

# Unit 2: Meteorology Copied from: General Science, Copied on: 07/29/25

Content Area: **Template**  
Course(s):  
Time Period:  
Length:  
Status: **Published**

## Unit Summary

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This unit explores the factors that drive weather patterns and influence global and regional climate systems. Students will examine the interactions between the atmosphere, the Sun's energy, and Earth's surface to understand how variations in energy flow affect weather and climate. They will analyze the structure and composition of the atmosphere, investigate the formation of different weather phenomena, and evaluate the evidence for climate change based on data and models. Emphasis will be placed on modeling atmospheric processes, interpreting meteorological data, and making predictions about future climate scenarios in alignment with NJSL-S expectations.

## Essential Questions

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- How do storm systems form?
- How do the layers of the atmosphere affect the Earth's surface?
- How is weather studied and analyzed?
- What causes climate?

## Objectives

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- Identify greenhouse gases and how this could affect the climate of the Earth
- Identify how major storms affect an area and how they are formed
- Identify how solar energy is absorbed by the atmosphere
- Identify how weather systems are analyzed and measured
- Name the properties of cold fronts and properties of warm fronts.
- Name the properties of the four types of clouds and how clouds are formed
- Name the six layers of and determine the atmosphere how the temperature varies in each layer

## Standards

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SCI.HS-ESS2-4	Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.
SCI.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.

### **State Mandated Topics Addressed in this Unit**

<b><u>State Mandated Topics Addressed in this Unit</u></b>	
N/A	N/A

### **Instructional Tasks/Activities**

- Common assessment chapter test
- Common assessment quiz
- Constructed response
- Do nows and/or exit slips
- Exit Cards (answer to daily objective questions)
- Graphic organizers or models
- Homework
- Homework
- Individual, small, and large group work
- Laboratory investigations within small groups
- Review Activity
- Section Review Questions
- Study Guide Packets
- Vocabulary flash cards or map (word, picture, sentence, example)

### **Assessment Procedure**

- Flashcards and/or drill and practice
- Inquiry based activities with reflective discussion
- Laboratory groups
- Lecture with note taking or guided notes
- Online models and simulators
- Power point presentations
- Whole and small group discussions

### **Recommended Technology Activities**

- Appropriate Content Specific Online Resource

- Chromebook
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Gimkit
- GoGuardian
- Google Classroom
- Google Docs
- Google Forms
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quiziz
- Screencastify

## **Accommodations & Modifications & Differentiation**

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Accommodations and Modifications should be used to meet individual needs. Their IEP and 504 plans should be used in addition to the following suggestions.

## **Gifted and Talented**

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- Compare & Contrast
- Conferencing
- Debates
- Jigsaw
- Peer Partner Learning
- Problem Solving
- Structured Controversy
- Think, Pair, Share
- Tutorial Groups

## **Instruction/Materials**

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- alter format of materials (type/highlight, etc.)
- color code materials
- eliminate answers

- extended time
- extended time
- large print
- modified quiz
- modified test
- Modify Assignments as Needed
- Modify/Repeat/Model directions
- necessary assignments only
- Other (specify in plans)
- other- named in lesson
- provide assistance and cues for transitions
- provide daily assignment list
- read class materials orally
- reduce work load
- shorten assignments
- study guide/outline
- utilize multi-sensory modes to reinforce instruction

## **Environment**

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- alter physical room environment
- assign peer tutors/work buddies/note takers
- assign preferential seating
- individualized instruction/small group
- modify student schedule (Describe)
- other- please specify in plans
- provide desktop list/formula

## **Honors Modifications**

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## **Resources**

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- Resource 1
- Resource 2
- Resource 3
- Resource 4
- Resource 5

