

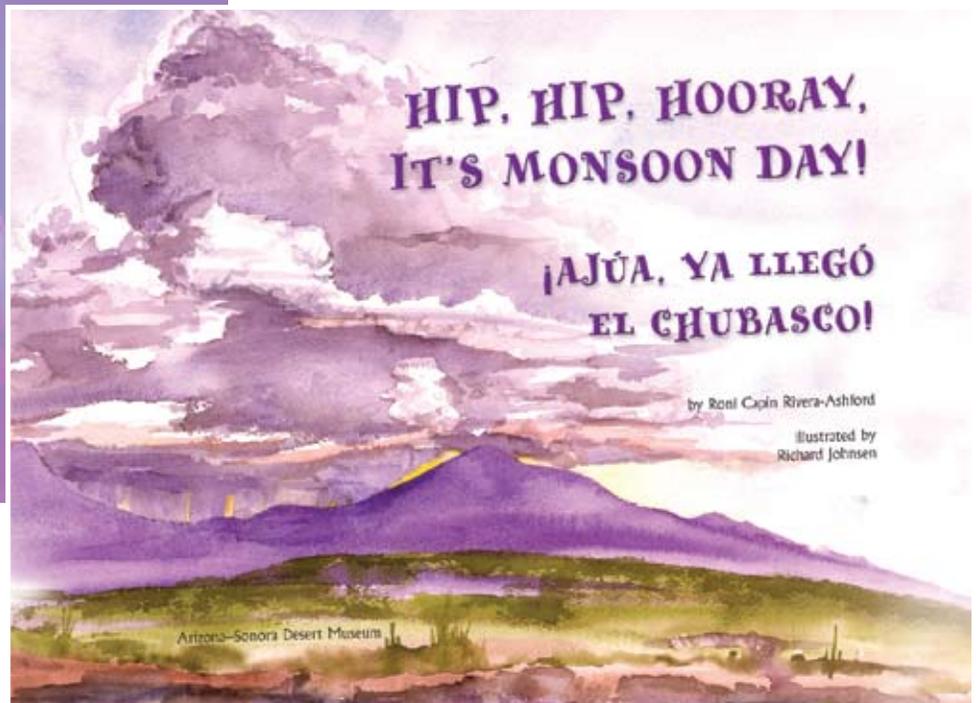
ONEBOOKAZ 2009 for Kids

A LESSON PLAN FOR 4TH GRADE MONSOON DAYS

*“Read and write everyday....Hip, hip, hooray!
Lee y escribe cada día....¡Ajúa!”*

*– Roni Capin
Rivera-Ashford*

**Hip, Hip Hooray,
It’s Monsoon Day!**
by Roni Capin Rivera-Ashford



ONEBOOKAZ
For Kids

ARIZONA
GEOGRAPHIC ALLIANCE

PROVIDING ACCESS
Preserving Arizona
Arizona State Library,
Archives and Public Records

MONSOON DAYS

Students learn about the monsoon season in Arizona.

Author: Gale Olp Ekiss
Grade Level: 4th Grade
Duration: 3 class periods

NATIONAL GEOGRAPHY STANDARDS

ELEMENT ONE: THE WORLD IN SPATIAL TERMS

1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

ELEMENT THREE: PHYSICAL SYSTEMS

7. The physical processes that shape the patterns of Earth's surface

ELEMENT FOUR: HUMAN SYSTEMS

10. The characteristics, distribution, and complexity of Earth's cultural mosaics.

ARIZONA GEOGRAPHY STANDARDS

Concept 1: The World in Spatial Terms

PO 1. Use different types of maps to solve problems (i.e., road maps –distance, resource maps-products, historical maps- boundaries, thematic maps- climates).

Concept 2: Places and Regions

PO 1. Describe how the Southwest has distinct physical and cultural characteristics.

Concept 4: Human Systems

PO 4. Describe the cultural characteristics (e.g., food, clothing, housing, sports, customs, beliefs) of Arizona's diverse population.

Concept 5: Environment and Society

PO 2. Describe the impact of extreme natural events (e.g., fires, volcanoes, floods, droughts) on human and physical environments.

