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# What's the Weather? [1st grade]

Lisa Hoveland  
*Trinity University*

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# UNDERSTANDING BY DESIGN

## Unit Cover Page

Unit Title: What's the Weather?

Grade Level: First Grade

Subject/Topic Area(s): Science/ Weather and Seasons

Designed By: Lisa Hoveland

Time Frame: Eleven days

School District: Eanes ISD

School: Valley View Elementary

School Address and Phone: 1201 Loop 360- Austin, TX 78746

### **Brief Summary of Unit**

Students will engage in a twelve day unit delving in different facets of weather and the seasons. Lessons give students the chance to explore the differences between hot or cold, clear or cloudy, rainy or icy, and calm or windy. Students will learn to observe and record changes in the sky during the day and at night. They also learn how to interpret a thermometer. Students also have the chance to learn about the seasons, realizing that there is a difference between the seasons in Texas and the seasons in New England. At the end of the unit, students have to opportunity to synthesize their learning by pretending to go on a trip where they need to predict to the weather and appropriately prepare for the vacation.

# UbD Template 2.0

Lisa Hoveland

## First Grade Science: Weather and Seasons

Stage 1 – Desired Results			
<p>Established Goals (e.g., standards) Science 1.2: Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations.</p> <p>A) Ask questions about organisms, objects, and events in the natural world.</p> <p>D) Record and organize data using pictures, numbers, and words.</p>	<b>Transfer</b>		
	<p><i>Students will independently use their learning to...</i> Students will use their learning to identify characteristics of weather. They will be able describe the current weather, observe objects in the sky and identify characteristics of the seasons.</p>		
	<b>Meaning</b>		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"> <p><b>Understandings</b> <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Weather follows patterns that we can prepare for.</li> <li>• Changes in weather affect us and our environment.</li> <li>• Seasons help us predict the weather.</li> </ul> </td> <td style="width: 50%;"> <p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>• How can we prepare for different types of weather?</li> <li>• How does weather affect us and our environment?</li> <li>• How do seasons help us predict the weather?</li> </ul> </td> </tr> </table>	<p><b>Understandings</b> <i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Weather follows patterns that we can prepare for.</li> <li>• Changes in weather affect us and our environment.</li> <li>• Seasons help us predict the weather.</li> </ul>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>• How can we prepare for different types of weather?</li> <li>• How does weather affect us and our environment?</li> <li>• How do seasons help us predict the weather?</li> </ul>
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	<b>Acquisition</b>		
<p>Science 1.8: Earth and space. The student knows that the natural world includes the air around us and objects in the sky.</p> <p>A) Record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy</p> <p>B) Observe and record changes in the appearance of objects in the sky such as clouds, the Moon,</p>	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"> <p><b>Knowledge</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• Seasons happen in a predictable pattern.</li> <li>• The names of time period of the seasons</li> <li>• The day sky looks different from the night sky.</li> <li>• We can use different vocabulary to describe and predict the weather.                             <ul style="list-style-type: none"> <li>○ Hot, cold, clear, cloudy, calm, windy, rainy, icy</li> </ul> </li> <li>• The moon changes shape over time.</li> </ul> </td> <td style="width: 50%;"> <p><b>Skills</b> Students will be able to...</p> <ul style="list-style-type: none"> <li>• Ask questions and record and organize data about the natural world</li> <li>• Observe and record information about weather using relative terms</li> <li>• Observe and record changes of objects in the sky</li> <li>• Identify the different seasons and characteristics of each</li> </ul> </td> </tr> </table>	<p><b>Knowledge</b> <i>Students will know...</i></p> <ul style="list-style-type: none"> <li>• Seasons happen in a predictable pattern.</li> <li>• The names of time period of the seasons</li> <li>• The day sky looks different from the night sky.</li> <li>• We can use different vocabulary to describe and predict the weather.                             <ul style="list-style-type: none"> <li>○ Hot, cold, clear, cloudy, calm, windy, rainy, icy</li> </ul> </li> <li>• The moon changes shape over time.</li> </ul>	<p><b>Skills</b> Students will be able to...</p> <ul style="list-style-type: none"> <li>• Ask questions and record and organize data about the natural world</li> <li>• Observe and record information about weather using relative terms</li> <li>• Observe and record changes of objects in the sky</li> <li>• Identify the different seasons and characteristics of each</li> </ul>
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and stars, including the sun. C) Identify characteristics of the seasons of the year and day and night.		
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**Stage 2 – Evidence**

