

Unit 6: Earth's Systems

Content Area: **Science**
Course(s):
Time Period: **Generic Time Period**
Length: **3 weeks**
Status: **Published**

Disciplinary Core Ideas

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. \(3-ESS2-1\)](#)
- [Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. \(3-ESS2-2\)](#)

MA.3.3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
MA.3.3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.
3-ESS2	Earth’s Systems
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.
LA.3.RI.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.3.RI.3.9	Compare, contrast and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) the most important points and key details presented in two texts on the same topic.
LA.3.W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

Essential Questions

Unit Essential Questions:

What is the typical weather near our home?

Objectives:

Develop a model using an analogy, to describe how weather and climate are related.

Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Obtain and combine information to describe climates in different regions of the world.

Concepts that will be taught:

- Patterns of change can be used to make predictions.
- People record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next.
- Patterns of change can be used to make predictions.
- Climate describes the 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.
- Science affects everyday life.
- People's needs and wants change over time, as do their demands for new and improved technologies.

Students will be able to:

- Make predictions using patterns of change.
- Represent data in tables, bar graphs, and pictographs to reveal patterns that indicate relationships.
- Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Examples of data could include:

- Average temperature
 - Precipitation
 - Wind direction
- Make predictions using patterns of change.
 - Obtain and combine information from books and other reliable media to explain phenomena.
 - Identify and test cause-and-effect relationships to explain change.

Activities

Textbook

- Observe weather data for two weeks and record temperature and precipitation.
- Create bar graph of temperature over two weeks and identify

Read D2-D27

Mystery Science: Stormy Skies; 3 Weeks

Mystery #1: (Water Cycle, Phases of Matter) In this Mystery, students examine clues about how clouds look and feel to discover what they're made of and how they form. In the activity, students observe what happens when water changes from liquid to gas.

Mystery #2: (Local Weather Patterns, Weather Prediction) In this Mystery, students learn how to make predictions about the weather by observing clouds and their changes. In the activity, students create a small book to record their notes and use it to practice storm prediction.

Mystery #3: (Climate, Geography, & Global Weather Patterns) In this Mystery, students are introduced to the concept of "climate" and explore the world's five major climates. In the activity, they produce a world map and spot patterns in order to discover the various climates.

Materials & Resources

www.mysteryscience.com

Textbooks, Construction paper, crayons, thermometer, graph paper, weather channel,

Mystery Science Materials:

Mystery 1:

Each student will need:

- a clear cup
- a lid of some kind — any waterproof lid will do.
- a Gas Trap experiment sheet
- scissors
- a pencil

You will need hot water for each student. You may also want some paper towels on hand in case of spills.

Mystery 2:

Each student will need:

- a Storm Spotter's Guide template
- scissors
- a pencil
- a Will It Storm? handout

an [answer sheet](#)

Mystery 3:

For this activity, we have divided a world map into three parts: the Americas, Europe & Africa, and Asia & Australia. Each student will need a map and matching climate list. Divide the class in thirds and have one third do each map:

- [Americas map and list](#) — print enough for $\frac{1}{3}$ of your class
- [Europe & Africa map and list](#) — print enough for $\frac{1}{3}$ of your class
- [Asia & Australia map and list](#) — print enough for $\frac{1}{3}$ of your class
 - colored pencils in red, blue, yellow, orange, purple, and brown — every student needs a set
 - scissors — get enough for $\frac{1}{2}$ your class (pairs of students can share)

Assessment

Chapter 7 Review D30-D31

Chapter Test Page 37

Chapter Vocabulary Page 191

Interpret Illustrations page 176

Mystery Science:

Assessment for mystery 1,2 and 3.

Summative Assessment

Accommodations & Modifications

- Large print textbooks
- Additional time for assignments
- Review of directions
- Have student restate information
- Provision of notes or outlines
- Concrete examples
- Adaptive writing utensils
- Support auditory presentations with visuals
- Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
- Space for movement or breaks
- Extra visual and verbal cues and prompts
- Books on tape
- Graphic organizers
- Quiet corner or room to calm down and relax when anxious
- Preferential seating
- Alteration of the classroom arrangement
- Reduction of distractions
- Answers to be dictated
- Hands-on activities
- Use of Manipulatives

- Follow a routine/schedule
- Alternate quiet and active time
- Teach time management skills
- Rest breaks
- Verbal and visual cues regarding directions and staying on task
- Daily check-in special education teacher
- Visual daily schedule
- Varied reinforcement procedures
- Immediate feedback
- Personalized examples