

<p><b>Unit Title: Weather/Seasons</b>  <b>By: Danielle Daletski</b>  <a href="mailto:ddaletski@joliet86.org">ddaletski@joliet86.org</a>  <b>Grade Span-K</b></p>	
<p><b>Aligned Standards:</b> (The unit standards will be listed by grade level and subject area.)</p>	
<p><b>Kindergarten</b></p> <p><b>K-PS3-2 Use tools and materials to design and build a structure that will reduce the warming effect of the sunlight on an area.</b></p> <p>K-ESS2-1 Use and share observations of local weather conditions to describe pattern over time.</p> <p>K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface. (NGSS)</p> <p>K-ESS3-2 Ask and answer questions about arguments and explanations. (IL SS)</p> <p>SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail. (CCSS ELA)</p> <p>W.K.7 Participate in shared research and writing projects (e.g., explore a number of books related to the topic). (CCSS ELA)</p> <p>MP.4 Model with mathematics. (CCSS MA)</p> <p>K.CC Counting and Cardinality (CCSS MA)</p> <p>SS.IS.1.K.-2: Create questions to help guide inquiry about a topic with guidance from adults and/or peers. (IL SS)</p> <p>SS.IS.2.K-2: Explore facts from various sources that can be used to answer the developed questions. (IL SS)</p> <p>SS.IS.3.K-2: Gather information from one or two sources with guidance and support from adults and/or peers. (IL SS)</p> <p><b>Engineering Design:</b></p> <p>K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of new or improved object or tool.</p> <p><a href="#">K.MD.2</a>. Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference</p> <p><a href="#">K.CC.6</a>. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.</p>	
<p><b>Enduring Understandings</b></p>	<p><b>Essential Questions</b></p>
<ul style="list-style-type: none"> <li>● identify that the sun warms Earth’s air, water and land.</li> <li>● determine the effect of sunlight on water and land</li> <li>● design and build a structure that will reduce the warming effect of sunlight on an area.</li> <li>● explain that weather is what the air is like outside.</li> </ul>	<p>A good essential question:</p> <ul style="list-style-type: none"> <li>● How can weather change during the day?</li> <li>● What could you observe on a rainy/snowy day?</li> <li>● What can you notice outside on a windy day?</li> <li>● What is weather</li> </ul>

<ul style="list-style-type: none"> <li>● Describe sunny and cloudy weather</li> <li>● visually infer whether the wind is blowing.</li> <li>● describe wet weather as rainy or snowing</li> <li>● observe local weather conditions to describe weather patterns over a period of time.</li> </ul>	<ul style="list-style-type: none"> <li>● How can a structure keep you cool on a sunny day?</li> <li>● What happens when you place something in the sun?</li> <li>● What does the sun do for the earth?</li> </ul>
<p><b>Transfer Goals/Crosscutting Concepts</b> (Will be some or all of the skills listed below, plus any additional ones the groups feels important.)</p>	
<p><b>Patterns:</b></p> <ul style="list-style-type: none"> <li>● Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1) Cause and Effect Events have causes that generate observable patterns. (K-PS3-1),(K-PS3- 2),(K-ESS3-2)</li> <li>● Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology People encounter questions about the natural world every day. (K-ESS3-2) Influence of Engineering, Technology, and Science on Society and the Natural World People depend on various technologies in their lives; human life would be very different without technology. (K-ESS3- 2)</li> <li>● Asking questions (for science) and defining problems (for engineering)</li> <li>● Cause and effect (events have causes that create patterns)</li> <li>● Patterns (nature can create patterns that can be observed, and used to describe natural events and used as evidence)</li> <li>● Developing and using models</li> <li>● Planning and carrying out investigations</li> <li>● Analyzing and interpreting data (looking at a data from weather patterns, i.e. five days of rain, etc.)</li> <li>● Using mathematics and computational thinking (looking at a data from weather patterns, i.e. five days of rain, etc.</li> <li>● Constructing explanations (for science) and designing solutions (for engineering)</li> <li>● Engaging in argument from evidence</li> <li>● Obtaining, evaluating, and communicating information</li> </ul>	
<p><b>Learning Objectives</b></p>	
<p>*Students will be able to... OR I can...</p> <ul style="list-style-type: none"> <li>● identify that the sun warms Earth’s air, water and land.</li> <li>● determine the effect of sunlight on water and land</li> <li>● design and build a structure that will reduce the warming effect of sunlight on an area.</li> <li>● explain that weather is what the air is like outside.</li> <li>● Describe sunny and cloudy weather</li> <li>● visually infer whether the wind is blowing.</li> <li>● describe wet weather as rainy or snowing</li> <li>● observe local weather conditions to describe weather patterns over a period of time.</li> </ul>	
<p><b>Evidence of Learning</b></p>	
<p><b>Example Performance Tasks</b></p>	<p><b>Example Evidence</b></p>
<ul style="list-style-type: none"> <li>● Students create weather charts and tables</li> <li>● Students present on weather and patterns observed...(CCC:)</li> <li>● Students work in small groups to develop a shelter from weather and ideas for protecting living things, land,</li> </ul>	<ul style="list-style-type: none"> <li>● Weather Journals(attached)</li> <li>● Construct a building to protect from severe weather</li> <li>● Navigate Weatherbug.com Website to collect data.(CCC)</li> </ul>

