WEATHER

Kristen Smith-Leonard
Master Teacher: Linda Bogardus
1st Grade
Easterby Elementary
Summer 2002
BINKO /Study Guide for Geographic Alliance
(Always make sure your type on the transparency is big enough to show up clearly on the overhead - to back row of classroom)

Name of Lesson
by (name of presenter)
For Grades
School Name

Introduction/Set
Introduce the concept objective and draw on students background knowledge

Purpose/Set
Reinforce the “Five Themes”

Objective: (only one)
The students will ________________________________ by __________________________ (Bloom’s Taxonomy) (Tell the learners what they are going to learn - make it relative to their everyday life and why - and tell them how they are going to learn the objective)

Vocabulary
(Introduced in lesson)

Standards
(Grade Level - Kemper’s Standards Book)

Materials:
(Used in lesson preparation/activity)

Procedures:
(step by step instruction and/or activity procedure - assume nothing)
The teacher will.....
The students will....

Lesson Extension: (What other activities/lessons could be taught to support this, your main objective)

Attachment/Support Data
(Bibliography - source of resource gathering)
California Standards

Language Arts

LRA 3.1: Identify and describe the elements of plot, setting, and character(s) in a story, as well as the story's beginning, middle and ending.

WA 2.0: Students write compositions that describe and explain familiar objects, events, and experiences. Student writing demonstrates a command of standard American English and the drafting, research, and organizational strategies.

WA 2.1: Write brief narratives describing an experience.

WA 2.2: Write brief expository descriptions of a real object, person, place, or event, using sensory details.

LS 1.0: Students listen critically and respond appropriately to oral communication. They speak in a manner that guides the listener to understand important ideas by using proper phrasing, pitch, and modulation.

LS 1.1: Listen attentively.

LS 1.2: Ask questions for clarification and understanding.

LS 1.3: Give, restate, and follow simple two-step directions.

SA 2.2: Retell stories using basic story grammar and relating the sequence of story events by answering who, what, when, where, why, and how questions.

SA 2.3: Relate an important life event or personal experience in a simple sequence.

SA 2.4: Provide descriptions with careful attention to sensory detail.
Science

IE 4: Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations.

a. Draw pictures that portray some features of the thing being described.

b. Record observations and data with pictures, numbers, or written statements.

ES 3: Weather can be observed, measured, and described.

a. Students know how to use simple tools to measure weather conditions and record changes from day to day and across the seasons.

b. Students know that weather changes from day to day but that trends in temperature or of rain tend to be predictable during a season.

c. Students know the sun warms the land, air, and water.

HIS/SOCSCI 1.21: Locate on maps and globes their local community, California, the United States, the seven continents, and the four oceans.

HIS/SOCSCI 1.24: Describe how location, weather, and physical environment affect the way people live, including the effects on their food, clothing, shelter, transportation, and recreation.

Math
NS 2.6: Solve addition and subtraction problems with one-and two-digit numbers.

SDAP 1.1: Sort objects and data by common attributes and describe the categories.

SDAP 1.2: Represent and compare data by using pictures, bar graphs, tally charts, and picture graphs.

MR 1.1: Determine the approach, materials, and strategies to be used.

Art (FUSD)

VA 2: Student explores differences among materials, techniques, and processes used in the visual arts.

Physical Education (FUSD)

PE 1: Student will be competent in many movement activities.

PE 2: Student will understand how and why he/she moves in a variety of situations and use this information to enhance his/her own skills.
160 Competencies
Rationale

Weather is in a constant state of change. From day to day, hour-to-hour, even minute-to-minute, the weather never stays exactly the same on earth. Weather is also one of the only things that affect all living things on earth. People are always wondering what the weather is so that they may be prepared, either by dressing a particular way or by evacuating an area because a storm is coming.

The objective of this unit is to introduce first grade students to weather and the elements that make up weather. Ideally, this would be a great unit to do during the fall or early winter since there is more fluctuation in the weather at those times of the year. Because I did this in the summer, I did not have the students keep a daily weather log or journal because it would just say "Sunny and hot" for each entry. If I had done this at a different time of year, I would have.

Children should be aware of weather and how it affects us. They will learn that it gets very hot in the summer and because of this, they need to wear sunscreen to avoid sunburns. They will learn about the water cycle and understand that when rain falls from the sky it is because the water is being evaporated from the earth, condensed into clouds and finally it falls.
Students will also be given some information about predicting weather and what a fascinating job they could have if they choose to become a meteorologist.