OTHER STANDARDS

Science Strand 3

Concept 1: Describe the interactions between human populations, natural hazards, and the environment.

PO 1. Describe how natural events and human activities have positive and negative impacts on environments (e.g., fire, floods, pollution, dams).

Science Strand 6

Earth and Space Science

Concept 2: Earth's Processes and Systems

PO 1. Identify the earth processes that cause erosion.

PO 2. Describe how currents and wind cause erosion and land changes.

PO 3. Describe the role that water plays in the following processes that alter the Earth's surface features: erosion, deposition, weathering.

Reading Strand 6

Comprehension Strategies

PO 4. Use graphic organizers in order to clarify the meaning of the text.

OVERVIEW

Students growing up in Arizona should understand how physical processes impact our physical and human environment.

PURPOSE

In this lesson students will gain a deeper understanding of Arizona's monsoon season. They will learn what causes this yearly phenomenon and how to act safely in monsoon storms.

MATERIALS

- *Hip, Hip, Hooray, It's Monsoon Day!* by Roni Capin Rivera-Ashford (as many copies as possible)
- Arizona Monsoon Reading
- *Hip, Hip, Hooray, It's Monsoon Day!* worksheet
- *Hip, Hip, Hooray, It's Monsoon Day!* worksheet answer key
- Monsoon and San Juan's Day Map
- Scoring Guide for the Monsoon Safety booklet
- Copy paper and colored markers/pencils

OBJECTIVES

The student will be able to:

1. Describe physical processes that impact our physical and human environment.
2. Describe how to act safely during a monsoon storm.
3. Use maps to interpret information.
4. Describe cultural characteristics of the Southwest.

PROCEDURES

Prerequisite Skills: Students should know the word "erosion" and its effects.

Prior to the Lesson: Go to the websites cited and create a PowerPoint of the maps and photos found in the Arizona Monsoon Reading.

Create the booklet to use as a model for SESSION THREE.

SESSION ONE

1. Show the students the Monsoon and San Juan's Day Map. Have the students identify the continents where a monsoon occurs. (North America, South America, Africa, Asia, Europe and Australia)
2. Ask students to define monsoon. Write their definitions on the white board.
3. Distribute the Arizona Monsoon Reading. Read together and discuss the important parts of the information. Examine the pictures and maps in the reading.
4. Have the students re-read the Monsoon Reading again (independently or as a group). Explain that they will be looking for words or phrases that describe winds, flash floods, lightning, and dust storms.
5. Write on the white board: blue = winds, brown = flash floods, red = lightning, and purple = dust storms. Instruct students to underline in color the parts of the reading that describe these weather conditions.

6. Wrap up this session by going back to the definitions on the white board given at the beginning of class. Have the students create a better definition for monsoon. Record this definition in their writing journals or on a sentence strip for the classroom wall.

SESSION TWO

1. Introduce the students to *Hip, Hip, Hooray, It's Monsoon Day!* by Roni Capin Rivera-Ashford. Explain that this book is written in both Spanish and in English. Discuss the dedications found in the front of the book and the explanations found in the back of the book. Read the book first without explaining many of the terms but showing them the illustrations as you read.
2. Next re-read the book and stop to discuss the important information. Discuss the Spanish words and their meanings. Explain the term "Hispanic," as a way to describe people whose families were originally from Spain or Mexico.
3. Pass out the *Hip, Hip, Hooray, It's Monsoon Day!* worksheet. Have the students use the words and phrases highlighted in color in the Arizona Monsoon Reading from the last session to help them with the answers. Then have students work in groups or individually to complete the worksheet.
4. Review the correct answers.

SESSION THREE

1. Review the safety suggestions found in the Arizona Monsoon Reading.
2. Distribute the Scoring Guide for the Monsoon Safety Booklet and two pieces of blank copy paper to each student. Explain that they will be creating a Monsoon Safety booklet.
3. Show the students how to make the booklet by folding the two sheets in half (hamburger style) and then stapling the papers together along the center crease. This makes a booklet with eight sections.
4. Explain the requirements of the Scoring Guide Model a page or two on how the booklet should be done.

ASSESSMENT

Arizona Monsoon Readings can be graded on the appropriate color of highlighting.

