

NATURAL SCIENCE COLLECTIONS

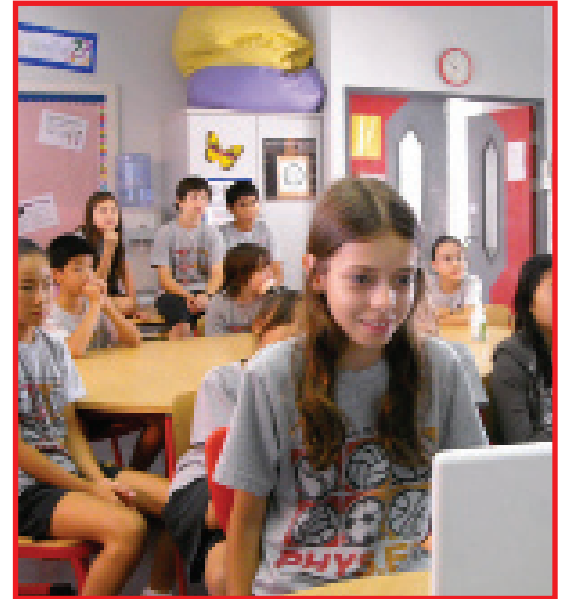
Educating America

Natural science collections, such as those at museums and herbariums, are valuable resources for formal and informal education and for teacher training. Scientific collections hold important specimens that play a critical role in biological, ecological, and medical education, and underpin much of our nation's scientific educational enterprise. Using collections, educators teach undergraduate and graduate courses in the biological, earth, social, and physical sciences, as well as courses in art and communications. Science collections also welcome countless K–12 students, inspiring them to pursue careers as our nation's next generation of scientists and innovators.

Educating the Next Generation

Graduate students conducting thesis and doctoral research routinely use collections. Collections are also used in K–12 classes and museum programs.

- The Oklahoma Museum of Natural History sponsors the Oklahoma Science Adventure!, a week-long residential program for middle-school students that brings them to field sites across the state to assist scientists studying paleontology and ecology.
- Museum specimens from the Philadelphia Academy of Natural Sciences were used recently as part of a graduate dissertation to confirm the existence of a new species of Hawaiian cricket, enhancing the understanding of insect evolution in island environments.
- The journals and botanical specimens from the Lewis and Clark Collection have been meticulously catalogued and translated into numerous K–12 teaching resources, including an interactive map sponsored by the Smithsonian's National Museum of Natural History that allows users to track the flora and fauna observed by Lewis and Clark during their 1804 expedition.



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Bringing Communities Together

In recent years, several surveys have assessed the health of our nation's science collections.



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- During the 2008 economic downturn, 55% of the nation's natural science collections reported an increase in attendance. Clearly many families are turning to science collections and natural history museums for low-cost, high-quality family entertainment and education.
- A report from the Institute of Museum and Library Services found that in 2006, approximately 148 million US adults--more than 63% of the adult US population--visited a museum in the United States.

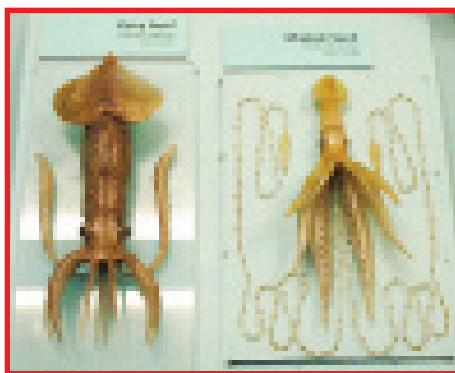
Informal Education Programs

US natural science collections provide millions of instructional hours each year to students. Moreover, most museums offer free public education programs, a valuable educational resource in challenging economic times.

- **The American Museum of Natural History offers an after school program for high-school students.** Courses are two hours long, meet up to twice a week, are low-priced, and provide fee waivers for low-income students.
- The Field Museum in Chicago has an extensive array of courses for students from pre-K through high school, including classes on evolution, DNA analysis, fossil hunting, and soil microbes. The museum also offers community-wide participatory programs, such as **Water Chicago, an initiative aimed at raising awareness of water in regional ecosystems and wastewater management.**
- **The Lawrence Hall of Science at UC Berkeley offers countless informal education programs and events,** including *Squid: The Inside Story*, a middle-school program that studies the life of squid, as well as *Ew Gross!*, a one-day course aimed at children and families that explores all of the processes of the human body.
- The Florida Museum of Natural History sponsors the **Project Butterfly WINGS (Winning Investigative Network for Great Science), a field- and Web-based science partnership that targets adolescents in grades 4–8.** Participants monitor butterflies in gardens and natural areas, conduct regular species surveys, and enter this information into a database for public and scientific use.



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What To Do

Several recent surveys have assessed the condition of US science collections. These reports have noted that many science collections need greater funding to improve specimen and data curation, and to hire and maintain appropriate levels of staff. Roughly 59% of museums have had budget cuts in the past year, 40% reported declining numbers of staff, and only 27% have budget lines to maintain collections. In this environment, collections-based research and education are hindered. In some cases, science collections are being abandoned or permanently closed. When this happens, we risk losing specimens and data that are important to our ability to understand how the world around us functions. Improved federal coordination and a national commitment to governmental and nongovernmental science collections are required.

To learn more about natural science collections and how you can support initiatives that will increase the utility of collections for society, please visit www.NSCAlliance.org.

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Natural Science Collections Alliance
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