

# Worldwide Weather on the Web

## Primary Grades PreK–2

Weather influences each of us every day. From an early age, children learn about weather through a variety of formats and media. Weather is a part of daily life and affects what we wear, what we do, and where we go. All children have had common experiences with weather, and they bring that knowledge base to the classroom. Use these common experiences to build multidisciplinary activities that capture children's interests and actively engage them in the learning process. In this unit students learn about the various elements that go into generating a weather forecast. Students investigate trends in local weather and compare and contrast local weather with weather reported by other students around the world. Parents, adult helpers, and cross-age tutors work collaboratively throughout these unit activities to provide developmentally appropriate assistance to very young children.

NETS Performance Indicators <i>Prior to completion of Grade 2, students will:</i>	Activities	Curriculum Standards	Tools and Resources
<p>1 Use input devices (e.g., voice activation, mouse, keyboard, and remote control) and output devices (e.g., a monitor and printer) to successfully operate computers, VCRs, audiotapes, telephones, and other technologies. (1)</p>	<p>▶ Record information on daily temperatures in a predesigned template using a variety of input devices, including an audiotape player, keyboard, Muppet keyboard, and others. Students can use local news sources or weather Web sites.</p> <p>▶ Observe cloud forms and use a digital camera to photograph them. As a class, have students prepare an electronic slide show.</p> <p>▶ Use a scanner to digitize pictures representing the seasons of the year. Have students print the pictures for display.</p> <p>▶ Observe a form of precipitation, such as rain, fog, snow, drizzle, mist, sleet, or hail, and use a keyboard to record observations. Have students print the results.</p>	<p>IL 1 MATH 2 *K–4 SCI A1, D3 SS III</p> <p>ELA 4, 5 K–4 SCI D1 SS III</p> <p>ELA 4 SS III</p> <p>ELA 4, 5 K–4 SCI D3 SS III</p>	<p>SOFTWARE: Kid Pix Studio ClarisWorks for Kids AppleWorks Graph Club GraphPower Easy Book SuperPrint Kid Works Deluxe</p> <p>HARDWARE: Color inkjet printer Audiotape player Video camcorder Digital camera Muppet keyboard Scanner</p> <p>WEB SITES: The Weather Channel: <a href="http://www.weather.com/">www.weather.com/</a> AccuWeather: <a href="http://www.acuweather.com/">www.acuweather.com/</a></p>

\*Science standards indicate grade levels (K–4, 5–8, and 9–12) in front of the actual standard(s) number (e.g., K–4 SCI A2, C3, E1).

2 Use a variety of media and technology resources for directed and independent learning activities. (1, 3)

- ▶ Use word-processing software to write a story about a thunderstorm. ELA 5
- ▶ Use television, telephones, radios, video games, and other technology resources to create a weather center that can be used for independent learning in math, science, social studies, and language arts. K-4 SCI B1, D1, D3, E2  
SS III
- ▶ Use clip art or pre-existing pictures to create an electronic slide show of severe weather warning flags. ELA 8  
K-4 SCI F5
- ▶ Use the Weather Channel Web site to investigate weather in other communities. IL 1, 2, 3  
K-4 SCI B1, D3  
SS III
- ▶ Observe the sky and use a digital camera to photograph it. Use the How the Weather Works Web site to determine the range of colors in the sky pictures. IL 1, 2, 3  
K-4 SCI D3, B1  
SS III
- ▶ Draw and then scan pictures representing a favorite season. Students work with their upper grade buddies to dictate a weather poem or story to be published in a class Big Book. ELA 5, 6  
IL 5  
K-4 SCI D3  
SS III
- ▶ Use drawing or painting software to create and illustrate a story about the wind on a spring or winter day. ELA 5, 6  
K-4 SCI D1, F4
- ▶ Use a video camera to record a skit in which students forecast the weather for the day. ELA 5, 6  
K-4 SCI D3, F4  
SS III
- ▶ Use informational CDs to explore weather concepts. ELA 6, 8  
K-4 SCI D3

