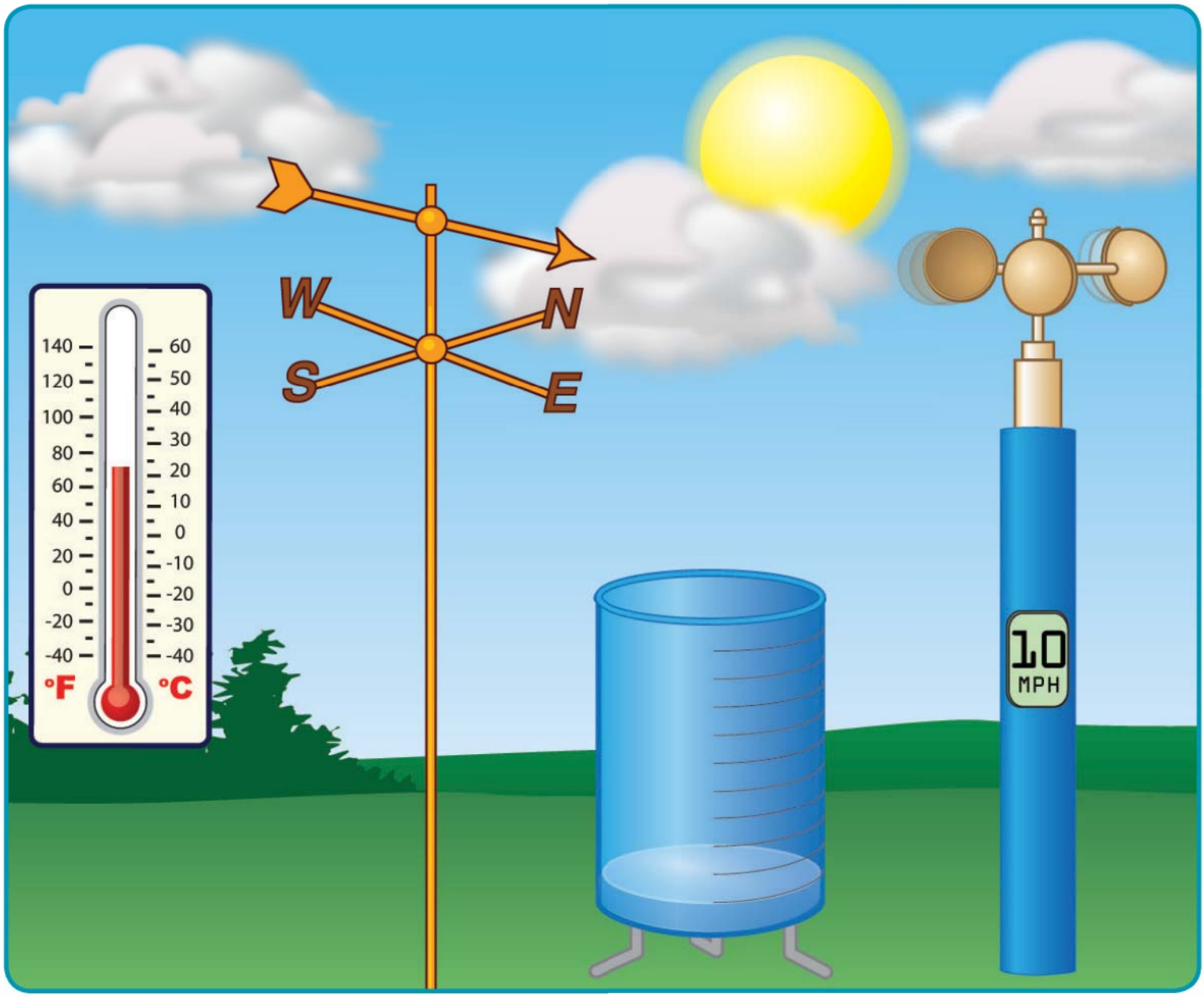
# What is Weather?
# *Learning Guide*

## *Elementary Science*

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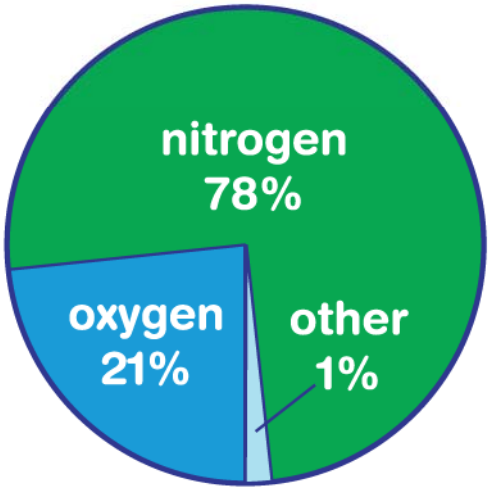
LESSON 3

# OUR ATMOSPHERE

The Earth is surrounded by a blanket of **gases** which makes up our **atmosphere**.

Earth's Atmosphere




**Oxygen** and **water vapor** are two types of gases in the atmosphere.

# Pause and Review

Match each **term** to its **definition**.

