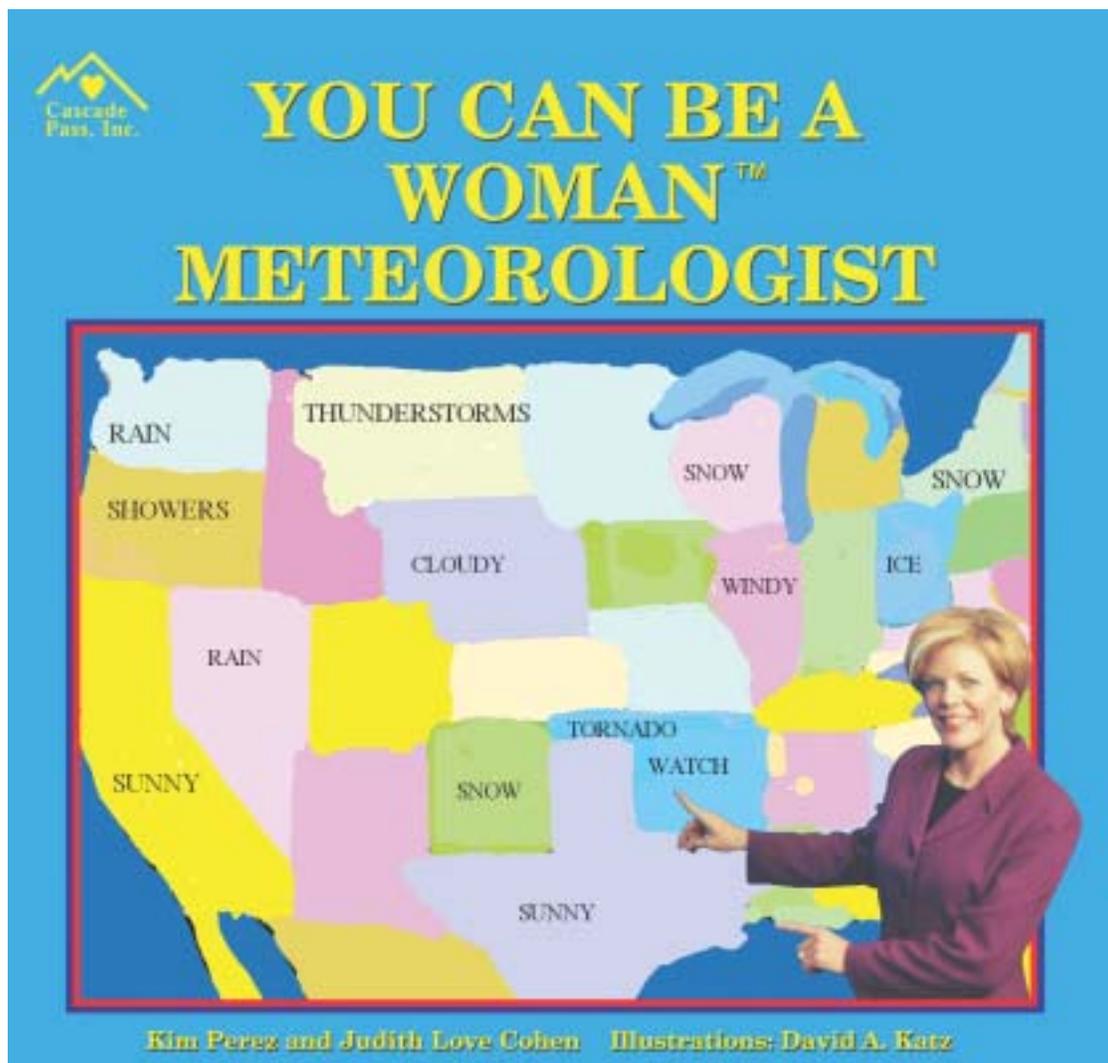


YOU CAN BE A WOMAN™ METEOROLOGIST



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SCIENCE LESSON PLAN 1

PURPOSE: To understand weather maps.

MATERIALS: Weather maps from newspapers, paper, and crayons.

PROCEDURES: Have each child pick a symbol, color, or number from the weather map and draw it on their paper.

Have each child in turn show and act out their symbol, number, or color. The symbols will include high- and low-pressure systems, cold and warm fronts, rain, ice, thunderstorms, and snow.

The colors will indicate temperature ranges from below zero to over 100; the numbers will indicate air pressure, for example from 29.0 to 31.0.

Have the children locate their communities on the weather map and describe the details of their areas: temperature, pressure, fronts, air masses.

Does the weather outside match the weather map?

CONCLUSIONS: High-pressure areas go with dry conditions; low-pressure areas go with rain or snow.

In the summer temperatures usually vary gradually, while in the winter there can be sharp changes in both.

Did the map accurately reflect the weather outside?

SCIENCE LESSON PLAN 2

PURPOSE: To understand high-pressure and low-pressure air.

MATERIALS: Large pots, plastic bottles, balloons, access to hot water and freezer.

PROCEDURES: Put plastic bottles in freezer for an hour or so.

Remove them and stretch a balloon over the neck of each bottle. Fill pots with hot tap water.

Put the bottles into the hot water, standing up, and see what happens.

CONCLUSIONS: The balloon will expand as the cold air in the bottle is warmed by the water and starts to expand.

What does this tell you about the pressure inside the balloon?

Does the pressure always rise when the air is warmed.

SCIENCE LESSON PLAN 3

PURPOSE: To learn about temperature and humidity and build a hygrometer to measure them.

- MATERIALS:** Cardboard frames, thermometers, cloth squares, small containers, tape, and distilled water.
- PROCEDURES:** Tape two thermometers to each cardboard frame. Note the temperature at 10-minute intervals.
Half-fill the small containers with water and put the cloth square into the container.
Wrap one end of the wet cloth around the bulb of one of the thermometers on the cardboard frame. Note the readings from each thermometer at 10-minute intervals.
- CONCLUSIONS:** The wet bulb is chilled by the evaporation of the water.
The drier the air, the faster the water will evaporate and the more the bulb will be chilled.
At room temperature, 72 degrees, the wet thermometer will be depressed by 10 degrees F if the humidity is 60% or less.
It will be depressed by less than 2 degrees if the humidity is 90% or more.

SCIENCE LESSON PLAN 4

- PURPOSE:** To learn how clouds form.
- MATERIALS:** Jars, metal ice trays, ice, and warm water.
- PROCEDURES:** Take ice trays out of the freezer or transfer ice cubes into metal trays and let stand until trays are cold.
Place one inch of warm water in a jar. Place metal tray over jar and observe what happens.
- CONCLUSIONS:** A cloud will form near the top of the jar as the warm water evaporates, rises and then condenses.
When humidity reaches 100%, the air becomes saturated and water vapor begins to condense into droplets.
These form fog at ground level, or clouds at levels above the ground.

