

# Weather Watch

Leader Guide  
For Junior Girl Scouts



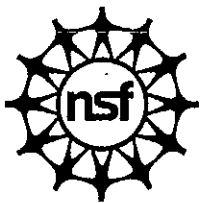
A collaboration  
Between  
Discovery Place, Inc.  
and Hornets' Nest Girl Scout Council.

# **BRIDGING**

T	H	E
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# **GAP**

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and Hornets' Nest Girl Scout Council.  
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## Weather Watch

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These activities are designed to simplify the activities found on pages 132-133 in the "Girl Scout Badges and Signs" handbook. They are designed to be fun, easy, and inexpensive. The layout of each activity contains simple instructions for preparation, as well as for sampling the activity before presenting with the Girl Scouts. All GSUSA guidelines should be followed when doing these activities.



## Introduction

As Girl Scout leaders and professionals, it is our goal to provide quality programs designed to enable girls to meet the many challenges of the future. Bridging the Gap (BTG) does that by providing easy, fun, and inexpensive activities that build confidence, both in the girls who do them, and in the leaders who guide them. All BTG activities are designed to be hands-on explorations of science, engineering, and mathematics (SEM), where the only limits are the boundaries of the imagination. Here, there is rarely a right or wrong answer. Instead, there is a sense of accomplishment in discovering something new in every effort.

As leaders, BTG gives **you** the opportunity to provide a more successful SEM program for your girls. By providing simple activities in an easy-to-follow format, BTG will enable you to guide your troops with confidence in both the execution and the success of your SEM programming.

With the increasing importance of science and mathematics in our everyday lives, from balancing a checkbook, to surfing the Internet, as well as in the professional world of the future, building confidence and excitement in exploring SEM activities is essential to the success of our girls in the world of tomorrow. But beyond the immediate challenge of these specific activities, there is even a greater importance attached to motivating our girls to explore science, engineering, and mathematics.

## Gender Equity and SEM

Girl Scout Councils across the country have done extensive research in the area of gender bias and how girls are affected by it, with a particular view toward science, engineering, and mathematics. In developing materials to be used by troop leaders, special attention has been given to the teaching methods and attitudes that our girls have been exposed to in the conventional classroom.

We know that in formal classroom settings, girls are not always encouraged to develop an interest in advanced science and mathematics studies. Research shows that both male and female teachers tend to expect more from boys, especially in the areas of science, engineering, and math, and, as a result, often unconsciously promote a learning bias. Sometimes this bias is a result of lower expectations for girls, and often reflects the teacher's personal lack of confidence in their own command of the material.

As Girl Scout adults, we need to encourage girls to explore their interests in science, not only for those who seek to become scientists, but also for those who want to become good parents, homemakers, businesswomen, and/or political leaders. Science and math are part of everyday life, from managing the household budget (accounting), to rearranging the furniture (geometry), and even while cooking dinner (chemistry).

The only way that we, as Girl Scout leaders and professionals, can implement a successful SEM program with our girls, is to motivate their natural excitement and curiosity, while reexamining our own perceptions as to what science is, and the role it plays in our lives.

We need to project an enthusiasm for the subject matter, a confidence in using the materials and in teaching the activity. We, the role models, must be *excited* at the opportunity to expand our knowledge through hands-on experiences in science, engineering and math, so that our girls will feed off that enthusiasm, and actively seek to gain the experiences that all of the data suggests they have been missing.

Bridging the Gap lets **you and your girls** explore, ask questions, take risks, and stretch your interests as far as your enthusiasm will allow. After all....

***Learning is directly proportional to the amount of fun you have!!!***

## Why SEM is essential for your Girl Scouts

According to data from the Departments of Education and Labor:

- While girls score higher than boys in reading from the 4th grade on, they fall behind boys in science and math test scores as they move further through high school.
- Over the past few years women were awarded fewer than 25% of the degrees in chemistry, less than 20% of the degrees in physics and math, and less than 1 of every 10 degrees awarded in engineering.

This happens despite research that indicates:

- Engineering will be among the highest paying and fastest growing occupations over the next decade.
- Women with good math skills earn more than women without good math skills.
- The fastest growing occupations - computer technology, engineering, and statistical analysis - all require strong backgrounds in science, technology, math, and/or engineering.

## Tips for Leaders Beginning SEM Activities

- Examine your own attitude about science and math before attempting the following activities.
- Practice the activities yourself.
- Take risks, get messy, explore, and observe.
- Have fun doing the activities.
- Develop a sense of confidence knowing that it works, it's easy, it's fun, and you can do it.
- Hold high expectations for the girls.
- Encourage the girls to take risks, get messy, explore, and observe.
- Invite the girls to have fun doing the activities.
- Don't readily give the girls answers. Instead, encourage them to discover on their own.
- Help the girls achieve a sense of accomplishment and confidence knowing they can do it.
- Whenever possible invite real role models, female engineers and scientists, to talk with your troop about their careers, and how the girls can start planning a career of their own.

