

Table of Contents

Chapter 1: What Is Weather? . . . 7

Weather Watch Symbols/Official Weather Watcher's Badge	8
Weather Watch Center	9
Weather Reporting	10

Chapter 2: The Four Seasons. . 15

Seasons	16
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Chapter 3: Watching and Measuring the Weather 30

Weather Folklore and Myths and Predictors	32
Predicting the Future Weather	36
Measuring the Weather	37
How Weather Is Measured	38
Junior Meteorologists' Weather Watching Station	39
Mapping the Weather	41

Chapter 4: Sunny Days 42

Legends of the Sun	44
The Colors of Sunlight	45
The Magic of Evaporation	46
Solar Power: Energy from the Sun	50
Ultraviolet Rays	52
Be Sun Sensible: Put Up a Barrier!	54
Monitor the Sun's Rays	56
How Hot Is It?	58
Beat the Heat	59
Where There Is Sun, There Is Shadow	61

Chapter 5: Cloudy Weather . . . 62

"Genera"lly Speaking	66
CCN-Cloud Condensation Nuclei	72
Why Are Rain and Snow Clouds So Dark?	73

Chapter 6: Rainy Weather 74

Raindrop Art	80
Rain Rituals	85
Fun-in-the-Rain Play Day	90
Singing in the Rain	91
Rainbows	97

Chapter 7: Windy Weather . . . 103

Wind Varieties	105
Wind Direction	108
Wind Speed	109
The Beaufort Scale	111
Wind at Work	113

Chapter 8: Snow and Cold . . . 116

Snow Types	117
Snow Facts and Snow Folklore	118
Snow Study Center	121
Snow Cover	122
Ice	124
Ice Skating	125
Skate Fitting and Care Tips	126
Frost	127
Critter Care	128
Insulation from the Cold	130

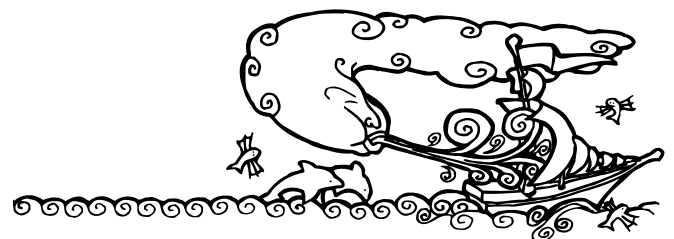
Chapter 9: Weather in the Extreme 133

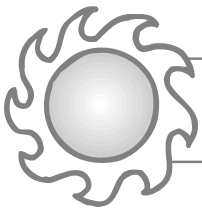
What Is Lightning?	133
What Is Thunder?	138
Hurricanes	142
Tornadoes	145
Hail	148
Floods and Droughts	150

Chapter 10: Pollution and Our Changing Weather 152

Smokey-Fog	153
Global Warming	155
Ozone Depletion	156
Acid Rain	157
Kids Can Help!	159

Resources 160





Chapter 1

What Is Weather?

We see and feel the weather as wind that blows our hair, as heat that warms our bodies, as cold that nips our nose and toes and as rain that soaks our skin. We see the weather in billowy clouds, blue skies and sunshine, frost on the ground, swirling snow and foggy days. From the hot, still days of summer to the wildest harsh storms of winter, weather is a fascinating part of our world.