<p>and buildings from weather and severe storms.(CCC)</p> <ul style="list-style-type: none"> <li>• Students obtain information about sunlight, and weather.</li> </ul>	<ul style="list-style-type: none"> <li>• Draw a picture and write an observation to describe yesterday, today, and tomorrow’s weather prediction.</li> <li>• Weather prediction based on data collected</li> <li>• Use observations to describe weather events</li> </ul>
<b>Library of Congress: Primary Sources</b>	<b>Materials/Supplies/Resources</b>
<ul style="list-style-type: none"> <li>• <a href="#">Approaching Storm/Cloud Front</a></li> <li>• <a href="#">Abandoned farm image</a></li> <li>• <a href="#">Primary Source Set Weather Forecasting</a></li> <li>• <a href="#">Snow Gauge</a></li> <li>• <a href="#">Anemometer</a></li> <li>• <a href="#">Weather Balloon</a></li> <li>• <a href="#">Sun Shelter</a></li> <li>• <a href="#">Shelters</a></li> <li>• <a href="#">Sunny Day</a></li> <li>• <a href="#">Rainy Day</a></li> <li>• <a href="#">Snowy Mountain</a></li> <li>• <a href="#">Sunny Beach</a></li> <li>• <a href="#">Children's Book with Seasonal Illustrations</a></li> <li>• <a href="#">Spring Cherry Blossoms</a></li> <li>• <a href="#">Winter Scene</a></li> <li>• <a href="#">Summer at the Beach</a></li> <li>• <a href="#">Fall Tree</a></li> </ul>	<ul style="list-style-type: none"> <li>• Library books from your local library can include the following titles:</li> <li>• I Face the Wind by Vicki Cobb,,</li> <li>• Check the Weather by Nancy Roser</li> <li>• Weather Words by Gail Gibbons</li> <li>• Weather data sheets</li> <li>• Chart paper</li> <li>• Markers</li> <li>• US map</li> <li>• Weather images</li> <li>• Internet access</li> <li>• Check the Weather by Nancy Roser</li> <li>• Weather Words by Gail Gibbons</li> <li>• Weather by Seymour Simon</li> </ul>

## Aligned Lesson Plan #1

<b>Lesson Plan: Sun Warms the Earth</b>	<b>Lesson Length: 5-7 Days - 30/45 min. each day</b>
<b>Grade Level: K</b>	<b>Related Unit: Weather</b>
<b>Enduring Understandings</b>	<b>Essential Questions</b>
<ul style="list-style-type: none"> <li>• Patterns are used to make predictions about weather.</li> <li>• Sunlight warms Earth’s surfaces.</li> <li>• Weather is a combination of sunlight and various precipitation</li> </ul>	<ul style="list-style-type: none"> <li>• How are changes in weather patterns observed over the course of the year? Can patterns of the sun, moon, and stars be used to make predictions of future observations?</li> </ul>

