

WRITING TO OBSERVE, WRITING TO THINK

Students focus on a subject in nature and practice using different writing approaches to capture their observations and thinking.

Writing isn't just about the final product. Writing is also a tool for observation and thinking. When students see writing as more than just producing five-paragraph essays, they can start to use it as a tool and a strategy. Students can use many different approaches to writing in their journals. This activity will engage them in thinking about how to best use different kinds of writing, such as labels, shorter sentences, and longer paragraphs to capture information.


NATURAL PHENOMENA

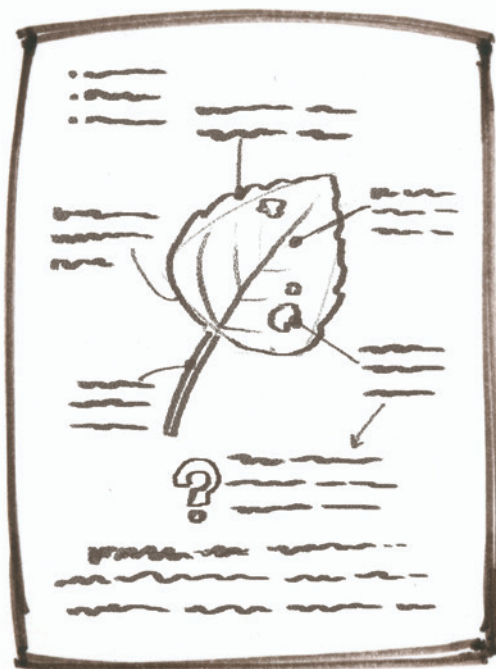
Students can focus on any part of nature during this exercise. Leaves, trees, slow-moving animals, or landscape features will all work. Animals moving quickly through the landscape (e.g., a hawk flying by) aren't ideal, as students will need to focus on the subject for several minutes.

PROCEDURE SUMMARY

1. Make a simple drawing of your leaf (or other part of nature).
2. Add in observations by writing labels, bullet-point phrases, sentence fragments, short sentences, and paragraphs.
3. Add in writing to show your thinking, including connections to what you already know ("It reminds me of/makes me think of..."), questions ("I wonder..."), explanations of observations ("Could it be...", "Maybe..."), and reflections or reactions ("I am surprised by...").
4. Connect your written thinking, observational writing, and drawings together with lines and arrows.

DEMONSTRATION

When the whiteboard icon appears in the procedure description:  Draw a simple outline of a leaf (or other part of nature), then model "writing to observe" by adding labels, horizontal lines to represent bullet points, and clusters of lines to represent paragraphs. Leave some space around your drawing and notes. When you introduce "writing to think," add in lines with question marks next to them, sentences with starters like "Could it be" and "Maybe," longer paragraphs, and lines to connect drawings and ideas together.



Time

Introduction: 10 minutes
Activity: 40 minutes
Discussion: 10–15 minutes



Materials

- Journals and pencils
- Poster board or whiteboard with sentence starters written on it:



Writing to observe: I notice...

We saw... I heard... First, then...

Writing to think: I wonder...

Maybe... Could it be... It reminds me of... I feel... It surprised me when...

Teaching Notes

Writing mechanics (grammar, syntax, spelling, etc.) are important, but don't emphasize them in this activity. The goal of this activity is for students to practice using writing as a tool for observation and thinking.



This shouldn't be the first journaling activity you do with students. Prior experience making observations, sketching, and thinking on paper will prepare students to engage with this activity as a next step in their growth as journalers.

This activity can be done all at one time or spread out into several lessons.

PROCEDURE STEP-BY-STEP

1. Ask students to talk with a partner about what they think of when they hear the word “writing,” then ask the group to share a few comments.

2. Point out that writing can be a tool for learning in addition to a form of communication.

a. “We often write to communicate our ideas to someone else, but writing can also be a tool to help us learn.”

3. Explain that writing can be a tool to expand our own observations and thinking.

a. “Writing down our observations and thoughts helps us notice more, clarify our thinking, and remember what we see.”

b. “We’re going to practice using our journals in this way.”

4. Explain how writing can be a tool for making observations.

a. “One kind of writing we can do in our journals is writing to observe.”

b. “When we’re writing to observe, we’re trying to notice and record: What is here? What is happening? How does it look? What is it doing? What can I notice with my senses?”

