

# LESSON 32 | How do you read a weather map?

In Lesson 30, you learned that weather scientists use station models to show weather conditions. A station model uses symbols instead of words to describe the weather. Now let us learn more about station models so we can see what each part stands for. Then you will know how to read a weather map.

**SKY CONDITIONS** Each station model is marked by a circle. The circle tells us if the sky is clear, cloudy, or partly cloudy. In most weather maps you see, circles also show precipitation.

The circle of the "clear sky" symbol has nothing in it. All other sky symbols have something in the circle.

These are the symbols for sky conditions:

○ clear	Ⓩ freezing rain (sleet or hail)
◐ partly cloudy	Ⓢ snow
● cloudy	Ⓣ thunderstorms
Ⓕ fog	Ⓜ missing (information not sent by the weather station)
Ⓡ rain	☪ hurricane

**TEMPERATURE** It is very easy to show temperature on a station model. Just write the temperature near the city. THAT'S ALL! Easy enough?

This is what "partly cloudy" sky with 20° C temperature looks like:

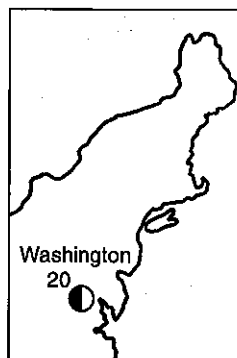


Figure A

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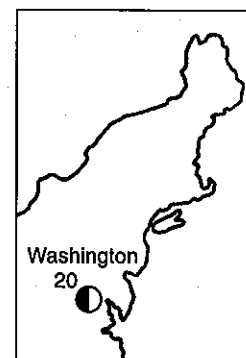


Figure A

## DRAWING CIRCLE SYMBOLS

Draw the circle symbol for each of the following.

	Sky Condition	Symbol		Sky Condition	Symbol
1.	rain		6.	snow	
2.	hail or sleet		7.	hurricane	
3.	information missing		8.	partly cloudy	
4.	fog		9.	thunderstorms	
5.	clear		10.	cloudy	

## IDENTIFYING CIRCLE SYMBOLS

What do these symbols mean?

	Symbol	Meaning		Symbol	Meaning
1.	Ⓩ		6.	☯	
2.	Ⓜ		7.	ⓕ	
3.	Ⓣ		8.	Ⓡ	
4.	○		9.	◐	
5.	●		10.	Ⓢ	

## WEATHER MAP

The weather map (Figure B) shows the sky conditions and temperatures of fifteen cities. Use this weather map to fill in the chart.