The worksheet can be graded for reading comprehension and understanding of the physical processes that impact our environment. Mastery will be considered a score of 80% or higher.

The booklet is worth 35 points. A score of 80% or higher will be considered mastery.

EXTENSIONS

Have the students research the National Oceanic and Atmospheric Administration (NOAA) website cited and find one or two fun facts that they found about last year's monsoon in Arizona. These can be added to last page of their booklets or put on sentence strips to be added to the classroom wall.

SOURCES

<http://geography.asu.edu/aztc/monsoon.html>

http://www.wrh.noaa.gov/twc/monsoon/monsoon_info.php

Special thanks to Dr. Randy Cervený, Arizona State University, School of Geographical Sciences, for checking over this information.

Thanks also to Kay Jackson for help in editing.

THE ARIZONA MONSOON READING

The term “monsoon” refers to the wind shift that brings us thunderstorms during the summer months of late June, July, August and early September. During the winter, the wind flow is from the west (California) or the northwest (Nevada). When summer comes, the winds come from a southern (Mexico and Gulf of California) or southeastern direction (Gulf of Mexico). This change in wind direction allows summertime moisture to move from the Pacific Ocean and the Gulf of California into Arizona and provides fuel for thunderstorms.

WIND DIRECTION IN THE SUMMER



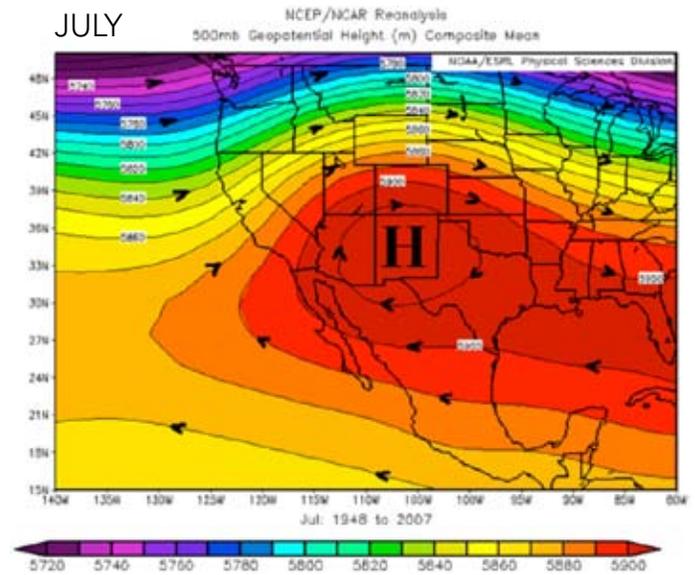
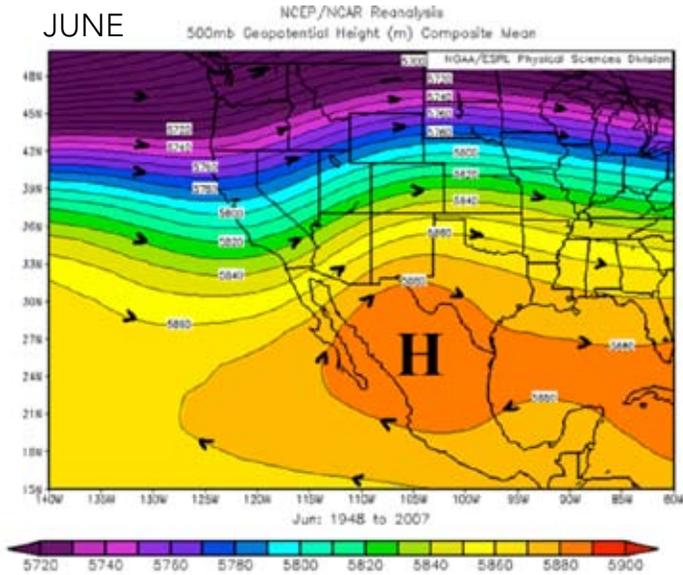
http://www.wrth.noaa.gov/twc/monsoon/monsoon_NA.php

Meteorologists (people who study weather) say the causes of the monsoon are:

- The movement of huge upper air high-pressure cells to the north as winter changes to summer.
- The heating (100° to 108°F in Phoenix) of the desert that creates rising air and surface low-pressure.

