

**ED 101 Educational Technology Lab – Fall 2012  
Boston University – School of Education**

## LESSON PLAN

<b>Grade(s)</b>	4
<b>Content Area(s)</b>	Science
<b>Topic of Lesson</b>	Weather vs. Climate
<b>Three Objectives</b>	<p>1) When provided with names of four weather tools, students will be able to orally explain the property of weather that they measure (for example, “A thermometer measures temperature.”)</p> <p>2) When given a climograph to study, students will be able to write three sentences about the information presented on the climograph indicating the information it provides about weather/climate.</p> <p>3) Using weather reports and climographs, students will be able to orally differentiate between weather and climate in terms of time and space.</p>
<b>Technology standard</b>	<p>Grades 3-5</p> <p>Standard 3. Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity, and innovation.</p> <ul style="list-style-type: none"> <li>➤ Research</li> </ul> <p>Standard 3.5 Use content-specific technology tools (e.g., environmental probes, sensors, measuring devices, simulations) to gather and analyze data</p>
<b>Curriculum Framework</b>	<ul style="list-style-type: none"> <li>➤ Massachusetts Science and Engineering Standards</li> <li>➤ Earth and Space Science, Grades Pre-3-5</li> <li>➤ Concepts and Skills</li> </ul> <p>6. Explain how temperature, moisture, wind, and precipitation make up the weather in a particular place and time</p> <p>9. Differentiate between weather and climate.</p>
<b>Materials needed</b>	<p>One computer and an LCD projector</p> <p>Internet access</p> <p>An ActivBoard/ SmartBoard</p> <p>Packet (See attached)</p> <p>Five sets A,B,C,D cards for the groups</p> <p>Colored Pencils</p> <p>Whiteboard and Expo Markers</p>

<p><b>Lesson Introduction</b></p> <p><b>(5 minutes)</b></p>	<p>The first 5 minutes of the lesson should have an introduction activity to engage students in recalling information they have already learned.</p> <p>Since they already have basic knowledge of weather concepts, the water cycle, weather tools, and climate zones, these five minutes will be used in order to engage the students by writing down their ideas on the whiteboard in the form of a K W L (Know, What to Know, Learned) chart.</p> <p>By recalling such knowledge, the students will be able to connect the concepts they know with the ones they learn today. These connections allow for an increased depth in understanding the material</p>
<p><b>Lesson Procedure, Web Site Use, and Technology Standard Instruction</b></p> <p><b>(30 minutes)</b></p>	<ol style="list-style-type: none"> <li>1) Open the website and go over the material on the first page, having volunteers read the objectives of the lesson. Since the students will be aware of what they are supposed to be learning, they will want to pay attention so that they will be able to answer all three questions.</li> <li>2) Move onto the next page, which is What is Weather?       <ol style="list-style-type: none"> <li>(2a) Read the definition of weather and allow the students to write it down on their guided worksheet.</li> <li>(2b) Go over the table “How does weather occur?” and the answer to “Where does weather occur?”</li> <li>(2c) Click on external link (weather.com)           <ul style="list-style-type: none"> <li>- Give students time to fill out table on worksheet</li> <li>-Meets technology standard- students are using real-world data in order to draw conclusions and enhance learning</li> </ul> </li> </ol> </li> <li>3) “How do we measure weather?”       <ol style="list-style-type: none"> <li>(3a) Go over introductory material</li> <li>(3b) Have the students write down materials listed on site</li> <li>(3c) Ask if students have ever used/ made these materials</li> </ol> </li> <li>4) “What is climate?”       <ol style="list-style-type: none"> <li>(4a) Read over introductory paragraph</li> <li>(4b) Give students time to write down definition on worksheet</li> <li>(4c) Read “An Area’s Climate Depends on 3 Things”, making sure to emphasize the vocab terms.</li> <li>(4d) The Video           <ul style="list-style-type: none"> <li>- Before showing the video, ask the prompting question and make sure to tell the students to answer the question on the worksheet</li> </ul> </li> </ol> </li> <li>5) “How do we measure climate?”       <ol style="list-style-type: none"> <li>(5a) Read through the material, paying particular attention to the climograph</li> </ol> </li> <li>6) “Comparing Weather and Climate”       <ol style="list-style-type: none"> <li>(6a) Read through the material.</li> <li>(6b) Have the students listen to the Voki and write down their findings on the worksheet</li> </ol> </li> </ol>