To begin each section of this unit, I will read weather books and stories (both fiction and expository) and we will discuss and write about them. Students will be given an opportunity to perform experiments and see weather in action. We will be keeping a word wall so that they may be reminded of the elements of weather. A fun way to conclude a weather unit is to have a local TV news weather person come and talk to the class about their job. After the two-weeks, students will know what weather is, how it is measured, and how it affects us.
Vocabulary

water cycle
    evaporation
    condensation
    precipitation
thunder
lightning
snow
rain
hail
humid
cloud, clouds, cloudy
    cirrus
    cumulus
    stratus
wind, windy
hot
fog, foggy
ice, icy
sun, sunny
summer
winter
fall, autumn
spring
north
south
east
west
rainbow
cold
warm
high
low
temperature
<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
</tr>
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<tbody>
<tr>
<td>10:15-11:30</td>
<td>Weather Study, Hand , 2a, 3b, 3c</td>
</tr>
<tr>
<td>11:30-12:30</td>
<td>Unit Plans, L/A, 110-113 (my own)</td>
</tr>
<tr>
<td></td>
<td><strong>Guided Reading</strong></td>
</tr>
<tr>
<td></td>
<td>* Start weather book, WA 2.0</td>
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<td></td>
<td>* Decorate weather folders, WA 2</td>
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<tr>
<td></td>
<td>* Read, &quot;Weather Forecaster&quot;, IS 1.1, 1.2</td>
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<td></td>
<td>* Read, &quot;Tale of the Vanishing Rainbow&quot;, IS 1</td>
</tr>
<tr>
<td>12:30-1:30</td>
<td>Journals What happened today?</td>
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<td></td>
<td>* Discuss: Make rainbows, WA 2</td>
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<tr>
<td></td>
<td>* Discuss: Review evaporation, IS 1</td>
</tr>
<tr>
<td></td>
<td>* Paint sidewalk &amp; cup with water</td>
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<td></td>
<td>* Water, &quot;Where does the rain go if it rains&quot;</td>
</tr>
<tr>
<td></td>
<td>* Evaporation experiments, IS 4</td>
</tr>
<tr>
<td></td>
<td>* Check water level in cup, IS 4</td>
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<tr>
<td>1:30-2:30</td>
<td><strong>Hands On Science, 1.2</strong></td>
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<tr>
<td></td>
<td>* Discuss Review evap, IS 1.0</td>
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<td></td>
<td>* PE-Storms &amp; fish boats, Stand 1</td>
</tr>
<tr>
<td></td>
<td>* Read, &quot;It could still be water&quot;, IS 9</td>
</tr>
<tr>
<td>2:30-3:30</td>
<td><strong>Spelling Test</strong></td>
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<tr>
<td></td>
<td>* Review water cycle</td>
</tr>
<tr>
<td></td>
<td>* Read, &quot;North, South, East &amp; West&quot;, IS 1</td>
</tr>
<tr>
<td></td>
<td>* Introduce weather cycle, IS 1</td>
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<tr>
<td></td>
<td>* Explain instruments (therm, wind vane)</td>
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<td></td>
<td>* Discuss: How did the weather change?</td>
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<td>* Discuss terms of water, IS 1</td>
</tr>
<tr>
<td></td>
<td>* Check water level in cup, IS 4</td>
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<tr>
<td></td>
<td>* Watch, &quot;Weather &amp; Climate&quot;, IS 5</td>
</tr>
<tr>
<td></td>
<td>* Handout Weather Unit, IS 4</td>
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<tr>
<td></td>
<td>* ID: Temperatures, IS 4</td>
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<td>* ID: Weather, IS 4</td>
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<tr>
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<td>* ID: Map, IS 4</td>
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<td>* Temp, mo.</td>
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<tr>
<th>4/4</th>
<th>1015-1115</th>
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<tr>
<td></td>
<td>12:30-2:00</td>
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<tr>
<td></td>
<td>Read &quot;Wind &amp; Sun&quot; - 2 stories, LS 1.1</td>
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<tr>
<td>Finish</td>
<td>Discuss stories</td>
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<tr>
<td></td>
<td>Read &quot;Cloud Book&quot; LS 1.1</td>
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<tr>
<td></td>
<td>Add words to word wall</td>
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<td></td>
<td>Check water level 1E4</td>
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<tr>
<td></td>
<td>Make clouds VA 2</td>
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</tbody>
</table>