<p>e.g., snow, rain (location dependent).</p> <ul style="list-style-type: none"> <li>• Asking questions about observations helps us find answers to design investigations.</li> <li>• Data may be used for weather predictions.</li> <li>• Differences in sunlight are noticed in seasonal changes.</li> </ul> <p>Weather affects our daily lives..</p>	<ul style="list-style-type: none"> <li>• Why does the weather change over the course of a year?</li> <li>• What is the relationship between data and patterns in terms of weather forecasting?</li> <li>• How does weather affect our daily lives?</li> <li>• How can you stay healthy during different types of weather (sunscreen, coats, hats mittens, etc.)?</li> <li>• What tools can you use to collect data about the weather?</li> <li>• How does the Sun warm the Earth's surface?</li> <li>• What happens when the Sun doesn't warm Earth?</li> <li>• What is weather?</li> <li>• What happens when it snows, rains, or is windy?</li> <li>• How do people predict the weather?</li> <li>• How do we know what the weather will be today, tomorrow, or next week?</li> </ul>
<b>Transfer Goals</b>	
<ul style="list-style-type: none"> <li>• Asking questions (for science) and defining problems (for engineering)</li> <li>• Developing and using models</li> <li>• Analyzing and interpreting data</li> <li>• Using mathematics and computational thinking</li> <li>• Constructing explanations (for science) and designing solutions (for engineering)</li> <li>• Obtaining, evaluating, and communicating information</li> <li>• Patterns of the natural world can be observed.</li> <li>• Use cause and effect to interpret relationships</li> </ul>	
<b>Learning Objectives</b>	
<ul style="list-style-type: none"> <li>• Record observations about sunlight and weather.</li> <li>• Ask questions about different types of weather.</li> <li>• Use data to describe weather conditions.</li> <li>• Use information to prepare for and respond to weather conditions and storms.</li> <li>• Obtain information from text about sunlight, weather, and storms.</li> <li>• Explain verbally or in writing the purpose of weather forecasting.</li> <li>• Use a model to describe the types of weather.</li> <li>• Use graphical displays (e.g., tables, pictographs, line plots) to organize data.</li> <li>• Describe patterns showing certain types of weather happen more in certain places.</li> </ul>	
<b>Library of Congress: Primary Sources</b>	<b>Materials/Supplies/Resources</b>

- [Anemometer](#)
- [U.S. WEATHER BUREAU INSTRUMENTS](#)
- [Early Barometer](#)
- [Treehouse Weather Kids Weather Channel](#)
- [Approaching Storm/Cloud Front](#)
- [Weather Balloon](#)
- [Sun Shelter](#)
- [Shelters](#)
- [Sunny Day](#)
- [Rainy Day](#)
- [Snowy Mountain](#)
- [Sunny Beach](#)
- [Spring Cherry Blossoms](#)
- [Winter Scene](#)
- [Summer at the Beach](#)
- [Weather Mysteries: Hot in Summer / Cold in Winter?](#)

- Internet access
- Journal
- Weather books from the local library that may include the following titles:
  - Check the Weather by Nancy Roser
  - Weather Words by Gail Gibbons
  - Weather by Seymour Simon
  - *DK Eyewitness Weather* by Brian Cosgrove
  - **Navigate**  
<http://weather.weatherbug.com/> Website to collect data
  - [Weather Wiz Kids](#) [Farmers' Almanac For Kids](#)
- [https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher\\_guide.pdf](https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher_guide.pdf)
- [https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher\\_guide.pdf](https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher_guide.pdf)
  - Weather data sheets
  - Chart paper
  - Thermometer
  - Markers
  - US map
  - Weather images
  - Internet access
  - Clear plastic cups
  - ice cubes
  - Materials for building a shelter can include: clay, cloth, construction paper, cardstock, cardboard, small dowels, craft sticks, straws, pipe cleaners, tape, glue, etc.