	<p>7) Quiz</p> <ul style="list-style-type: none"> <li>(7a) Pass out A, B, C, D cards to groups of students (If students are not already placed in groups, take a moment to put them into small groups of 4-6.</li> <li>(7b) Have student volunteers read the questions aloud.</li> <li>(7c) Allow for the students to discuss answers in groups</li> <li>(7d) After giving them 20 seconds to discuss, have one person from the group hold up the card. Then, based on the majority, click on that answer and see how the students did</li> </ul> <p>8) Pull up the example of a climograph found on the “How do we measure climate?” page</p> <ul style="list-style-type: none"> <li>8a) Using the data on the back, ask the students to create their own climograph, selecting one color to represent temperature and another color to represent precipitation</li> </ul>
<p><b>Wrap-Up of Lesson</b></p> <p><b>(5 minutes)</b></p>	<p>In order to wrap-up the lesson, ask the students if they would like to share the “L” portion of their KWL charts. These answers will be put on the board.</p>
<p><b>How will students be assessed to make sure they are able to perform the objectives?</b></p>	<p>Objective 1: Students will be able to classify 4 weather tools by the weather property they measure.  Assessment 1: Students will be given a blank crossword puzzle with the functions of each tool as a clue. From there, the students will need to fill out the crossword puzzle</p> <p>Obejctive 2: Students will be able to demonstrate their ability to read and understand climographs  Assessment 2: The students will be given data and a blank climograph that they must fill out using the data.</p> <p>Objective 3: Students will be able to compare and contrast the difference between weather and climate in terms of time and space through the comparison of weather reports and climographs  Assesment 3: Using weather data and the climograph, students will be asked to write down the difference between weather and climate.</p>

Name \_\_\_\_\_ Date \_\_\_\_\_

## Weather vs. Climate packet

K (Know)	W (Want to Know)	L (Learned)

1) What is weather?

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2) Complete the table below with information from

High Temperature:	
Low Temperature:	
Wind Speed:	
Humidity:	
Chance of Rain:	

3) List the 4 weather tools mentioned on the website. Circle the tools you have used/ made.

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_

4) What is climate?

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5) While watching the video, name two different climates that were mentioned

- 1)\_\_\_\_\_ 2)\_\_\_\_\_

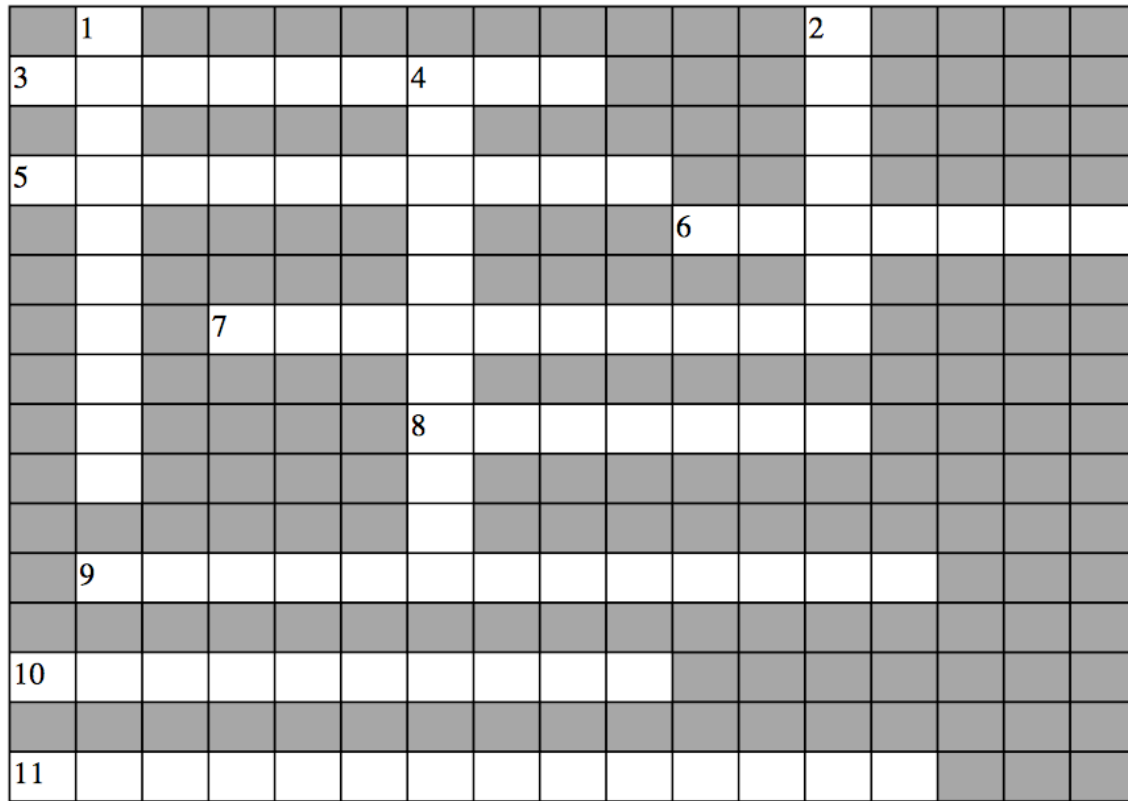
6) How long does it take the weather to change?

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How long does it take for a climate to change?