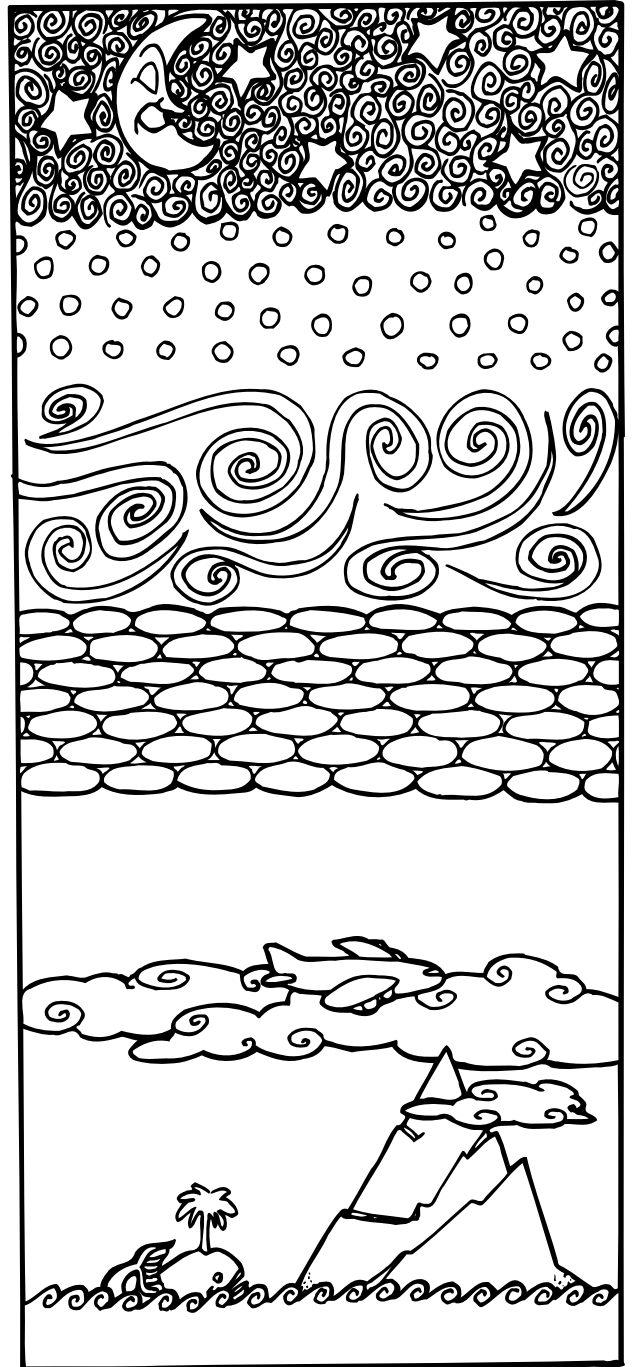
To understand weather we look to the blanket of gases called the atmosphere that surrounds our Earth. The atmosphere is about 600 miles (1000 km) above you and is arranged in four layers. This atmosphere separates us from outer space and makes the Earth different from all other planets.

The layer closest to the Earth is 12 miles thick (19 km), weighs more than any other layer and supports all life on Earth. It is called the troposphere and contains the air we live in and breathe. Technically, weather is the condition of the troposphere. The sun's heat keeps the wind and water in the troposphere heating and swirling to give us our endless cycle of changing weather. Our rain, snow, sleet, hail, thunder, lightning and rainbows all happen here, in the troposphere.

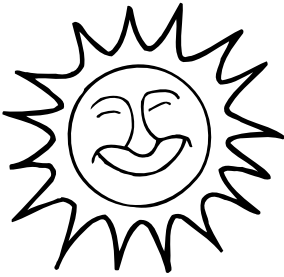
The usual kind of weather that a particular place experiences over a long period of time is called its climate. People all over the world adapt to their particular climate. People's traditions, homes, foods, clothes, means of travel and day-to-day activities are adapted to reflect the kind of weather they experience.

Weather is fascinating and ever-changing, and it shapes our lives every day.

Air is all around us in the troposphere and without it there would be no people, plants or animals on Earth. We can swallow it, breathe it, move it and watch what it does, but we cannot see it. It consists of many invisible gases (mostly nitrogen and oxygen gases).