## How To Use This Guide

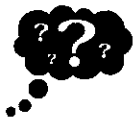
The activities in this guide are intended to be as user-friendly as possible. They were developed to be easy to do, easy to set up, and virtually always successful. Each refers to a corresponding section from an official Girl Scout leader handbook, and that is noted on the 'Contents' page as well as in each activity. For your convenience, we have included an overview, the estimated amount of time you'll need in doing the activity with the troops, the materials needed, safety and clean-up suggestions, and planning suggestions in order to better prepare to do the activity with your girls.

The step-by-step instructions include tips, cautions, questions to challenge your girls, and explanations. Since trying the activities before the troop meeting is strongly encouraged, we have included instructions with most of the activities on how to do it by yourself first. Please read all sections of the activity before trying with your girls. With many of the activities we have included references and resources at the end of the section, or in the back of the Leader Guide, to direct you to areas where your girls may explore further, or where specialty items might be purchased.

You will also find various icons throughout the guide which are placed to draw special attention for the following reasons:



When you see this **pay close attention** to the instructions.



These are questions you may wish to use to challenge your girls.



Look here for an explanation of what is happening and why.



This icon indicates a more in-depth explanation of what is happening.



Here you will find hints on making an activity easier.





**NOTES**

**How to Do It**



1. Locate the weather information in your daily newspaper. The basic information you will need for this activity includes the forecast for today and tonight, as well as a section that lists the temperature, precipitation, and other information about the weather from the previous day.

*In order to make it more fun when the girls share the forecast information from the newspaper, they can pretend to be the weathercaster or meteorologist on their local television station.*

2. Look at the two worksheets, "Today's Forecast" and "What the Weather Was Really Like". "Today's Forecast" is for the girls to record their forecast prediction, and the other sheet is for recording the actual weather.

*The information asked for may seem very simple, but it will be challenging for the girls to find and record this information on their own by using the newspaper.*

3. Fill out the "Today's Forecast" sheet first, using information from today's newspaper.

In addition, the weather section in the newspaper is good for noting extreme weather situations that may be happening around the country, such as hurricanes, major flooding, or heat waves. You may also find this information on the front page or on a national forecast map.

*You may want to add information you have learned from TV weather reports if something noteworthy is happening. If a hurricane has been approaching the US coast for a few days, or there is a major drought, discuss it with the girls.*

4. Now, take a look at the almanac section of the newspaper. This section should give information for what actually happened the previous day. With this information, fill out the "What the Weather Was Really Like" worksheet.





**NOTES**

**Doing the Activity With the Girls**



3. Practice filling out a copy of the chart in advance. Make a copy of the sample chart or use your own design. Find out how the real weather matches the forecasts for the seven-to-ten day period you collected weather information.
4. Add notes on unusual weather, such as a hurricane hitting the East coast, or a severe drought.
5. Choose one day's forecast from the newspaper to use as an example. Make copies of this for each girl so that the entire troop has the same day to practice with.

1. Ask the girls: **Why would you want to know what the weather will be?** Answers could include to plan a party; to know how to pack for a trip; to know what to wear to school that day.

*Learning how to read and understand weather forecasts is more effective if the girls have a reason to be interested. Cadette-age girls often check the weather forecasts in the morning to make sure they dress appropriately for the weather. Junior-age girls, especially young juniors, still often rely on their parents to do this for them. If learning to understand weather forecasts is presented as a way to be more grown up and independent, it will be much more appealing to the girls.*

Ask them: **What sort of information should be in a weather forecast?** Listen to their ideas, then hand out two "Today's Forecast" sheets and go over the information they are seeking. Let the girls change or customize the questions.

2. Tell them that they will be examining just how accurate weather forecasts are by reviewing the weather information from last week's newspaper. They will then pretend to be television meteorologists as they read the forecasts and then tell what really happened.









# Today's Forecast for

Date \_\_\_\_\_

Will it be clear or cloudy?

Will there be a chance of precipitation (rain or snow?)

What will the high temperature be? \_\_\_\_\_

What will the low temperature be? \_\_\_\_\_

Will there be any unusual weather happening around the area or country?

# What the weather was really like for

Date \_\_\_\_\_

The high temperature was \_\_\_\_\_

The low temperature was \_\_\_\_\_

Was there any precipitation (rain or snow?)

Did any unusual weather happen?





## NOTES

## How to Do It

1. Look over the "Cloud Information" sheets that the girls will be using to learn about different cloud types.
2. Read pages 14-20 in the "Weather" book. These pages provide good basic information about clouds, along with illustrations. Become familiar with the cloud symbols and their explanation as listed on page 20 of the "Weather" book. These cloud symbols are the same ones on the "Cloud Information" hand out.
3. Look over the cloud book. The book provides pictures for the girls to refer to. It also provides additional information about clouds and weather.



Despite all the complex names, clouds are basically two types, puffy, or cumulus, and layered, or stratus. If they are rain clouds, they have the work "nimbo" added to the rest of the cloud name. Layered rain clouds are nimbostratus clouds. Clouds are also named according to how high they are in the sky. High clouds have "cirro" added to the name, middle clouds have "alto" added to the name, and low clouds have no special prefix, they are classified as stratus or cumulus.

