

## 3rd Grade Weather and Climate Resources

### Next Generation Science Standards:

#### ESS2.D - Weather and Climate and ESS3.B Natural Hazards

ESS2.1 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.

ESS2.2 Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.

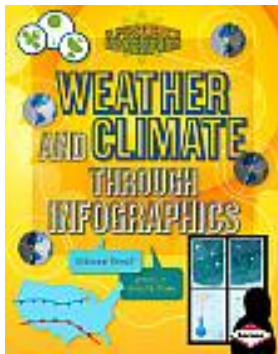
ESS3.B: Natural Hazards

A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.

### Books:

*Weather and Climate Through Infographics* by Rebecca Rowell (2014)

Includes bibliographical references (page 31) and index. This book covers weather and climatology, including weather-related disasters, how weather impacts us as humans, what patterns occur with weather and within different climates, and how we measure and predict those things.

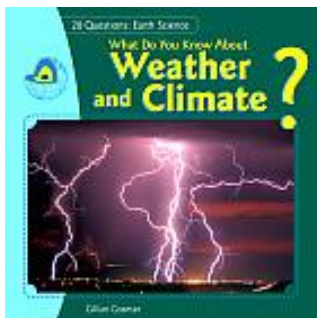


Guided Reading: Q

32 Pages

*What Do You Know About Weather and Climate* by Gillian Gossman (2014)

Includes index. Twenty questions and answers introduce weather and climate.



Guided Reading: S

23 Pages

*Earth's Climate* by Robin Birch (2010)

Includes index. An introduction to weather and climate, focusing on Earth's climate, with descriptions of various climate zones, an explanation of what makes a climate, and a look at weather wonders. Includes a glossary, maps, and diagrams.



Guided Reading: P  
32 Pages

*How Weather Works* by Robin Birch (2009)

Includes index. An introduction to weather and climate, focusing on how the weather works, with descriptions of the atmosphere and sun and how they work together, discussion of other factors that influence the weather, and a look at weather wonders. Includes a glossary, maps, and diagrams.



Guided Reading: Q  
32 Pages

*Living With Weather* by Robin Birch (2009)

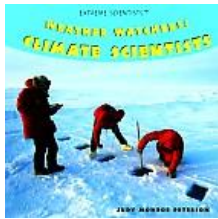
Includes index. Weather and climate -- Living with weather -- Clothing -- Houses -- Work -- Recreation -- Living with thunderstorms -- Living with tornadoes -- Tropical storms -- Extreme climates -- Animals and weather -- Plants and weather -- Harnessing weather -- Weather talk -- Weather wonders. Discusses how humans cope with the weather and climate of the area in which they live.



Guided Reading: Q  
32 Pages

*Weather Watchers: Climate Scientists* by Judy Monroe Peterson (2009)

Includes index. Studying climates -- What makes climates change? -- Working together -- How do you measure weather? -- Stations, balloons, and satellites -- Working in labs -- Learning from the rocks -- Clues in ice and trees -- Predicting climate change -- An important job. Discusses the study of climates and how they change due to deforestation, pollution, eruptions, and natural patterns, and covers oceanographers and meteorologists and measuring devices such as thermometers, anemometers, and satellites, and the use of fossils and samples to look into the past.



Guided Reading: P  
24 Pages

*Hands on Projects about Weather and Climate* by Krista West (2006)

Includes index. Provides information about what makes weather and climate, and features illustrated instructions for eight experiments designed to teach students how the Earth stays warm, how clouds are formed, how rain is measured, and other related topics.



Guided Reading: P  
24 Pages

*Weather and Water: Will it Rain?* by Emily Sohn (2011)

Includes bibliographical references (p. 46) and index. Describes the effects of the water cycle and the sun's energy on weather and how they affect the daily life of humans, and includes an activity based on a real world situation that challenges readers to apply what they have learned to solve a puzzle.



Guided Reading: O  
48 pages

*Weather Infographics* by Chris Oxlade (2014)

Includes bibliographical references (page 31) and index. About infographics -- What is weather? -- Temperature -- Types of weather -- Clouds -- Extreme weather -- Climates -- Weather forecasting. An introduction to weather maps and charts.



