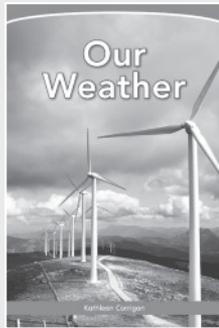


Chapter 1: Geography of the United States



Learn About Our Weather

by Kathleen Corrigan

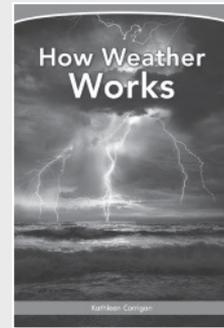
BL Below Level
Lexile Measure 690L



Weather

by Kathleen Corrigan

OL On Level
Lexile Measure 800L



All About How Weather Works

by Kathleen Corrigan

A Advanced
Lexile Measure 910L

Summary

Each book in this set of readers explains the difference between weather and climate, talks about what makes up weather (air temperature, precipitation, clouds, and wind), and discusses patterns that control the weather. By watching weather patterns and reviewing atmospheric data, meteorologists can make predictions about local weather and help people to plan for the day. In the case of extreme weather, a meteorologist's forecast not only warns about an approaching weather system but also provides information that can keep everyone safe. Students also learn how understanding weather and climate can lead to greater understanding of how to slow down climate change around the world.

BEFORE READING

Vocabulary

- BL** consistent, data, factor, method, predict
- OL** data, factor, method, predict
- A** categorize, consistent, data, factor, method, predict

Differentiated Support

ELL Support

Teach preselected vocabulary using an eye-catching visual that clearly represents each word, if possible, and display a concise written definition of each new word for students' reference.

Building Background

- Ask students if they have ever heard about the National Weather Service. What does it do? How does it help people? Students can access information about the National Weather Service at <https://www.weather.gov/about/>. Provide assistance as necessary if students choose to navigate this Web site.
- Invite a local television meteorologist to visit your class to discuss the methods and the data that meteorologists rely on to predict the weather. Help students to prepare questions in advance to ask the guest speaker.

DURING READING

Differentiated Support

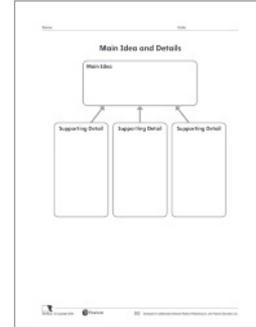
Auditory Learners

Auditory learners learn best by listening, but they may also prefer to talk through or recite information that they wish to remember. Provide students with plenty of opportunities to explain information orally, using their own words.

Literacy Skill: Summarize

Tell students that when we summarize, we restate the main idea and supporting details of a text in a more concise form, using our own words. Summarizing helps us to check our understanding of a topic and to remember what we have read.

Using the **Main Idea and Details graphic organizer**, model how to identify the main idea and supporting details about air temperature on page 7, and then model how to write a summary of that text passage. Record the summary at the bottom of the graphic organizer. (Possible response: Main Idea — How hot or how cool air feels can differ from what its temperature reads. Supporting Details — Air temperature is a measure of how cold or how hot the air is. Windchill lowers the temperature we feel. Humidity raises the temperature we feel. Summary — Windchill and humidity affect how hot or how cool air feels to us compared to air temperature measurements.)



BL Give students a copy of the **Main Idea and Details graphic organizer**. Monitor students as they work in small groups to identify the main idea and supporting details related to precipitation on pages 8 and 9. Then help them to write a summary of that information at the bottom of the graphic organizer. Offer support to those students who require extra help. (Possible response: Main Idea — Precipitation is water that falls to the ground in different forms. Supporting Details — Precipitation happens when water droplets in a cloud join together, get heavier, and then fall to the ground. Ice crystals in clouds can turn into either snow or rain depending on whether they fall through cold air or warm air. Hail forms in storm clouds when water droplets freeze. Summary — Water droplets in clouds turn into different forms of precipitation depending on whether they fall through cold air, fall through warm air, or freeze.)

OL Give students a copy of the **Main Idea and Details graphic organizer**. Have pairs of students identify the main idea and supporting details and then summarize that information at the bottom of the graphic organizer. Monitor students and offer support as necessary.

A Give students a copy of the **Main Idea and Details graphic organizer**. Have students identify and record the main idea and supporting details in the graphic organizer independently, and then write a summary as outlined above.

Discuss the Book

In collaborative conversations, have students share their thoughts about the books. Use the following guided reading questions as possible prompts to generate meaningful discussion. (Icons indicate which questions are best used with which book.)

