on the same topic.
W.IW.3.2.A	Introduce a topic clearly.
W.IW.3.2.B	Develop the topic with facts, definitions, and concrete details, text evidence, or other

	information and examples related to the topic.
W.IW.3.2.C	Include text features (e.g.: illustrations, diagrams, captions) when useful to support comprehension.
W.IW.3.2.D	Link ideas within sections of information using transition words and phrases (e.g., then, because, also, another, therefore).
W.IW.3.2.E	Provide a conclusion related to the information or explanation presented.
SL.PE.3.1.A	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
SL.PE.3.1.B	Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
SL.PE.3.1.D	Explain their own ideas and understanding in light of the discussion.

Assessment Evidence

Formative	Teacher observations, Class discussions, Lab Activities, Key concepts and vocabulary quizzes, Science Starter's/Do Nows, Open Ended Responses, Modeling, Simulations, Innovators Monthly Research, Lab Activities, Vocabulary Responses, Exit Questions, Interactive Digital Assessments embedded in Exploring Science Digital Book
Summative	Projects, Tests, Quizzes, lab skills demonstrations, projects, and vocabulary quizzes.
Alternative & Benchmark	Alternative - Read to the student and chart oral responses. Word banks, sentence frames, oral responses, graphic organizers, observations, portfolios of student work, orally administered assessments, and anecdotal notes, Benchmark – LinkIt Benchmark Assessment, Teacher Generated Assessments
Assessment Evidence Resource	

Instructional Resources

Smartboard, Computers, Websites and digital interactives/models, Multi-media presentations, Video Streaming, Brain Pop, Middle School Science, Generation Genius Digital Curriculum, Mystery Science Digital Curriculum, Amplify Digital Curriculum, Microsoft 365, Primary and Secondary Source Documents, Assorted lab materials, crayons, colored pencils, markers, graph paper, charts, tape, scissors, thermometer, What is Climate (reading) Third Grade Science Course

Instructional Resource List

Curricular Mandates

Below are the curricular requirements as defined in NJ Administrative Code and Statute

	Amistad		Diversity, Equity, and Inclusion
	Holocaust		LGBT and Disabilities (Grades 6-12)
X	Climate Change		Asian American & Pacific Islander

Social Emotional Learning (SEL) Competencies

NJ Social and Emotional Learning Competencies & Sub-Competencies

	Self-Awareness		Relationship Skills
X	Responsible Decision-Making		Social Awareness
	Self-Management		

21st Century Skills & Themes

	Global and Cultural Awareness		Technology Literacy		Planning and Budgeting
X	Creativity and Innovation		Financial Institutions		Risk Management and Insurance
	Information and Media Literacy		Digital Citizenship		Economic and Government Influences
X	Critical Thinking and Problem Solving		Credit Profile	X	Career Awareness and Planning
	Civic Financial Responsibility		Financial Psychology		