CODE (M or T)	Evaluative Criteria (for rubric)	
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T		<p>Performance Task(s)  <i>Students will demonstrate meaning-making and transfer by...</i>  <b>G:</b> Students will demonstrate their understanding by predicting the types of weather they will encounter on different trips.  <b>R:</b> The student is responsible for thinking about the weather on the trip and planning accordingly.  <b>A:</b> Your mother  <b>S:</b> Your family is taking two different trips this year. One trip is in December to Alaska. Your mother is very busy and wants you to pack your suitcase. You need to think about the type of weather you will encounter. What season is it in December? What clothes do you need to pack? What will the thermometer look like? What will the sky look like during the day and at night? Will you find any snow or ice?          When school finishes your mom announces to your family that you are taking a trip to the beach in June! She needs to you to pack your suitcase. What season is it in June? What clothes do you need to pack to go to the beach? What will the thermometer look like? What will the sky look like during the day and at night? What do you see in the sky? Did you find any snow or ice? How would the trip to the beach be different than the trip to Alaska?  <b>P:</b> Students will complete the Performance task packet, which involves drawing pictures and writing to demonstrate their knowledge of the weather.  <b>S:</b></p>
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	Approaching	Meeting	Exceeding
Knowledge of Seasons	Knows the names of seasons, but doesn't know when they occur; didn't wear the appropriate clothes	Knows the names of seasons and when they occur; dressed in some appropriate clothes, made a few mistakes	Knows names of seasons, when they occur; can accurately draw a picture depicting the season; wore appropriate clothes, demonstrating

					knowledge of season
	Knowledge of thermometer	Cannot color appropriate temperature	Can color appropriate temperature, can't articulate what it means	Can color appropriate temperature, can articulate what it means	
	Knowledge of day and night	Unsure of differences between day and night sky	Understands the difference between day and night. Depicts the sun and moon appropriately.	Understands difference between day and night. Depicts sun, moon, and stars appropriately.	

A, M, T

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 Other Evidence (e.g., formative)  
 Students will complete a weather booklet, recording the weather each day. They will also complete a night weather booklet, where they observe the night sky.  
 Students will complete worksheets to go with activities as well as journal entries to demonstrate knowledge of a skill.  
 Students will engage in class discussions  
 Ticket out the door: How can you describe the weather today, What the difference is between hot and cold, what a thermometer tells us, etc.

**Stage 3 – Learning Plan**

<b>CODE</b> (A, M, T)	Pre-Assessment <i>How will you check students' prior knowledge, skill levels, and potential misconceptions?</i>
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A	<p><b>Learning Activities</b>  <b>Day One: Hook</b>          Bring a bag of clothes with a variety of different items (coat, swim suit, scarf, etc.) and have students come to the carpet. Put on different items and say that you are prepared for the wrong type of weather. (Put on a heavy coat and say that you are going to the beach.) Let students disagree with you and talk about how they know that the clothing is wrong. After a few minutes of discussion, send students to desks for the pre-assessment.  <b>Pre-assessment:</b> Have students draw a picture of what each season looks like.          After students finish the pre-assessment, create a Know/Want to know/Learned chart with students. Students brainstorm ideas of what they know about the weather and the sky. They</p>	<p>Progress Monitoring (e.g., formative data)  Pre-assessment</p>
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<p>A, M</p>	<p>also come up with questions they have about the weather and the sky.</p> <p><b>Day Two:</b> Have conversation about weather terms. Discuss the differences between hot or cold, clear or cloudy, calm or windy, rainy or icy. Discuss what the weather looks like today. Make vocabulary cards. Students will draw a picture of each of these terms and write a sentence to accompany their picture.</p>	<p>Vocabulary cards</p>
<p>A, M</p>	<p><b>Day Three:</b> Review vocabulary cards from yesterday. Begin making class graph of the weather, using vocabulary from the cards. Introduce student copies of What Does the Sky Look Like and take students outside so they can look at the sky, feel the temperature. They then need to draw a picture of the sky and write a sentence describing what they are seeing and noticing about the weather. Read <u>Little Cloud and Lady Wind</u>.</p>	<p>Ticket out the door: How would you describe the sky today?</p>
<p>A, M</p>	<p><b>Day Four:</b> Discuss what the weather looks like today. Fill out class graph. Have students fill out their booklet, drawing a picture of the sky. Then talk about the differences between what the sky looks like during the day and at night. What do we see at night that we can't see during the day? What can we see all the time? Look up picture of the sky the night before (or bring in your own). Begin making a graph of the night sky. Observe the changes in the shape of the moon. Have students write in their journals about the differences between the day sky and the night sky.</p>	<p>Journal Entry: difference between day and night sky</p>
<p>A, M</p>	<p><b>Day Five:</b> Discuss the weather, fill out class graph, and have students fill out their booklets. Look up pictures of last night's sky and talk about any changes and fill out night graph. Read <u>Flora's Very Windy Day</u>. Discuss the wind. What is wind? How does it feel when it's windy outside? Talk about what the wind does. Give students a straw and a cotton ball. Have them blow gently through the straw, observing what the cotton ball does. Then have the students blow hard. What was the difference? Have students write in their journals about what they noticed.</p>	<p>Journal Entry: What did they notice about the difference between blowing gently and blowing hard</p>
<p>M, T</p>	<p><b>Day Six:</b> Discuss the weather, fill out class graph, night graph and have kids fill out their booklets. Have students make a wind sock out of construction paper and streamers. Take wind socks outside and observe their movement with the wind. Talk about what is making them move or why they are possibly not moving. How is this similar to making the cotton balls move? Keep one of the wind socks outside a window so you can observe it throughout the rest of the unit. If that is not possible, attach a wind sock near the air conditioning vent inside the classroom and watch how it moves</p>	<p>Journal Entry: What did the wind sock do? What made it move? How is this similar to making the cotton balls move?</p>

