

Photo Fixes

Contributed by Wynne Brown
Wednesday, 23 August 2006
Last Updated Tuesday, 27 November 2007

New Life for Old Images

Here learners use WebImage, a Web-based customized version of ImageJ, (a) to investigate the nature of fading in old photographs and (b) to correct it digitally. Several digital images of faded photographs are provided, and, with a simple technique, students can enhance the brightness and contrast of the images. This lesson introduces students to simple image arithmetic with opportunities to perform and evaluate each operation.

Go to LessonRelevant standard(s)

NSES Standard: Science as Inquiry, Grades 5-8, Content Standard A

• USE APPROPRIATE TOOLS AND TECHNIQUES TO GATHER, ANALYZE, AND INTERPRET DATA: The use of tools and techniques, including mathematics, will be guided by the question asked and the investigations students design. The use of computers for the collection, summary, and display of evidence is part of this standard. Students should be able to access, gather, store, retrieve, and organize data, using hardware and software designed for these purposes.

NSES Standard: Science and Technology in Society, Grades 5-8, Content Standard E

• Science and technology are reciprocal. Science helps drive technology, as it addresses questions that demand more sophisticated instruments and provides principles for better instrumentation and technique. Technology is essential to science, because it provides instruments and techniques that enable observations of objects and phenomena that are otherwise unobservable due to factors such as quantity, distance, location, size, and speed. Technology also provides tools for investigations, inquiry, and analysis.

NSES Standard: Science in Personal and Social Perspective, Grades 5-8, Content Standard F

• Societal challenges often inspire questions for scientific research, and social priorities often influence research priorities through the availability of funding for research.

NCTM Standard: Representations, Grades 6-8

Instructional programs should enable students to

• Use representations to model and interpret physical, social, and mathematical phenomena.

NETS Standard: Grades 6-8

• Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.