5. Explain that different kinds of writing capture different kinds of information, and students can use labels, bullet-point phrases, sentence fragments, short sentences, and paragraphs to record their observations.

a. “We can record our observations with labels, bullet-point phrases, sentence fragments, short sentences, and paragraphs.”

b. “Each kind of writing leads us to record different kinds of observations.”

6. Ask students for examples of observations they could record in labels, bullet-point phrases, sentence fragments, short sentences, and paragraphs.

a. “Labels are single words or a few words connected directly to a drawing. What kinds of observations could we record with labels?”

b. Listen to students’ responses. If they don’t bring up any of the following ideas, mention them: labels of colors or features that can’t be shown in a drawing (e.g., “light lime green” or “fuzzy hairs everywhere”), labels clarifying what a feature is (e.g., “hole”), and labels for parts of an organism (e.g., “feet”).

c. “What kinds of observations might we record in bullet-point phrases, sentence fragments, or short sentences?” Listen to students’ responses. If they don’t bring up either of the following ideas, mention them: quick notes about

what is happening in the moment (“Hawk flew by!”), notes about location (“The frog was next to the pond”).

d. “What kinds of observations might we record in full paragraphs?”

e. Listen to students’ responses. If they don’t bring up the following ideas, mention them: longer descriptions of structures or features, narratives of events, and longer accounts of their thinking and ideas.

7. Tell students they will have around 10 minutes to make a sketch of a natural object, then to document as many observations as possible in writing; do a demonstration on a whiteboard as you introduce the procedure.



a. “Start by sketching a leaf, rock, bird, or other part of nature that’s interesting to you.”

b. “Just put some basic lines down and don’t get too focused on your drawing.”

c. “Then start writing. Write your observations to build on what you show in your sketch. Use labels, bullet-point phrases, sentence fragments, short sentences, and complete paragraphs.”

d. “Your goal is to capture as much information as possible in writing. If you start to get stuck in your writing, look back at your drawing and see whether there are more words you can add to build on what is in your sketch.”

e. “How much can you learn in the next ten minutes?”

8. Offer scaffolding and sentence starters to guide students’ observations.

a. “I’ll share some guides you can refer to as you’re writing down your observations.”

b. “Here are some sentence starters or ideas if you get stuck.” (Hold up poster board that says, “I notice...,” “We saw...,” “I heard...,” and “First...then...”)

9. Encourage students to see this as an opportunity to develop their writing skills, and clarify that their writing won’t be evaluated.

a. “When we’re writing to observe, we’re writing for ourselves. The goal is to build our own learning, not to communicate with anyone else.”

b. “This is an opportunity to develop your ability to use writing as a tool to notice and think.”

c. “Don’t worry about spelling if there are words you’re not sure about, and don’t get stuck trying to write with perfect grammar. Right now, the goal is to make observations and show them in words. As long as you’re doing that, you’re meeting expectations.”

10. After 10 minutes have passed, call for students’ attention and tell them to share with a partner some observations they discovered.

11. Refocus the group, and explain how writing can be a tool for thinking.



- a. "We can also use writing as a tool to think and get our ideas out on paper."
- b. "When we ask questions about our observations, make connections between ideas, make explanations for what we see, or write about how we are feeling, we're thinking on paper."

12. Ask students to brainstorm different kinds of thinking they could include on their journal page.

- a. "What kinds of thinking or ideas might we describe in our journals?"
- b. Listen to students' responses, and bring up what they don't mention: questions ("I wonder...") or connections ("It reminds me of...") related to the observations they have made; possible explanations for what they have observed; longer-paragraph descriptions of the procedure they used to make observations; poems, personal notes, or reflections; notes about how they feel in the moment or in response to the environment; questions about ideas they are not sure about or things they want to look up later.

13. Offer scaffolding and sentence starters to guide students' thinking.

- a. "I'll share some guides you can refer to as you're writing down your observations."
- b. "Here are some sentence starters or ideas if you get stuck." (Hold up a poster board that says, "I wonder...", "Maybe...", "Could it be that...", "It reminds me of...", "I feel...", "It surprised me when...", etc.)
- c. "You can record your thinking in sentences or in more extended paragraphs."
- d. "See if you can build on the observations in your journal, asking questions or trying to figure out what is happening; or write about your response to being in this place. How many ideas can you get on the page?"