## Lesson Plan #1 Sun Warms the Earth

**Day #1 Engage:** How can I get students interested in this?

- Display and discuss the [Analyze a Photo Tool](#) : Display or make copies of the following primary source photographs: [Rainy Day](#) [Sunny Day](#) [Approaching Storm/Cloud Front](#)
- Give students 1-3 minutes to observe the photographs
- Discuss each question and section on the Analysis Tool and record class answers.
- Ask students how are the images connected? What is the something that all the photographs have in common? (Chart answers and discuss what season the student think it is now, where they live? Why? Describe evidence of the weather.)**K-ESS3-2- CCC- Identify patterns in weather conditions during each season.**
- List types of weather on a separate piece of chart paper. (Divide paper into four columns. Label each column with a season.)**K-ESS2-1**
- Discuss and explain that weather affects our daily lives. Ask students what they wore to school today and why?( ex. Shorts because it's hot, raincoat because it is raining, or coat, hat, and gloves because it is cold) Explain to students the definition of weather: The temperature and other outside conditions (such as rain, cloudiness, etc.) at a particular time and place. **K-ESS3-2**  
*source: <http://www.learnersdictionary.com/definition/weather>*
- Pass out Weather Journals (attached) and work together to identify the weather outside today and record the weather in their journals. **K-ESS2-1**
- **Students work in pairs and compare their observations of the weather they recorded in their journals. Students give each other feedback related to how their observations are the same or different. Students will be asked to count and compare the number of days each type of weather thy observed and recorded in their journals. [K.MD.2.](#) [K.CC.6.](#)**
- **CCC: Cause and Effect: Explain how the weather causes a change in how we go about our day. Give pairs of students one of the following questions and have them discuss and draw a picture representing their answer. Invite pairs to share their answers to their question. Invite students to give feedback to each group. How do you dress when the weather is cold/hot? What happens when it rains a lot? What happens when it snows a lot? What do you different on a rainy vs. a sunny day? Why?**
- 15 - 30 minutes (Depending on how engaged the students are and how much background knowledge they have)

**Day #2 Explore:** What tasks/questions can I offer to help students puzzle through this?

- What is weather? Review the LOC pictures presented previously. Discuss what they observe? Explain that weather is what the air is outside.**SS.IS.2.K-2, SS.IS.3.K-2:**
- Read and discuss a weather book from the suggested list. Explain how the weather affects daily lives.**SS.IS.1.K.-2:**
- Navigate <http://weather.weatherbug.com/> Discuss information on weather site. Look at weather in different areas and discuss differences.**SS.IS.3.K-2: K-ESS2-1**
- **CCC: Explain and discuss how technology has changed how we predict the weather and the effects of the sun on the earth. (Computers calculate the warming effects of the sun on the earth and the resulting weather)**
- 25 - 30 min.

**Day #3 Explain:** How can I help students make sense of their observations?

- Have the students reflect upon their experiences and the Primary Source(s). **SS.IS.2.K-2, SS.IS.3.K-2:**
- Have the students write down questions they wondered about and want more information on. **SS.IS.1.K.-2:**
- What are some types of weather that were discussed in the text? from previous day
- What warms the earth and helps create types of weather?
- Review the following pictures : Provide individual copies for students that struggle to attend to whole group instruction, provide graphic organizer for students needing additional support beyond the class chart.
- [Sun Shelter](#)
- [Shelters](#)
- [Sunny Day](#)
- [Rainy Day](#)
- [Snowy Mountain](#) and ask students to describe how it would feel if they were in the picture?
- What do you think would happen if the sun was gone? (CCC: Cause and effect/ students will describe working in groups)
- Why do you think the sun is important to the weather? **K-PS3-1.**
- \*\* Differentiation for advanced students could include students try to ident. where the pictures were taken and identify a place they know of that are similar to the pictures.
- Approximate 20-30 min.

K-ESS2-1 Use and share observations of local weather conditions to describe pattern over time.(CCC)  
K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface. (NGSS)  
K-ESS3-2

**Day #4 Extend/Elaborate:** How can my students apply their new knowledge to other situations?

- Take class to an area that has a sunny spot and a shady spot. Ask students to stand in the sunny spot for a few minutes and describe how they feel. Then have them stand in the shady spot and describe and compare how they feel. **K-PS3-1 , K-ESS3-2**
- **Have students work together to explore reasons for why they felt different in the sun vs. the shade. Allow students to give each other feedback.** (Misconception could be that the sun goes away when they are in the shade. Explain that the sun is still there but the object that is providing the shade blocks the sun)
- Teacher can extend student learning by having students set a cup of ice in the sun and one in the shade. Have students predict and record what happened. Discuss their answers. [K.MD.2](#)
- Approximate 20-30 min.