Automated Weather Source: [www.aws.com/](http://www.aws.com/)

**SOFTWARE:**  
 Sammy's Science House  
 SuperPrint  
 Easy Book  
 Kid Pix Studio  
 Graph Club  
 GraphPower  
 ClarisWorks for Kids  
 AppleWorks  
 Kid Works Deluxe  
 Weather in Action: Air

**HARDWARE:**  
 Color inkjet printer  
 Audiotape player  
 Video camcorder  
 Digital camera  
 Scanner  
 TVs  
 Telephones  
 Radios  
 Video game players with games

**WEB SITES:**  
 The Weather Channel: [www.weather.com/](http://www.weather.com/)  
 How the Weather Works: [www.weatherworks.com/monthly/activities/skywindow.html](http://www.weatherworks.com/monthly/activities/skywindow.html)  
 Automated Weather Source: [www.aws.com/schools/](http://www.aws.com/schools/)

<p>3 Communicate about technology using developmentally appropriate and accurate terminology. (1)</p>	<ul style="list-style-type: none"> <li>▶ Practice using correct terminology for technology devices, resources, and procedures when using technology resources.</li> <li>▶ Use drawing or painting software to make a picture dictionary that describes and illustrates correct terminology for technology devices, resources, and procedures used at school.</li> <li>▶ Take a field trip to a weather station. Make a list of technology resources used there and use word-processing software to record and print the information for class discussion.</li> <li>▶ Create an online daily class journal that includes a brief weather report and a description of how the weather will affect class activities. Students explain how the weather data was gathered and measured.</li> </ul>	<p>ELA 5 K-4 SCI E2 SS VIII</p> <p>ELA 5, 6 K-4 SCI E2 SS VIII</p> <p>ELA 5, 6, 8 K-4 SCI E2, F5</p> <p>ELA 5, 6, 8 IL 1, 5, 9 MATH 4, 8, 10 K-4 SCI A1, A2, D2, D3, E2, G1 SS III</p>	<p>SOFTWARE: Kid Pix Studio Kid Works Deluxe ClarisWorks for Kids AppleWorks SuperPrint Easy Book</p> <p>HARDWARE: Digital camera Color inkjet printer</p> <p>WEB SITES: Automated Weather Source: <a href="http://www.aws.com/">www.aws.com/</a> The Weather Channel: <a href="http://www.weather.com/">www.weather.com/</a> AccuWeather: <a href="http://www.acuweather.com/">www.acuweather.com/</a></p>
<p>4 Use developmentally appropriate multimedia resources (e.g., interactive books, educational software, and elementary multimedia encyclopedias) to support learning. (1)</p>	<ul style="list-style-type: none"> <li>▶ Listen to a story about imaginary weather events. Have students use multimedia software to create digital stories about imaginary weather phenomena, including passages in which characters react to weather conditions.</li> <li>▶ Use Just Grandma and Me Interactive Living Book to find shapes in the clouds. First, have students predict what the cloud shape will be. Then, let them discover the shape and use drawing or painting software to create their own cloud object or shape.</li> <li>▶ Use turtle geometry software (Logo) to explore, design,</li> </ul>	<p>ELA 1, 5, 6, 8 IL 5 K-4 SCI B1, D2, D3, E3</p> <p>ELA 1 IL 1, 5 MATH 3 K-4 SCI D3</p> <p>MATH 3 K-4 SCI D1</p>	<p>SOFTWARE: Kid Pix Studio ClarisWorks for Kids AppleWorks HyperStudio SuperPrint Easy Book Kid Works Deluxe Just Grandma and Me Logo Compton's Interactive Encyclopedia</p>

and print snowflake patterns.

- ▶ Examine and explore weather-related multimedia products created by older students.
- ▶ Use interactive CDs (simulations, bilingual books, dictionaries, encyclopedias, and instructional games) to explore, investigate, and learn about weather.

