WEATHER

BY

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EHD 160
California State University, Fresno
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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)
RATIONALE

This unit is to develop an understanding of the temperature of the air, the clouds in the sky, the wind, and the kind and amount of precipitation which are all considered to be parts of weather. Weather is the day-to-day conditions of the atmosphere of an area. The students will observe and describe the basic components of weather in everyday life.

The First grade Science Standards 3010 will be applied. Standard 05 states: Students will observe and describe the basic components of weather as related to the activities of plants, animals, and people. Standard 01 states: Students will describe the characteristics and uses of air. Standard 02 states: Students will describe the characteristics and uses of water. Standard 03 states: Students will compare the liquid, solid, and gas states of water. Also students will observe weather and describe how seasonal changes affect living things.
VOCABULARY

Weather  Climate
Sunshine  Stratus
Cloud  Cumulus
Wind  Cirrus
Rain  Storm
Hail  Summer
Snow  Fall
Lightning  Winter
Thunder  Spring
Hurricane  Precipitation
Tornado  Condensation
Blizzard  Evaporation
Thunderstorm  Dewdrops

Grade: 1st

Teacher Materials: Clothing for the 4 seasons – venn diagram - marker

Student Materials: Weather book (journal) - pencil

Objective: The students will be able to describe and compare the types of weather and seasonal changes which affect living things.

Set: The teacher will have appropriate clothing displayed for all 4 seasons.

Input: The teacher will ask, What type of day it is outside? How does it feel to you? How does it differ from other types of weather?

Modeling: As the teacher discusses the seasons. She will begin to write differences and similarities of the types of weather on a Venn diagram.

Check for Understanding: As the students provide more answers they will be asked to add their information onto the Venn diagram.

Guided Practice: The students will copy this information into their weather journal. The teacher will walk around and to make sure the students understand the procedure.

Closure: The teacher will review on the overhead the types of weather and seasons.

Independent Practice: The students will be asked to write 1-3 more facts about weather in their journal. They will also be asked to draw their favorite season.

Evaluation: The teacher will check the students weather journal for understanding.
WEATHER

Subject: Science – Sun & Temperature  Grade: 1st

Teacher Materials: umbrella – metal – marker – board

Student Materials: weather journal – pencil – crayons

Vocabulary: sun – temperature

Objective: Students will observe weather and describe how temperature affects living things.

Set: The teacher will take the students outside and have the students stand in the shade.

Input: While the teacher stands in the sun she will ask the students if it’s hotter when she is in the sun or in the shade and why?

Modeling: While the teacher is standing in the sun she will open an umbrella and ask the students how she must feel now that the umbrella is blocking the sun.

Check for Understanding: Groups of students will be given umbrellas to experience the temperature change between full sun light and when the umbrella shades them.

Guided Practice: The students will be given 2 metal items, one to place in the sun and one in the shade. The students will make predictions as to what might be happening. After 5 minutes the students will touch their items and then write in their journals the difference in the temperature between the two.

Closure: The students will share with their classmates in a grand conversation what they observed.

Independent Practice: Students will color their sun picture and draw pictures of things they can do to stay cool on a hot and sunny day.

Evaluation: The teacher will check the student’s weather journals for understanding.
WEATHER

Subject: Science – Types of clouds  Grade: 1st

Teacher Materials: The Cloud Book – marker board – markers

Student Materials: Weather journal – pencil - crayons

Vocabulary: cirrus – cumulus – stratus

Objective: The students will be able to identify the three types of clouds and draw them.

Set: The students will sit on the floor Indian-style quietly.

Input: The teacher will ask if anyone has ever lied on the ground to look at clouds and see images in them. The teacher will then read The Cloud Book.

Modeling: The teacher will write the names of the clouds on the board and draw a picture of each.

Check for Understanding: The teacher will have students volunteer and repeat the process she just demonstrated.

Guided Practice: The students will identify and draw a picture of each cloud in their journals.

Closure: The teacher will take the students outside to observe which type of cloud might be in the sky that day.

Independent Practice: The students will make 3-D clouds to hang from the classroom ceiling.

Evaluation: The teacher will evaluate the drawings of the student’s cloud pictures in their journal.
WEATHER

Teacher Materials: fan – pictures of tornadoes and hurricanes – paper towel
Student Materials: paper – crayons – streamers – glue
Vocabulary: tornado – hurricane – wind

Objective: The students will be able to describe the characteristics and uses of air.

Set: The students will sit on the floor Indian style quietly while the teacher demonstrates.

Input: The teacher will put up pictures to show how wind can affect humans.

Modeling: The teacher will demonstrate various ways wind blows.

Check for Understanding: The teacher will have the students stand up and repeat the movement and sounds wind makes as she models it.

Guided Practice: The students will draw and explain in their journals the types of wind experiences they may have had.

Closure: The students will share their experiences and pictures with their classmates.

Independent Practice: The students will make wind socks and pin wheels.