14. Encourage students to follow their interest.

- a. "Allow yourself to follow your interest and ideas. It's OK to write out your thinking, then shift back to drawing or writing observations."
- b. "Focus on writing your thoughts about what is interesting to you right now. Whether that is making an explanation, or thinking about how the object connects to your life, or playing with questions, that's OK."

15. Give students 10 minutes to add to their journal entries.

16. As students work, take time to circulate, troubleshoot, and ask questions about students' observations and ideas.

- a. "When we're working in our journals, our goal is our own learning. We don't need to communicate about our ideas yet."

- b. "This means that we're not trying to communicate with anyone in this moment, and we don't need to focus as much on spelling or grammar as we would in an essay, because the goal is learning, not communicating."

17. Call students back together, and challenge them to write out an extended paragraph describing an explanation, a part of their journaling process, or how they are feeling.

- a. "Writing full paragraphs can be useful. As we write out our thoughts, we clarify them."
- b. "Getting something down on paper can often make us realize that we don't understand something as well as we thought we did, or can lead us to unexpected insights."
- c. "You'll have five minutes to write out a full paragraph."
- d. "You could write out an explanation for something you saw, using your words to try to figure out why or how something is happening."
- e. "Or you could describe a part of your journaling process, such as by writing about the process you used to make a part of your journal page, explaining the choices you made about how to structure the page layout, or what you noticed first, then second, and so on."
- f. "Or you could write a paragraph narrating your inner thoughts, writing out how you felt throughout the learning experience, or explaining how you feel in this place."

18. Tell students to take 5 minutes to write a paragraph. Let students know they can use *I Notice, I Wonder, It Reminds Me Of* if they get stuck.

- a. "Please take five minutes to write out a paragraph."
- b. "If you are stuck, you can try turning the prompts 'I notice,' 'I wonder,' and 'It reminds me of' inward. What do you notice about how you feel right now? What does this experience remind you of?"

19. Point out how scientists use their journals to write down their observations and thoughts before they communicate about what they've learned.

- a. "When we write down our observations, we're forced to be more specific than if we just think of observations in our heads."
- b. "Putting thinking on paper helps clarify thoughts, come up with more ideas, and deepen your memory."
- c. "Scientists don't just sit down right away and write a paper on their research or give a talk on what they know."
- d. "They use journals because journaling is a tool for learning, and writing in their journals helps them make more observations and deepen their thinking."
- e. "Scientists spend months using writing, drawing, and other methods of data collection to make observations and to think."



You can write in so many ways. The variety of fonts, angles, and modes (labels, sentences, bullet points, titles, etc.) make the page easier to scan and full of information.

- f. "Remember to use writing as a tool for observing and thinking, not just as a way of communicating."
- 20. Explain how students can also use writing to reflect on their learning process or to record their reactions and feelings.**
- a. "Another way we can use writing is to reflect on our learning or to record our reactions and feelings about our experiences."
 - b. "This is a way of getting better at learning and journaling."

- 21. Give students a few minutes to write about the following questions in their journals.**
- a. "What was it like to use writing to capture your observations and thoughts? What felt successful, and what felt challenging? What might you do differently next time?"
 - b. "How did it feel to use your journal to learn as a scientist might?"

DISCUSSION

Lead a discussion with the general discussion questions. Intersperse pair talk with group discussion.

General Discussion

- a. Ask students to discuss and reflect: How did writing help you to observe or to clarify your thinking?
- b. How might you use writing as a tool to help you observe, think, and remember what you journal about in the future?
- c. Writing is a useful tool for helping us think about anything, not just science or nature. If you could use your journal as a tool to write and learn about any topic or idea of your choice, what would you choose?

FOLLOW-UP ACTIVITY

Aiming for Specificity

Challenge students to look through their writing and add more specific language to their observations. For example, instead of saying "green," they might say "intense yellow-green"; instead of "orange," they might say "the color orange of the mac-and-cheese box." Instead of "There are dots on the leaves," they might say, "There are tiny black dots the size of the dot of an 'i,' and there isn't really any pattern I can notice of where they are." Give students a couple of minutes to work with their writing, then ask if anyone came up with any interesting substitutions.