## DEFINITIONS

**a.** The change of liquid water to water vapor

_____

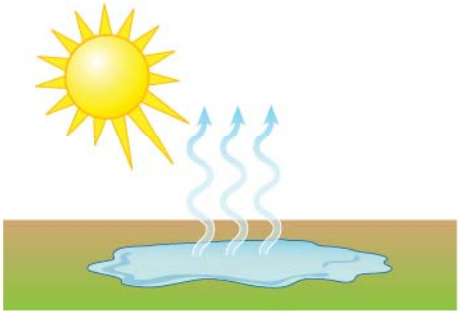
**b.** The change of water vapor to tiny water droplets

_____

c. The water that falls from the clouds to the Earth's surface

_____

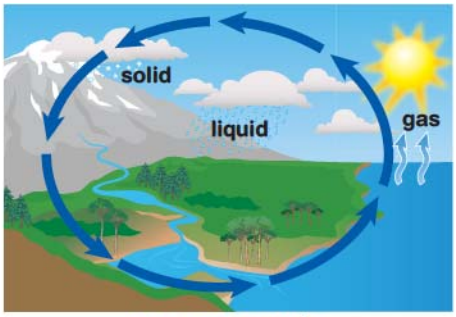
## TERMS



evaporation

condensation

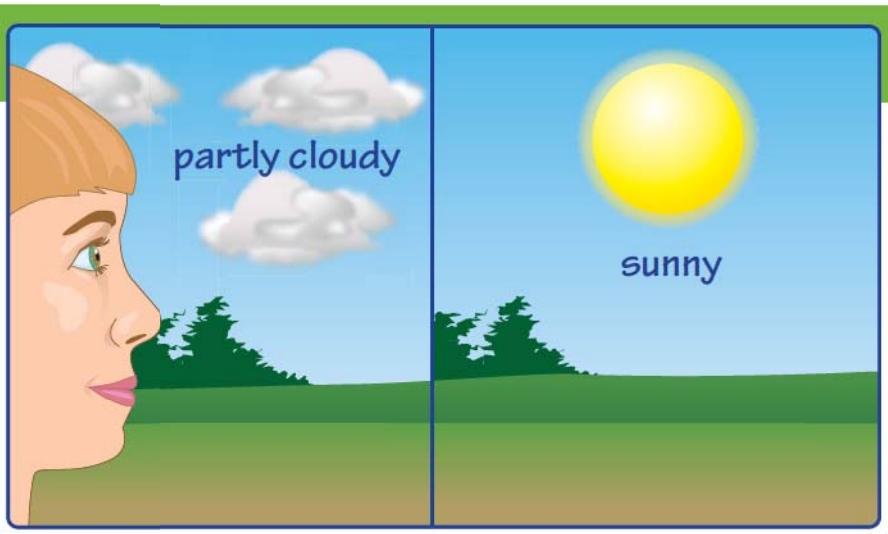
precipitation




water cycle

# SKY CONDITION

Sky condition is **observed** using your eyes. The sky can be sunny, partly **cloudy**, or cloudy. The types of **clouds** in the sky can tell us the kind of **weather** we will have.




**Cirrus clouds** are thin and form high up in the **atmosphere**. They often tell us that the weather is about to change.

**Cumulus clouds** are fluffy and look like pieces of floating cotton. They usually **predict** fair weather, unless they form into stormy **cumulonimbus clouds.**

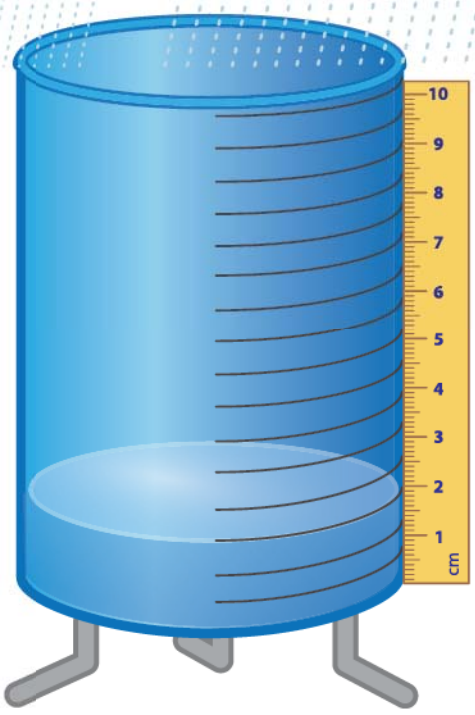
**Stratus clouds** are smooth, gray clouds in layers that cover the entire sky. Sometimes they produce a light **rain** or **snow.**

# PRECIPITATION

Water that falls to the ground from the **clouds** is **precipitation**. Precipitation can be in the form of **rain**, **snow**, **sleet** or **hail**, depending on the air **temperature** between the clouds and the ground.








A **rain gauge** is used to measure how much water has fallen.

### 3. Weather and Climate

Students who demonstrate understanding can:

**3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.**

**3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.**

#### Disciplinary Core Ideas

**ESS2.D: Weather and Climate**

- Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3-ESS2-1)

**ESS3.B: Natural Hazards**

- A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (3-ESS3-1)

**Science and Engineering Practices Analyzing and Interpreting Data**

Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used.

- Represent data in tables and various graphical displays (bar graphs and pictographs) to reveal patterns that indicate relationships. (3-ESS2-1)

**Engaging in Argument from Evidence**

Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s).

- Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (3-ESS3-1)

**Obtaining, Evaluating, and Communicating Information**

Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.

- Obtain and combine information from books and other reliable media to explain phenomena. (3-ESS2-2)

**Crosscutting Concepts Patterns**

- Patterns of change can be used to make predictions. (3-ESS2-1),(3-ESS2-2)

**Cause and Effect**

- Cause and effect relationships are routinely identified, tested, and used to explain change. (3-ESS3-1)

**Connections to Engineering, Technology, and Applications of Science**

**Influence of Engineering, Technology, and Science on Society and the Natural World**

**Connections to Nature of Science Science is a Human Endeavor**

- Science affects everyday life. (3-ESS3-1)