Guided Reading: P  
32 Pages

*Weather* by Tamra Orr (2010)

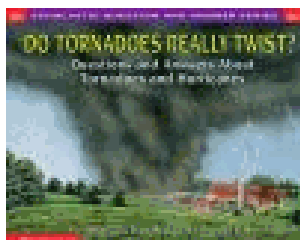
Includes bibliographical references (p. 31) and index. Presents step-by-step instructions for science experiments that will teach children about the weather and the scientific process.



Guided Reading: O  
32 Pages

*Do Tornadoes Really Twist?* by Melvin Berger (2000)

Provides answers to a variety of questions about tornadoes and hurricanes, including "Where do most tornadoes strike," and "How long do hurricanes last?".



Guided Reading: S  
48 Pages

*Why Does it Rain* by Marian Jacobs (1999)

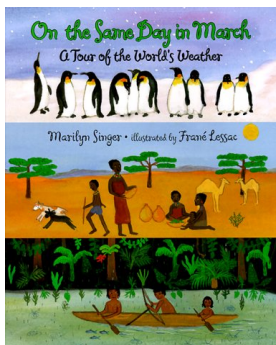
Provides answers to such questions about the weather as "What is the atmosphere?", "How does water get into the clouds?", "What makes lightning happen?", and "What is the water cycle?"



Guided Reading: P  
24 Pages

*On the Same Day in March: A Tour of the World's Weather* (2000)

Highlights a wide variety of weather conditions by taking a tour around the world and examining weather in different places on the same day in March.



Guided Reading: M  
Pages: n/a

*Weather: Earth's Incredible Weather from Hurricanes to Ice Storms* by Penelope Arlon (2013)

This book informs children about different types of weather and helps them understand how weather systems are connected. Case studies that run throughout the book give eyewitness accounts of weather disasters and a final section includes weather heroes from meteorologists to storm chasers.



Guided Reading: S  
80 Pages

*Weather Forecasting* by Terri Sievert (2005)

Provides an introduction to weather forecasting, and describes some of the tools and methods used such as radar and satellite pictures.



Guided Reading: O

24 Pages

*Forecasting Weather* by Terri Sievert (2012)

Includes bibliographical references (p. 23) and index. Photographs and easy-to-follow text introduce students to the different methods used to forecast weather, covering topics such as climate, air masses, air pressure, satellites, and radar, and includes instructions for making a rain gauge.



Guided Reading: L

24 Pages

*Blizzards* by Kay Manolis (2009)

Includes bibliographical references (p. 23) and index. What is a blizzard? -- How do blizzards form? -- Predicting blizzards -- "The Superstorm". Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of blizzards.

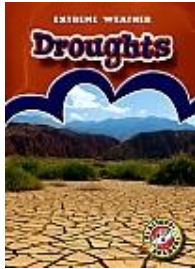


Guided Reading: M

24 Pages

*Droughts* by Anne Wendorff (2009)

Includes bibliographical references (p. 23) and index. What is a drought? -- The effects of a drought -- Conserving water. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of droughts.



Guided Reading: L  
24 Pages

*Hurricanes* by Kay Manolis (2009)

Includes bibliographical references (p. 23) and index. What is a hurricane? -- How do hurricanes form? -- What can hurricanes do? -- Measuring and predicting hurricanes -- Hurricane Katrina. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of hurricanes.



Guided Reading: L  
24 Pages

*Ice Storms* by Anne Wendorff (2009)

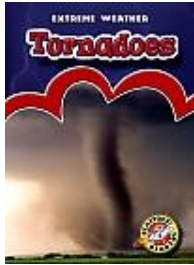
Includes bibliographical references (p. 23) and index. What is an ice storm? -- Ice storms and their effects -- Predicting ice storms -- The Canadian ice storm of 1998. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of ice storms.



Guided Reading: M  
24 Pages

*Tornadoes* by Anne Wendorff (2009)

Includes bibliographical references (p. 23) and index. What is a tornado? -- How do tornados form? --How do tornados look and behave -- Predicting tornadoes -- Staying safe in a tornado. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of tornadoes.



