# SCIENTIFIC INQUIRY AND THE NATURE OF SCIENCE TASK FORCE REPORT

# VIRGINIA MATHEMATICS AND SCIENCE COALITION TASK FORCE

#### **PREFACE**

<u>Charge from VMSC</u> — On October 6, 2009, the Virginia Mathematics and Science Coalition directed the science committee to establish a task force to write a report to present to local education agencies (LEA), Department of Education (DOE), Board of Education (BOE), and policymakers on how inquiry-based teaching and explicit nature of science instruction will improve student learning in science. This Report includes, but is not limited to, what scientific inquiry and the nature of science are, why teach them, and how to teach them effectively.

### Task Force Members:

Donna R. Sterling, Chair Professor of Science Education George Mason University

Kelley Aitken
Supervisor of Science & Visual Art
Frederick County Public Schools

Clair Berube Assistant Professor Hampton University

Jason Calhoun
Supervisor of Science/Family Life
Education
Prince William County Public Schools

Julia Cothron
Executive Director
MathScience Innovation Center

Wendy M. Frazier Assistant Professor of Science Education George Mason University David B. Hagan Museum Scientist Science Museum of Virginia

Laura J. Nelson Director Science Education Portsmouth Public Schools

Amy Parlo Clinical Assistant Professor Virginia Tech

Linda K Peterson Middle School Science Specialist Fairfax County Public Schools

Eric Pyle Associate Professor of Geology James Madison University

Eric M. Rhoades Supervisor of Mathematics and Science Stafford County Public Schools George Rublein Associate Professor of Mathematics College of William and Mary Diane Tomlinson VAST Region VII Director Russell County Public Schools

David Slykhuis Content Teaching Academy James Madison University Sonya Wolen VAST Region VI Director Science Museum of Virginia

Stephen T. Thornton Professor of Physics University of Virginia

## Writing Committee:

Randy Bell Associate Professor of Science Education University of Virginia

Jennifer L. Maeng Chemistry Instructor University of Virginia

Erin E. Peters Assistant Professor of Education George Mason University