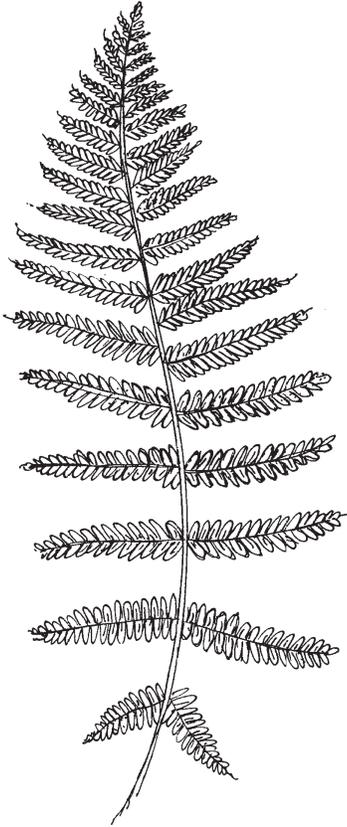


Lesson 3: Using a Science Notebook

RECOMMENDED FOR ALL ELEMENTARY STUDENTS (GRADES K-6)



Writing in a science notebook involves keeping a regular record, in drawings and in words, of your experiences outdoors. Note: Students in grades 3+ should glue their data collection forms into their science notebooks, because they will refer to the forms as they work through the units.

Grade Level Benchmarks	
Grades K-1	<p>You bring in something for the students to look at—a bug or a plant. The students:</p> <ul style="list-style-type: none"> • Draw, write, and discuss what they see. • Write a simple heading in their science notebooks, including date and time (which may be marked on a clock face). • Transfer what they see to the data collection form. <p>You elicit answers that have to do with all of the senses; students add to what they have written.</p>
2	<p>Working with you, students:</p> <ul style="list-style-type: none"> • Use a common heading, including date, time, weather, and location. • Draw and write what they see inside the classroom (e.g., stuffed bird, picture, puppet, or live animal). • Use their senses to gain information about objects. • Ask questions about objects. • Use rulers to measure objects. • Transfer what they see to the data collection form.
3+	<p>Working more independently, students:</p> <ul style="list-style-type: none"> • Use a common heading, including date, time, weather, and location. • Draw and write what they see inside the classroom (e.g., stuffed bird, picture, puppet, or live animal). • Use their senses to gain information about objects. • Ask questions about objects. • Use rulers to measure objects. • Use information in their science notebooks to write assignments. • Transfer the data from their science notebooks to the data collection form.

Pre-Lesson Preparation

1. Create a large wall chart with columns on which students will record their sensory observations. In addition, prepare different scents in vials.
2. Teach students the importance of using a science notebook correctly: They should record the date, time, weather, and location every time they use their science notebooks. Work on student's note-taking abilities and show them samples of science notebooks or field journals (either personal or published).

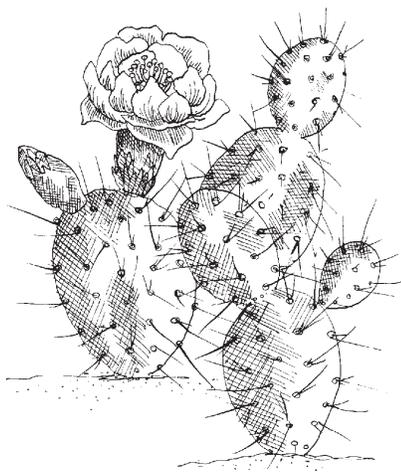


3. Elicit good habits by asking questions and instructing students to make comprehensive recordings while in the field, including feelings associated with what they see, hear, touch, or smell. In the beginning, students will need to be guided carefully. Their tendency will be to write sketchy, incomplete notes and to finish too quickly. This is a building process and will require a lot of modeling and practice.
4. Encourage students to look at their environment with a questioning eye: Ask questions such as “I wonder what would happen if...?” and “I wonder if...?” Have students keep a list of “I wonder” questions in their science notebooks.
5. Tell students: “When we are outdoors, we need to take careful notes about what we see. Later, we will use this information to fill out a data collection form.”

Whole Group Exercise

Accessing Prior Knowledge and Making Connections with Sketching

1. Show an example of a field science notebook and describe the components such a notebook should contain, including a consistent heading for every entry.
 - a. Day, date, time, weather, and location
 - b. Scientific drawings
2. Demonstrate the process of recording observations in a science notebook by looking closely at something to sketch, such as a leaf.
3. Try to focus students’ attention on what they *see*, rather than on the task of “drawing a leaf.”
4. Examine part of the edge of the leaf and talk about what it looks like; then draw that part.
5. The thinking behind this is:
 - a. “Oh, I see this line right here is jagged with little points at the end.”
 - b. “Oh, I see this vein getting wider as it goes up.”
 - c. The branches form a “V.”



For further references, see the resource section (Appendix A).



Frequency is very important for a Sit Spot exercise.

Do this activity frequently and formally. If it is impossible to go outside, at least stop and look out of the window for a few minutes of silence and make observations.

Going Outside. Make sure each student has a pencil and his/her science notebook. After the students have gone outside several times, you will want to add colored pencils, and possibly a ruler or other tools, to the Sit Spot materials. A zippered pencil bag works to hold all the tools.

1. Begin with a clean page and add the heading information: day, date, time, weather, and location.
2. Review what the students should record in their science notebooks.
3. It will help in the beginning for students to have a specific task to accomplish at their Sit Spots. Here are suggestions for specific Sit Spot focuses:
 - Describe what the weather is doing.
 - Spot a bird and describe (in drawings and/or words and phrases) what the bird is doing.
 - Write down “who, what, when, where, and why” about a plant at your Sit Spot.
 - Draw three plants at your Sit Spot in detail and write about them
 - Find something that interests you. Draw and label it.
 - First, write about what something looks like close-up. Next, write about what’s going on behind it. Finally, write how you feel about this thing you’ve just witnessed. 🐾
 - Draw everything you see between the school building and the end of the football field.
 - Write three “I wonder” questions about your Sit Spot.
 - Go back to the same Sit Spot several times and record different data each time. For example, observe insects the first time, observe animals the second time, and so on. Alternatively, try to do a more accurate drawing of the plants you sketched on a previous visit.