Guided Reading: M  
24 Pages

*Tsunamis* by Anne Wendorff (2009)

Includes bibliographical references (p. 23) and index. What is a tsunami? -- How do tsunamis form? -- What can tsunamis do? -- Measuring and predicting tsunamis -- The Indian Ocean Tsunami. Simple text and full color photographs introduce beginning readers in kindergarten through third grade to the characteristics of tsunamis.



Guided Reading: M  
24 Pages

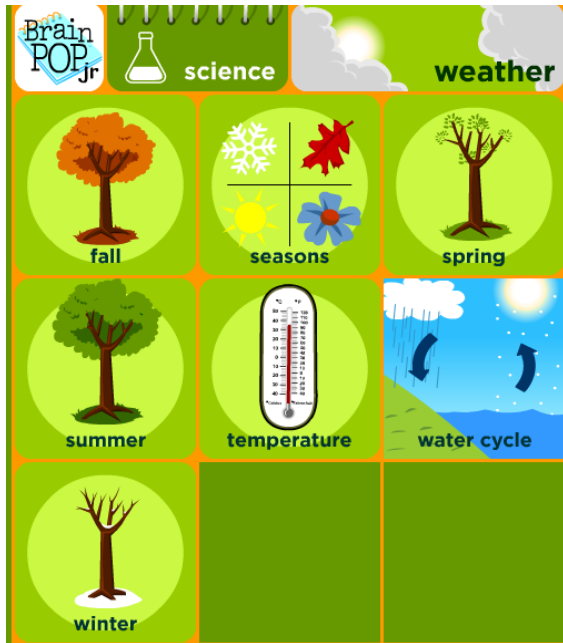


## Digital Resources

**Databases:** (To access these databases remotely, ask your librarian for your school's username and password.)

**Brainpop Jr.:** *Brainpop, Jr. is a database that provides a 3-6 minute video on informational topics followed by a comprehension quiz. The database includes activities and lesson plans as well. It is geared towards grades K-3.*

In the Science folder of Brainpop, Jr. you will find these videos on weather which align with Next Generation Science Standards for third grade.



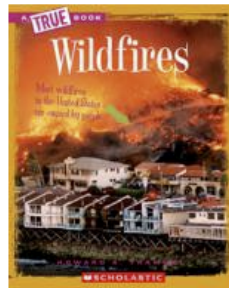
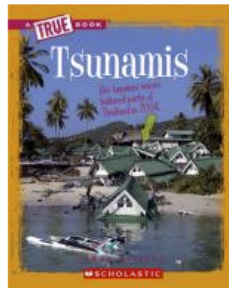
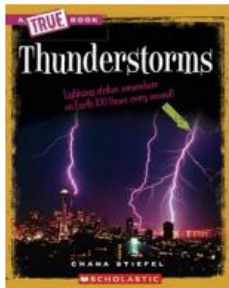
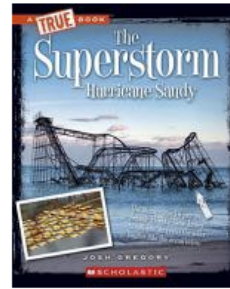
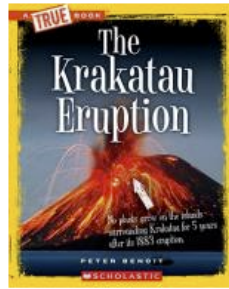
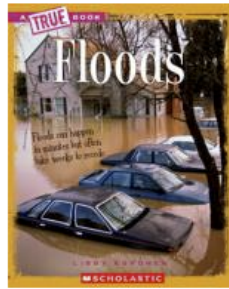
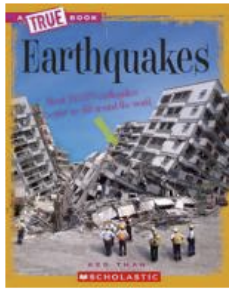
Two different online quizzes are offered after each video to check for understanding. They are entitled “Easy” and “Hard” with 5 questions each.



**TrueFlix:** Trueflix is a database that includes non-fiction electronic books. Within each selected book you will find a 3-6 minute informational video on the subject, and a list of recommended websites.