A, M	<p>when the air comes on. Have students write in their journals about what they noticed.</p> <p><b>Day Seven:</b>  Discuss the weather, fill out class graph, night graph, and weather booklets. Be sure to be drawing attention to the fact that the moon is changing.  Show them a thermometer. Ask if anyone knows what the instrument does and what it tells us. Break students into groups and give each group a thermometer. Give the groups a cup of hot, cold, and room temperature water. Let them experiment with the thermometer. Bring class back together and discuss what we noticed. Did the thermometer change? What made it go up? When was it the lowest? After discussion, have students fill out the thermometer worksheet.  Explain how to read the thermometer and how it helps us know what to wear. Play the game, Dress the Bear:  <a href="http://www.fossweb.com/modulesK-2/AirandWeather/activities/whatstheweather.html">http://www.fossweb.com/modulesK-2/AirandWeather/activities/whatstheweather.html</a></p>	<p>Worksheet: Thermometers</p> <p>Ticket out the door: What does a thermometer tell us?</p>
A	<p><b>Day Eight:</b>  Discuss the weather, fill out class graph, night graph and weather booklets.  Begin discussing seasons. Create a chart that allows students to volunteer information that they know about the seasons.  Begin discussing the seasons. What are some signs of each season? How do we know when it's summer? What happens every winter? What would a thermometer look like during each season? Briefly go over why we have the seasons.  Read <u>The Reason for the Seasons</u>.</p>	<p>Discussion: Prior knowledge of seasons</p>
M, T	<p><b>Day Nine:</b>  Discuss the weather, fill out class graph, night graph, and weather booklets.  Review your discussion about the seasons. Have discussion comparing the seasons of Austin to seasons in Boston (or somewhere with defined seasons). Talk about how the seasons in Texas are much less defined and how we rarely have snow during the winter.  Tell students that they are going to draw a picture of one thing during all four seasons, showing the differences between each season.</p>	<p>Product: drawing one thing during all four seasons</p>
T	<p><b>Days Ten and Eleven:</b>  Begin performance task. Set up two different stations (or several of each). One station will resemble Alaska and one will resemble the beach. Have pictures of each, maybe some Christmas snow, sand, anything that can convey the type of environment that the students are pretending to be in. Students will complete the packet, filling out the information as if they are taking these two different trips. Bring in a variety of clothes. Have students dress themselves like they might want to if they</p>	<p>Performance task</p>

