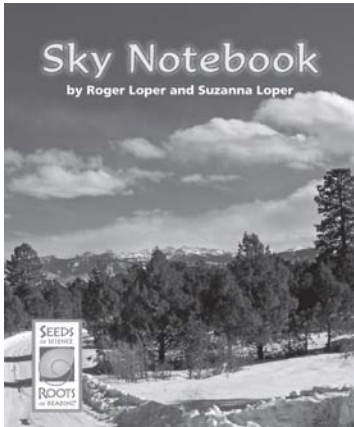


## Taking Notes Based on Observations

with *Sky Notebook*

from *Seeds of Science/Roots of Reading*®



### Introduction

This strategy guide introduces an approach for teaching students to take notes based on observations. In science, recording observations in a systematic way is the foundation for learning about the natural world. This guide includes an introductory section about taking notes based on observations, a general overview of how to teach this strategy with many science texts, and a plan for teaching students to take notes based on observations with the *Seeds of Science/Roots of Reading*® book *Sky Notebook*.

### Book Summary

*Sky Notebook* is set in the mountains of Colorado where winter storms move through quickly. The narrator is an amateur meteorologist who takes measurements and keeps detailed notes to document changes in the weather. Photographs are used to illustrate these observations. National weather maps are also included; they present temperature and precipitation readings in a visual format and supplement the narrator's observations. Readers can observe changes in the weather—such as amount of cloud cover, temperature, and humidity—as a winter storm moves in. The data presented in the book provide readers with opportunities to make predictions and inferences about the weather, not only in Colorado, but also across the United States.

### About This Book

#### Reading Level

Guided Reading Level\*: N

#### Key Vocabulary

humidity, measurement, meteorologist, observe, pattern, precipitation

#### Text Features

bold print, bulleted lists, captions, glossary, labels, maps, photographs, text boxes

\*Guided Reading Levels based on the text characteristics from Fountas and Pinnell, *Matching Books to Readers*.

### Science Background

Like all scientists, meteorologists—scientists who study the weather—make and record observations. Meteorologists record observations about the weather in order to look for patterns. They may use tools to help them observe the weather, such as thermometers, hygrometers, rain gauges, wind vanes, and barometers. Meteorologists make weather maps to help represent data they collect, such as average temperatures or precipitation. These maps can help identify patterns and serve to convey meteorologists' observations to the public. However, you don't need to be a scientist to record weather observations. Observing the sky is one way to look for weather patterns. Cloud cover can be described as clear, partly cloudy, mostly cloudy, or overcast. The type of cloud can also be observed; for example, cirrus clouds are high and wispy, cumulus clouds are puffy, and stratus clouds are like a blanket. Humidity, temperature, and precipitation are other weather factors that can be measured with simple tools. Observations can be recorded as illustrations, descriptions, and measurements; readily available weather data can add essential information to your observations. Observational notes can be used as evidence to help answer questions about the natural world.

## About Taking Notes Based on Observations

The ability to observe carefully is critical in science. When students learn how to observe, they use one or more of their five senses to take notice of what otherwise might go undetected. Recording observations involves detailed note taking, which documents the observations for later analysis. Note taking is a process used to record descriptions of objects and phenomena in the world. Scientists record their observations in a number of ways, including making lists, describing, creating drawings with labels, and taking photographs. These notes can be shared with others as a means of learning more about something. Implementing a note-taking strategy across the curriculum provides students multiple opportunities to learn how to carefully observe and record their observations. Repeated use of this strategy also helps students improve their abilities to use descriptive language.

## Teaching How to Take Notes Based on Observations

The following guidelines can be used to teach observation and note taking with many science texts.

- Select a natural object for students to observe, such as a rock, a pinecone, or a leaf. Also select a text. Texts that include detailed illustrations or photographs prompt rich observations and lend themselves well to making detailed notes.
- Tell students that taking notes based on observations is something that scientists do to learn about the world. Explain that observing means paying attention carefully and using all your senses to focus on details.
- Model how to make careful observations by recording your observations about a classroom object (such as a plant, a rock, or a handful of marbles) while thinking aloud. You can show students some of the different forms that notes take, including narrative descriptions, tables, measurements, labeled drawings, or any combination of these elements. As you model recording observations, point out that notes are not always written in complete sentences.