Trueflix contains these books which support the Next Generation Science Standards on Weather and Climate for 3rd Grade. The books are 48 pages long, and include a “Read-Along” button which highlights each word as it is read aloud.

## Extreme Nature



This is the contents page of *Tsunamis*:



Each subject in *Trueflix* has a part called “Show What You Know.” This is a ten question quiz that can be used to check understanding from the text.

## Show What You Know

5. Tsunami waves slow down and \_\_\_\_\_ near shore.



- get higher
- get smaller
- turn green
- spread out

SUBMIT

*Trueflix* also offers word match activity that can be done online. Word match gives a clue that can then be matched with a keyword from the text. As you can see from the toolbar on the left, there are project ideas for the classroom, a list of other non-fiction resources on the same topic in “Explore More,” related websites that have been tested and recommended, and a 3-6 minute video in “Watch the Video.”



- Start
- Watch the Video
- Read the Book
- Explore More
- Project Idea
- Activity Center
  - Show What You Know
  - Word Match
- Explore the Web
- More Space

### Word Match

Read the clue below. Click on the word it matches.  
Match all the words to uncover a picture.

**CLUE:** a natural or human-made object that circles a larger object in space

mangrove forest	epicenter	satellite
insulation	wavelength	asteroid
tsunameter	landslide	seismic

**Pebble Go!** *Pebble Go is a database that includes non-fiction books, videos and activities. The target audience for Pebble Go is Kindergarten through 3rd grade, however Pebble Go can be a great way to pique interest in a topic for 4th and 5th graders. Each book is 5 pages long and includes a read-aloud button that highlights each word as it reads aloud. There are often one or two very short videos on the topic embedded within each book.*

Pebble Go is the place to go for a host of resources that align with Next Generation Science Standards for third grade on Weather and Climate. Here are the subjects covered. Within many of these subject are even more specific topics broken down.

The screenshot shows the 'Weather' category page in Pebble Go. At the top left is a 'Back' button with a left-pointing arrow. The main title 'Weather' is in large black font. Below the title is a grid of eight topic cards, each with a representative image and a title in pink text:

- About Weather**: Image of a blue sky with white clouds over a green field.
- Clouds**: Image of a blue sky with white clouds.
- Cold Weather**: Image of icicles hanging from a surface.
- Extreme Weather**: Image of a dark storm cloud with a bright lightning bolt.
- Hot Weather**: Image of a hand holding a colorful ice cream cone.
- Weather Science**: Image of a weather satellite in space.
- Wet Weather**: Image of several colorful umbrellas in the rain.

If you click on “About Weather” you’ll find these eight titles:


The screenshot shows the 'About Weather' sub-category page. At the top left is a 'Back' button with a left-pointing arrow. Next to it is a small thumbnail image of a lightning bolt with the word 'Weather' underneath. The main title 'About Weather' is in large black font. Below the title is a grid of eight topic cards, each with a representative image and a title in pink text:

- What Is Weather?**: Image of a blue sky with white clouds.
- Climate**: Image of a snowy mountain range with icebergs in the water.
- Fall Weather**: Image of yellow autumn leaves on a tree branch.
- Spring Weather**: Image of a green four-leaf clover.
- Summer Weather**: Image of a large yellow sunflower in a field.
- Sunlight**: Image of a bright sun shining through a blue sky with clouds.
- Wind**: Image of a colorful kite flying in the sky.
- Winter Weather**: Image of a person in winter gear skiing down a snowy slope.

There are two books on clouds:

Back  ➔ **Clouds**

 **What Are Clouds?**

 **Types of Clouds**

Four books on Cold Weather:

Back  ➔ **Cold Weather**


 **About Cold Weather**


 **Ice, Hail, and Sleet**


 **Snow**


 **Snowflakes**


Six books on Extreme Weather:


Back  ➔ **Extreme Weather**


 **Blizzards**

 **Drought**

 **Hurricanes**

 **Lightning and Thunder**

 **Thunderstorms**

 **Tornadoes**

Three books on Weather Science:

[Back](#)  **Weather Science**

 **Forecasting Weather**  **Measuring Weather**  **Meteorologists**

Four books on Wet Weather:

[Back](#)  **Wet Weather**

 **Dew and Frost**  **Fog**  **Rain**  **Rainbows**

One book on Hot Weather:

[Back](#)  **Hot Weather**

[What Is It?](#) [Why Is Humid Hotter?](#) [Heat Waves](#) [Staying Safe](#) [Hottest Place on Earth](#)

 [Video 1](#) [Video 2](#)

Hot weather usually means the **temperature** is above 75 **degrees Fahrenheit** (24 **degrees Celsius**). The sun shines and people try to stay cool. When hot days are also **humid**, it feels even hotter.