T	<p>were actually traveling to these places. Take a picture of each child for grading purposes. Or have children draw and write about the type of clothes they would need to pack. Use rubric to assess student learning and use the following days to reteach anything necessary.</p> <p><b>Day Twelve:</b> Give post-assessment. Fill out the Learned portion of the KWL chart.</p>	
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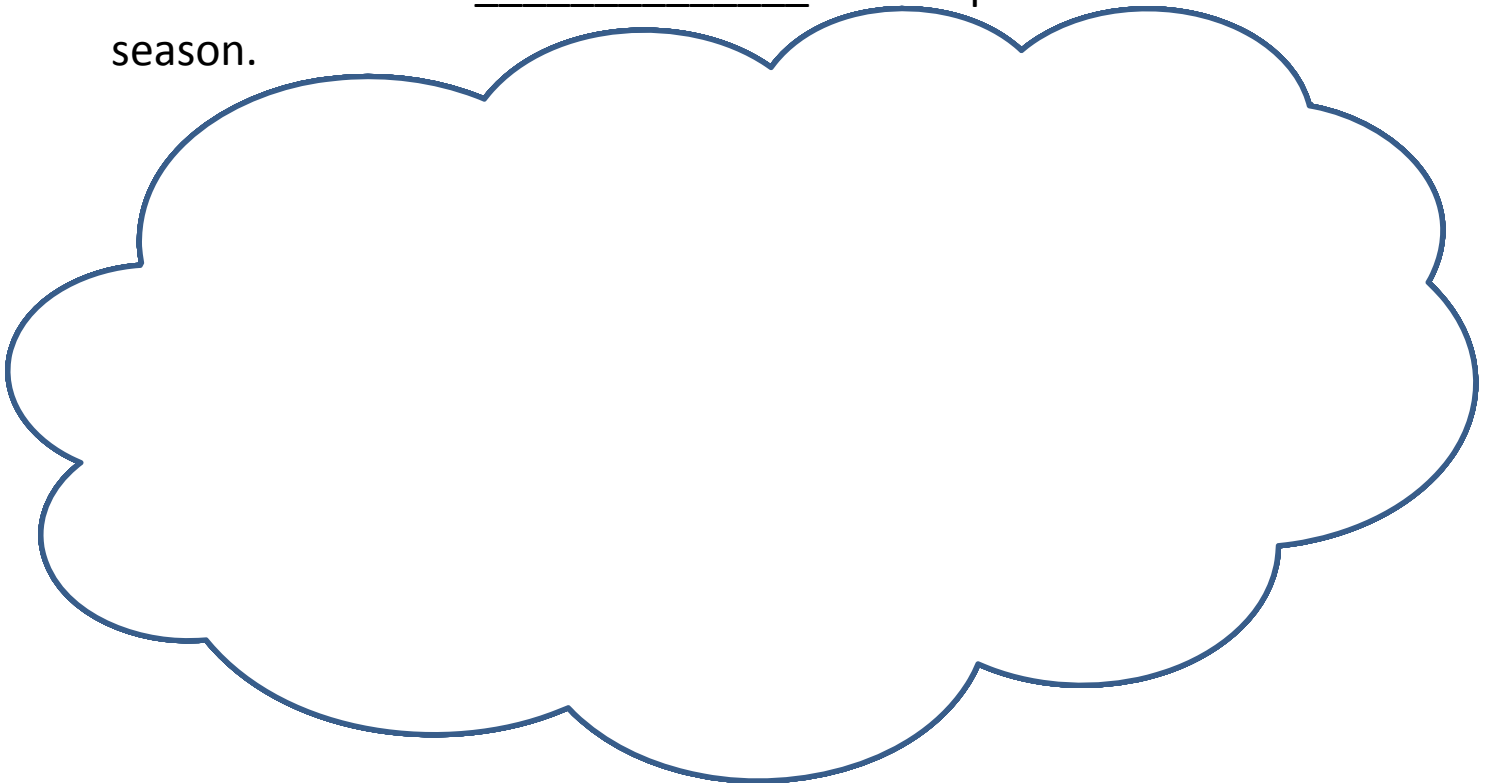


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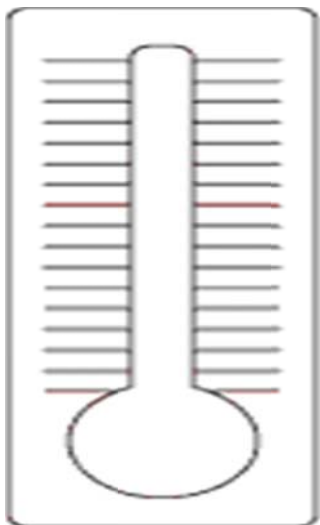
Let's take a trip!

Your family is taking a trip in December to Alaska!

What season is it? \_\_\_\_\_ Draw a picture of the season.



What would the thermometer look like if it were outside?



What is the thermometer telling us? How does the air feel outside? Will you find snow or ice?

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Your mother wants you pack your suitcase. Go to the clothes station and pack some items that would need to bring to Alaska.

How would those clothes help you in Alaska?

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Draw a picture of what the sky might look like during the day and during the night.

