



For More Information

EAST
<http://research.usm.maine.edu/east/>

National Center for
Accessible Media
<http://ncam.wgbh.org/>

CAST <http://www.cast.org>

World Wide Web Consortium
Web Accessibility Initiative
<http://www.w3.org/WAI/>

Curry, C. (2003). Universal design: Accessibility for all learners. *Educational Leadership*, 61(2), 55-60.

American Association for the Advancement of Science (AAAS). (1993). *Benchmarks for science literacy*. New York, NY: Oxford University Press.

Linn, M.C., & Hsi, S. (2000). *Computers, teachers, peers: Science learning partners*. Mahwah, NJ: Lawrence Erlbaum Associates.

National Research Council (NRC). (1996). *National science education standards*. Washington, DC: National Academy Press

Universal Design in Science Education

What the Research Says

Standards call for teaching science as inquiry (American Association for the Advancement of Science, 1993; National Research Council, 1996), and research indicates that engaging in scientific inquiry increases student achievement in later courses and projects (Linn & Hsi, 2000). The nature and implementation of inquiry-based curricula, however, often overlook the needs and preferences of diverse and varied learners. Universal design guides the integration of science inquiry with teaching methods and learning technologies that have been shown to support the learning needs and preferences of the widest possible number of students. Flexible, usable, and accessible content media, instructional technologies, and laboratory and field equipment include customizable and adaptive features, enabling almost all learners to participate in the same rigorous, progressive, and thoughtful curriculum, transforming inquiry-based science teaching and learning.

In Practice

- Adopt accessible content media
 - Digital curriculum materials
 - Captioning and described video
 - Accessible Web sites
- Implement accessible field and laboratory equipment
 - Meters and probes with audible readout
 - Talking thermometers, balances, and calculators
 - Laboratory glassware with raised numbers
 - Electronic notetakers and portable word processors
 - Digital voice recorders
 - Adequate lighting and magnification
 - Digital camera
 - MP3 players
- Consider multiple ways that students might demonstrate knowledge and skills
 - Avoid unintentional learner advantages
 - Minimize the need for accommodations and modifications
 - Demonstrate that expressions of knowledge and skill can take many forms