[Print This](#)

## World Book Web:

The World Book Web is a suite of online research tools that includes encyclopedia articles, primary source collections, educator tools, student activities, pictures, audio, and video, complemented by current periodicals and related Web sites. Most all of these World Book Web research tools include options where text can be read aloud to the user. All Ithaca elementary school libraries currently subscribe to **World Book Kids**, **World Book Student**, **World Book Discover**, **World Book Timelines** and **World Book Classroom: Early World of Learning**. For specific training in how to use these amazing tools consult Worldbook's training website or ask your school's librarian. <http://www.worldbookonline.com/training/>

World Book Discover has many articles on weather which align with Next Generation Science Standards for 3rd Grade. You can simply type "weather" in World Book Discover and choose one of the following articles for information:



**SEARCH RESULTS**

You Searched for "**weather**"

**Search in:**

-  [Encyclopedia Articles](#) (183 items)
-  [Maps](#) (2 items)
-  [Pictures](#) (5 items)
-  [Videos](#) (5 items)
-  [Tables](#) (14 items)
-  [Web Sites](#) (7 items)

**Encyclopedia Articles**

1 - 15 of 183 items | 1 [2](#) [3](#) [4](#) [5](#) [Next >>](#)

[Check All](#) | [Clear All](#) | [Save to My Research](#) ▼

-  [Weather](#)  
Weather is the condition of the air at a certain place and time.
-  [Weather forecasting](#)  
Weather forecasting means predicting the weather in the near future.
-  [Weather satellite](#)  
A weather satellite is a spacecraft that studies Earth's weather and climate.
- [Weather Service, National](#)  
The National Weather Service is a United States government organization.
-  [Weather balloon](#)  
A weather balloon is a special type of balloon.
- [Weather vane](#)  
A weather vane shows the direction of the wind.
-  [Meteorology](#)  
Meteorology is the study of Earth's atmosphere and weather.

World Book Kids has articles on climate and on weather:  
<http://www.worldbookonline.com/kids/article?id=ar830581>

## Climate

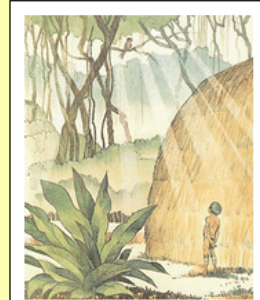
Climate is the kind of weather a place usually gets. It includes the temperature, amount of rain or snow, winds, and other conditions in an area. Every place on Earth has its own climate.

The word *climate* and the word *weather* do not mean the same thing. Weather is the condition of the air around a place during a short time. To figure out the climate of an area, scientists must study its daily weather for many years.

### Climate and people

Climate affects how people live. People wear clothing that protects them from the climate. In warm areas, people wear clothes made of a light material. In cold areas, they wear heavy clothing.

The foods people eat have a lot to do with the climate, too. People eat



Picture

**Tropical wet climates are hot, with lots of rainfall.**

## For more information, see these articles:

[Arctic](#)

[Biome](#)

[Desert](#)

[Greenhouse effect](#)

[Ice Age](#)

[Weather](#)

## Weather

Weather is the condition of the air at a certain place and time. We describe the weather in many ways. For example, we may talk about the temperature of the air, whether the sky is clear or cloudy, how hard the wind is blowing, or whether it is raining or snowing. The weather may be warm and sunny in one place but cold and snowy somewhere else.

Earth has many kinds of weather conditions. The highest temperature ever measured and written down was 134 °F (57 °C) in Death Valley, California, in 1913. The lowest temperature was -128.6 °F (-89.2 °C) in Antarctica in 1983. The driest place on Earth is Arica, Chile. It hardly ever rains there. Arica once had no rain at all for 14 years.