3. Complete the word search puzzle. Look for the word parts "stratus" and "cumulus". They appear often in the puzzle. Check to see if it is part of a longer word such as cirrostratus or altocumulus.
4. Learn the symbols which indicate the amount of cloud cover in the sky. This is also covered on the "Cloud Information" sheet.

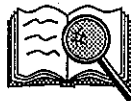


NOTES



Puffy clouds called cumulus clouds mean clear weather. Layered clouds called stratus clouds could mean rain or drizzle. Black, towering clouds called cumulonimbus mean a thunderstorm could be coming. Nimbus in a cloud name means it is a rain cloud.

3. Review the symbols for cloud cover.



No clouds mean the weather is clear. 1/4 to 1/2 coverage means the sky is partly cloudy. Three quarters coverage means mostly cloudy. If the whole sky is covered, it is overcast.

4. Distribute the word search puzzle, and have them go to work solving it.



*Caution the girls to be careful because many of the words end with "cumulus" and "stratus". Give them some hints, especially if you have younger Juniors.*

5. After the girls finish the word search puzzle, have them go outside and identify the clouds in the sky and write the cloud symbols on the bottom of the word search puzzle. If it is too dark, remind the girls what the clouds were like earlier in the day and have them find the correct symbols and to record them on the bottom of the puzzle.



*If there are no clouds, use the symbol for a clear sky. Don't be concerned about correct identification of clouds or that the girls agree on the same answer. Each girl is entitled to her opinion. If one girl insists the clouds are altocumulus, let her draw that symbol. Another girl may insist that the same clouds are cumulus. This is okay, let her draw the cumulus symbol. The important thing is that the girls are observing the clouds and making their own decisions.*

## Cloud Information

Clouds are classified according to how they are formed. There are two basic types : 1) Clouds formed by rising air currents. These are piled up and puffy. They are called *cumulus*, which means piled-up or accumulated. 2) Clouds formed when a layer of air is cooled below the saturation point without vertical movement. These are in sheets or foglike layers. They are called *stratus*, meaning sheetlike or layered.

Clouds are further classified by altitude into four families: high clouds, middle clouds, low clouds and towering clouds. The bases of towering clouds may be as low as typical low clouds, but the tops may be at or above 75,000 feet.

Cloud names are descriptive of their type and form. The word "nimbus" meaning rain cloud, is added to the names of the clouds which typically produce rain or snow. The prefix "fracto-," meaning fragment, is added to names of wind-blown clouds that are broken into pieces. "Alto-," meaning high, is used to indicate middle-layer clouds of either stratus or cumulus types.

High clouds are composed almost entirely of tiny ice crystals. Their bases average about 20,000 feet above the earth. Three types exist:

1

**Cirrus** clouds, thin, wispy and feathery, are composed entirely of ice crystals. Cirrus clouds usually form at 25,000 feet and above, where the temperature is always far below freezing. These clouds are frequently blown about into feather strands called "mares' tails."

2

**Cirrocumulus** clouds, generally forming at 20,000 to 25,000 feet are rarely seen. These thin, patchy clouds often form wavelike patterns. These are the true mackerel sky, not to be confused with altocumulus rolls. They are often rippled and always too thin to show shadows.

3

**Cirrostratus** clouds form at the same altitudes as cirrocumulus. These are thin sheets that look like fine veils or torn, windblown patches of gauze. Because they are made of ice crystals, cirrostratus clouds form large halos, or luminous circles, around sun and moon.

Middle clouds are basically stratus or cumulus. Their bases average about 10,000 feet above the earth.



**Altostratus** are dense veils or sheets of gray or blue. They often appear fibrous or lightly striped. The sun or moon does not form a halo, as with higher, ice crystal cirrostratus, but appears as if seen through frosted glass.



**Altocumulus** are patches or layers of puffy or roll-like clouds, gray or whitish. They resemble cirrocumulus, but the puffs or rolls are larger and made of water droplets, not ice crystals. Through altocumulus the sun often produces a corona, or disk, generally pale blue or yellow inside, reddish outside. The corona's color and spread distinguish it from the cirrostratus halo—a larger ring, covering much more of the sky.

Low clouds have bases that range in height from near the earth's surface to 6,500 feet. There are three main kinds:



**Stratus** is a low, quite uniform sheet, like fog, with the base above the ground. Dull-gray stratus clouds often make a heavy, laden sky. Only fine drizzle can fall from true stratus clouds, because there is little or no vertical movement in them.



**Nimbostratus** are the true rain clouds. Darker than ordinary stratus, they have a wet look and streaks of rain often extend to the ground. They often are accompanied by low scud clouds (fractostratus) when the wind is strong.



**Stratocumulus** are irregular masses of clouds spread out in a rolling or puffy layer. Gray with darker shading, stratocumulus do not produce rain but some times change into nimbostratus, which do. The rolls or masses then fuse together and the lower surface becomes indistinct with rain.