**Day #4 Evaluate:** How can I help my students self-evaluate and reflect on the learning?

- Describe how the sun warms the Earth and what could happen if the sun was gone.

**Lesson Plan #1 Sun Warms the Earth: Design a Shelter Culminating Activity**  
**(2 Days 20-30 min each day) K-2-ETS1-1**

**Prep:**

- Have students in groups of 4 or less students
- Have building materials arrange so that students can choose the materials they want to use to build their shelter.(CCC Asking questions (for science) and defining problems (for engineering)
- Materials can include: clay, cloth, construction paper, cardstock, cardboard, small dowels, craft sticks, straws, pipe cleaners, tape, glue, etc.

**Engage:** How can I get students interested in this?

- Review with students what happened to the cup of ice that was in the shade/sun.
- What can happen if you stay in the sun all day? Would the same thing happen if you were in the shade all day?
- What do you do to stay cool when you go outside on a sunny day?
- Review the following picture:
- [Sunny Beach](#)
- Ask students to identify the people in the picture that might be hot and which people might be cooler? Why? (Shade from the umbrella keeps them cool.)
- Types of shelters:
- [Sun Shelter](#)
- [Shelters](#)
- Have students draw a picture of themselves in a shady spot. Have students include the title Shade and identify the sun and the cool spot in their picture.  
SL.K.5
- What problems happen if something is in the sun too long? How can you solve this problem?(CCC)

**Explore:** What tasks/questions can I offer to help students puzzle through this?

- How does shade help prevent some of those problems? Explain that they will build a structure to provide shade.SL.K.5( Refer to earlier pictures of shelters. **\*\*Provide groups with the opportunity to review their answers to the following questions with the teacher, parapro and/or class leader. Utilize this time to identify and address any misconceptions or struggles they might encounter.**
- Steps: 1. Plan: What will your structure look like? What part of your structure will provide the shade? What do you need to build it? How will your structure stand up? How will you know if it works?
- 2. Build your structure with your chosen Materials.
- 3. Test your structure by placing it in a sunny area for 1hr. with a cup of ice in the shade and one outside the shelter.
- 4. Record your results

**Explain:** How can I help students make sense of their observations?

- Did you have a problem with your shelter? How can you change it so it works better?
- 5. Make necessary revisions to your structure.
- 6. Share results with the class.

**Extend/Elaborate:** How can my students apply their new knowledge to other situations?

- Have student make changes based on class feedback.
- How can you use shade to keep cool?

- What materials would not be good for making this kind of structure?

**Evaluate:** How can I help my students self-evaluate and reflect on the learning?

Rubric:

- 4 - Student demonstrates full understanding without prompting and support
- 3 - Student demonstrates some understanding but needs some prompting
- 2 - Student demonstrates basic understanding but requires prompting and support.
- 1 - Student demonstrates a limited understanding

**Rubric:  
Scale**

Student made plans for designing a structure by drawing ideas and listing materials needed.	<b>4</b>	<b>3</b>	
Student built a structure using the plans and tested the structure.	<b>4</b>	<b>3</b>	
Student identified if their structure successfully solved the problem.	<b>4</b>	<b>3</b>	
Student shared his/her final design reporting their observations and conclusion	<b>4</b>	<b>3</b>	

**Total: \_\_\_\_\_ /16**

**Aligned Lesson #2: Weather:**

<b>Lesson Plan: Weather Weather Lesson Plan #2</b>	<b>Lesson Length: 4- (30-45 min.) sessions</b>
<b>Grade Level:</b> Kindergarten	<b>Related Unit: Weather</b>
<b>Enduring Understandings</b>	<b>Essential Questions</b>
<ul style="list-style-type: none"> <li>• Patterns are used to make predictions about weather.</li> <li>• Sunlight warms Earth’s surfaces.</li> <li>• Weather is a combination of sunlight and various precipitation e.g., snow, rain (location dependent).</li> <li>• Asking questions about observations helps us find answers to design investigations.</li> </ul>	<ul style="list-style-type: none"> <li>• How are changes in weather patterns observed over the course of the year?</li> <li>• How does weather affect our daily lives?</li> <li>• What tools can you use to collect data about the weather?</li> <li>• What is weather?</li> <li>• What happens when it snows, rains, or is windy?</li> </ul>