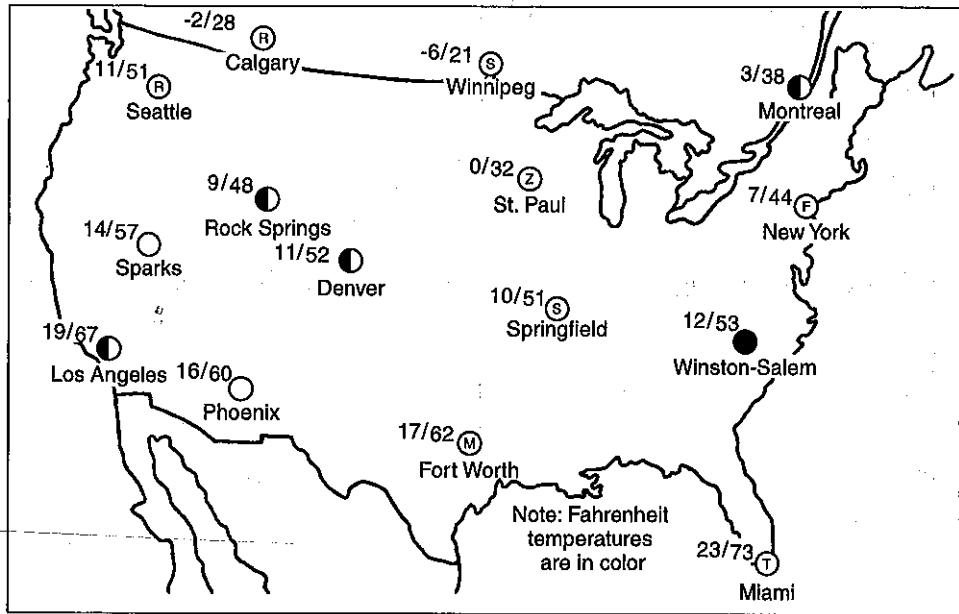


Figure B

	City	Sky Condition	Temperature (°C)
1.	Calgary, Alberta		
2.	Denver, Colorado		
3.	Fort Worth, Texas		
4.	Los Angeles, California		
5.	Miami, Florida		
6.	Montreal, Quebec		
7.	New York, N.Y.		
8.	Phoenix, Arizona		
9.	Rock Springs, Wyoming		
10.	Seattle, Washington		
11.	Sparks, Nevada		
12.	Springfield, Ohio		
13.	St. Paul, Minnesota		
14.	Winnipeg, Manitoba		
15.	Winston-Salem, N.C.		

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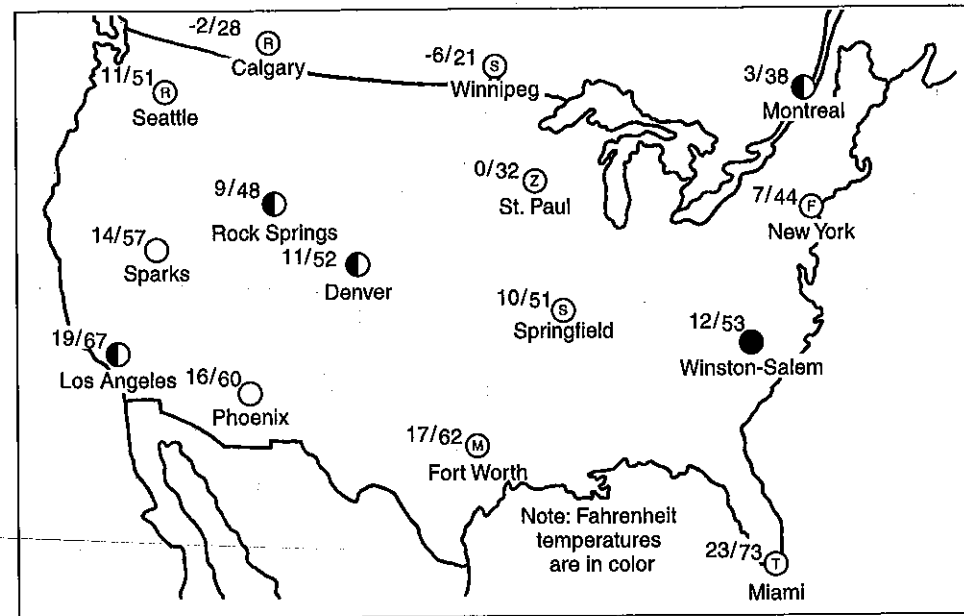




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7.	New York, N.Y.		
8.	Phoenix, Arizona		
9.	Rock Springs, Wyoming		
10.	Seattle, Washington		
11.	Sparks, Nevada		
12.	Springfield, Ohio		
13.	St. Paul, Minnesota		
14.	Winnipeg, Manitoba		
15.	Winston-Salem, N.C.		

## MORE ABOUT WEATHER SYMBOLS

Wind is an important part of weather. Wind is also an important part of a weather map.

The symbol for wind is a long line with small lines on the end. The small lines are called "feathers" or "flags." There are full flags  and half flags .