The two charts below show the difference between the high-pressure cells in June and July. Look where the high (H) is in relation to Arizona.

HIGH PRESSURE CELL IN JUNE AND JULY



http://www.wrh.noaa.gov/twc/monsoon/monsoon_NA.php

Because the high pressure cell moves northward and the temperatures rise, thunderstorms often develop during the summer. The Arizona storms usually are quick and last about 30-40 minutes. These storms develop in stages. In the first stage, warm air rises and forms cumulus-type clouds. Next, strong currents of air move up and down. When the air hits the ground, a dust storm (called a haboob) is created. This dust storm creates a wall of sand that can travel at over 30 miles per hour and rise 3000 feet high. In the last stage, rain falls. Half of Arizona's rainfall for the year can happen during the summer.

DUST STORM (A HABOOB)



http://www.wrh.noaa.gov/twc/monsoon/monsoon_safety.php

A summer monsoon storm can be dangerous. It is important to know what to do during these storms to stay safe. Here are suggestions from the National Weather Service.

Lightning:

- If you hear thunder, you are close enough to a storm to be struck by lightning. Go to a safe place immediately! The safest locations are sturdy buildings and hard-topped vehicles. Wait there until 30 minutes AFTER the last rumble of thunder is heard.
- Get away from open areas, including porches, trees, patios, and swimming pools.
- Summer storms are often in the afternoon and early evening. Plan outdoor activities to happen before or after these times, especially if you live in higher elevations where lightning is more common.
- Do not touch any plumbing or electric wires during a storm.
- Remember, it does not have to be raining for you to be struck by lightning. Lightning can strike up to 60 miles away from the nearest rainfall!
- Bring pets indoors. Lightning and thunder can be very scary for pets. They might panic or run away.
- If someone is struck by lightning, call 911 immediately.

LIGHTNING DURING A THUNDERSTORM



http://www.wrh.noaa.gov/twc/monsoon/monsoon_safety.php

Strong Winds:

- Arizona thunderstorms have strong winds, sometimes more than 40 miles per hour. The strongest wind gusts can be 100 miles per hour, and can produce damage similar to a tornado! Anytime a thunderstorm gets near, move indoors to avoid flying debris.
- The National Weather Service can issue a Severe Thunderstorm Warning. That means the storm can have wind gusts of more than 60 miles per hour. Go to a room in the middle of your house. Stay away from windows.
- Mobile homes can be heavily damaged in the winds. Move to a safer structure.
- Stay inside! Most people are killed or hurt in severe thunderstorms by trees falling on them, from flying debris, or from downed power lines.
- Never touch a downed power line. Call for help instead.
- Before the monsoon season, it is a good idea to tie down loose outdoor furniture and garbage cans, or move them indoors. These often get blown around in our summer thunderstorms.

DOWNED POWER LINES



http://www.wrh.noaa.gov/twc/monsoon/monsoon_safety.php

Dust storms:

- Winds in any thunderstorm can lift huge clouds of dust. Because it is hard to see, car accidents on roadways can happen.
- Dust storms usually happen in the early part of the monsoon.
- If you run into a dust storm while riding in a car, here is what the driver should do. Pull off the road at once. Turn off the headlights and taillights and put the vehicle in "PARK." Take the foot off the brake. Other motorists may follow taillights while trying to get through the dust storm. Seeing the taillights might cause them to rear-end the parked car.
- Stay where you are until the dust storm passes. Dust storms usually last only a few minutes.

Flash Floods:

- Flash floods are common in Arizona. There are thousands of low water crossing and dips that flood every summer. Know where they are, and stay away from them during heavy rains.
- Never, ever drive into a flooded roadway. It is hard to tell how deep the water is. Also the road itself may be damaged or gone. It only takes about 1 to 2 feet of water to float most vehicles, including SUVs.
- Never drive around barricades. They are there for a reason.
- Do not play near washes or storm drains after any rainfall, no matter how light. These flood easily and quickly, and storm drains are usually so large that children can be swept away.
- Be careful of thunderstorms that seem to be far away, especially if they're over mountains. Flash flooding can occur many miles away from the thunderstorm. The water from the storms then flows down into valleys and can be very dangerous.
- Do not camp overnight near streams during the monsoon. Although many of our thunderstorms happen during the afternoon and evening, some of our worst flash floods can take place in the middle of the night.
- Hikers and mountain bikers should try to get out earlier in the day to stay away from the dangers of not only flash flooding, but also lightning. Wherever you are hiking during the monsoon, be aware of your escape routes, follow ranger instructions, and be ready to move to higher ground quickly.