ELA 1

K-4 SCI D1, D3  
SS III

K-4 SCI D1, D3  
SS III

**HARDWARE:**

- Color inkjet printer
- Audiotape player
- Video camcorder
- Digital camera
- Scanner

**BOOKS:**

- Cloudy with a Chance of Meatballs* by Judi Barrett
- Pickles to Pittsburgh* by Judi Barrett

- 5 Work cooperatively and collaboratively with peers, family members, and others when using technology in the classroom. (2)

- ▶ Work with upper grade buddies to assemble a weather station. Students should learn how to use different weather instruments to measure and record the temperature, dew point, barometric pressure, wind direction and speed, and precipitation.
- ▶ Choose a favorite kind of weather. Students work collaboratively with their classmates to create a five-senses weather poem. Publish the poem in a class Big Book
- ▶ Work in pairs to research and record daily weather information. Students use graphing software to create a monthly chart with weather codes and symbols.
- ▶ Make observations of clouds or puddles at frequent intervals during the day. Have students work with an adult in small groups to create a multimedia slide show that presents their observations.

IL 9

MATH 4, 10  
K-4 SCI A1, A2,  
B3, D2, D3, E2  
SS III, VIII

ELA 1, 5, 7, 8

IL 1, 3, 4  
K-4 SCI D2, D3  
SS II, III

ELA 5, 6, 11

IL 5  
K-4 SCI D1, D3

ELA 5, 6, 7, 8

K-4 SCI A1,  
D1, D3  
SS III

**SOFTWARE:**

- Kid Pix Studio
- ClarisWorks for Kids
- AppleWorks
- Graph Club
- GraphPower
- Easy Book
- SuperPrint
- Logo
- HyperStudio
- Kid Works Deluxe
- Web Workshop

**HARDWARE:**

- Color inkjet printer
- Audiotape player
- Video camcorder
- Digital camera
- Scanner
- Weather measurement instruments

6 Demonstrate positive social and ethical behaviors when using technology. (2)

▶ Work with classmates to establish a set of procedures and rules to be used when working with different types of technology resources. Students should use the subject of weather when doing demonstrations or giving examples.

ELA 4, 9, 11  
K-4 SCI E2  
SS V, VIII

▶ Work with classmates to establish a set of appropriate behaviors when using technology with classmates, family members, older students, and adults.

ELA 4, 9, 11  
K-4 SCI F5  
SS V

▶ Create digital weather postcards to share with other classes from other cultural communities.

ELA 5, 6, 8, 9  
K-4 SCI F5  
SS I

▶ Discuss the effects of weather predictions on our daily activities and the importance of accurate predictions. Have students show what the effects of "a joke weather report" be.

ELA 4, 11  
IL 2, 7  
K-4 SCI A2, C3,  
D2, D3, F5  
SS III, V

WEB SITES:

The Weather Channel:  
[www.weather.com/](http://www.weather.com/)  
Automated Weather  
Source: [www.aws.com/schools/](http://www.aws.com/schools/)  
AccuWeather:  
[www.acuweather.com/](http://www.acuweather.com/)

SOFTWARE:

Kid Pix Studio  
ClarisWorks for Kids  
AppleWorks  
HyperStudio  
SuperPrint  
Easy Book  
Graph Club  
GraphPower  
Kid Works Deluxe

HARDWARE:

Color inkjet printer  
Digital camera  
Scanner

WEB SITES:

The Weather Channel:  
[www.weather.com/](http://www.weather.com/)  
Automated Weather  
Source: [www.aws.com/schools/](http://www.aws.com/schools/)

7 Practice responsible use of technology systems and software. (2)

- ▶ Discuss responsible use of hardware, software, and the Internet when obtaining and using weather information.
- ▶ Develop rules with classmates for creating and printing an alphabet chart focused on weather. Make sure students understand the rules and procedures before beginning work on the alphabet chart. After the chart is completed, have the class discuss how well the rules worked and suggest changes for future activities.
- ▶ Work with a businessperson or other adult to create a class weather Web site. Have students add a new page, daily. Have the class discuss the concept of student ownership, copyright, and the use of the class site for other types of publications.

