Kindergarten Unit 1 - Weather

Content Area: **Science**
Course(s): **Science Grade K**
Time Period: **MP1**
Length: **45 days**
Status: **Published**

NJSLS - Science

K-ESS2-1	Use and share observations of local weather conditions to describe patterns over time.
K-ESS2-2	Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.
K-ESS3-2	Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

Science and Engineering Practices

Analyzing and Interpreting Data

Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)

Engaging in Argument from Evidence

Construct an argument with evidence to support a claim. (K-ESS2-2)

Asking Questions and Defining Problems

Ask questions based on observations to find more information about the designed world. (K-ESS3-2)

Obtaining, Evaluating, and Communicating Information

Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2)

Disciplinary Core Ideas

ESS2.D: Weather and Climate

Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. (K-ESS2-1)

ESS2.E: Biogeology

Plants and animals can change their environment. (K-ESS2-2)

ESS3.B: Natural Hazards

Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2)

Crosscutting Concepts

Patterns

Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1)

Systems and System Models

Systems in the natural and designed world have parts that work together. (K-ESS2-2)

Cause and Effect

Events have causes that generate observable patterns. (K-ESS3-2)

Rationale and Transfer Goals

In this unit, students act as meteorologists and nature detectives to explore how weather patterns change over time and how living things interact with their environments. Students begin by using their senses and simple tools to observe, record, and share local weather conditions, identifying daily and seasonal patterns (such as it being cooler in the morning than the afternoon). They expand their weather knowledge by investigating the role of weather forecasting. Students learn to ask questions about how weather reports help communities prepare for and stay safe during severe weather events. Finally, students discover that weather isn't the only thing changing the world around them; living things do too! Students will look for clues outdoors to construct simple, evidence-based arguments showing how plants, animals, and humans actively alter their environments to meet their basic survival needs, such as birds building nests or humans clearing land for shelters.

Enduring Understandings

Weather has predictable patterns.

Weather forecasts help keep us safe.

All living things change their surroundings to survive.

Nature leaves clues we can use as evidence.

Essential Questions

How can we observe and predict changes in the weather?

How do weather forecasts help keep us safe?

In what ways do plants, animals, and humans change the space around them?

Content - What will students know?

- Weather is a blend of four main ingredients: sunlight, wind, precipitation (rain/snow), and temperature (how hot or cold it is).
- Weather changes from day to day and season to season, but it follows visible patterns (e.g., temperatures are usually cooler in the morning than in the afternoon; winter is generally colder than summer).
- Scientists observe weather closely and share reports (forecasts) to tell communities what kind of weather is heading their way.
- Some weather can be dangerous (e.g., heavy snow blizzards, high-wind severe thunderstorms, floods).
- Communities can take specific, protective actions to prepare for severe weather, such as staying indoors, wearing the right clothing, or packing safety kits.
- Plants, animals, and humans must interact with their surroundings to get the things they need to

survive: food, water, air, and shelter.

- Humans alter land and use natural resources to build homes, roads, and grow crops to survive.

Skills - What will students be able to do?

- Use senses and simple tools (like outdoor thermometers, wind socks, or rain gauges) to observe and describe daily weather conditions.
- Record weather data using age-appropriate symbols, drawings, tallies, or simple graphs on a class calendar.
- Identify and describe patterns in a weather data set (e.g., stating, "We had more rainy days this week than last week" or "The temperature goes up in the afternoon").
- Ask "how" and "why" questions when listening to a weather forecast to figure out what kind of weather is coming.
- Obtain information from text, videos, and weather reports to determine how a community should prepare for severe weather.
- Choose appropriate safety actions or tools based on a given forecast (e.g., selecting rain gear for a storm or identifying a safe space indoors during a thunderstorm).
- Look for physical evidence outdoors or in images to find clues of how living things alter their surroundings.
- Construct a simple, evidence-based argument (through drawing, speaking, or dictating) to prove that a plant or animal changed its environment to meet a need (e.g., "The bird collected those twigs to build a safe home for its eggs").

Activities - How will we teach the content and skills?

- Mystery Science Wild Weather Lesson 1
- Mystery Science Wild Weather Lesson 2
- Mystery Science Wild Weather Lesson 3
- Mystery Science Circle of Seasons Lesson 1
- Mystery Science Circle of Seasons Lesson 2
- Mystery Science Circle of Seasons Lesson 3

- The Wonders of Science Weather Patterns
- NSTA Endorsed Lessons
- The Wonders of Science Forecasting Severe Weather

Formative Assessments - How do we know students have learned?

- Mystery Science Wild Weather Lesson 1 Assessment
- Mystery Science Wild Weather Lesson 2 Assessment
- Mystery Science Wild Weather Lesson 3 Assessment
- Mystery Science Wild Weather Performance Task
- Mystery Science Circle of Seasons Lesson 1 Assessment
- Mystery Science Circle of Seasons Lesson 2 Assessment
- Mystery Science Circle of Seasons Lesson 3 Assessment
- Mystery Science Circle of Seasons Performance Task

Summative Assessments - How do we know students have learned?

- Tests/Quizzes
- Kindergarten Unit 1 Benchmark Assessment

Spiraling for Mastery

Content or Skill for this Unit	Spiral Focus from Previous Unit	Instructional Activity
N/A	N/A	N/A

Key Resources

Mystery Science

NJCTL Weather Unit

Weather Patterns

Weather Walks

Science - Weather

About the Weather

Career Readiness, Life Literacies, and Key Skills

9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.4.5.CI.1	Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6).
9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.4.5.CI.2	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 (e.g., 6.3.5.CivicsPD.3, W.5.7).
9.1.2.CR.2	List ways to give back, including making donations, volunteering, and starting a business.
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
9.4.5.CT.2	Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
9.4.5.CT.3	Describe how digital tools and technology may be used to solve problems.

Interdisciplinary Connections

K.M.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
K.DL.A.1	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
RI.CR.K.1	With prompting and support, ask and answer questions about key details in an informational text (e.g., who, what, where, when, why, how).
W.AW.K.1	Use a combination of drawing, dictating, and writing to compose opinion pieces on topics or texts (e.g., My favorite book is...).
W.IW.K.2	Use a combination of drawing, dictating, and writing to compose informative/explanatory

	texts to convey ideas.
W.WR.K.5	With prompting and support, generate questions through shared research in response to a topic, text, or stimulus (e.g., event, photograph, video, book).
SL.ES.K.3	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.