A CAR STRANDED IN A FLOODED STREET AFTER A STORM



http://www.wrh.noaa.gov/twc/monsoon/monsoon_safety.php

Information for this reading comes from these two websites:

<http://geography.asu.edu/aztc/monsoon.html>

http://www.wrh.noaa.gov/twc/monsoon/monsoon_info.php

HIP, HIP, HOORAY, IT'S MONSOON DAY!

ANSWER THE FOLLOWING QUESTIONS IN COMPLETE SENTENCES.

1. What date is San Juan's Day?
2. Using the charts in the Arizona Monsoon Reading, is a monsoon storm more likely to happen during June or July? Why?
3. According to the book, what is the temperature on San Juan's Day before the storm?
What is the temperature during and after the storm?
4. In the story, the children go out and play in the wind. Why is this not a good idea?
5. Why did Tata tell the children not to play in the arroyos during the Monsoon season?
6. How did Papa protect the children from lightning?
7. How did Mama protect the house from lightning?

8. Why did Papa tell the children not to hide under a tree during a lightning storm?

9. What is one animal in the book that is affected by the storm?

10. What does this animal do either before or after the storm?

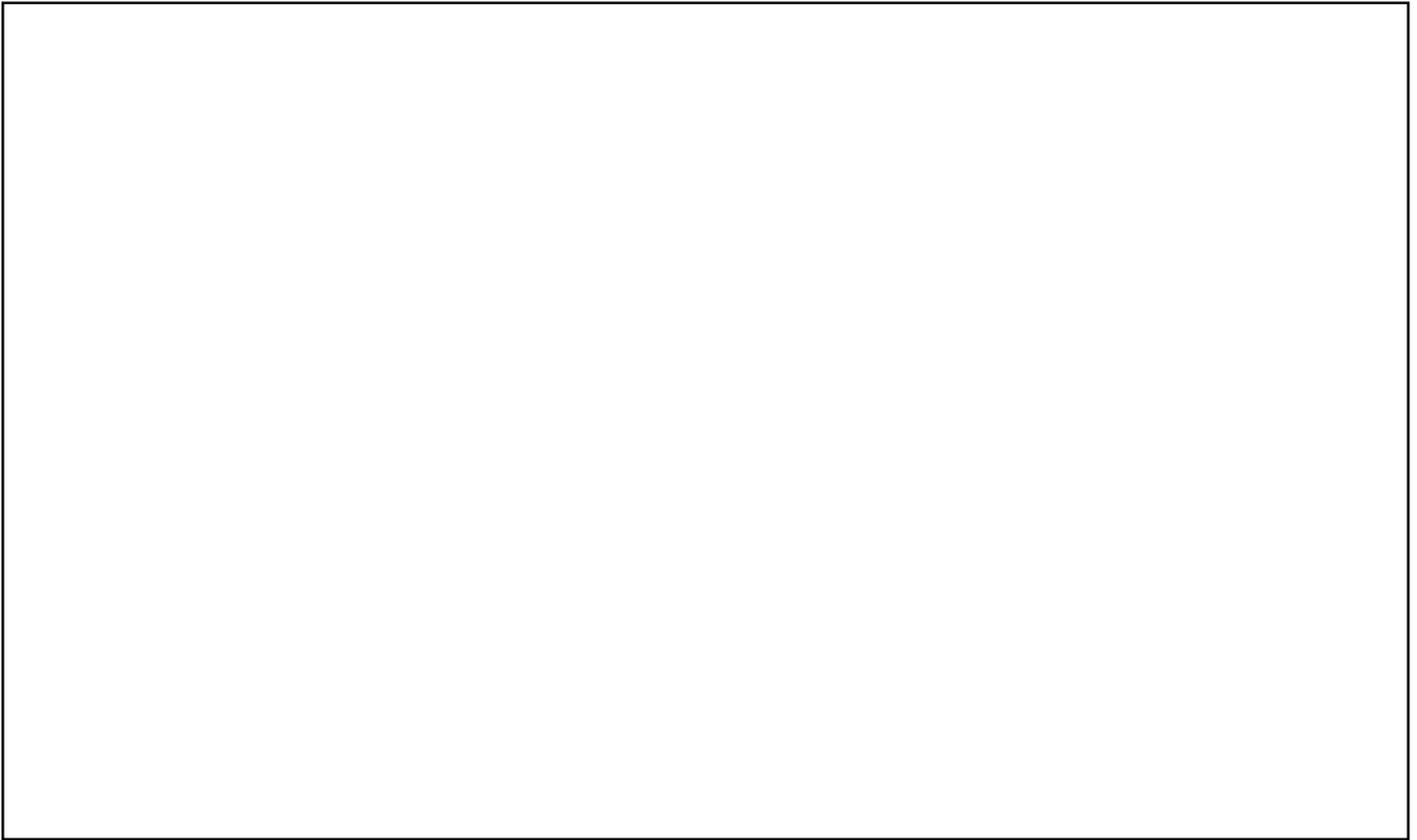
11. Think about the languages used in the book. What Arizona culture is the story based on?

