

SCIENCE AND LITERACY:

Improve Science Learning *and* Meet the Common Core State Standards

“ Learning science requires that students do, reason, talk, and write. Thus, the connection between literacy and science seems obvious. As we make the connections in the classroom we have the opportunity, if we do this with care, to add value to both literacy and science and enrich students’ lives in school. ”

In order to meet high-stakes testing demands, school systems across the country require 90–120 minutes of elementary literacy instruction daily as well as significant time teaching math. Curriculum areas such as science are often taught in the little time that remains, if at all. Yet the *Common Core State Standards* for English Language Arts highlight the need for more talk, more writing, and more interaction with nonfiction materials. Science is one obvious curriculum area for interaction with nonfiction, and it is an area in which talking and writing about ideas—skills central to literacy instruction—are essential. So why not find ways to make the connection between literacy and science more explicit?

During the literacy block we teach strategies that can be used in multiple ways. In reading workshop we teach our students to be active readers. They share their thinking about a character or consider the theme of a story during an interactive read-aloud. And during conferring they might talk about how a character has changed over time based on thinking they are doing during independent reading. We teach students to linger on an idea and to build on an idea that has been shared by someone else.

When doing science, students use many of the same skills and strategies they are learning during literacy instruction. They collect and record data in science notebooks, analyze findings, generate their own evidence, and share tentative conclusions. In science, students are active, engaged, and excited to investigate new ideas and explore questions they generate in response to work they are doing with materials and ideas.

Which specific strategies are most useful for science? One is whole group science talk. Lev Vygotsky said, “by giving our students practice in talking we give them frames for thinking on their own.” Group discussions in science are not unlike the kind of talk students engage in during an interactive read-aloud. Students gather in a circle (often with their science notebooks) to have a discussion based on a question posed by a student or the teacher. The discussion provides a forum for students to share their thinking, ask new questions, record wonderings, generate new thinking, debate ideas, and clarify confusions—all based on specific evidence they have collected over the course of firsthand investigations. Many teachers ask students to apply many of these same strategies during reading and writing workshop. If they are also used in science, students can benefit from applying them to a new context.

In addition to talk, students need to communicate science thinking through writing. Minilessons used when teaching students to write can be applied to the documentation of the firsthand experiences students have in science. And there are opportunities to use the firsthand data they generate, ideas they come up with, and information they find using other resources to write research “reports” or other types of informational pieces.

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