A wind symbol tells us two things:

- (1) how fast the wind is blowing
- (2) the direction it is coming from

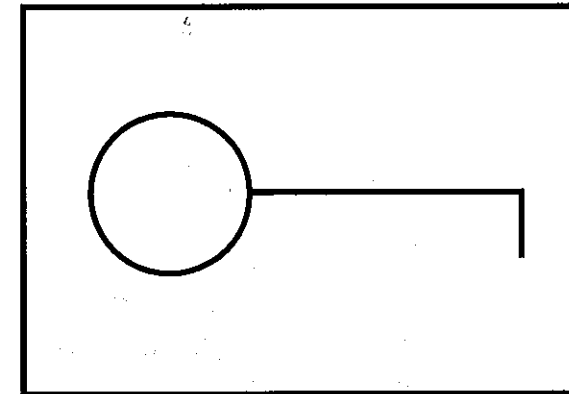


Figure C *Slight breeze*

**WIND SPEED** The number and length of the flags tell the wind speed. More flags mean faster wind. Fewer flags mean slower wind. For example, the symbol in Figure C shows a slight breeze.

The chart on page 196 shows the rest of the wind speed symbols.

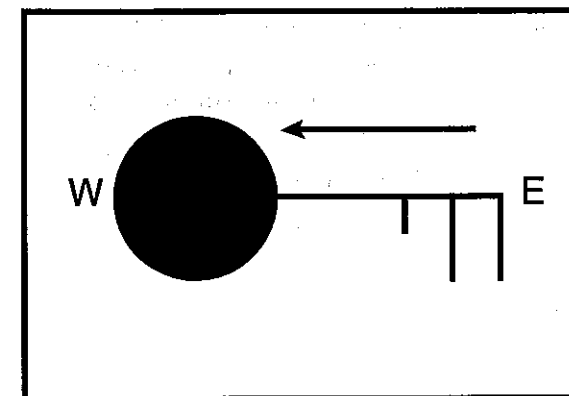


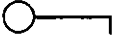
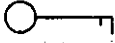
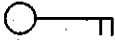
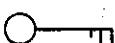
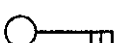


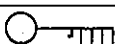
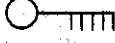
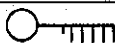
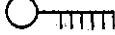


Figure D

**WIND DIRECTION** Wind direction is shown by an arrow. And we use this fact to tell wind direction—**THE ARROW FLIES WITH THE WIND.** The arrows point into the direction from which the wind is blowing.

The wind in Figure D is heading west. It is coming from the east. It is called an east wind. (Remember, a wind is named for the direction it comes from.)

## WIND CHART


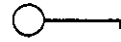
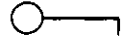

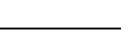
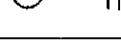
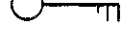
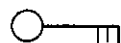
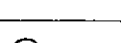
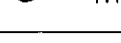

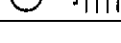
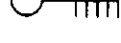
Symbol	Speed		Description	What the Wind Does
	miles per hour	km per hour		
	less than 1 per hour	less than 2 per hour	calm	Smoke rises straight up
	1-3	2-5	light air	Smoke moves with the wind
	4-7	6-11	slight breeze	Face feels wind; leaves rustle; flags stir
	8-12	12-19	gentle breeze	Leaves and twigs in constant motion; light flags wave straight out
	13-18	20-29	moderate breeze	Dust clouds rise; paper and small branches move
	19-24	30-39	fresh breeze	Small trees bend; whitecaps form
	25-31	40-50	strong breeze	Umbrellas turn inside out; large branches move; telephone wires whistle
	32-38	51-61	near gale	Walking difficult; large flags blow straight out
	39-46	62-74	gale	Walking is extra difficult; twigs break off trees
	47-54	75-87	strong gale	Shingles torn off roofs
	55-63	88-101	storm	Trees and telephone poles topple; much damage to homes
	64-75	102-120	violent storm	Very heavy damage
	over 75	over 120	hurricane	Extra heavy damage

Measuring wind was first done by sailors on ships. They used different flags to show how strong the wind was blowing.

Now these symbols are used by the Weather Service to show wind on a map.

What is the strongest wind you have ever felt? Answer by drawing the symbol in the box.