**Cloud Cover Symbols (in eights of the sky)**

<u>Amount of cloud cover</u>	<u>Symbol</u>
0/8 clear	
2/8 partly cloudy	
4/8 partly cloudy	
6/8 mostly cloudy	
8/8 overcast	

## Weather Watch Cloud Types Puzzle

G F E D E H J K K G D N M A S E G S B F E  
V F D S E S T R A T O C U M U L U S L P J  
A Z M Y U O P K J H F D T H C S E G T R R  
L R G Q M V H T Z S W J V D R G Y T N M Z  
T T U R L Q M R U Q A E D J K L P O J F X  
O G M T P A L R C I R R O C U M U L U S E  
C C B S T F R P P R K N D P L K J H G T Y  
U H Q H R I K A N N L Q O C T T R W X R N  
M V R M C I R R O S T R A T U S E Y Z A F  
U S Z K D E Q C H C K Z O I L M D T R T D  
L N R U F Y X Y E D J X S W J M U C R U J  
U M Y A L T O S T R A T U S R Y T L I S I  
S Y I V D N Z F S Y H L Q Z X F J K U F R  
A T O A J W N I M B O S T R A T U S W S D  
A A P X M T V J L P S U L K J G F D S E S

1. ALTOSTRATUS
2. STRATOCUMULUS
3. CIRRUS
4. CIRROCUMULUS
5. CIRROSTRATUS

6. CUMULUS
7. ALTOCUMULUS
8. NIMBOSTRATUS
9. STRATUS



## Weather Watch Cloud Types Puzzle Answer Key

G F E D E H J K K G D N M A S E G S B F E  
V F D S E (S T R A T O C U M U L U S) L P J  
A Z M Y U O P K J H F D T H C S E G T R R R  
L R G Q M V H T Z (S) W J V D R G Y T N M Z  
T T U R L Q M R U Q A E D J K L P O J F X  
O G M T P A L R (C I R R O C U M U L U S) E  
C C B S T F R P P R K N D P L K J H G T Y  
U H Q H R I K A N N L Q O (C) T T R W X R N  
M V R M (C I R R O S T R A T U S) E Y Z A F  
U S Z K D E Q C H C K Z O I L M D T R T D  
L N R U F Y X Y E D J X S W J M U C R U J  
U M Y (A L T O S T R A T U S) R Y T L I S I  
S Y I V D N Z F S Y H L Q Z X F J K U F R  
A T O A J W (N I M B O S T R A T U S) W S D  
A A P X M T V J L P S U L K J G F D S E S

1. ALTOSTRATUS
2. STRATOCUMULUS
3. CIRRUS
4. CIRROCUMULUS
5. CIRROSTRATUS
6. CUMULUS
7. ALTOCUMULUS
8. NIMBOSTRATUS
9. STRATUS



**NOTES**

**How to Do It**



1. Look over the weather placemat. Weather has four different elements - wind, temperature, air pressure, and moisture. Read the placemat sections on wind and air pressure.

2. Read the sections in the "Weather" book on high and low pressure systems from pages 60 - 66, and also look at the weather maps on pages 132-133.

Cool, dry air sinks and forms a high pressure area. High pressure air is heavy and pushes down bringing fair weather. Wind is caused by the air at the earth's surface moving away from high pressure areas.

Warm, moist air rises and forms a low pressure area. In warm air, the molecules are more active, and, as a result are spread out further apart. Since there are fewer air molecules in warm air (it is less dense) when compared with the same area in cooler air, there is less air pressure.

As the warm, moist air rises, it cools, and the moisture condenses to form clouds, and may turn into rain or snow.

Air at the surface moves into low pressure systems, which causes wind to blow toward low pressure areas. When the difference in air pressure is great enough, and cold air hits very moist, warm air, the result is often strong winds and storms.

3. You can put together a simple demonstration on the effects of air pressure. You will need two balloons, heavy rubber bands, a large, wide-mouth jar, and a baby food jar.

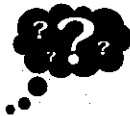






NOTES

Doing the Activity With the Girls



1. Hand out the weather placemats and the "Find the Low Pressure" sheets. Using the placemats, tell the girls there are four elements of weather: wind, temperature, moisture, and air pressure.

One of the main tools meteorologists use to tell where a storm may develop is to measure air pressure, and find out where low pressure areas are.

Low pressure areas are usually cloudy and can mean rain. An extremely low pressure area can mean a really big storm, such as a hurricane, is forming. Bad thunderstorms often form in a line just south of a low pressure area.

Have the girls look at the weather map. Ask them: **Where is the "L" which stands for a low pressure area?** It is in the upper midwest part of the country. There are symbols for snow, wind, and clouds around it, so this means you have also found a snowstorm on this weather map.

3. Have them notice the circles drawn around the "L". These circles are called isobars, and every place along the circle has the same air pressure.

Ask them: **How did meteorologists know where to draw them?** People all over the country take air pressure and other weather readings at the same time, and send the information to the National Weather Service. There the information is collected and put on maps. Then lines are drawn which connect the spots with the same air pressure. It would be too confusing to connect all the dots, so they are connected by groups.

