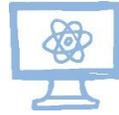

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***Hands-On, Minds Open:
The Changing Face of Science Education***

Video User Guide

A project of The Hunt Institute



Introduction

A rigorous K-12 science education is a key component of developing the next generation of entrepreneurs and scientists. In a recent survey, 97 percent of voters agreed that improving the quality of the science education is important to our country's ability to compete globally. Jobs across the economy require greater levels of technical skill and education than ever before.

Unfortunately, recent data show that U.S. students are not prepared for these increasing demands. Our students do not have sufficient mastery of core science content to be prepared for college and careers, and the United States has fallen behind in science achievement on international assessments even as other countries accelerate. To ensure that students are capable of taking on the challenges of tomorrow, investing in a rigorous and focused science education is critical.

States across the country have recognized the need to improve student performance in science, and a number of efforts are underway to ensure that K-12 science education more effectively prepares students for college and careers. These activities address everything from implementing innovative, hands-on science curricula to partnering with higher education for more dynamic and hands-on professional development for teachers.

A number of states have also been involved in the development of the *Next Generation Science Standards (NGSS)*, which are designed to impart both the scientific knowledge and hands-on practices students need to master from kindergarten through high school. These standards are internationally-benchmarked and draw from the curricula and practices of top-performing countries. To date, 12 states and the District of Columbia have adopted the *NGSS* and have begun to develop plans to implement the new standards.

The Hunt Institute developed this series of videos to document how leading K-12 educators are shifting their instructional practices to develop the critical thinking skills demanded in today's economy and increase interest in science. With a dynamic and accessible format, these videos can provide diverse audiences, including educators, policymakers, and parents with a stronger understanding of how science instruction is transforming to better engage students and prepare them for success in a global economy.

Disclaimer

This video series is meant to be a learning tool that will bring greater meaning and understanding to educators, policymakers, parents, and the public as a whole about the importance of inquiry-based K-12 science education. Viewing these videos **alone** does not provide comprehensive understanding about *NGSS* and their benefits for states.

These videos are not intended to substitute deep exploration and discussion of the National Research Council *Framework for K-12 Science* or *NGSS*. The accompanying documents are not curricula, nor are they instructional materials. These videos are meant to illustrate and give context for an inquiry-based approach to K-12 science learning.

Video overview

The following videos highlight exciting approaches to science instruction and the overall importance of science education to the economy. While these videos highlight teachers in North Carolina, these shifts are happening in other states across the country.

Suggested uses for the Science Videos

These videos can be used in a number of ways—including, but not limited to:

- **Start compelling conversations** about setting state or district policy goals for science education, orienting staff to an inquiry-based approach to science, assessing professional development tools, and developing local curricula and instructional materials.
- **Build an understanding about how effective science instruction** builds deep content knowledge through engaging, inquiry-based lessons.
- **Use as strong lead-ins to teacher and administrator engagement** in implementation and in setting higher expectations for students.
- **Help parents understand the importance of science** in preparing students for college and careers in a globally-competitive economy.
- **Galvanize support** for ensuring that science education programs are designed to help *all* students succeed.

Video Descriptions



Inquiry-Based K-12 Science Instruction: This video features policy leaders and educators discussing how hands-on, inquiry-based science instruction builds critical thinking and problem solving skills essential to today's economy, as well as the need to increase interest in science among women and minorities.



Building the Foundations – Elementary School Science Education: This video highlights educators in Johnston County, NC using hands-on, inquiry-based lesson plans to generate interest in science and build critical thinking skills by capitalizing on students' natural curiosity of how the world works.



Exploration, Discovery, Learning – Middle School Science Education: This video features middle school educators and students in Moore County, NC discussing their recent shift away from textbook-centric lesson plans to hands-on exploratory lesson plans where the teacher is the facilitator of the process, but not the person with all of the answers.



Preparing for College and Careers – High School Science Education: This video features educators at Brunswick County Early College High School in NC using hands-on learning opportunities to continue engaging students in science and to expose them to the practical application of classroom lessons through careers in science.

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