ELA 4  
IL 8  
K-4 SCI E2  
SS V, VIII, X

ELA 4, 9  
SS V

ELA 4, 8, 11  
IL 8  
K-4 SCI E2  
SS V, VI, X

SOFTWARE:  
Kid Pix Studio  
ClarisWorks for Kids  
AppleWorks  
Easy Book  
Web Workshop  
HARDWARE:  
Color inkjet printer  
Digital camera  
Scanner

8 Create developmentally appropriate multimedia products with support from teachers, family members, or student partners. (3)

- ▶ Read *Flash, Crash, Rumble and Roll* to learn safety facts about weather. With support from peers or adults, students create a multimedia presentation about how to remain safe in one's home, school, or community. After reading the text, have students take a Web-based online safety quiz on lightning.
- ▶ Use multimedia software to design graphics for different types of daily weather. Students use the graphics to record daily weather conditions on an electronic calendar. Have them print a copy and cut the calendar apart, by days. Have them sort and organize the weather data to identify patterns.

ELA 1, 4, 5, 7, 8  
IL 1, 5  
K-4 SCI B3, C3,  
D2, D3, F1  
SS III

ELA 4, 5, 6, 7, 8  
IL 1, 2, 3  
MATH 2, 5  
K-4 SCI D1, D3  
SS III

SOFTWARE:  
Kid Pix Studio  
ClarisWorks for Kids  
AppleWorks  
Graph Club  
GraphPower  
Kid Works Deluxe  
SuperPrint  
Logo  
HyperStudio  
Web Workshop  
HARDWARE:  
Digital camera  
Scanner  
Color inkjet printer

- ▶ Create and present to other students and adults a slide show using weather data collected during one or more months.
- ▶ Take digital pictures of clouds. Have students work with an upper grade buddy to create a multimedia presentation featuring stories about cloud shapes, incorporating pictures, text, and sound.

ELA 4, 8  
IL 5  
MATH 8, 10  
SS III

BOOK:  
*Flash, Crash, Rumble and Roll* by Franklyn Mansfield Branley

ELA 4, 6  
IL 1  
MATH 2, 4  
K-4 SCI A1, D2, D3  
SS III

9 Use technology resources (e.g., puzzles, logical thinking programs, writing tools, digital cameras, and drawing tools) for problem solving, communication, and illustration of thoughts, ideas, and stories. (3, 4, 5, 6)

- ▶ Create a weather report card to assess the accuracy of local weather reports. Have students record the next day's forecast and then record the actual weather for that day. Students can use a rubric to evaluate the data collected for the week. Have them compare the accuracy of television stations, newspapers, and other media sources. The report card can be sent to local weather reporters by e-mail.
- ▶ Collect daily precipitation and temperature readings from around the country. Sort and classify the weather data using simple spreadsheet software. Analyze the differences in weather around the country and then graph the information in several different ways.
- ▶ Use the Weather Channel and Mesonet Web sites to track a weather front. Use spreadsheet or database software to track and record changes in the weather

ELA 4, 5, 7, 8  
IL 1, 2  
MATH 5, 8  
K-4 SCI A1, A2, B3, D2, D3, G1  
SS III

SOFTWARE:  
Spreadsheet  
Graphing  
Database  
WEB SITES:  
epals Classroom Exchange:  
[www.epals.com/](http://www.epals.com/)  
Global Schoolhouse:  
[www.gsn.org/project/index.html](http://www.gsn.org/project/index.html)  
Intercultural E-Mail Classroom Connections:  
[www.stolaf.edu/network/iecc/](http://www.stolaf.edu/network/iecc/)  
Global Rigby:  
[www.reedbooks.com.au/rigby/global/keypal.html](http://www.reedbooks.com.au/rigby/global/keypal.html)  
Web66: <http://web66.coled.umn.edu/>  
Penpal Class Box:  
[www.ks-connection.org/](http://www.ks-connection.org/)  
OTHER:

ELA 5, 6  
IL 2, 6  
MATH 5, 8, 9, 10  
K-4 SCI A1, D3, F4  
SS III

ELA 5, 7, 8  
MATH 3, 5, 10  
K-4 SCI A1, D2, D3, F4

	<p>before and after the front moves through the community.</p> <p>► Use spreadsheet or database software to track and record light intensity, twice a day, on an Internet weather station site (e.g., Mesonet). Analyze the information and then graph the comparison data.</p> <p>► With the assistance of parents or older students, send up a series of weather balloons to trace wind current patterns. Have students record the daily information that they receive by e-mail from other locations. Have them graph the data.</p>	<p>ELA 4, 5, 7, 8 IL 1, 2, 9 MATH 2, 4 K-4 SCI A1, B3, D3, F5</p> <p>ELA 4, 5, 7, 8 MATH 1, 2, 4, 10 K-4 SCI A1, A2, B3, D1, D3 SS III</p>	<p>Weather balloons</p>
<p>10 Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners. (4)</p>	<p>► Participate in the Global Schoolhouse online project "It Was a Dark and Stormy Night." In this project, students record weather-related data (the date, high and low temperatures, humidity, barometric pressure, mood, and overall weather conditions) for two weeks during each of three designated months. After the data is collected, it is sent to Franklin Junior Senior High School, where students at the school compile and analyze the data and return results to the originating class.</p> <p>► Start a chain story by creating fictional characters in a unique weather setting. Students forward the story-starter to other school sites with the requirement that each school tie the weather at their location into their addition to the story.</p>	<p>ELA 3, 4, 5, 7 IL 1, 2 MATH 5, 8 K-4 SCI A1, A2, D2, D3, E1, E2, G1 SS III</p> <p>ELA 4, 5, 7 IL 5 SS III</p>	<p>SOFTWARE: SuperPrint Easy Book Kid Works Deluxe HyperStudio Cruncher, The ClarisWorks for Kids AppleWorks Kid Pix Studio Web Workshop TimeLiner</p> <p>HARDWARE: Color inkjet printer Audiotape player Video camcorder Digital camera Scanner</p> <p>WEB SITES: epals Classroom Exchange: <a href="http://www.epals.com/">www.epals.com/</a> Global Schoolhouse:</p>

- ▶ Send pen-pal letters to students at a partner school in another hemisphere. Have them describe the weather each day for a week and compare and contrast how the weather where they are affects the way they live.
- ▶ Take a virtual field trip to examine the weather in other regions of the world. Use the TrackStar Web site to select appropriate sites and prepare for the virtual field trip. Have students discuss what to wear in each place they visit.
- ▶ Create an online daily class journal that includes a brief weather report and how the weather affects class activities. Students can explain how the weather information was gathered and measured.
- ▶ Use Web Workshop to create multiple Web pages about weather and seasonal changes. Have students exchange the pages with other buddy schools. Have them compare and contrast how these changes take place during the year.

ELA 4, 5, 9  
IL 6  
K-4 SCI D3, F4  
SS III

ELA 1, 7, 8  
IL 1, 2, 9  
K-4 SCI E2, F4  
SS III

ELA 5, 6, 8, 11, 12  
MATH 4, 8, 10  
K-4 SCI A1, A2,  
D2, D3, G1  
SS III

ELA 4, 5, 7, 8, 9  
K-4 SCI A1, D1,  
D3, F4  
SS III

[www.gsn.org/project/index.html](http://www.gsn.org/project/index.html)

Intercultural E-Mail  
Classroom Connections:  
[www.stolaf.edu/network/iecc/](http://www.stolaf.edu/network/iecc/)

Global Rigby:  
[www.reedbooks.com.au/rigby/global/keypal.html](http://www.reedbooks.com.au/rigby/global/keypal.html)  
Web66: <http://web66.coled.umn.edu/>

Penpal Class Box:  
[www.ks-connection.org/](http://www.ks-connection.org/)  
TrackStar:  
[www.scrtec.org/track/index.html](http://www.scrtec.org/track/index.html)

Automated Weather  
Source: [www.aws.com/schools/](http://www.aws.com/schools/)

The Weather Channel:  
[www.weather.com/](http://www.weather.com/)