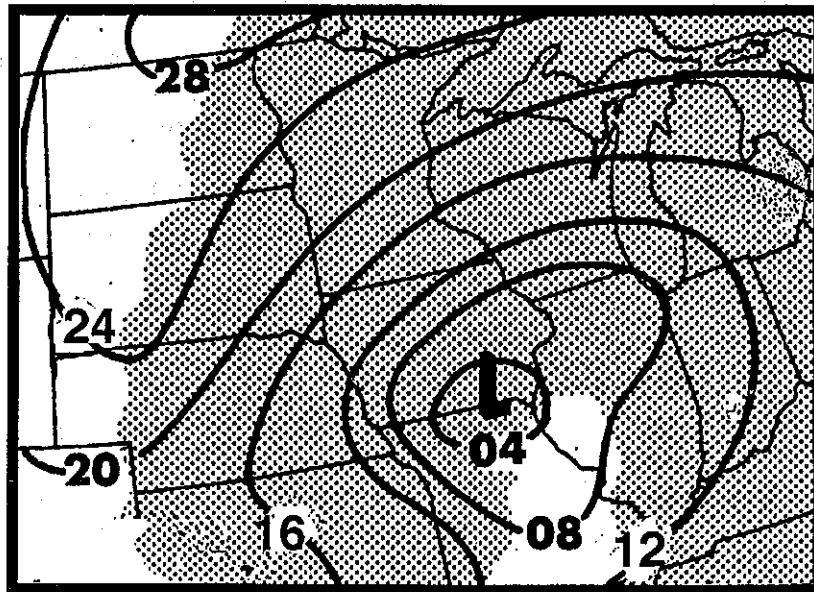
4. Find the line that is near the numbers .04.





## Finished Weather Map

This finished map shows the isobars, low pressure system and the cloud cover.







NOTES

**Before the Meeting**

1. Review the information on weather forecasting and the weather symbols handout.
2. If it is possible in your area, try contacting a local meteorologist to come talk to your girls, or visit an amateur or professional weather station.

**Doing the Activity With the Girls**



Ask them: **How do you think this picture was taken?** You may have to give them some hints to help them realize this picture was taken from a satellite in space.

2. Satellites let people look at weather in ways we were never able to before. In Benjamin Franklin's time, people only knew about the weather patterns that were present in the immediate area where they lived. They shared information by writing letters. Now we have satellites, radar, and other instruments to collect and share information by telephone and computers.
3. Tell the girls that you want them to pretend to be meteorologists again.



Ask them: **What are some of the weather patterns you see on the photos?**



*Hand out the placemat maps of the United States for the girls to use for reference.*



*The girls have a lot of fun when there is not too much structure to this. Let them use their imaginations and practice their newfound weather skills. They may think they have found a hurricane in a circular swirl of clouds. Whether it really is a hurricane or not isn't important.*

