Science Notebooks
A Tool for Student Thinking and Writing

Objective: To develop awareness of how science notebooks align with CA CCSS for ELA/Literacy writing and how notebooks can be used for “writing to learn; and learning to write.”

Time: 90 minutes
Part I  Introduction  15 minutes
Part II  Why Science Notebooks?  30 minutes
Part III  Grade Level Examples  20 minutes
Part IV  Panel Discussion  25 minutes

Materials: Slides
S1  Unit 4 Learning Objectives
S2  Quickwrite
S3  Linus Pauling
S4  Grace Hopper
S5  Alexander Graham Bell
S6  Charles Darwin
S7  John Muir
S8  Partner Reflection
S9  Reading
S10  Prompt
S11  Reflection: Student Thinking
S12  Notebooks and the CCSS
S13  Writing to Learn; Learning to Write
S14  Examples of Student Notebook Entries
S15  Group Reflection
S16  Panel Discussion
S17  Individual Write

Handouts
H1  Five Reasons to Use Science Notebooks
H2  Laboratory Notebooks in the Science Classroom
H3  CCSS ELA Standards
H4  Grade 1 Student Notebook
H5  Grade 5 Student Notebook
H6  Grade 8 Student Notebook
H7  High School Student Notebook

Other
3 sentence strips per participant
markers
Advance Preparation:

1. Determine which reading to use with the participants. **H1** is appropriate for elementary and middle school, while **H2** is oriented toward middle and high school.

2. Determine which student notebook examples to duplicate. Using all of the (**H4-H7**) allows participants to notice how student entries change through the grade levels.

3. Based on the decisions for number 1 and number 2 above, duplicate the appropriate handouts.

4. Review the video.

**Trainer Note:** the focus of this session is on using notebooks as thinking tools, not on formatting. If participants want to discuss formatting, consider conducting another session to address those issues.

Procedure:

**Part I  Introduction  (15 minutes)**

1. Display **S1 (Unit 4 Learning Objectives)** and briefly review with the participants.

2. Display **S2 (Quick Write)** and ask participants to answer the prompt. Have several participants share with the whole group.

3. Build on participant responses for Step 2 and connect to what scientists do. Display **S3-S7 (Linus Pauling, Grace Hopper, Alexander Graham Bell, Charles Darwin, John Muir)** as examples of scientists’ notebooks.

4. Display **S8 (Partner Reflection)** and ask partners to discuss the prompts. Have several partners share their ideas, focusing on bullet point #2 (window into the thinking of scientists). In what ways did the scientists show their thinking? How is this an example of “writing to learn?”

**Part II  Why Science Notebooks  (30 minutes)**

5. Bridge the conversation about scientist notebooks to using notebooks in the classroom. Display **S9 (Reading)** and distribute the appropriate article (**H1** or **H2**).
   a. Ask participants to follow the steps on the slide for their reading.
   b. Distribute 3 sentence strips and markers to each person to record their word, phrase and sentence.
c. When they have finished reading, help them post their words in 3 columns (word, phrase, sentence)

6. Display S10 (Prompt). Use the 3 columns of posted words, phrases and sentences from the reading to facilitate a discussion to summarize the reading.

7. Display S11 (Reflection: Student Thinking). As a whole group, discuss the prompt. Comment that the format of the notebook is up to the individual teacher. What is important is that opportunities be given to students to use their notebook as a thinking tool that can eventually be used to write final products (“learning to write”).

8. Display S12 (Notebooks and the CCSS) and distribute H3 (CCSS-ELA). Ask participants to review the standards on the slide for their grade level and discuss how notebooking could be a strategy to incorporate these standards.

9. Display S13 (Writing to Learn; Learning to Write). Use this slide to summarize how notebooks can be used in the classroom.

10. Display S14 (Examples of Student Notebook Entries) and distribute H4-7 (Student Examples) as determined in the advance preparation.

11. Display S15 (Group Reflection). Based on the student examples participants viewed in Step 10, have groups discuss what they noticed—what types of entries did they see? Did the entries build on each other? What is your evidence?

**Trainer Note:** If participants viewed samples from various grades, ask participants to compare and contrast the student work through the grade levels.

12. Display S16 (Panel Discussion) and ask participants to view the video thinking about the similarities and differences in using notebooks in various grade levels.

13. Display S17 (Individual Write). End the session by asking participants to individually answer the two prompts. If there is time, ask several participants to share their thinking. Ask participants to discuss the prompts with a partner.