## WIND CHART

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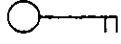
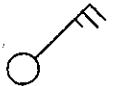



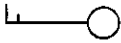

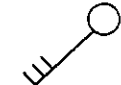
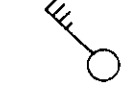
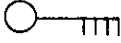
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## COMPLETE THE CHART

Study the ten symbols shown below. Then fill in the missing information on the chart. The first one has been completed for you.

	Wind Symbol	Speed (kilometers per hour)	Description	Name
1.		20-29	moderate breeze	east wind
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

# FROM MAP TO CHART

Study the symbols on the weather map (Figure E). Then fill in the chart.

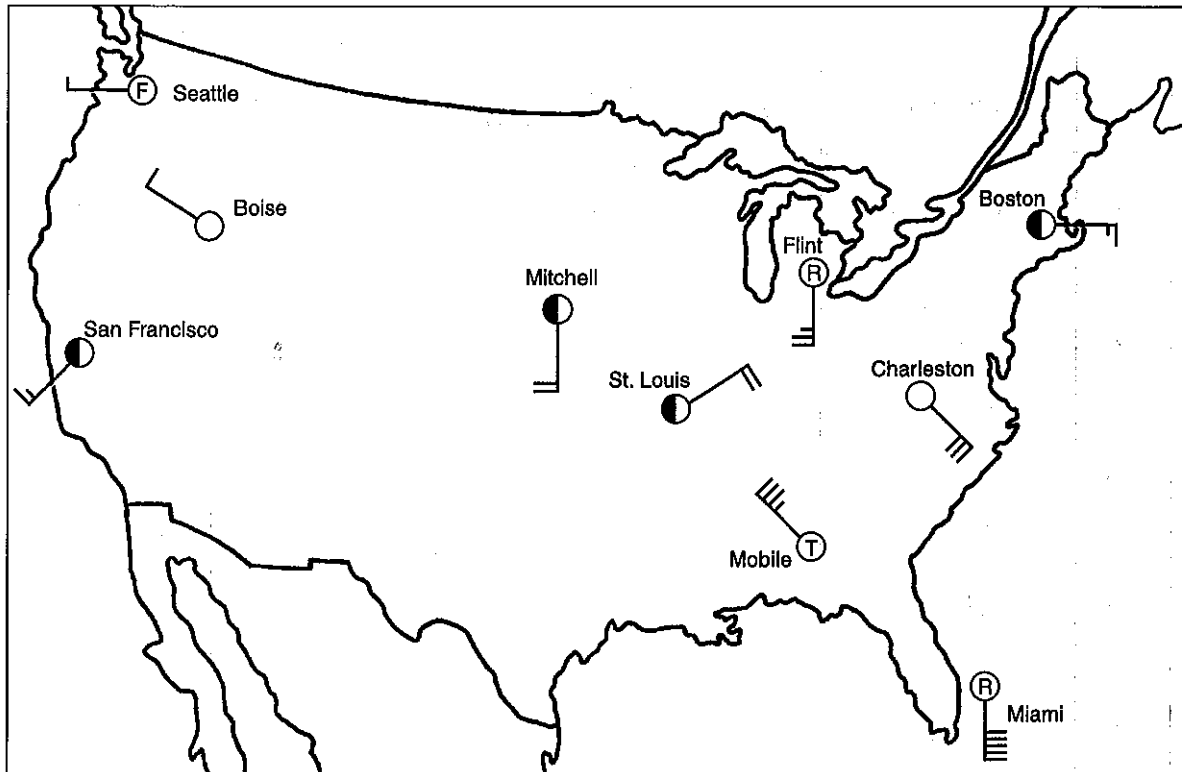


Figure E

	City	Sky Condition	Wind Speed (kph)	Wind Coming From	Wind Heading Towards
1.	Boise, Idaho				
2.	Boston, Mass.				
3.	Charleston, W.V.				
4.	Flint, Mich.				
5.	Miami, Fla.				
6.	Mitchell, S.D.				
7.	Mobile, Ala.				
8.	San Francisco, Calif.				
9.	Seattle, Wash.				
10.	St. Louis, Mo.				