|       | Read "Cloudy With A Chance..." LS 1.1 |
|       | Food Forecast |
|       | Draw meal on chalkboard |
|       | Watch "Cloudy..." Video |
|       | Respond in Journal, URA 3.1, Post and End |
|       | Make windsocks, VA 2 |
|       | Read "Snow Day" LS 1.1 |
|       | Discuss story, URA 3.1 |
|       | Discuss map reading |
|       | Discuss variations in weather using map |
|       | Finish book & any other projects needed |
|       | Watch "Weather Forecaster" LS 1.1 |
|       | Read "I Can Be A Weather Forecaster" |
|       | Watch TV weather report |
|       | Write forecast, VA 2.2 |
|       | Make weather mobile, VA 2 |

|       | Visit from Weather Forecaster |
|       | Read "Weather Forecaster", LS 1.1 |
|       | Write last page of weather book, "What I learned" |
|       | Finish weather mobile, VA 2 |
|       | Distribute weather portfolios |
|       | Final check of water level 1E4 |

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Clinical Teaching Lesson Plan (Rev. 5/2002)

Circle One  NEW or RETEACH

<table>
<thead>
<tr>
<th>Grade</th>
<th>Subject</th>
<th>Standard</th>
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<td>math/sci</td>
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Lesson Title: Temperature Math

Teacher Materials

- Overhead of weather
- Overhead marker
- Overhead temperature range
- Overhead weather graph

Vocabulary

- High
- Low
- Temperature
- Range
- Warmer
- Cooler
- Weather

Students' Materials

- Indiv. copies of weather map
- Question Sheet
- Weather map sheet.

Objective: The students will find the difference between high and low temperatures of a given city and the difference in temperatures from one city to another.

Set: Today boys and girls we are going to learn the difference in temperature range using cities in California.

Background/Input: Students have been studying temperature and will have some prior knowledge of reading a weather map.

Procedure/Application:

1. Teacher teaches:
   (Visual/auditory) The teacher will discuss and show on the overhead the main temperatures and how to locate the high and low temperatures on a map.

2. Students teach the teacher:
   (Oral/Psychomotor/Kinesthetic) Students will answer the high or low temp. of a given city on the teacher's prompt.

3. Guided Practice: On the overhead, the teacher will have students locate cities on the map. The teacher will provide an example of subtracting a city's high temperature from its low temperature.

4. Activities: Students will continue subtracting several city highs and lows with the guidance of the teacher.

5. Independent Practice: Students will answer questions on paper asking them to subtract one city's high from another city's high.

Assessment/Criterion:

(Tie-in with objective) Students' papers will be checked for accuracy.

---

Student Teacher: [Signature]  Master Teacher Approval: [Signature]

Date: [Date]
Clinical Teaching Lesson Plan (Rev. 5/2002)

Circle One: NEW or RETEACH

Subject: Science  Standard: 4th  Lesson Title: Observing Weather

Teacher Materials:
- Overhead
- Worksheet
- Markers

Vocabulary:
- Stratus
- Cirrus
- Cumulus
- Degrees
- Thermometer
- Temperature

Students' Materials:
- Cloud types
- Poster
- Observing weather worksheet

Objective:
The students will learn how to observe and record weather data throughout the day.

Set:
Today boys and girls we are going to learn how the temperature changes throughout the day.

Background/Input:
Students have been learning about thermometers, temperature, and clouds.

Procedure/Application:

1. Teacher teaches:
   (Visual/auditory)
The teacher will take the students outside at 8:30, 10:00, and 12:30 together. They will check the temperature and discuss the clouds if any are present.

2. Students teach the teacher:
   (Oral/Psychomotor/Kinesthetic)
Students will talk about what the clouds look like and what type they are.

3. Guided Practice:
   (Inside)
Students and the teacher will record their findings on the observing weather worksheet.

4. Activities:
   (Outside)
Students will record data and answer questions in their worksheet.

5. Independent Practice:
   Students will answer questions about the change in weather over the day.

Assessment/Criterion:
(Tie-in with objective)
Students' worksheets will be collected and checked for accuracy. Students may also draw pictures of the clouds they see.