<ul style="list-style-type: none"> <li>• Data may be used for weather predictions.</li> <li>• Differences in sunlight are noticed in seasonal changes.</li> <li>• Weather affects our daily lives..</li> </ul>	
<b>Transfer Goals/Crosscutting Concepts</b>	
<p><b>Patterns:</b></p> <ul style="list-style-type: none"> <li>• Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1) Cause and Effect Events have causes that generate observable patterns. (K-PS3-1),(K-PS3- 2),(K-ESS3-2)</li> <li>• Connections to Engineering, Technology, and Applications of Science Interdependence of Science, Engineering, and Technology People encounter questions about the natural world every day. (K-ESS3-2) Influence of Engineering, Technology, and Science on Society and the Natural World People depend on various technologies in their lives; human life would be very different without technology. (K-ESS3- 2)Patterns of the natural world can be observed.</li> <li>• Asking questions (for science) and defining problems (for engineering)</li> <li>• Analyzing and interpreting data</li> </ul>	
<b>Learning Objectives</b>	
<ul style="list-style-type: none"> <li>• Obtain information from text about sunlight, weather, and storms.</li> <li>• Explain verbally or in writing the purpose of weather forecasting.</li> <li>• Record observations about sunlight and weather.</li> <li>• Ask questions about weather and the different types of storms.</li> <li>• Use data to describe the seasons and weather conditions.</li> </ul>	
<b>Library of Congress: Primary Sources</b>	<b>Materials/Supplies/Resources</b>
<ul style="list-style-type: none"> <li>• <a href="#"><u>Children's Book with Seasonal Illustrations</u></a></li> <li>• <a href="#"><u>Anemometer</u></a></li> <li>• <a href="#"><u>U.S. WEATHER BUREAU. INSTRUMENTS</u></a></li> <li>• <a href="#"><u>Early Barometer</u></a></li> <li>• <a href="#"><u>Spring Cherry Blossoms</u></a></li> <li>• <a href="#"><u>Winter Scene</u></a></li> <li>• <a href="#"><u>Summer at the Beach</u></a></li> <li>• <a href="#"><u>Fall Tree</u></a></li> <li>• <a href="#"><u>Summer Garden</u></a></li> <li>• <a href="#"><u>Summer</u></a></li> <li>• <a href="#"><u>Fall Trees</u></a></li> <li>• <a href="#"><u>Weather Mysteries: Hot in Summer / Cold in Winter?</u></a></li> </ul>	<ul style="list-style-type: none"> <li>• Check the Weather by Nancy Roser</li> <li>• Weather Words by Gail Gibbons</li> <li>• What is Severe Weather by Jenniger Boothroyd</li> <li>• Weather Words by Gail Gibbons</li> <li>• Tornados by Seymour Simon</li> <li>• Weather by Seymour Simon</li> <li>• Storms by Seymour Simon</li> <li>• Hurricanes by Seymour Simon</li> <li>• <i>DK Eyewitness Weather</i> by Brian Cosgrove</li> <li>• Tornado Alert by Franklyn Branley illustrated by Giulio Maestro</li> <li>• Thunder-Boomer by Shutta Crum illustrated by Carol Thompson</li> <li>• Navigate <a href="http://weather.weatherbug.com/"><u>http://weather.weatherbug.com/</u></a> Website to collect data</li> </ul>

- [https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher\\_guide.pdf](https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher_guide.pdf)
- [https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher\\_guide.pdf](https://www.loc.gov/teachers/classroommaterials/primarysourcesets/weather-forecasting/pdf/teacher_guide.pdf)
- Weather data sheets (attached)
- Chart paper
- Thermometer
- Rain gauge
- Ruler
- Weather Vane
- Markers
- US map
- Weather images
- Internet access

## Lesson Plan#2: Weather

### Day #1 Engage: How can I get students interested in this?

- Have images of the primary sources displayed, Weather books displayed, and weather tools laid out on a table.
- Engage students by giving them time to explore the books and items on display.
- Discuss what they noticed about the books and items
- Refer to :
- Primary Source(s) that can be used to observe and make connections:
  - [Children's Book with Seasonal Illustrations](#)
  - [Anemometer](#)
  - [U.S. WEATHER BUREAU. INSTRUMENTS](#)
  - [Early Barometer](#)
  - [Spring Cherry Blossoms](#)
  - [Winter Scene](#)
  - [Summer at the Beach](#)
- Describe and discuss today's weather. Use weather journals to record daily weather conditions.
- Approximately . 30 min.

