

Why Use Multimedia in Science Education?

"The convergence of media and technology in a global culture is changing the way we learn about the world and challenging the very foundations of education. No longer is it enough to be able to read the printed word; children, youth and adults, too, need the ability to both critically interpret the powerful images of a multimedia culture and express themselves in multiple media forms. Media literacy education provides a framework and a pedagogy for the new literacy needed for living, working and citizenship in the 21st century. Moreover it paves the way to mastering the skills required for lifelong learning in a constantly changing world."

Elizabeth Thoman and Tessa Jolls | Media Literacy: A National Priority for a Changing World
American Behavioral Scientist, Vol. 48, No. 1, 18-29 (2004) | Full text available at http://www.medialiteracy.org/reading_room/article663.html

As science educators, we know how important critical thinking and new technology skills are in the scientific community. The ability to question and make sense of the world around us is a skill we value highly in the scientific world. We recognize that if our students are going to become the next scientific innovators and responsible citizens, they need, more than ever, skills to gather and evaluate data, make informed decisions, and communicate their ideas to others. As with scientific literacy, media literacy and other 21st century skills are grounded in inquiry, critical thinking, evaluation and communication. As our students grow up in a world increasingly saturated with information and media messages, they will need to become media literate and well versed in the many modes of communication that surround them if they are to sort through this information. There is no better place to learn these skills than in the science classroom.

Although multimedia as a tool cannot replace hands-on learning, it can enhance and strengthen the impact of activities in the field and in the science classroom. We can use new information tools and various "texts", such as podcasts, blogs, and streaming video and audio, to engage our students and effectively demonstrate science concepts as well as to reinforce media literacy technologies. We can also engage students with digital media production tools to give them opportunities to demonstrate their mastery of a concept and reinforce literacy skills by creating their own content. When done thoughtfully, the use of media in the classroom supports Common Core Content Standards for English Language Arts and Literacy in Science, specifically, Speaking and Listening Standards: Comprehension and Collaboration, and Reading Standards for Informational Text: Integration of Knowledge and Ideas.

The use of multimedia resources as part of a core science curriculum can

- Visually demonstrate scientific ideas and concepts.
- Instill a sense of wonder and excitement in students about the world around them.
- Present local, relevant case studies.
- Provide examples of real people practicing science.
- Generate student interest in science careers.
- Offer current research, theories and perspectives on a topic.
- Connect students with faraway or inaccessible places.
- Promote 21st century skills, including critical thinking, problem solving and communication skills.
- Provide a common experience shared by all students.

As we adapt our teaching strategies to better replicate the tools used by the scientific community, we enhance our students' ability to envision themselves within it and nurture the skills they will need to be active participants in their own lifelong learning.