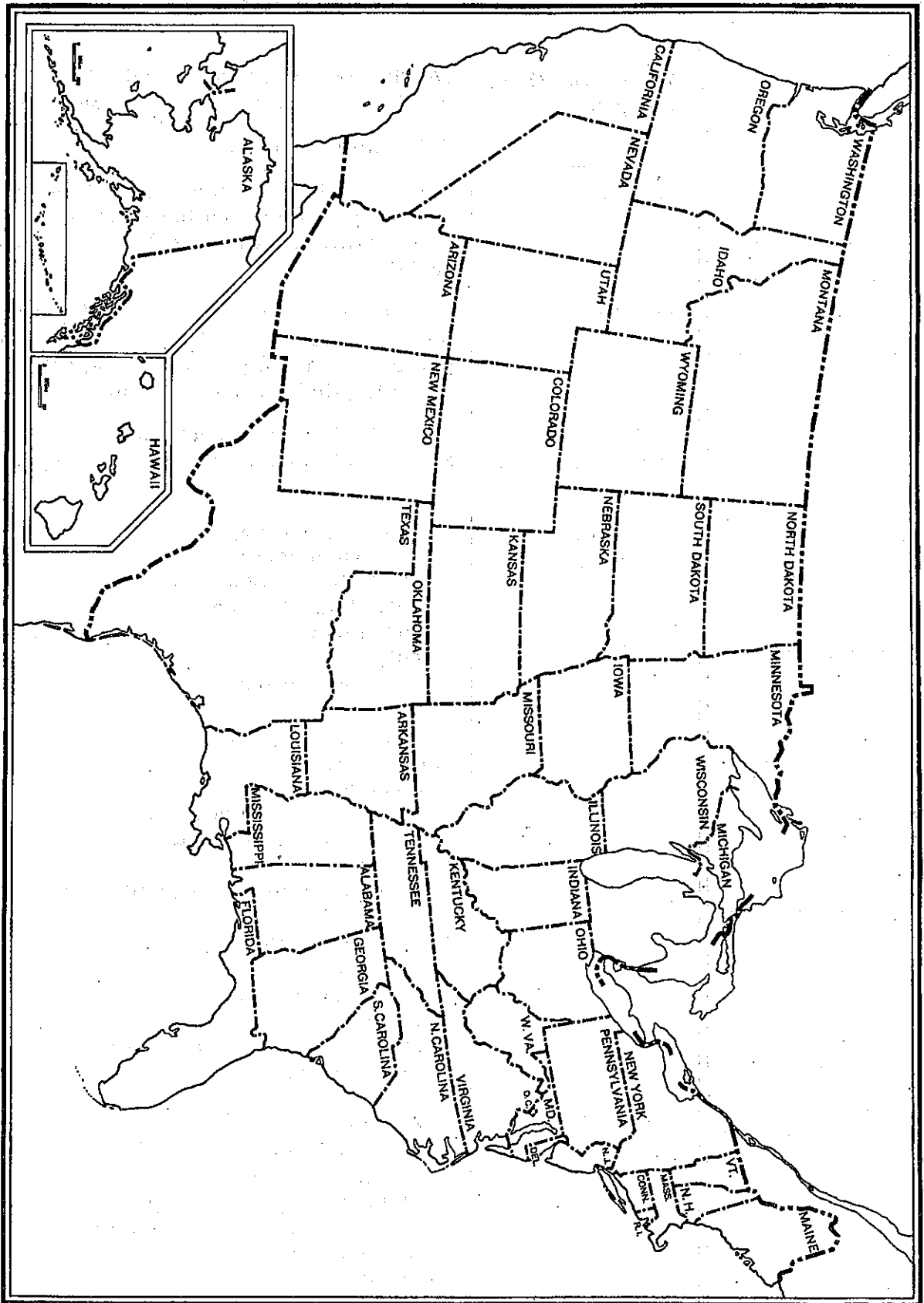


## Symbols used in Weather Maps

Precipitation	Wind speed and direction	Sky coverage
Fog Snow Rain Thunderstorms Drizzle Showers	0 calm 1-2 knots 3-7 knots 8-12 knots 13-17 knots 18-22 knots 23-27 knots 48-52 knots <p><b>1 knot - 1.15 miles per hour</b></p>	No cover 2/8 4/8 6/8 Complete overcast

Some types of clouds	Fronts and pressure systems
Altostratus Nimbostratus Altocumulus Cirrocumulus Cumulus of fair weather Stratocumulus Scattered cirrus Stratus of fair weather	<p>(H) or High Center of high or (L) or Low pressure system</p> Cold front Warm front Stationary front

# BRIDGING THE GAP



**NOTES**

**Corresponding Activity**

Weather Watch Badge, Activity 9, p. 133, Girl Scout Badges and Signs Handbook

This counts as two activities.

**Overview**

The girls will build and use an anemometer, a rain gauge, and a weather vane, as well as take temperature readings to collect their own weather data.

**Big Ideas**

This is a good summary activity. It gives the girls hands-on experience in measuring wind speed and direction, temperature, and precipitation by recording their own weather information.

**Estimated Activity Time**

20 - 30 minutes for each piece of equipment;  
30 - 45 minutes total to take readings.

**Materials Needed**

**Your VSC provides:**

- Thermometers
- "Weather" Golden Guidebook
- Weather placemats
- Compass
- Rulers
- Permanent markers

**Items you provide:**

*For each girl:*

- Pencil
- Copy of "Weather Data Chart"

***To make the Rain Gauge:***

*For each girl:*

- Empty can (with straight sides)
- Straw

***To make the Weather Vane:***

*For each girl:*

- Styrofoam cup
- Styrofoam plate
- Copy of "Pattern for Weather Vane"
- File Folder
- Scissors
- Straw
- 2 Pencils (one for drawing; one for vane)
- Stapler (1 per 2-3 girls)
- Plastic head straight pin
- Pen cap (without holes on the top)

*Additional supplies:*

- Glue Gun

Vertical column of lined space for notes, starting with the 'NOTES' header.