## Taking Notes Based on Observations

1. Focus your attention on what you are observing.
2. Use as many of your senses as possible to observe (sight, hearing, touch, smell).
3. Write down only what you observe, not what you imagine.
4. Use scientific language (e.g., *thorax* instead of *body*).
5. Be specific and detailed in order to create a picture with words.
6. Include the date and time of your observations and any measurements you took.
7. If possible, draw a detailed picture of what you observe and include labels.

- As a class, brainstorm guidelines for taking notes based on observations, using the process you modeled. (The box on this page lists ideas you may want to include.)
- Invite students to observe an object and emphasize that they should use more than one sense while observing. Brainstorm a list of words that describe texture, color, odor, size, shape, and so on. You may want to use the Observation Notes copymaster included in this guide for students to record their observations.
- After students have observed an object, point out that there are often photographs or illustrations of real things in science texts; careful observation can help readers learn about things in the world that are not present in the classroom. Have students read the text you selected and observe a particular photograph or illustration carefully. Invite students to share what they observed.
- As students become more familiar with taking notes based on observations, discuss additional examples. Choose student-generated work that includes narrative notes as well as pictures, extract examples from science texts, or create your own examples. Discuss how the examples reflect the guidelines. You might also find or generate examples that do not follow the guidelines and have students critique them.
- Becoming an expert at observation and note taking requires ongoing practice. Incorporate as many opportunities as possible for students to apply this strategy across many different instructional contexts.

## Teaching How to Take Notes Based on Observations with *Sky Notebook*

*Sky Notebook* models the process of taking notes based on observations and provides opportunities for students to practice this strategy.

### Getting Ready

1. Make a copy of the Observation Notes copymaster for each student.
2. Create a Guidelines for Taking Notes Based on Observations chart on the board or on a piece of chart paper. (The box on the previous page lists ideas you may want to include.)

### During Class

1. Tell students that in *Sky Notebook* they will read about a person who collects weather data and keeps detailed notes each day in a “sky notebook.” Activate prior knowledge before reading by asking students to describe experiences they have had observing different weather conditions (for example, noting the shape of clouds, measuring the temperature using a thermometer, observing how much it rains or snows).
2. Read *Sky Notebook* in a way that is consistent with your classroom routines, giving students as much independence as possible.
3. Lead a class discussion about the types of observations the narrator collected. Point out how these notes are presented in the book using the following examples:
  - Have students turn to page 5 and reread the text. Point out that observations can be recorded in multiple forms, including words, data, pictures, and photographs. Explain that scientists (including scientists who study the weather) document their notes for later analysis by recording observations in any of these forms (or combination of forms).
  - Have students turn to page 6 and reread the text. Point out that many different kinds of data were collected, including the level of cloud cover, the temperature, the humidity, and the wind speed. Discuss the caption that tells about these observations.
4. Focus students’ attention on the two maps on page 7. Explain that meteorologists often organize information using weather maps. This allows them to see and make sense of a lot of information at once. Ask students to look at the map titled Today’s High Temperatures. Ask, “What could you learn from this map?” [What the high temperatures were across the United States on a certain date; where in the United States the temperatures were similar.]
5. Have students turn to page 10 and observe the photograph. Explain that as students share ideas, you will record notes about what they observe. Tell students that because this is a photograph, they will only be able to use one sense—sight. Allow a few minutes for students to observe and then discuss what they see with a partner. Ask volunteers to share their observations. Record these notes on the board.
6. Point out the Guidelines for Taking Notes Based on Observations chart that you posted before class. Ask students to find detailed observations from the book that show examples of how the narrator followed these guidelines. For example, have them look for instances where the narrator included the date and time, a report of measurements that were taken, and/or places where the narrator used more than one sense.
7. Distribute the Observation Notes student sheets. Ask students to turn to page 4 in the book and carefully observe the photograph. Have them record detailed notes that document their observations. Direct them to write notes using words and then draw a detailed, labeled diagram that provides more information.
8. Ask students to share what they observed with the class. Point out descriptive words included in their notes and details in their sketches.

