Science/Technology

Weather Fun

OBJECTIVES
- Understand basic weather concepts.
- Be aware of how weather changes affect daily decisions on the clothing we wear and the activities we can do.
- Realize the importance of weather safety.

GROUP SIZE
6 to 8 children per adult volunteer.

TIME FRAME
This lesson is designed for a group meeting between 30 and 60 minutes.

BACKGROUND
Help children discover the importance of weather and seasonal changes. The games, activities and hands-on experiences are designed to teach basic weather concepts and to help develop respect for weather safety.

LIFE SKILL AREAS
- Group discussion, games and role playing will help develop social skills.
- Opportunities for developing decision-making skills will be provided by the games.
- Cutting and making weather related items will provide practice in fine motor skills and eye-hand coordination.
- Large motor development will be fostered by the creative movement activity and snowball game.

HELP FOR VOLUNTEERS
Try these suggestions:
- Choose one or two of the following activities from each section.
- Try to create appropriate atmosphere by decorating the room with posters and props, using costumes related to the activity, pre-meeting preparation by the 4-H members, thinking about special seating arrangements, and playing background music.

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GETTING STARTED

ACTIVITY: *Weather Mystery Bags*
(4 - 6 minutes)

Materials: two grocery bags ("mystery bags") - one with a weather forecast and map from the daily paper and the other with a variety of items associated with different kinds of weather (umbrella, sun-glasses, mittens, boots, sun-block, fan).

Gather the group into a circle. Show them the first mystery bag. Tell them the mystery item has some-thing to do with weather. Ask them to guess what it is. Give clues until someone guesses correctly. Show them the weather map and forecast. See if they can name different kinds of information included in the weather report. Ask them to describe today's weather. Show the second mystery bag. Randomly select children to pull out an item and tell what kind of weather the item would be used for. Encourage them to think creatively by asking them questions such as "Are sunglasses worn only in the summer?" or "Is there another kind of weather condition that an umbrella could be used for?

Application: Ask the children to think about other examples of items that we use for different weather conditions. Encourage them to be on the lookout for examples at home, school, at the store, and when outside.

ACTIVITY: *What Should I Wear Today?*
(8 - 10 minutes)

Materials: old clothing catalogs, magazines, scissors, construction paper and glue. Fold the construction paper in half. Label the top of one side "It's Cold Today." Write, "It's Not Cold Today" on the other side of the paper. Ask the children to find pictures of clothing that would be suitable for each weather condition. As they cut out and glue the pictures on their papers, talk about how weather affects what we wear.

Note to the Volunteer: Have the children make extra examples to use in an Art Exhibit and Display.

Application: Encourage the children to read the weather forecast for the week and think about the types of clothing they might need for each day.

ACTIVITY: *Safe or Not Safe:*
A Weather Safety Game
(6 - 8 minutes)

Materials: none.
Tell the children you are going to read some situations regarding the weather. When they hear an action that is true about weather safety they will jump and shout "That's Safe!" When they hear a statement that is false they will sit down and shout "Not Safe!" Discuss each example, asking the children to tell why the statements are true (+) or false (-).

Safe or Not Safe
Talking on the phone when there is thunder and lightening (-)
Putting sunscreen on before going out in the sun (+)
Using the computer when there is thunder and lightening (-)
Playing outside during a tornado warning (-)
Standing under a tree during a thunderstorm (-)
Wearing a coat, hat, and gloves in very cold weather (+)
After a storm, staying away from downed power lines (+)
Playing on loose tree branches that broke during a storm (-)
Going into the basement during a tornado warning (+)
Staying out in the hot sun all day long (-)
Wading in deep puddles or streams after a rainstorm (-)

Application: Look for examples of weather safety situations in the newspaper or on television. Did the people involved do the safe thing? What happened?

DIGGING DEEPER

ACTIVITY: *Stovetop Rainstorm*
(7 - 8 minutes)

Materials: large sauce pan, with lid, water, and stove or hot plate. Explain to the children that clouds are formed when water evaporates. When the vapor rises it cools and condenses or changes into millions of very small water droplets that form a cloud. When the droplets collect more moisture, the clouds become very heavy and raindrops start to fall.
Boil the water in the pan. The steam that rises or evaporates is like the vapor that makes clouds. Collect the droplets by holding the pan lid about six inches above the steam from the boiling water. As the steam hits the lid, it cools down and changes back into water. When enough water has collected on the lid, it will drip down, making a stovetop rainstorm.

Application: Look at the sky the next time it rains. You can see dark, heavy rain clouds. Watch the sky for several days. Can you predict if it's going to rain?