Day	Night
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What is one similarity and one difference about the day and night sky?

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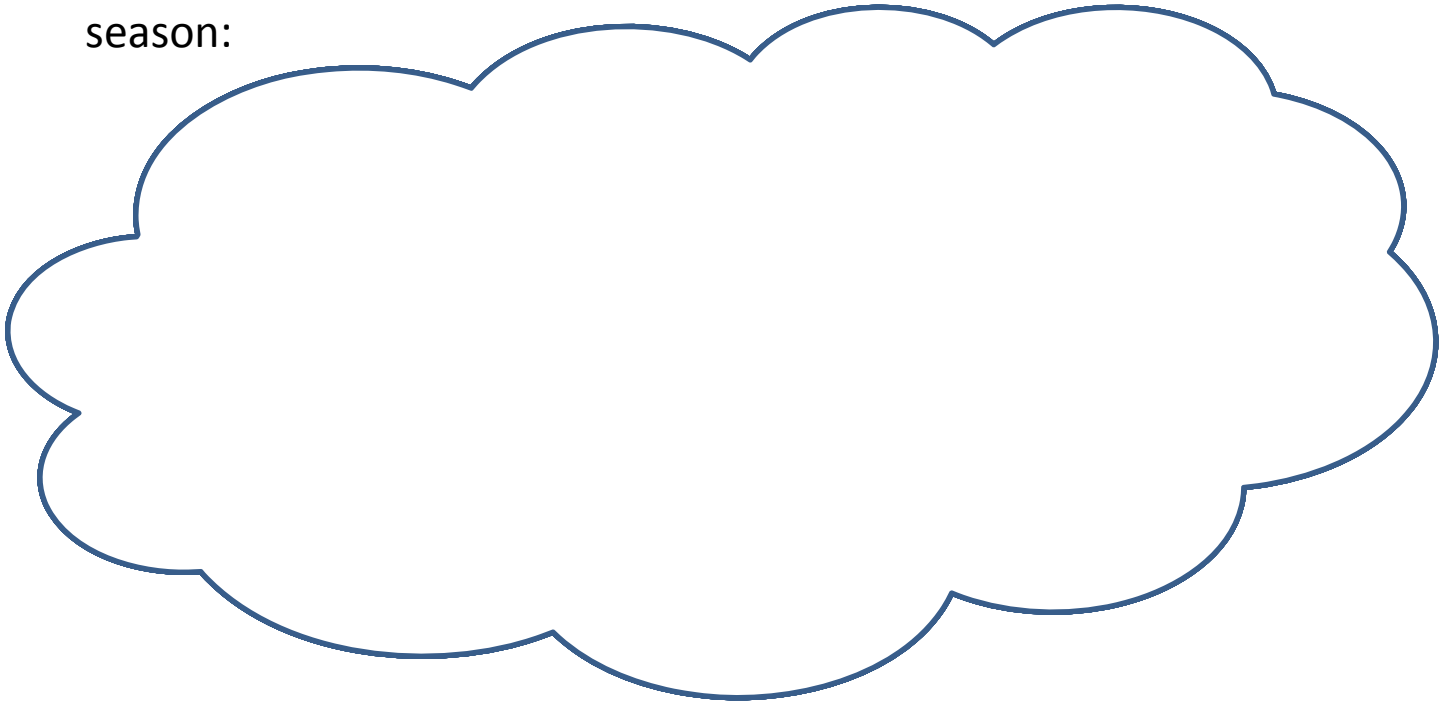
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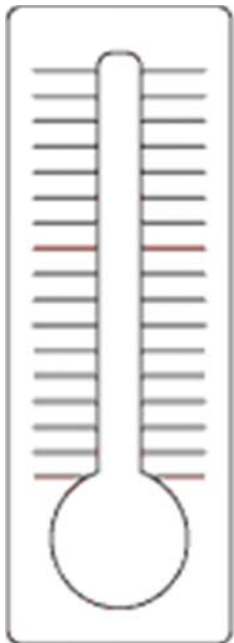
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School has ended for the year, and your mom announces that your family is going to the beach in June!

What season is it? \_\_\_\_\_ Draw a picture of the season:



What would the thermometer look like if it were outside?



What is the thermometer telling us? How will the air feel outside? Will you find snow or ice?

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Your mother wants you to pack your suitcase. Go to the clothes station and dress yourself for the beach.

How would those clothes help you on the beach?

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How were your trips to Alaska and the beach different? Did you pack different items? Why or why not?

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What would have happened if you packed the wrong clothes?

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