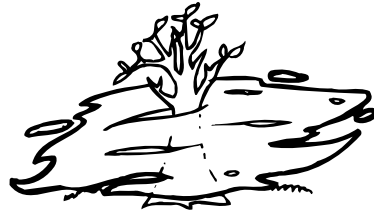
Weather Watch Symbols



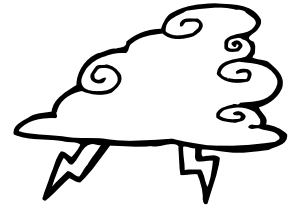
Sunny



Showers



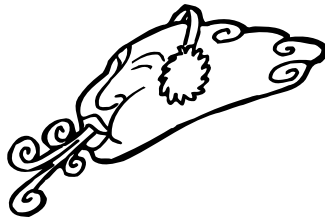
Fog



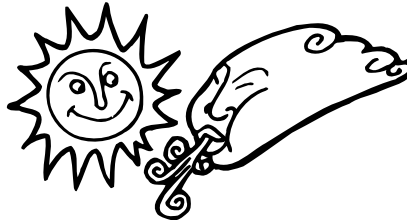
Thunderstorm



Rain



Cold Front



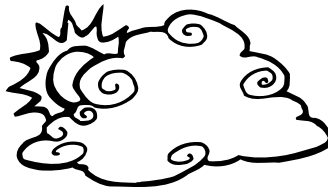
Warm Front



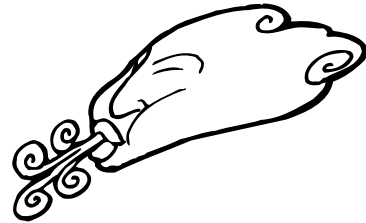
Snow



Cloudy

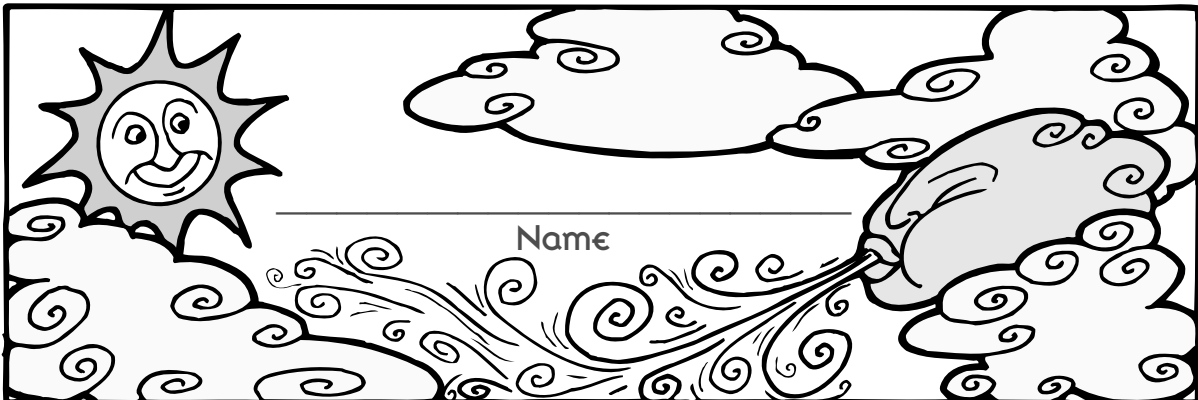


Partly Cloudy



Windy

Official Weather Watcher's Badge





Weather Watch Center

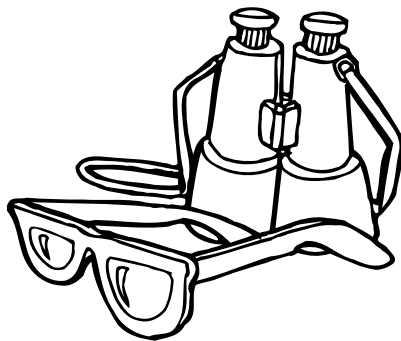


Set up a Weather Study Center to be used throughout the book to:

- encourage children to study the winter environment.
- encourage students to investigate to better understand the weather around them.
- aid in the answering of questions.
- foster skills of measurement, graphing, reasoning, recognizing relationships and articulating thoughts.

Materials

window
table and chairs
weather diary
weather symbols
sheet (page 8)
cloud charts
weather books
barometer
thermometer
Weather Watch Calendar (page 12)
binoculars, sunglasses, camera (optional)
glue, markers, scissors, pencil, paper



Try This

- Designate an official "weather watcher" each day who must record and report on the day's weather. Provide the Official Weather Watcher's Badge on page 8.
- Decorate the surrounding area with magazine pictures, photographs or drawings of various kinds of weather to stimulate weather observation.
- Provide weather words and symbols to assist children in recording their observations.
- Encourage observations with questions such as "How does the sky look today?" "Which way are the clouds moving?" "Can you see across the school yard today?"
- Add and rotate materials at the center on a regular basis. Add a real barometer, a "tornado maker" (screw attachment between the necks of two one-liter bottles, available at hobby and science shops) and newspaper weather reports.
- Invite a local weather observer as a guest to get children excited about the weather as you launch your center.

What to Do

- 1 Set up a table and chairs by a window that offers a good view of the outdoors.
- 2 Provide various materials listed above to assist children in directing their own investigations of the weather beyond the window.
- 3 Encourage "weather watchers" to record their observations and weather reports in their weather diaries.
- 4 At the close of the school day, review today's weather reports and summarize on the Weather Watch Calendar.

