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National Science Teachers Association Unveils New Web-Based Resource to Enhance Science Teaching and Learning

DALLAS, TX, April 1, 2005—The National Science Teachers Association (NSTA) today unveiled the first-of-its-kind resource that will transform the way teachers use the internet to plan and provide science instruction to K–12 students. SciGuides™ is an online “science toolbox” that allows teachers to forgo an exhaustive—and often unproductive—internet search for instructional resources and instead use specially developed SciGuides tools to quickly and easily locate targeted science content information and teaching resources from NSTA-reviewed science websites. Teachers can also use the unique capabilities of SciGuides to transform the science content into effective classroom resources by locating and incorporating online lesson plans, tips for teaching the content, and effective student assessments.

SciGuides are organized by major science topics, such as genetics or matter, and teachers can link to approximately 100 websites on each topic. The websites are also organized by grade level and are continually updated by award-winning web educators and pedagogical experts working with the NSTA Webwatchers program.

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In addition to finding content-specific information, lesson plans (including vignettes, case studies, sample student work, and teacher audio clips), teaching tips, and student assessments, SciGuides can help teachers to quickly locate, organize, and add hands-on investigations, sources of scientific data, and examples of student misconceptions about science to their classroom instruction.

According to an NSTA informal survey of science educators conducted in mid-March, an overwhelming 92% of teachers responding indicated that they use internet-based resources to help them teach science and identified core content information and interactive simulations as the two most frequently used resources. When asked to characterize their experience locating online resources, however, nearly 66 percent said their experience was challenging, and nearly half (49%) indicated they needed additional help integrating web resources effectively in their classroom. Those who did not use online resources cited major barriers, including a lack of time to search for resources and the inability to find quality resources. And a considerable 72% of the teachers expressed concern about students' potential exposure to inappropriate web-based resources while online.

“A SciGuide is a teacher’s pathway to top quality online resources that can be counted on to be effective, accurate, up-to-date, and appropriate for their students,” said NSTA President Anne Tweed. “SciGuides are a comprehensive, practical resource for teachers because they combine so many of the important components teachers need to bolster their science content and plan effective science lessons.”

A Houston teacher puts it best with her impression of SciGuides: “I was looking for an activity for my sixth-grade properties of matter unit, so I went to NSTA SciGuides and found a lesson plan that used density. It led me to several websites that helped me to better understand properties of matter and what my students needed to learn. Plus it gave me some great examples of how students may misinterpret this science concept. I was much more prepared to teach this activity and make sure the kids understood the science behind it,” said Mary Patterson, Department Chair of Science, Hamilton Middle School, Houston, Texas.

NSTA began developing SciGuides in 2000 with a grant from the National Science Foundation to create a system for science teachers to better use the internet. In 2003, NASA funded a grant for 250 of its NASA Explorer School educators to use this system, which ultimately will lead to the creation of 20 guides focusing on NASA content. Additional funding from the National Oceanic and Atmospheric Administration (NOAA), the National Ocean Service, and NOAA's Office of Education and Sustainable Development will be used to create five SciGuides on oceans, weather, and climate. These SciGuides will become available in the fall of 2005 and throughout 2006.

"NSTA is leveraging the internet and new communications technologies to increase not only the type of products and services it offers, but also its ability to deliver them to a greater number of teachers," said Dr. Gerald Wheeler, NSTA Executive Director. "The service will be especially useful for early career teachers who urgently need practical ideas, lesson plans, and high-quality curriculum resources to help them teach science."

Eleven SciGuides can now be purchased by individual teachers and school districts for \$4.95 a unit. The units focus on Properties of Objects and Materials, Life Cycles and Inherited Traits, Organisms, and Earth and Sky (grades K–4); Properties and Changes of Properties in Matter, Reproduction and Heredity, Organisms, and Earth and Sky (grades 5–8); and Atomic Structure and Chemical Bonding, Energy Resources, Genetics, Severe Weather, and Earth's Structure (grades 9–12).

Upcoming SciGuides will address Coral Ecosystems, Estuary Ecosystems, Force and Motion, The Lithosphere, and NASA Exploration. To order, or for more information on SciGuides, go to <http://sciguides.nsta.org> or contact Mark Bosveld at 703-312-9259 or mbosveld@nsta.org.

The Arlington, Virginia-based National Science Teachers Association is the largest professional organization in the world promoting excellence and innovation in science teaching and learning for all. NSTA's current membership includes more than 55,000 science teachers, science supervisors, administrators, scientists, business and industry representatives, and others involved in science education.