### Independent Extension

Have students look back through *Sky Notebook* to find examples of the following:

- an observation about how something looked
- an observation about how the air felt
- an observation in the form of a measurement

Have students list each observation and the page number on which they found it.

Name \_\_\_\_\_ Date \_\_\_\_\_

## Observation Notes

Title of book: \_\_\_\_\_

Write notes about your observations. \_\_\_\_\_

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Draw and label one of your observations.



## About Strategy Guides

A six-page strategy guide is available for each *Seeds of Science / Roots of Reading*® student book. These strategies support students in becoming better readers and writers. They help students read science texts with greater understanding, learn and use new vocabulary, and discuss important ideas about the natural world and the nature of science. Many of these strategies can be used with multiple titles in the *Seeds / Roots* series. For more information, as well as for additional instructional resources, visit the *Seeds / Roots* Web site ([www.seedsofscience.org/strategyguides.html](http://www.seedsofscience.org/strategyguides.html)).

## Student Books for Grades 3–4

Twenty-seven engaging student books are available, each with a corresponding strategy guide. The books are part of the *Seeds of Science / Roots of Reading*® curriculum program described on page 6.

<b>Digestion and Body Systems</b>	
<b>Strategy</b>	<b>Student Book</b>
Analyzing Part-to-Whole Relationships	<i>Systems</i>
Teaching About the Nature and Practices of Science	<i>Secrets of the Stomach</i>
Teaching Process Description Writing	<i>Voyage of a Cracker</i>
Searching for Information in Science Texts	<i>Handbook of Body Systems</i>
Making Sense of Data in Science Texts	<i>What's the Diagnosis?</i>
<b>Variation and Adaptation</b>	
<b>Strategy</b>	<b>Student Book</b>
Teaching Scientific Comparison Writing	<i>Blue Whales and Buttercups</i>
Using Discourse Circles	<i>The Code</i>
Using Visual Evidence to Make Inferences	<i>Mystery Mouths</i>
Teaching About the Nature and Practices of Science	<i>Evidence from the Past</i>
<b>Weather and Water</b>	
<b>Strategy</b>	<b>Student Book</b>
Teaching About the Nature and Practices of Science	<i>Tornado! A Meteorologist and Her Prediction</i>
Teaching About Multiple Meaning Words	<i>Falling Through the Atmosphere</i>
Gathering Information from Science Texts	<i>Weather Encyclopedia</i>
Teaching Text Structure	<i>Water in the Desert</i>
Using the Cognates Strategy	<i>Drinking Cleopatra's Tears</i>
Connecting Science Words and Everyday Words	<i>Go with the Flow: Making Models of Streams</i>
Taking Notes Based on Observations	<i>Sky Notebook</i>
Teaching Text Features	<i>Wet Weather Handbook</i>
Making Sense of Data in Science Texts	<i>What's Going on with the Weather?</i>
<b>Light Energy</b>	
<b>Strategy</b>	<b>Student Book</b>
Teaching About Idioms	<i>Can You See in the Dark?</i>
Teaching Summary Writing	<i>The Speed of Light</i>
Teaching About the Nature and Practices of Science	<i>Why Do Scientists Disagree?</i>
Using Discourse Routines with Science Texts	<i>I See What You Mean</i>
Searching for Information in Science Texts	<i>Handbook of Light Interactions</i>
Teaching Scientific Explanation Writing	<i>Light Strikes!</i>
Teaching Vocabulary with Science Texts	<i>Cameras, Eyes, and Glasses</i>
Teaching Concept Mapping	<i>It's All Energy</i>
Interpreting Visual Representations	<i>Sunlight and Showers</i>