Earth is not the only planet that has a variety of weather conditions. Every planet except Mercury has enough of an *atmosphere* <<AT muhs feer>> to have weather. An atmosphere is a layer of air around a planet. One of Saturn's moons, Titan, also has an atmosphere. However, this article is only about the weather on Earth.



Map  
[Weather](#)



**For more information, see these articles:**

[Barometer](#)  
[Climate](#)  
[Cloud](#)  
[Cyclone](#)  
[Fog](#)  
[Frost](#)  
[Hail](#)  
[Hurricane](#)  
[Lightning](#)  
[Monsoon](#)  
[Rain](#)  
[Season](#)  
[Snow](#)  
[Storm](#)  
[Tornado](#)  
[Wind](#)

World Book Kids also offers a lesson plan called “Lightning Strikes” that could be used to support 3rd grade Next Generations Science Standards.

<http://www.worldbookonline.com/kids/activities?id=TI000063&type=tcit>



## **Lightning Strikes Be a meteorologist!**

### **INTRODUCTION**

Students learn about lightning and how to estimate how far away from them it is when it strikes.

### **NATIONAL CONTENT STANDARD:**

**NS.K-4.4 EARTH AND SPACE SCIENCE—As a result of their activities in grades K-4, all students should develop an understanding of changes in earth and sky.**

### **OBJECTIVES:**

- Students will understand how lightning is created.
- Students will know how to estimate by counting seconds how far away from them lightning is when it strikes.

### **MATERIALS:**

- World Book Kids article “Lightning”
- copies of the “Lightning Strikes” Be It activity

### **PROCEDURES:**

1. Begin this lesson by assessing students’ prior knowledge about lightning. Ask them to describe their experiences with lightning by asking questions such as “Have you seen

**Websites:*****BBC Kids: What is Weather***

<http://www.bbc.co.uk/schools/whatisweather/home.shtml>

This website includes activities on wind direction, wind force, precipitation, temperature, sunshine, visibility and clouds.

***K-4 Modules Website: Weather***

<http://www.cof.edu/ete/modules/k4/weather/Whandson1.html>

Includes three lesson plans and a weather interactive game.

***Make Your Own Weather Station***

<http://learn.fi.edu/weather/todo/todo.html>

This website has many different science experiments dealing with weather such as keep your own weather journal and make your own anemometer. An anemometer measures wind speed and can be made with dixie cups.

***Making a Weather Station***

<http://www.miamisci.org/hurricane/weatherstation.html>

Learn how to read a thermometer, make an anemometer, barometer, rain gauge, and other weather forecasting tools.

***Volcanoes***

<http://www.weatherwizkids.com/weather-volcano.htm>

This website includes volcano safety tips.

***National Severe Storms Laboratory***

<http://www.nssl.noaa.gov/edu/safety/tornadoguide.html>

Questions and answers about weather phenomena, including tornadoes, thunderstorms, lightning, hail, floods, damaging winds and winter weather.

***National Geographic Map Machine***

<http://plasma.nationalgeographic.com/mapmachine/>

Select Africa from the world map, then create your own maps of the continent based on different themes, such as road map, satellite view, farm regions, population, and *weather*. You can also view world-wide weather.

**iPad apps:**

***Extreme Weather - by Kids Discover***

**Cost: \$3.99**

Experience the most extreme forms of weather on Earth with an interactive cross-section of a hurricane, tornadoes and lightning and the science behind climates of extreme heat and cold. Also discusses monsoons, floods, and draughts.

***Professor Tinkermeister and the Wacky, Whiz-Bang, Weather-Watching Wonder - by IDEAS Orlando***

**Cost: Free**

Follow the story of Professor Tinkermeister to learn about tornadoes and the hazards of thunderstorms.

***Weather Now Forecast and 3D Earth - by DeluxeWare***

**Cost: \$2.99**

Select different cities using a city carousel with national flags. Details about that cities weather, temperature, humidity, wind, sunrise, sunset, latitude and longitude are listed. Includes 3D globe that highlights the cities of the world.