### Day #2 Explore: What tasks/questions can I offer to help students puzzle through this?

- Explain that we will be discussing weather: Make a list of words the students know about weather.
- Record students' answers to the following question for these pictures: What words would you use to describe the weather in the picture?
- [Sunny Day](#)
- [Rainy Day](#)
- [Snowy Mountain](#)

- [Sunny Beach](#)
- Read a weather story from the suggested list. Ask students to listen carefully to learn what weather is.
- Approx. 30 minutes

**Day #3 Explain:**

- What is weather?
- What is the weather like today? Is it the same or different from yesterday's weather?
- View the following pictures:
  - [Spring Cherry Blossoms](#)
  - [Winter Scene](#)
  - [Summer at the Beach](#)
  - [Fall Tree](#)
- The pictures show cold, snowy weather in inter and sunny weather in summer. Some of the pictures show spring blossoms and changing leaves in fall.
- What is the weather like in our area during winter, spring, summer and fall? Do you notice any patterns in the weather during different seasons? (ex. snow/cold in winter) (CCC Patterns)
- The weather in different areas can be different from our area? What do you like about the weather today?
- Describe temperature and identify warm and cold weather?K.MD.
- Ask students to describe the temperature outside today?
- Review pictures again and identify what the students think the temperature is in each picture.
- [Weather Mysteries: Hot in Summer / Cold in Winter?](#)
- Approx. 30 min.

**Day #4 Elaborate:**

- Make weather books with students: Give students 5 - ¼ sheets of paper, stapled to resemble a book. Title the book: My Weather Book, label each page of the book with a type of weather and draw a picture of that type of weather on each page.
- Display a map of the country and identify where you live. Identify other regions in the country that have different weather patterns/seasons than where you live.
- Watch: [What Causes the Seasons?](#) How has technology helped us find out about weather and seasons? (CCC: Technology)

**Day #4 Evaluate:**

- Write/ describe what weather is.
- Complete the Weather Assessment (Attached)

## Lesson Plan #3: Weather Patterns/ Seasons

**Approx. 4 Days** (30 - 40 min. each day) Items can be presented in large or small groups and can be printed from this document.

**Day #1 Engage:** How can I get students interested in this?

- Review data from weather journals from the last 2 weeks. Have students continue to record the weather in their weather journals. MP.4 CCSS MA K.CC.1
- **Navigate** <http://weather.weatherbug.com/> **Website to collect data**
- What other weather patterns have you noticed? (snow during winter, hot during summer)

**Day #2 Explore:** What tasks/questions can I offer to help students puzzle through this?

- What weather does this picture show? [Sunny Day](#)
- How do you know?
- What weather does this picture show? [Rainy Day](#)
- How do you know?
- Read one of the suggested weather books that describes weather patterns and discuss with students.
- Approx. 30 min.

**Day #3 Explain:**

- Identify weather patterns over time.(CCC Patterns)
- Discuss key details about weather patterns introduced in the story.
- Identify a time when you noticed the weather changed from one day to the next.
- Was the weather this morning different from the afternoon?

**Day #4 Elaborate:**

- Work with students to identify the weather patterns over the past few days/weeks?
- What can they determine from reviewing these patterns? (season, temperature, etc.)
- What weather patterns do you think you will notice during the summer?
- What weather patterns do you think you will notice during the winter?

**Day #4 Evaluate:**

- Give students a piece of paper folded in half. Ask students to draw and label a picture of a sunny day on one side and a rainy day on the other side. Ask students to compare and contrast the two pictures.
- Teacher will review weather journals and provide feedback.
- Approx. 30 min.

