



Editor's Corner

Summer 2013, Notes From the Field Editor

Steve Metz

Editor

Stephen Metz

Managing Editor

Scott Stuckey

Editorial Assistant

Rob McNeely

Asst. Exec. Director, Journals

Kenneth L. Roberts

Director, Social Media and e-Messaging

Lauren Jonas

Art Director

Will Thomas

Senior Graphic Designer

Joseph Butera

Graphic Designers

Rashad Muhammad

Printing & Production Manager

Catherine Lorrain

Asst. Production Manager

Nguyet Tran

Electronic Prepress Technician

Jack Parker

Asst. Exec. Director, Publications

Operations

Rick Bounds

Publisher

David Beacom

Executive Director

David L. Evans

Advertising

Jason Sheldrake

Director

jsheldrake@nsta.org; 703-312-9273

The Science Teacher (ISSN 0036-8555) is published nine times a year [Jan., Feb., Mar., Apr./May, July, Sept., Oct., Nov., Dec.] by the National Science Teachers Association, 1840 Wilson Blvd., Arlington, VA 22201. Individual membership dues are \$75 (\$50 for publication, \$25 for membership). Memberships outside the United States (except territories), add \$15 per year for postage. Single copies, \$10. Periodicals postage paid at Arlington, VA, and additional mailing offices. Publications Mail Agreement no. 41506028. Return undeliverable Canadian addresses to: P.O. Box 503, RPO West Beaver Creek, Richmond Hill, ON L4B 4R6 Canada. © 2013 by the National Science Teachers Association, all rights reserved. Reproduction in whole or part of any article without permission is prohibited. **POSTMASTER:** Send address changes to *The Science Teacher*, NSTA, 1840 Wilson Blvd., Arlington, VA 22201-3000.

Let's Argue!

After what seems like a lifetime of imploring my children to “Please stop arguing!” I’ve now done a complete 180. In my science classes, I now regularly *encourage* student arguments. Go figure.

Like many parents, I quickly tire of the back-and-forth arguments of my children. Like many citizens, I also find the endless arguments so much in the news to be important but tiresome—confrontations over gun control, reproductive rights, the size of government, immigration policy, marriage equity, and on and on. So why do I encourage argumentation among my students?

The answer, of course, is that scientific argumentation is a very different kettle of fish. The everyday arguments of children, politicians, and sports fans attempt to win over the opponent, to convince an antagonist that your position is right and the other wrong. In contrast, the goal of argumentation in science is quite the opposite: to reach consensus in a collaborative search for truth. Scientists constantly critique each other’s ideas, defend claims and challenge inferences, propose alternative interpretations, and engage in the back-and-forth debate that moves forward our understanding of the natural world. The process of peer review epitomizes the argumentation at the heart of the scientific process. The result is publication—like the peer-reviewed articles found in this journal—of ideas that have been thoroughly assessed, critiqued, defended, and supported by evidence.

The recently published *Next Generation Science Standards (NGSS)* rightly identify “arguing from evidence” as one of eight important scientific and engineering practices, along with its close cousin “obtaining, evaluating, and communicating information” (Achieve 2013). The *Common Core State Standards* in both English language arts and mathematics similarly embrace the importance of constructing and critiquing evidence-based arguments (NGAC and CCSSO 2010).

The next time you are tempted to plead with students to stop arguing, think about trying to transform everyday confrontational arguments into opportunities for students to engage in an essential scientific practice. Our students need to learn that science is not a static body of knowledge, and that scientific progress is achieved through collaborative discourse involving arguing from evidence. By asking students to defend arguments, critically evaluate the claims of others, communicate their findings, and reach consensus, we allow them to engage in the exciting work of scientific exploration.

Steve Metz
Field Editor
smetz@nsta.org



References

- Achieve Inc. 2013. *Next generation science standards*. www.nextgenscience.org/next-generation-science-standards.
- National Governors Association Center for Best Practices and Council of Chief State School Officers (NGAC and CCSSO). 2010. *Common core state standards*. Washington, DC: NGAC and CCSSO.