12. Write three words that you learned in the story and what they mean.

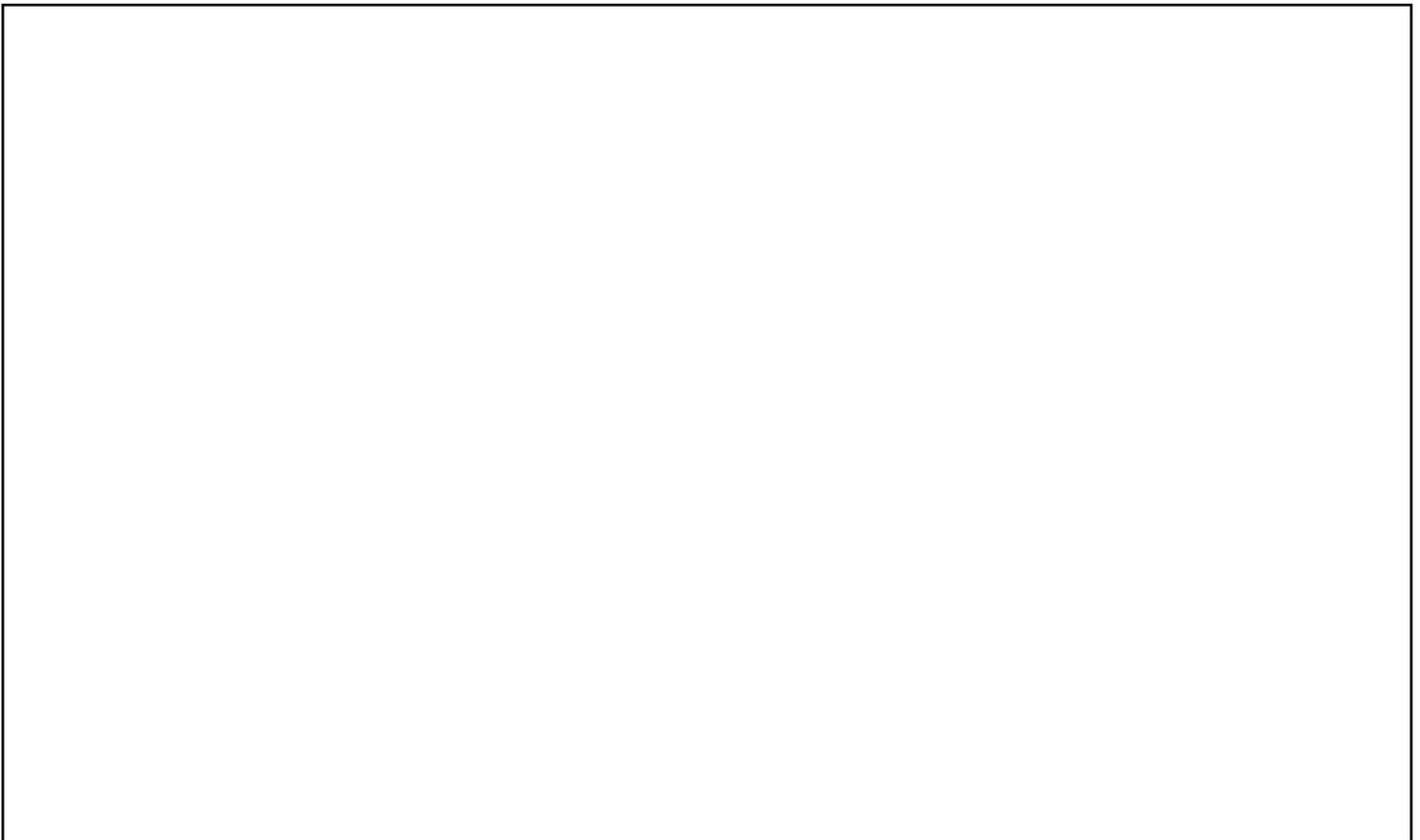
WORD

MEANING

13. Draw a picture of the damage that water can do during a flash flood.



14. Draw a picture of the damage that wind can do during a monsoon storm.



HIP, HIP, HOORAY, IT'S MONSOON DAY!

ANSWERS WILL BE IN RED.

1. What date is San Juan's Day? **San Juan's Day is June 24th.**
2. Using the charts in the Arizona Monsoon Reading, is a monsoon storm more likely to happen during June or July? Why?
A monsoon storm would more likely happen in July. The high pressure cell is right over Arizona.
3. According to the book, what is the temperature on San Juan's Day before the storm?
It is hot before the storm.
What is the temperature during and after the storm? **It is cooler after the storm.**
4. In the story, the children go out and play in the wind. Why is this not a good idea?
You could be hit by flying objects when the wind is blowing.
5. Why did Tata tell the children not to play in the arroyos during the Monsoon season?
The arroyos fill with water and you could fall in.
6. How did Papa protect the children from lightning?
He said to go into the house or into the car with the windows closed.
7. How did Mama protect the house from lightning?
Mama covered the mirrors with sheets to keep the lightning from hitting inside the house.
8. Why did Papa tell the children not to hide under a tree during a lightning storm?
Papa said that lightning looks for trees to hit. Lightning often strikes trees.
9. What is one animal in the book that is affected by the storm?
Quail, ants, lizards, and spadefoot toad are mentioned in the book.