Student Teacher:  

Master Teacher Approval:

Date:  

(2000)  
(master)
Clinical Teaching Lesson Plan (Rev. 5/2002)

Circle One: NEW or RETEACH

Grade: 1
Subject: Language Arts
Standard: Writing 2
Lesson Title: Weather Forecast

Teacher Materials:
- TV Weather Video
- Weather Word Wall
- Pointer
- I Can Be a Weather Forecaster

Vocabulary:
- predict
- forecast(er)
- premium: satellite
- meteorologist: barometer

Students' Materials:
- lined paper
- pencils
- student dictionaries

Objective: The students will write their own forecast for Fresno.

Set:
Today boys and girls we are going to learn how to give a weather forecast.

Background/Input:
Students have been introduced to the concept of weather forecasting.

Procedure/Application:

1. Teacher teaches: (Visual/auditory)
   Teacher will show a brief section of a TV News weather report and read highlights of I Can Be A Weather Forecaster.

2. Students teach the teacher: (Oral/Psychomotor/Kinesthetic)
   Students answer questions about what a weather forecast is and why it is important for us to know.

3. Guided Practice:
   The teacher and students will discuss what kind of weather Fresno has in the different seasons.

4. Activities:
   Students will use the word wall to help them write their own weather forecast.

5. Independent Practice:
   Students write their forecast and draw a picture of the weather they predicted.

Assessment/Criterion:
Students' papers will be collected and bound as a classbook.

Student Teacher: [Signature]
Master Teacher Approval: [Signature]

Date: [Signature]
Activities

Evaporation Experiments:
After discussing the water cycle, the teacher takes the students outside into a sunny area with concrete. Students predict what they believe will happen to water if it is in the sun. Students use paintbrushes dipped in water and "paint" the concrete. Students will observe the water disappearing (evaporating). Discuss the results and what has occurred.

At the start of the week, fill a clear cup with water and mark the water level on the cup. Ask the students what they think will happen to the water in the cup if it is left inside the classroom. Check the water level each day and mark it so the students can see that it is slowly evaporating. By the end of the week, there should be a very noticeable difference.

PE: Storms and Fishing Boats:
The teacher makes about 5-6 students "storms" and the remaining students are fishing boats. Explain that those students need to go out and catch fish and bring them home so they can make money for their families. The problem is that there are storms in their way. Take the students out to a large grass area. All of the fishing boats begin at the starting line. On the other side are two cones showing the boundaries and just beyond them are the "fish" (crumbled up paper works fine). In between the fishing boats and the fish are the storms. Explain that the fishing boats must make it to the other side and grab one fish, then run back to the starting line, without being tagged by a storm. If they are tagged, they become a storm. To keep the game moving along, I put just a few less fish than there are fishing boats and those who don't get there fast enough to get the fish become storms. I also put out a few hula-hoops to serve as "shelter", the fishing boats can stop in these areas and the storms cannot get them. You can play this a couple of times through giving students a chance to be both a fishing boat and a storm.

Weather Math:
After showing students how to read a weather map, bring in a weather map from the newspaper or another source. Work with students in small groups and have them find the difference in temperatures (highs and lows) in a given city. You can also have students find the difference in
temperature from one city to another, this works best with a national weather map. Students can also look at weather trends in Fresno (if using the Fresno Bee weather map) and find the difference in temperature from the start of the week to the end.

**Guest Speaker:**

Show students a few minutes of a local TV news weather report. You can then read weather forecasting books and discuss what goes into making a weather forecast. Call a local TV weather personality and invite him/her to come to your class and talk about their job and answer questions. Students can then write their own weather forecast for Fresno.
Bibliography

Videos:

- The Wonder World of Science Series: Where Does the Rain Go After it Falls?
- Weather and Climate
- Cloudy With A Chance of Meatballs
- Weather Forecaster


**Teacher Resources:**


Assessment

Throughout the unit, journals will be checked for understanding of the material presented. Students will also provide verbal responses to the teacher's questions.

Students will respond to worksheets asking questions about directions (north, south, east, and west) and about various weather elements.

For the last page of the weather books, students will write about what they learned over the course of the two week weather unit.
Criterion Assessment

By the end of the two-week weather unit students will:

✓ Identify north, south, east, and west

✓ Identify the seasons and the weather associated with each of them, as well as how individuals dress during each season.

✓ Have a general knowledge of the water cycle, including what precipitation, evaporation, and condensation mean.

✓ Know various weather phenomena including rain, snow, wind, and clouds.

✓ Understand how weather is observed and measured. They will also understand that weather forecasters use this information to predict what the weather will be.