ACTIVITY: *A Moving Experience with Weather*
(4 - 6 minutes)

Materials: none.
Invite the children to stand and spread out. Ask them to pretend they are different kinds of weather. Ask them what the following weather would look and sound like:

- warm gentle breezes begin blowing on a sunny day
- the wind becomes stronger and starts to howl
- raindrops start to fall lightly
- the rain becomes a steady downpour
- lightening and thunder fill the sky
- a tornado develops
- the tornado calms down, slower and slower and finally stops
- snowflakes begin to dance in the sky
- the snowfall becomes heavy
- the snowstorm slows down
- the last snowflake falls to the ground

Application: The next time you are outside, look and listen carefully to how many different ways the weather can look and sound.

ACTIVITY: *Rain Paint*
(6 - 8 minutes)

Materials: paper, newspaper, powdered tempera paint, plastic spoon, spray bottle with water. Cover the table with newspapers. Sprinkle a small amount of powdered tempera on a sheet of paper. Lightly spray the paper with "rain." What happens? Try two different colors. What are the results this time?

Application: Look at the patterns rain makes on the ground after a storm. Watch for the designs that rain makes as it sprays windows or windshields and as it splashes into puddles.

LOOKING WITHIN

ACTIVITY: *Thermometer Fun*
(5 - 7 minutes)

Materials: thermometer, two containers of water, one with hot water and one with cold water.
Show the thermometer to the group. Ask what thermometers are used for. Point out the current reading. Explain that the red colored liquid (mercury) expands, or gets longer, when it gets warm. Put the thermometer in the container with the cold water. What happens? What does the temperature read now? Put the thermometer in the container of hot water. Check the reading now. Let the children experiment. Record your findings.

Application: Thermostats have a kind of thermometer in them. Ask the children to look at the thermostats at home with their parents. What is the room temperature? What else can a thermostat do?

ACTIVITY: *Make Your Own Thermometer*
(5 - 7 minutes)

Materials: thermometer pattern, heavy paper or poster board (81/2 " by 11"), glue, scissors, red and black markers, safety pins, and 12" strips of elastic.

Have the children cut their thermometers out and mount them on the poster board. Help the children cut two slits in the thermometer. Color half of the elastic red. Thread it through the poster board and pin it in the back. Have the children experiment and make the temperature go up and down.

Application: Ask the children to be thermometer and temperature detectives. Have them look around in their community for thermometers and temperature readings (outdoor temperature readings at banks, frozen food sections in grocery stores, radio and television reports).

ACTIVITY: *WBUD: 4-H Weather Channel*
(5 - 7 minutes)

Materials: none.
Ask the group if anyone knows what a meteorologist does (studies the weather and makes weather predictions). Talk about some of the words meteorologists use (precipitation, relative humidity, pollen count, etc.). Help the children pretend they are meteorologists and give a short weather forecast. The forecast should include the current temperature, direction the wind is coming from and its speed, and the relative humidity (is it damp or raining?). Don't forget to close your report with, "It looks like it will be a good day to ..." Give weather reports for your community for the spring, summer, fall and, of course, winter.

Application: Watch the weather report on television. What other kinds of things are included in the report?

REACHING CONCLUSIONS

ACTIVITY:
What Can You Do with a Snowball?
(5 - 7 minutes)

Materials: paper to crumple into "snowballs," cassette tape or record player, and instrumental music. Explain to the group that if the temperature drops below 32 degrees Fahrenheit, it is cold enough to snow, if the weather conditions are right. If you made thermometers, set the temperature at a reading somewhere below the freezing point of water (32 degrees). Make pretend snowballs from the paper. Crumple them tightly so they don't "melt." Turn on the music and see if the children can do the following with their "snowballs":

- walk around the room with the snowball under their chin
- balance the snowball on their head
- jump around the room with the snowball between their knees
- get on hands and knees and blow the snowballs on the floor from one end of the room to the other
- use baby steps to walk around the room with the snowball between their feet
- throw their snowball into the trash can

GOING BEYOND

ACTIVITY: *After the Rain Scavenger Hunt*

Materials: none.
Take a hike outside after a rainstorm. Look for clues that let you know it has rained. Can you find:

- a puddle
- raindrops on leaves
- leaves that have blown off during the rain
- a dry spot protected by leaves or branches
- raindrops on a spider web
- earthworms on the ground
- birds looking for food
- a watermark left after water drained away or evaporated
- insect or worm trails in the mud
- an asphalt "rainbow" (oil and water)

Application: Try this activity after a snowfall. What kinds of things can you find caused by the snow?

Reading Adventures

This listing of reading materials can be used by you as background, or for sharing before to set the stage for the lesson or for sharing afterwards to reinforce the lesson.
The Cloud Book, by Tomie dePaola
Where Does the Butterfly Go When It Rains?, by May Garelick
First Snow, by Emily Arnold McCully
A Walk in the Rain, by Ursel Scheffler

Adapted from materials developed by Ohio State University Extension and Penn State University Cooperative Extension.