10. What does this animal do either before or after the storm?
The quail run to find shelter. Ants line up and march underground. Lizards hide on the ground and are protected by rocks. Spadefoot toads come out from underground.
11. Think about the languages used in the book. What Arizona culture is the story based on?
Possible answers: The book is written in Spanish as well as English. Some of the words are in Spanish. This would refer to the Hispanic people who live in Arizona. The book describes people who have roots in Spain or Mexico.
12. Write three words that you learned in the story and what they mean.
Answers will vary.
13. Draw a picture of the damage that water can do during a flash flood.
Drawings will vary.
14. Draw a picture of the damage that wind can do during a monsoon storm.
Drawings will vary.

SCORING GUIDE FOR MONSOON BOOKLET

The title page will have the title and student's name in the center of the page (3 pts) _____

Arizona Monsoon
by
Your Name

Do not write on the first inside page.

Page 1 should have the class definition for monsoon. (2 pts) _____

Page 2 should have the title "How to Stay Safe When Lightning is Near" at the top of the page with a good illustration below it.

(5 pts) _____

Page 3 should have the title "How to Stay Safe When Strong Winds Blow" at the top of the page with a good illustration below it.

(5 pts) _____

Page 4 should have the title "How to Stay Safe When Dust Storms Happen" at the top of the page with a good illustration below it.

(5 pts) _____

Page 5 should have the title "How to Stay Safe When Flash Floods Happen" at the top of the page with a good illustration below it.

