CONTENTS

Think About . . .

Why Do We Predict the Weather? .............. 2
How Is Weather Data Gathered? .............. 3
What Do Weather Maps Show? .............. 6
How Are Weather Forecasts Made? .............. 7
How Is Severe Weather Predicted? .............. 8
How Do Weather and Climate Differ? .............. 9

People in Science

Tetsuya Theodore Fujita ...................... 10
Climatologists ...................... 11
Hurricane Hunters ...................... 12

Did You Know?

How Weather Satellites Work ...................... 14
Winds Have Names ...................... 15

Glossary ...................... 16

© Delta Education LLC. All rights reserved.
**Glossary**

**air mass** body of air that has about the same temperature and humidity throughout

**air pressure** force of the atmosphere pushing down on Earth

**anemometer** instrument used to measure the speed of the wind

**atmosphere** layer of air surrounding Earth

**barometer** instrument used to measure air pressure

**cirrus cloud** thin, feathery cloud made of ice crystals

**climate** average weather conditions in an area over a long period of time

**cold front** leading edge of a mass of cold air

**convection** movement of energy through the troposphere by means of the rising and sinking of air

**cumulus cloud** large, puffy cloud

**evaporate** to change from a liquid to a gas

**forecast** prediction of what the weather will be in the future

**front** boundary between two unlike air masses

**global warming** warming of Earth’s atmosphere

**greenhouse effect** ability of certain gases in Earth’s atmosphere to trap heat, keeping Earth warm

**humidity** amount of water vapor in the air

**hurricane** large, low-pressure storm that forms over warm oceans and has winds over 74 mph

**hygrometer** instrument used to measure humidity

**isobar** line on a weather map that connects stations that have the same air pressure

**local winds** winds that affect only a small area of Earth

**meteorologist** scientist who studies the atmosphere and weather

**nimbus cloud** dark cloud associated with rain or snow

**occluded front** front that forms when one front overtakes another

**precipitation** any form of water that falls from clouds to Earth

**prevailing winds** winds that move over large parts of Earth’s surface

**rain gauge** instrument used to measure the amount of rain that has fallen

**relative humidity** amount of water vapor in the air compared with the greatest possible amount at that temperature and pressure

**stationary front** place where a cold air mass and warm air mass meet, but neither moves

**station model** small cluster of symbols and numbers on a weather map

**stratus cloud** low, layered cloud

**surface map** weather map that shows weather conditions near Earth’s surface; the data is shown as symbols

**tornado** funnel-shaped cloud with very strong winds

**troposphere** bottom layer of Earth’s atmosphere where weather occurs

**warm front** leading edge of a moving mass of warm air

**water cycle** the constant process in which water moves between Earth and its atmosphere

**water vapor** water in the form of gas

**weather** condition of the atmosphere at a certain place and time

**weather balloon** balloon that collects weather data from high in the atmosphere

**weather map** map that shows weather conditions over a large area

**weather station** place set up by the National Weather Service to collect data on weather conditions

**wind vane** instrument that shows the direction the wind is coming from

© Delta Education LLC. All rights reserved.