Best Practice Supporting Resources

STEM Education Quality Framework

https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/woodrow/STEM-Ed-Quality-Framework.pdf

▶ A guide to scaffold STEM Fellows and PK-12 teachers in the STEM education instructional design process.

▶ A set of principles that provide a conceptualization of the teaching and learning context in which quality STEM education might be situated.

▶ A cognitive tool for promoting teacher reflection and self-assessment.

▶ A vision of STEM education that provides a common set of principles and language to promote dialogue between and among STEM education stakeholders.

▶ A formative assessment tool for STEM education leaders to use in planning professional development experiences for classroom teachers.

A Framework for K-12 Science Education: Practices, Crosscutting Concepts and Core Ideas

http://www.nextgenscience.org/framework-k%E2%80%9312-science-education

Science, engineering, and technology permeate nearly every facet of modern life and hold the key to solving many of humanity's most pressing current and future challenges.

A Framework for K-12 Science Education outlines a broad set of expectations for students in science and engineering in grades K-12. These expectations will inform the development of new standards for K-12 science education and, subsequently, revisions to curriculum, instruction, assessment, and professional development for educators.

National Research Council. *(2011).* *Successful K-12 STEM Education: Identifying Effective Approaches in Science, Technology, Engineering and Mathematics.* Committee on Highly Successful Science Programs for K-12 Science. Education. Board on Science Education and Board on Testing and Assessment, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press. http://www.nap.edu/catalog.php?record_id=13158

(continued on next page)

Successful K-12 STEM Education defines a framework for understanding "success" in K-12 STEM education. The book focuses its analysis on the science and mathematics parts of STEM and outlines criteria for identifying effective STEM schools and programs.

National Research Council on STEM Integration in K-12

Margaret Honey, Greg Pearson, and Heidi Schweingruber, Editors; Committee on Integrated STEM Education; National Academy of Engineering; National Research Council
http://sites.nationalacademies.org/DBASSE/BOSE/STEM_Integration_in_K-12_Education/

STEM Integration in K-12 Education examines current efforts to connect the STEM disciplines in K-12 education. This report identifies and characterizes existing approaches to integrated STEM education, both in formal and after- and out-of-school settings.

CTE: Learning that Works for Washington – Stakeholder Report August 2013

http://www.k12.wa.us/CareerTechEd/pubdocs/2012-13StakeholderReport.pdf

Report outlining the current state of Career and Technical Education in Washington State

Common Career & Technical Core (CCTC)

www.careertech,org/career-technical-education/cctc/info.html

State-led initiative to establish a set of rigorous high-quality standards for CTE that states can adopt voluntarily. The standards have been informed by state and industry standards and developed by a diverse group of teachers, business & industry experts, administrators, and researchers. The CCTC includes a set of standards for each of the 16 career clusters and their corresponding career pathways that define what students should know and be able to do after completing instruction in a program of study. The Career Ready practices include 12 statements that address the knowledge skills and dispositions that are important to becoming career ready.

Science and STEM Education in Washington State: Background and Current Landscape, OSPI, July 2011

http://www.k12.wa.us/science/pubdocs/SciencewhitepaperFINAL.pdf

The purpose of this report is to describe the current state of science and STEM education in Washington State and the policies and programs supporting science and STEM education.

Goal 2

Partial Credit: How America's School Superintendents See Business as a Partner
Professor Jan W. Rivkin of Harvard Business School
http://www.hbs.edu/competitiveness/pdf/partial-credit.pdf

Lasting Impact: A Business Leader's Playbook for Supporting America's Schools

Sara Allan of the Bill & Melinda Gates Foundation, Allen Grossman and Jan W. Rivkin of Harvard Business School, and Nithya Vaduganathan of The Boston Consulting Group.
http://www.hbs.edu/competitiveness/pdf/lasting-impact.pdf

These two papers published by the Boston Consulting Group discuss some of the challenges and opportunities in developing partnerships between K-12 and the business community.

Goal 3

Promoting STEM Education: A Communications Toolkit NGA Center for Business Practices, 2007
http://www.nga.org/files/live/sites/NGA/files/pdf/0804STEMTOOLKIT.PDF

This toolkit provides core messages, materials, and communications strategies to help promote high-quality STEM education and link to economic development and to build strong support for STEM education initiatives.