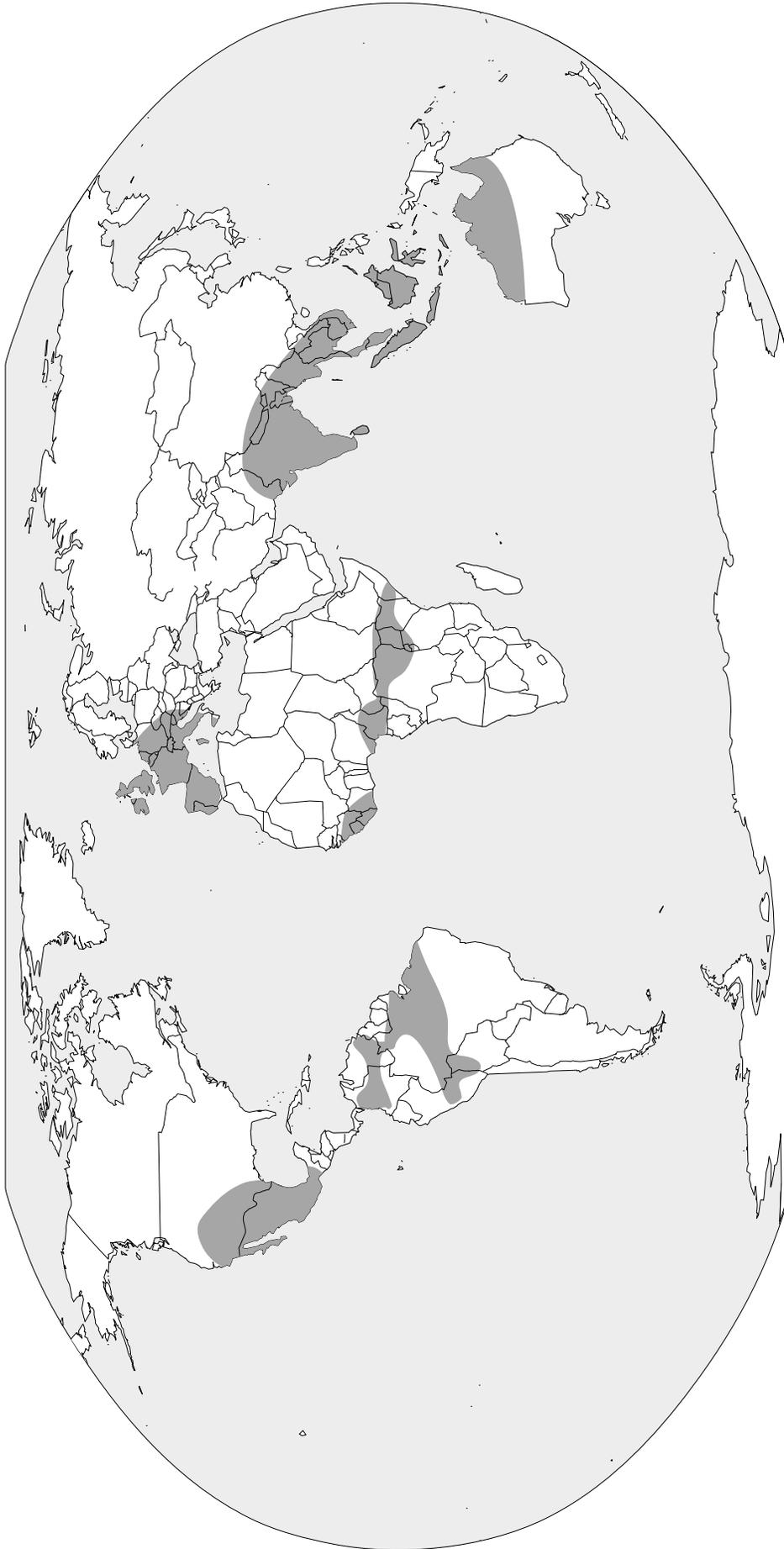
(5 pts) _____

Titles are neatly done and spelled correctly. (5 pts) _____

Illustrations clearly show what to do and are colorful. (5 pts) _____

Total points _____ (35 pts)

Monsoon and San Juan's Day



Approximate monsoon locations