✓ Know that water comes in the forms of solid (ice), liquid (rain or snow), and vapor (fog, clouds, and invisible like in the water cycle).
Activity 1: Observing Weather

Assessment: Hourly Weather Changes in Temperature, Cloud Types, and Wind Speed

<table>
<thead>
<tr>
<th>Time</th>
<th>Temperature</th>
<th>Cloud Type</th>
<th>Wind Speed</th>
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1. What time was the temperature the highest? ____________________________

2. How did the wind change over the day? ________________________________
   ________________________________
   ________________________________
   ________________________________

3. How did the cloud types change over the day? _________________________
   ________________________________
   ________________________________
   ________________________________
Rainbow Shape Book Pattern

Teacher: Use this page with the "Rainbow Shape Book" idea on page 17.

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a reproducible page
What's the Weather?
When I look out the window today, the weather looks like this.

Today, the weather is ________________________.
These are words that describe the weather where I live.

(Circle the words that describe what the weather can be like where you live.)

sunny

rainy

snowy

windy

icy

cloudy

I like when the weather is _____________________ because ________________________
The Water Cycle

Where does the rain come from? Where does the rain go? Why do we never get any "new water"? Can you answer these questions? The water cycle answers them. Study the diagram below to learn how the water cycle works.

**Precipitation** is water that falls from the sky. It can be rain or snow. Color the precipitation dark gray.

**Water vapor** is water that has turned into gas. Clouds are made of water vapor. Color the clouds a light gray.

**Evaporation** is when water changes from liquid to gas. Color the evaporation light blue.

**Run off** is the water that seeps into the ground, runs into rivers, or forms puddles. Color the run off light brown.
Where Will It Rain?

Look at the weather map on this page. Use the map to answer the questions.

1. What states will only have rain? ___________ , ___________ , and ___________.

2. In what states will the weather be partly cloudy? ___________ , ___________ , ___________ , and ___________.

3. In what states will the northern part be rainy and the southern part be sunny? ___________ and ___________.

4. What states will only have sun? ___________ and ___________.

KEY
- rain
- partly cloudy
- sun
Wind
Use yarn to make a curved line as shown on the diagram, page 71. Add construction paper half circles and triangles as shown to indicate warm and cold fronts.

Warm Front

Cold Front
Unit Management

Bulletin Board Patterns

Sun
After It Rains!

It is almost dinner time in the town of Chewandswallow. What would you like to see the skies rain down for dinner? Think about your ideal dinner and then draw it as it lands on the streets of Chewandswallow.
North, east, south, and west are four directions on Earth. These directions can help you to find places on maps.

North is the direction toward the North Pole. South is the direction toward the South Pole. When you face north, east is to your right. What direction is to your left?
**Trying the Skill**

Use the map of the state of Kentucky to answer the questions below.

1. Find Pine Mountain. Is it north or south of Bear Mountain?
2. Name a state that is north of Kentucky.
3. In what ways can knowing about directions help you?
LESSON 2

How’s the Weather?

Beth lives in Indiana. Matt lives in California. Beth wanted to know if both states have the same weather. Weather is what it is like outside. Read their letters. What did Beth find out?

Dear Matt,

Yesterday it rained. Then it started to snow. Today it is sunny and cold. I made this snowman. Did it snow in California too?

Your friend,

Beth
Dear Beth,

It rained here on the day you got snow. The next day it was warm and sunny. Dad took me to the beach. Here is a sandman a lot!

Your friend,
Matt

Beth found out two places can have different weather at the same time. Some places in the North might be cold. On the same day, some places in the South might be warm.
In many places the weather changes as the **seasons** change. The seasons are spring, summer, fall, and winter. Here is what the seasons are like where Beth lives.
How do seasons in your community make a difference in the way you dress? How do they make a difference in the games you play?

1. Use the words yesterday, today, and tomorrow to tell about your weather.

2. How does your family enjoy the different seasons?
My Grandma’s Thunder Cake

Cream together, one at a time
1 cup shortening
1¼ cup sugar
1 teaspoon vanilla
3 eggs, separated
(Blend yolks in. Beat whites until they are stiff, then fold in.)

1 cup cold water
½ cup pureed tomatoes
Sift together
2½ cups cake flour
½ cup dry cocoa
1½ teaspoons baking soda
1 teaspoon salt

Mix dry mixture into creamy mixture.
Bake in two greased and floured 8½-inch round pans at 350° for 35 to 40 minutes.
Frost with chocolate butter frosting. Top with strawberries.