Evaluation: Through the students oral presentation the teacher will be able to observe the students comprehension.
WEATHER

Grade: 1st
Student Materials: weather journal – pencil – mirror
Objective: The students will explore the formation of condensation and how rain is formed.
Set: The students will sit Indian-style quietly on the floor.
Input: The teacher will mist the students to feel the effect of rain asking them what it feels like.
Modeling: The teacher will mist a cookie sheet spraying more and more until the water starts to drip to the bottom. While demonstrating the teacher will explain how a cloud can only hold so much water and then it must fall.
Check for Understanding: The teacher will ask, Where does rain come from? How is it formed? What type of cloud indicates it might rain?
Guided Practice: The students will draw a rain cloud and show the types of moisture that can come from this cloud.
Closure: The teacher will have the students breathe onto a mirror so that they can see how moisture (condensation) is formed.
Independent Practice: The students will observe the frozen water bottle placed on their table and write in their journal what has happened to the white paper towel. Why isn't it the color of the water in the bottle?
Evaluation: The teacher will ask each table what is happening to the paper towel. The teacher will then check their journal for understanding.
SELF - ASSESSMENT

The main purpose of self-assessment is to ensure student understanding. One way to do this is by comparing and analyzing the differences between actual and intended learning outcomes, as well as the causes for any differences.

Continual self-assessment will be used throughout the lessons by taking notes both mentally and physically.

Adaptations can be added or deleted as needed throughout the lessons.

Reflect upon as to what skills students are excelling at or in need of.

Modeling and flexibility are key factors to lessons.
BIBLIOGRAPHY


ACTIVITIES

Paper Bag Snowmen

Marshmallow Snowmen

Creative Weather Movement

Lightning Relay

You Can Make Clouds

You Can Make Rain

You Can Make a Rainbow

Windsock

Weather Words

Weather Symbols

Weather Dictionary

Poetry “STORM”

Write a Rain Poem
What Is the Temperature?

You will need several weather thermometers for this activity.

**Directions:**

1. Find a safe place outside to put your thermometer.
2. Note the temperature at the same time each day.
3. Put a dot on the graph to show the temperature for the day.
4. Connect the dots for a line graph.

![Graph](image)

**Extensions:**

Compare temperatures in the morning, at lunchtime, and in the afternoon.

Compare your findings with local weather forecasts.

Put several thermometers in various settings. Compare readings.

Use subtraction skills to find how much hotter/cooler temperatures are when making the comparisons below. Make bar graphs to show the comparisons.
Cloud Watch

Look at clouds in the sky.

Describe how the clouds look.

Draw a picture of the clouds.

Read about three types of clouds.

**Stratus** (STRAY tuhs) clouds look like a smooth sheet. They are low and often gray.

**Cumulus** (KYOO myuh luhs) clouds look like big, puffy heaps of cotton. They have flat bottoms.

**Cirrus** (SIHR uhs) clouds are thin white clouds that are very high in the sky.

Which of the three types is most like the clouds you see today? Write why.
The Cloud Book by Tomie de Paola is a non-fiction book. It gives you a lot of information about clouds.

Read the book to find the answers to these questions.

1. What are clouds? ____________________________________________

2. List the three main kinds of clouds ____________________________,
   ____________________________, and ____________________________.

   Label the pictures of the clouds.

   ![Cloud Images]

   a. ____________________________  b. ____________________________  c. ____________________________

3. The highest clouds, sometimes known as ‘mare’s tails’ are called ____________________________.

4. Fluffy clouds that look like cauliflowers are called ____________________________.

5. Clouds that look like gray blankets are called ____________________________.

6. What is fog? ____________________________
   ____________________________
Cloudy Words

How many words can you make from the cloud words cumulus, stratus, and cirrus? Print one word in each cloud.
cumulus
stratus
cirrus
Create the Wind

Hot Air Spirals

Using the pattern below, create two different types of hot air spirals.

**Spiral 1**

**Materials**
markers; scissor; thread; paper; pattern

**Directions**

1. Trace, color, and cut out the pattern below.
2. Poke a hole in the center of the spiral, between the XX.
3. Cut a piece of thread about 8 inches/20 cm. long.
4. Poke the thread through the hole and knot it.
   Hold the spiral by the thread. Stand still. What happens?
   Hold the spiral above a heat register. If hot air is blowing how is the spiral’s movement different than if there is only heat?

**Spiral 2**

**Materials**
lamps; pencils; scissors, paper; patterns

**Directions**

1. Turn on the lamp.
2. Trace the pattern below.
3. Make a small bump on the XX.
4. Hold a pencil just above the light bulb. (Don’t burn yourself.)
5. Balance the XX mark of the spiral on the end of the pencil.
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 ____________
Weather Words

Color the pictures.

- sunshine
- cloud
- wind
- rain
- hail
- snow
- lightning
- thunder
- hurricane
- tornado
- blizzard
- thunderstorm
Weather Symbols

Rainy

Sunny

Snowy

Cloudy
My Weather Dictionary

What is wind?
Warm air rises. Cool air moves down. They mix and push together. If they move fast, it is called wind.