## NOTES

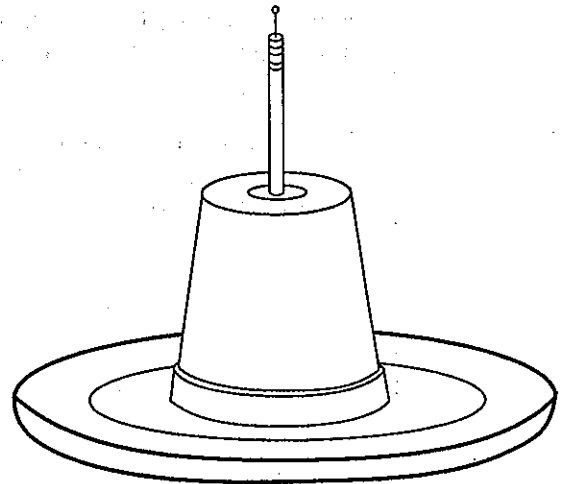


4. Use the hot glue gun to attach the straw to the top of a pen cap.

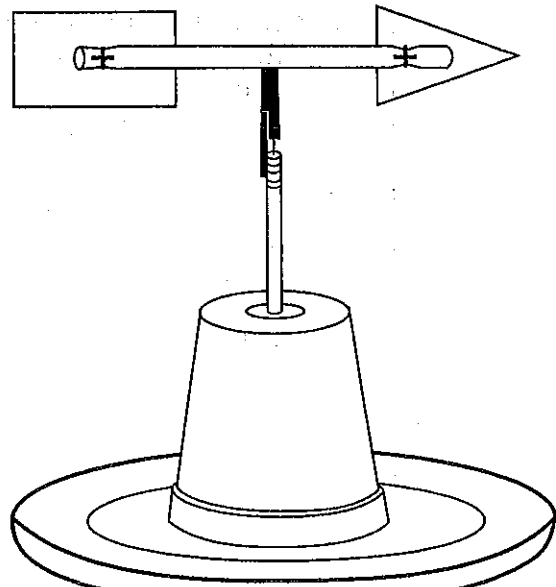
If the top of the pen cap has holes, the glue will drip through and make this very difficult to do.



5. Insert a pencil, eraser side up, through the Styrofoam cup. Stick a plastic-head pin into the eraser on the pencil.



6. Place the pen cap on the plastic-head pin, making sure it spins freely.











## Wind Speed Chart

<b>ANGLE</b>	<b>WIND SPEED</b>
<b>90°</b>	<b>0 mph</b>
<b>80°</b>	<b>8 mph</b>
<b>70°</b>	<b>12 mph</b>
<b>60°</b>	<b>15 mph</b>
<b>50°</b>	<b>18 mph</b>
<b>40°</b>	<b>21 mph</b>
<b>30°</b>	<b>26 mph</b>
<b>20°</b>	<b>33 mph</b>



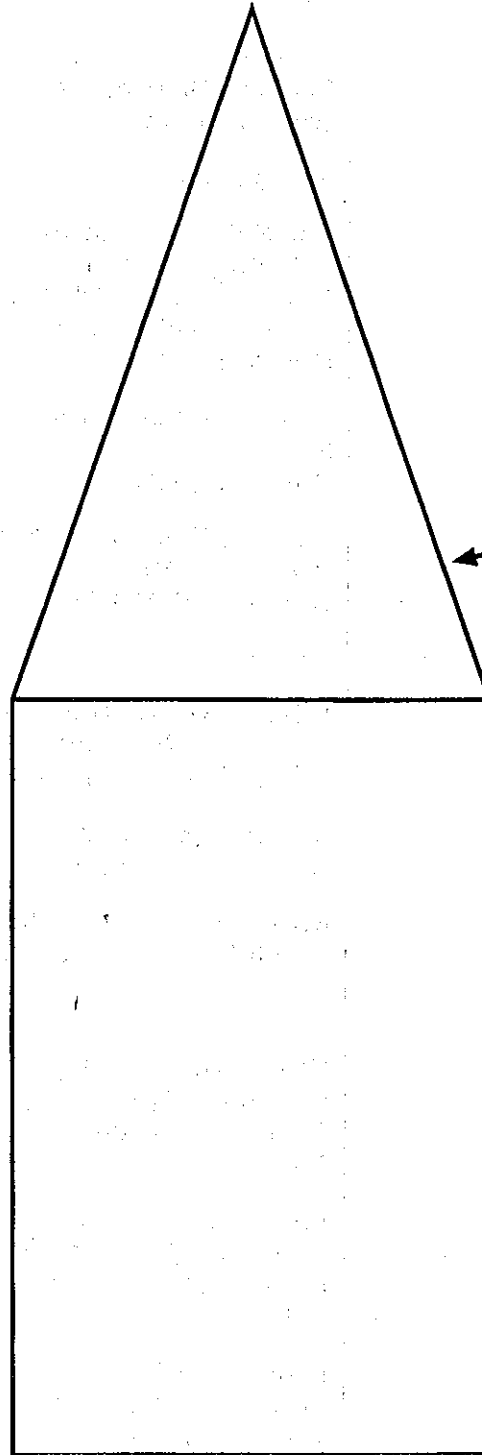
Weather Data Chart

Date and Time of Weather Observations					
Temperature					
Wind Direction					
Wind Speed					

Clouds and Sky Conditions					
Precipitation					

Anything Else?					
----------------	--	--	--	--	--

# Pattern for Weather Vane



Cut on  
solid lines



**NOTES**

**Program Links for *Weather Watch***

**Junior Badges**

Science in the Worlds, Exploring Careers, Discovering Technology

**Science in Action**

Science Sleuth, Eco-Action, Water Fun Badge, Water Wonders

**Resources:**

The Science Resource Center  
Bridging the Gap  
Hornets' Nest Girl Scout Council  
7007 Idlewild Road  
Charlotte, NC 28212

Discovery Place, Inc.  
301 North Tryon Street  
Charlotte, NC 28202

The Weather Channel Enterprises, Inc.  
PO Box 2249  
Livonia, MI 48151

**Websites:**

Interactive Weather Information Network, run by the National Weather Service  
**<http://iwin.nws.noaa.gov/>**

National Weather Service  
**[www.nws.noaa.gov](http://www.nws.noaa.gov)**

National Oceanic and Atmospheric Administration **[www.noaa.gov](http://www.noaa.gov)**

**References:**

Blueford, Dr. Joyce R., Angela Montez, Jo Marshal. *Water Cycle Activities and Lesson Plans Book 5.* California: Math/Science Nucleus. 1992.

