Unit 3 - Weather and Climate

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

Unit Overview

In this unit, students are introduced to pushes and pulls and how those affect the motion of objects. Students observe and investigate the effects of what happens when the strength or direction of those pushes and pulls are changed. Lessons in this unit satisfy Climate Change mandate.

Enduring Understandings

Weather and climate affect what we wear, places we go and everyday situations and events.
Local weather forecasts and weather scientists track weather for a specific region to help determine an effect weather may have on our lives such as severe weather impacting a region.
When we are aware of the weather and climate it helps us to plan our daily activities.
Things that people do to live comfortably can affect the world around them, but they can make choices that reduce their impact on the land, water, air, and other living things.

Essential Questions

How do weather and climate effect our daily lives?
What resources are available to track weather for certain regions?
How can we identify the different weather patterns and use them to guide us in our everyday lives?

Learning Objectives

Observe patterns in events generated by cause-and-effect relationships.
Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world.
Ask questions based on observations to find more information about the designed world.
Ask questions to obtain information about the purpose of weather forecasting to prepare for and respond to severe weather. (Emphasis is on local forms of severe weather.)
Define a simple problem that can be solved through the development of a new or improved object or tool.
Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through developing a new or improved object or tool.
Explain how climate change impacts all living things. (Climate Change)

Standards: Content

SCI.K-PS3-1	Make observations to determine the effect of sunlight on Earth's surface.
SCI.K-PS3-2	Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.
SCI.K-ESS2-1	Use and share observations of local weather conditions to describe patterns over time.
SCI.K-ESS2-2	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

Standards: Interdisciplinary

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, Vocabulary Responses, Exit Questions, Interactive Digital Assessments embedded in Exploring Science Digital Book
Summative	In correlation with the NGSS, students must demonstrate the following as summative assessments: K-PS3-1., Make observations to determine the effect of sunlight on Earth's surface. K-PS3-2., Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area. K-ESS2-1., Use and share observations of local weather conditions to describe patterns over time. K-ESS3-2., Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather. Other summative assessments will include but are not limited to: projects, summative tests, lab skills demonstrations, 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 - Teacher generated unit assessments, projects/labs, checkpoint 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, Amplify Digital

Curriculum, Microsoft 365, Primary and Secondary Source Documents, Assorted lab materials., water cups, plastic bottles, markers, crayons, glue sticks, scissor

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

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

21st Century Skills & Themes

X	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		Career Awareness and Planning
	Civic Financial Responsibility		Financial Psychology		