DURING READING

Pages 4–13

BL OL A How does weather differ from climate? (Possible response: Weather is day-to-day changes in the atmosphere, and it includes things such as air temperature and precipitation. Weather looks at short time periods. Weather can change quickly. Climate is the usual weather of a place over long time periods. Climate changes more slowly.) **Differentiate DOK 3**

BL OL A What are some forms of precipitation? (Possible responses: rain, snow, sleet, freezing rain, hail) **Name DOK 1**

BL OL A Why can learning to recognize types of clouds help people to forecast the weather? (Possible response: A cloud's shape and height above Earth's surface can tell us the weather it may bring, including the chance of precipitation.) **Infer DOK 2**

OL A What weather factor poses a risk to farmers and gardeners? (Possible response: If frost forms overnight, it can kill plants.) **Identify DOK 1**

Pages 14–17

BL OL A What kinds of data about weather patterns can tell meteorologists what weather to expect? (Possible responses: Air Pressure Systems — A high-pressure system usually brings good weather. A low-pressure system likely brings clouds, winds, and precipitation. Moving air masses can help meteorologists to predict what weather will be coming to an area. Cold Fronts and Warm Fronts — A cold front usually brings clouds, showers, and thunderstorms. A warm front usually brings clear skies and rising temperatures when it passes.) **Cause/Effect DOK 2**

Pages 18–21

BL OL A What are four types of extreme weather, and which ones tend to occur in your area? (Possible responses: Thunderstorms, tornadoes, hurricanes, and blizzards. Thunderstorms can occur anywhere. Most tornadoes happen in Tornado Alley, an area stretching from central Texas to Iowa, and from Kansas to western Ohio. Areas near oceans face the greatest danger from hurricanes. Blizzards are most common in North Dakota, South Dakota, and Minnesota.) **Categorize DOK 2**

Pages 22–23

BL OL A Why is it important to understand our planet and its weather and climate patterns? (Possible response: Climates around the world are changing faster than ever, due in part to the greenhouse effect. If we understand the weather and climate of our planet, we can learn how to slow down the effects of rising global temperatures and rising sea levels related to the greenhouse effect. We can also take steps to stay safe if extreme weather is predicted.) **Hypothesize DOK 3**

During discussion, encourage students to ask one another questions when they need clarification or when they need to build on one another's ideas. Provide these prompts to foster collaborative conversations among students.

Collaborative Conversation

Conversation Strategy	Prompt	Response
Supporting Ideas With Examples	Why do you think that?	According to the book, _____.
Synthesize Ideas	What main idea can we take away?	We can say that _____.

AFTER READING

Think About It

1. Encourage students to choose weather terms that appear in the headings in the What Is Weather? chapter, for example, air temperature, precipitation, clouds, frost, or wind. (Possible response: Main Idea — Wind. Supporting Details — Wind is moving air. The warming and cooling of air causes air movement. The properties of wind are wind direction and wind speed. Wind can produce energy that we can use.)
2. Students might select words that could be confused with one another to add to the glossary (e.g., air mass, front; blizzard, storm; climate, weather; hurricane, tornado; wind, windchill).
3. Students might speculate that the author’s purpose was to help readers understand the importance of learning about weather and climate so we can help to slow down climate change and be safe and prepared when extreme weather arrives.

Citizenship in Action

- Make sure that students understand the difference between extreme and non-extreme weather events. A thunderstorm may pose risks, but it is usually not an extreme weather event. Drought for several months can be classified as an extreme weather condition, however, because it can affect many forms of life adversely.
- Before students compose their fact sheet, have them brainstorm a list of extreme weather events that they have witnessed or that they think could occur in the area of the country where they live. Lead a discussion of what students could do to stay safe if an extreme weather event takes place.

Writing: Opinion

Have students write a brief opinion piece about the importance of paying attention to weather forecasts and weather alerts. Encourage students to reread pages 14 to 21 to reinforce their understanding of how meteorologists look specifically at the movement of air-pressure systems, air masses, and weather fronts to tell them what weather to expect. Remind students to include facts from the books to support their opinion and to conclude their piece by writing a summary statement.

Media Literacy

Have small groups of students explore one of the seven Big Questions about climate change found at the NASA Climate Kids Web site: <https://climatekids.nasa.gov/menu/big-questions/>. Ask students to present their findings to the class using a presentation format designed to communicate their message most effectively, for example, an electronic slide show, a poster, a brochure, a PSA (Public Service Announcement), a mock TV commercial, a rap song, or any other format of their choice. Encourage students to make some recommendations concerning what they think Grade 4 students and their families might do to help slow down climate change.

Curriculum Connections