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# WEATHER VS. CLIMATE CROSSWORD PUZZLE



## ACROSS

3. A \_\_\_\_\_ is used to measure air pressure
5. An \_\_\_\_\_ is used to measure wind speed
6. the specific day-to-day conditions of the atmosphere at a particular place and time
7. a thin layer of mixed gases that covers the earth which make up the air we breathe.
8. an imaginary line around the middle of the Earth
9. scientists who specialize in forecasting, or predicting, weather
10. A graph of climatic data through an annual cycle that displays climatic elements such as temperature and precipitation.
11. scientists who study how climates are created and what they do to the environment

## DOWN

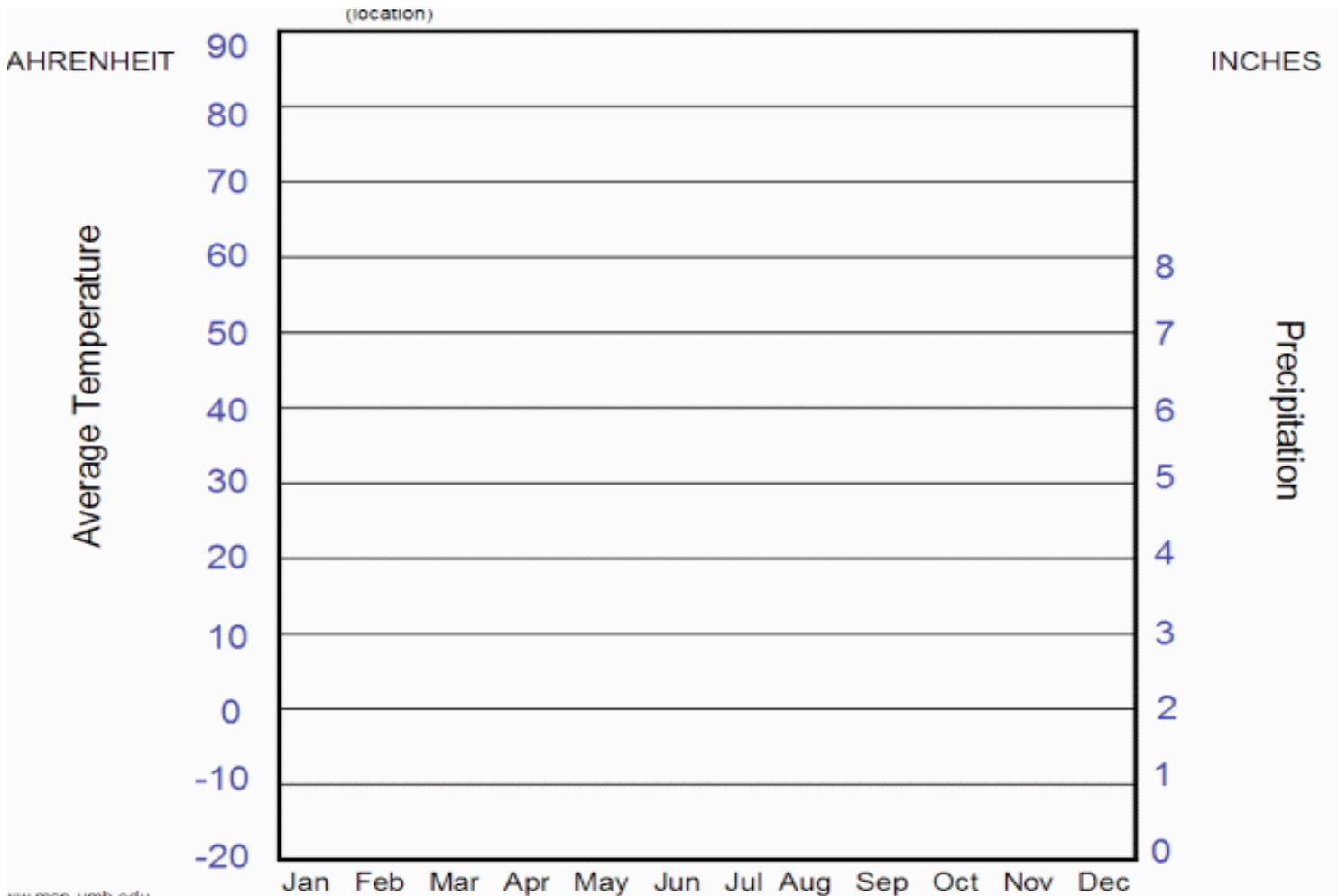
1. A \_\_\_\_ \_\_\_\_ is used to measure the amount of accumulated precipitation (Hint: Write as 1 word)
2. average weather patterns taken over a long period of time.
4. A \_\_\_\_\_ is used to measure temperature

# CREATE YOUR OWN CLIMOGRAPH

Month	Precip. (inches)
J	4
F	4
M	4
A	5
J	4
J	3
A	3
S	3.5
O	4.5
N	3.5
D	4

Month	Temp. (F)
J	30
F	35
M	40
A	50
J	65
J	75
A	80
S	70
O	55
N	50
D	30

*Directions: Answer this Open*



*Response question in complete sentences.*

*You may use facts from the information on the website, data from today's weather and the data on the climograph to help you.*

**What is the difference between weather and climate?**

**Make sure that you use COMPLETE sentences and you SHOW YOUR THINKING!**

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