What is rain?
Air holds moisture. If the air cools, or if it is holding too much moisture, the air drops the moisture. This can make rain.

What is lightning?
Lightning is a giant spark of electricity flashing through the sky. It heats the air so much and so quickly that we can see the hot air.

What is thunder?
The giant spark of electricity makes the air so hot so quickly, that the air bumps into the cooler air around it. And it bumps so hard, that it makes a cracking sound. This is called thunder.

What is a rainbow?
If there are many droplets of rain in the air, and the sun comes out, then the sunlight shines through the droplets of rain. The water droplet acts like a prism, splitting the white light into all its colorful parts.

What is snow?
Sometimes the water in the air is frozen into tiny ice crystals. When these fall, they are called snow.
Storm

Wild wind, wild wind, swooshing, pushing,
Storm is coming, storm is coming.

Raindrops, raindrops, falling, calling,
Storm is starting, storm is starting.

Hailstones, hailstones, pounding, sounding,
Storm is building, storm is building.

Lightning, lightning, flashing, crashing,
Storm is raging, storm is raging.

Thunder, thunder, looming, booming,
Storm is peaking, storm is peaking.

Mild wind, mild wind, breezing, pleasing,
Storm is leaving, storm is leaving.

Sunshine, sunshine, beaming, streaming
Storm is over, storm is over.
Write a Rain Poem

Read poems and stories about rain. Brainstorm and collect colorful rain words. Print them on a list called "rainy words." Have students use this list to help write a rain poem. Children may print their poems in the umbrella.


## Snowman Projects

### Unmeltable Snowman

newspaper; safety pins; boots; 3 white pillowcases; scarves; construction paper; masking tape; hats; scissors

#### Preparation

1. Divide the class into large groups.
2. Give each group a set of the materials and a large working space.

#### Directions

1. Scrunch up single sheets of newspaper.
2. Stuff the three pillowcases with newspaper.
3. Tie the tops of the pillowcases shut.
4. Tape and pin the three “balls” together into a snowman shape.
5. Tie on the scarf and pin on the hat.
6. Make a face and buttons out of construction paper and tape on.
7. Make a sign to tell your snowman’s name and who made him.

### Paper Bag Snowmen

Build paper bag snowmen by stuffing white paper lunch bags with scrunched newspaper. Tape 2 bags together for each snowman. Decorate them with construction paper, yarn, cloth, sticks, etc.

### Marshmallow Snowmen

Give each child 2 stale marshmallows, toothpicks, scraps of yarn, ribbon, fabric, and felt pens. Stick a toothpick half way into one marshmallow. Push the second marshmallow over the toothpick.

Draw a face and buttons onto the marshmallow with felt pens.

Glue or tie on scraps for a scarf and hat. Push tiny twigs or broken toothpicks into the marshmallow to make arms.
Creating Weather

You Can Make Clouds
A cloud is a huge crowd of tiny water droplets.

Materials: clean, self-sealing plastic bags; a freezer; air

Directions: Open a plastic bag and scoop some air into it. Seal the bag tightly shut. Put it in the freezer for 5 minutes. After 5 minutes, take it out, open it, and blow into it. Quickly seal it shut.

What happens? Why? How did you make a cloud?

You Can Make Rain
Rain is drops of water falling from clouds.

Materials: jars with covers or lids; big bowls of ice

Preparation: Put out 3 or 4 bowls of ice. Divide the children into groups of 3 or 4. Give each group a jar with a lid.


You Can Make a Rainbow
A rainbow is caused by sunlight shining on raindrops.

Materials: bright sunshine; pocket mirrors, pans, jugs (to carry water); towel; pieces of white paper

Preparation: Divide children into small groups, giving each a set of materials.

Directions:
1. Place the pan where the sun can shine on it.
2. Fill the pan with water.
3. Place the mirror in the pan, under the water. Lean it against the side of the pan, at an angle.
4. Move the pan gently so the sun is shining directly on the mirror.
5. Move the mirror slightly until it reflects the light. What happens? Why?
6. Try to catch the reflections of the colors on the white paper.
Weather Games

**Lightning Relay**

Like a sudden gust of wind, a sudden flash of lightning can startle a team. Send the “lightning shock” — a gentle team sits down.

**Creative Weather Movement**

Try some creative movement with the children. Give them paper streamers, one for each hand. Set the movement to music. Classical music often works well for this. Try some of the following:

- Be a snowflake fluttering slowly down, twirling around.
- Be a bolt of lightning shooting down.
- Be a hailstone smashing down.
- Be the wind blowing all about.

**Netting Notions**

Use netting to help students see how the wind blows. Give each student a foot square piece of veil netting. Let them throw it in the air. Ask them “How does it come down?” Throw it in the air again. Turn around. “Did the wind blow it down before you could catch it?”
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**Secondary Subjects**
- **AUDIO-VISUAL MATERIAL**
- **APPOINTMENTS**
- **LUNCH ROOM DUTY**
- **YARD DUTY**
- **FIRE DRILLS**
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