Rubric:

- 4 - Student demonstrates full understanding without prompting and support
- 3 - Student demonstrates some understanding but needs some prompting
- 2 - Student demonstrates basic understanding but requires prompting and support.
- 1 - Student demonstrates a limited understanding

**Rubric:**

**Scale**

Student follow directions and drew a picture of a sunny and rainy day.	4	3	2	1
Student labeled and/or described the weather in each picture correctly.	4	3	2	1
Student is able to make comparisons and contrasts between the two pictures.	4	3	2	1
Student demonstrates an understanding of different weather patterns based on observations, journals and discussions.	4	3	2	1

**Total: \_\_\_\_\_/16**

# Weather Journal: Circle the picture in each section that represents the weather.

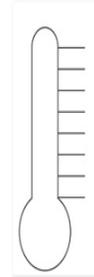
Name: \_\_\_\_\_

	Day #1	Day #2	Day #3	Day #4	Day #5	Day #6	Day #7
Sunny							
Partly Cloudy							
Cloudy							
Hot							
Mild							
Cold							
Rain							
Snow							
Dry							

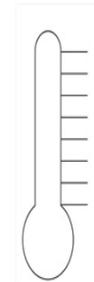
**Name:** \_\_\_\_\_

Directions: Cut out and sort pictures by season and color thermometers to match the temperature to the season.

**Winter:**



**Spring:**



**Summer:**



**Fall:**





beach



flower



sun



snowflakes



Christmas tree



ice cream



easter egg



snowman



pumpkin



leaves



## References:

Citations are generated automatically from bibliographic data as a convenience, and may not be complete or accurate

Sun Shelter -

### APA citation style:

American Colony . Photo Dept, photographer. Jericho & Jordan area. Wady Faraa, Watchman's sun shelter. West Bank, None. [Between 1934 and 1939] [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/mpc2010003313/PP/>.

Shelters -

### APA citation style:

Historic American Buildings Survey, C. (1933) Iditarod Trail Shelter Cabins, Rhon River Shelter Cabin, Nikolai, Yukon-Koyukuk Census Area, AK. Alaska Koyukuk Census Area Nikolai Yukon, 1933. Documentation Compiled After. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/ak0015/>.

Sunny Day

### APA citation style:

Highsmith, C. M., photographer. (2008) Abraham Lincoln's summer cottage, Washington, D.C. District of Columbia United States Washington D.C. Washington D.C, 2008. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2010630290/>.

Rainy Day

### APA citation style:

Vachon, J., photographer. (1943) New York, New York. Times Square on a rainy day. New York New York State New York. United States, 1943. Mar. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2017848103/>.

Anemometer

### APA citation style:

(1722) Anemometer. , 1722. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2002699943/>

## Weather Bureau Instruments

### APA citation style:

Harris & Ewing, photographer. U.S. WEATHER BUREAU. INSTRUMENTS. , None. [Between 1905 and 1945] [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2016861779/>.

## Approaching Storm:

### APA citation style:

Siegel, A. S., photographer. (1942) Interlochen, Michigan. National music camp where 300 or more young musicians study symphonic music for eight weeks each summer. Cloud front of approaching storm from Lake Michigan. Grand Traverse County Interlochen Interlochen. Michigan United States, 1942. Aug.?. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2017835252/>.

## Children's Seasonal Book:

### APA citation style:

Frederick Warne, P. The Children's object book. [London ; New York: F. Warne & Co., 188-?] [Pdf] Retrieved from the Library of Congress, <https://www.loc.gov/item/42048867/>.

## Abandoned Farm

### APA citation style:

Rothstein, A., photographer. (1936) Abandoned farm in the dust bowl area. Oklahoma. Oklahoma Oklahoma. United States, 1936. Apr. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2017760348/>.

## Snow Gauge:

### APA citation style:

U.S. Weather Bureau. Snow gauge. , None. [Between 1909 and 1920] [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2016821644/>.

## Weather Balloon:

### APA citation style:

Harris & Ewing, photographer. (1936) Men with weather balloon on roof of U.S. Weather Bureau building, Washington, D.C. District of Columbia United States Washington D.C. Washington D.C., 1936. [or 1937] [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2016887874/>

## Early Barometer:

**APA citation style:**

(1715) Diagram of an Early Barometer or Measuring Device. , 1715. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2002699941/>.

**Fall Day:**

**APA citation style:**

Highsmith, C. M., photographer. (2011) Fall trees in Connecticut. Connecticut United States, 2011. October. [Photograph] Retrieved from the Library of Congress, <https://www.loc.gov/item/2012631687/>.