Ludlum, Dr. David, Ronald L. Holle, Dr. Richard A. Keen. *National Audubon Society Pocket Guide, Clouds and Storms.* New York: Alfred A Knopf. 1995

Lehr, Paul E., R. Will Burnett, Herbert S. Zim, Ph.D., Sc. D. *A Golden Guide, Weather.* New York: Golden Press. 1987.

Williams, Jack. *USA TODAY The Weather Book.* New York: Vintage Books. 1992.

## Material List for *Weather Watch* activities

### Today's Weather

#### Tub Contents:

- 1 "Weather" Golden Guide book
- Color markers (your use is optional)

#### You provide:

*For each girl:*

- 2 copies of "Today's Forecast" worksheet
- 2 copies of "What the weather was really like" sheet
- Pencil
- Copy of a daily forecast from prior to the meeting
- Copy of USA outline map (optional)

*Additional supplies:*

- 7-10 days of weather information from daily newspaper
- Large piece of paper or posterboard

### Cloud Watcher

#### Tub contents:

- 1 cloud book
- 1 "Weather" Golden Guide book
- 1 Puzzle answer key

#### You provide:

*For each girl:*

- Copy of "Cloud Information" sheet
- Copy of "Weather Watch Cloud Types Puzzle"
- Pencil

### Finding Storms

#### Tub contents:

- 15 Weather placemats
- 1 "Weather" Golden Guide book

#### You provide:

*For each girl:*

- Copy of "Find the Low Pressure" worksheet
- Copy of "Finished Weather Map" sheet
- Pencil

*Additional supplies:*

- Large, wide-mouth jar (such as a 32-ounce pickle jar)
- Baby food jar
- Two 11" round helium-quality balloons
- Rubber bands (Have several on hand)



## How Can We Look at the Weather?

### Tub contents:

- 30 weather satellite photos
- 15 US map placemats
- 15 weather placemats
- 1 "Weather" Golden Guide book

### You provide:

*For each girl:*

- Copy of "Symbols Used in Weather Maps" sheet
- Copy of blank US map
- Paper
- Pencil

## Weather Station

### Tub contents:

- 30 thermometers in a quart bag
- 15 weather placemats
- 1 compass
- 30 six-inch rulers
- 1 "Weather" Golden Guide book
- Permanent Marker

### You provide:

*For each girl:*

- Pencil
- Copy of "Weather Data Chart"

## To make the Rain Gauge

*For each girl:*

- Empty can (with straight sides)
- Straw

**To make the Weather Vane**

*For each girl:*

- Copy of "Pattern for Weather Vane" sheet
- Styrofoam cup
- Styrofoam plate
- File folder
- Scissors
- Straw
- Stapler (1 per 2-3 girls)
- 2 pencils
- Plastic-head straight pin
- Pen Cap (without holes in the top)

*Additional supplies:*

- Glue Gun

**Dough recipe for 30 girls**

- 5 cups of flour
- 1 cup of salt
- 2 tablespoons of alum
- 2 tablespoons of oil
- 3 cups of hot water

**To make the Anemometer**

*For each girl:*

- Ping Pong ball
- Protractor
- Copy of "Wind Speed Chart"

*Additional supplies:*

- Ball of string or crochet thread
- Tape dispensers (1 per 2-3 girls)



**Bridging the Gap  
Weather Watch  
Troop Leader Survey**

Today's Date: \_\_\_\_\_

Number of Girls Participating: \_\_\_\_\_

1. Approximately how long did you spend on each of the following activities?

**Today's Weather** \_\_\_\_\_ minutes

**How Can We Look at the Weather?** \_\_\_\_\_ minutes

**Cloud Watchers** \_\_\_\_\_ minutes

**Weather Station** \_\_\_\_\_ minutes

**Finding Storms** \_\_\_\_\_ minutes

2. What activity did you or your girls enjoy the most, and why?

3. What activity did you or your girls like the least, and why?

4. Were your girls interested in exploring any of the activities further?  Yes  No

5. Which one(s)?

6. What did you do to fulfill that interest?

7. What can be done to make this more successful for your girls?

Thank you for your help and for your opinions!!!

Please return all forms to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Project Coordinator**  
**Co-Principal Investigator**  
**Principal Investigator**

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Attn: Bridging the Gap  
301 North Tryon Street  
Charlotte, NC 28202

Hornets' Nest Girl Scout Council  
Attn: Bridging the Gap  
7007 Idlewild Road  
Charlotte, NC 28212

We encourage you to visit our website at [www.bridginggap.org](http://www.bridginggap.org). *Let us hear from you!*