Mobile Museum Guide for Teachers
The University of Iowa Mobile Museum is available for free to tour schools across Iowa from April through the end of October. A staff of highly experienced educators from the Pentacrest Museums and the Office of the State Archaeologist collaborated to create the following highlights to allow you to prepare your students for a Mobile Museum visit.

Our exhibits are based on current research and projects taking place at UI. Some of this research may touch on topics your students will be learning or have already learned. Other content may be beyond their learning level. We have found that students gain more from a Mobile Museum visit when they have an advance understanding the exhibits. Review the highlights below with your students, and visit our website for a selection of classroom activities related to exhibit content.

Digital Touchscreen Exhibits
There are 12 digital touchscreen exhibits on two large screens that cover a wide range of UI research. It is important that students take turns using all interactive and touchscreen elements in the museum. One hand at a time!

2016 Digital Exhibits:
- Ehealth
- Nationhood Redefined
- Moving Cabinet of Natural History
- Iowa’s Ambient Air
- Iowa Flood Center
- Iowa Law
- Harry Potter and the Quest for Enlightenment
- My Car Does What?
- Reading the World
- University of Iowa Tree Inventory
- Iowa Center for Research by Undergraduates
- Peoples Weather Map

Hawkeye Power: Clean Energy for Iowans
Renewable energy and sustainability research at UI is relevant to the daily lives of Iowans! Renewable energy comes from a natural, replenishable source.

- **Biomass**—organic matter that is used for fuel such as grasses, wood, and oat hulls—removes CO\textsubscript{2} (a greenhouse gas influenced by human activities) from the air as they grow, and this reduces net CO\textsubscript{2} emissions. Fossil fuels emit 100% CO\textsubscript{2} back into the atmosphere. See samples of coal and biomass fuels on display! Miscanthus is a perennial grass crop and source of biomass used by UI. Farmers grow it across Iowa, and it can grow to over 12-ft tall.

- **Buildings** can be really energy efficient if you apply some simple building science concepts. In the museum, your students can view the efficiency of how well different types of insulation block cold air through an infrared camera! Columbus Community High School in Columbus Junction tracks their energy usage and practices conservation. Learn more at http://buildingdashboard.com/clients/columbus/cchs/

- **Wind power** is a cost-effective, sustainable and clean energy source that doesn’t pollute the air or rely of fossil fuels. Iowa gets 31% of its energy from wind turbines and is the #1 user of wind energy in the U.S. By using wind energy, Iowans will avoid 9.6 million tons of CO\textsubscript{2} emissions per year — the equivalent of removing >1.5 million cars from the road. Experiment with our interactive wind turbine to produce energy!

Visit http://discover.research.uiowa.edu/information-educators for extended lessons based on exhibit content!
German Iowa

Students will learn about the history of German immigration in Iowa and the German experience from about 1848-1948. They will see German newspapers, and interactive map of German newspapers printed in Iowa, school books, souvenirs, toys, brewing artifacts, and other memorabilia from this time period.

- German-speaking immigrants from Central Europe were the most prominent ethnic group in Iowa in the decades between 1846, when Iowa became a state, and the early 1900s. From the first US census data in 1850 until 1940, German-born Iowans consistently made up between 30-40% of all foreign-born residents.
- The eruption of the Great War (WWI) in August 1914 threw German Iowa into crisis. While the United States remained neutral until April 1917, German-American communities divided. Conditions worsened further when the United States entered the war. German-Iowans suffered mightily under these conditions.
- German Americans’ need to hide their heritage resulted from real discrimination during World War I. After the war, however, their ability to “blend in” spoke to advantages they enjoyed in a society structured around race and social class.
- Stories of Iowa’s German past are still being uncovered today in Iowa! Iowans are encouraged to visit their own local historical society to find more information about their own town’s past and German ancestry.
- An executive ordered banning the speaking of German in public, including shared-party telephone lines by the Governor of Iowa in 1918. Students can listen to a shared-party line through an interactive antique telephone. They can stand in an early Iowan’s shoes and decide how they would have reacted to forbidden German.

A Wealth of Health: From Iowa to the World

University of Iowa Health Care has played a key role in developing new health care technologies and innovative teaching tools for training health care professionals. They have also developed creative STEM education materials for K-12 schools, building the pipeline of tomorrow’s researchers and health care providers. These innovations bring dramatic improvements for healthcare practices and education to Iowans and to people all around the world.

- Nursing – The role of nurses has changed dramatically in the last century. New programs developed at the UI College of Nursing use technology to change the way Iowans receive healthcare and interact with healthcare providers.
- Building the Future – Learning About Healthcare: This portion of the exhibit emphasizes innovative ways the University of Iowa has developed to train healthcare professionals and inspire interest in STEM topics for K-12 students.
  - The laparoscopic surgery trainer will give students a chance to try their hand at this difficult technique. Because the doctor cannot see through the small incision they must be guided by watching a computer monitor. A miniature camera is put in place through one small incision and the surgical tools enter through other small openings.
  - Plastinated Organs – The organs on display here are real. They have been preserved by a special process called plastination so that they can be viewed and handled easily by medical students in or out of the laboratory.
  - Cyber-Anatomy: a software program which allows medical students to ‘virtually’ dissect the human body. An example of this software runs on a video loop associated with this exhibit.
- The Ponseti Method: Developed at the University of Iowa, the Ponseti Method can correct crippling clubfoot by gently manipulating bones and tendons in the foot and holding them in place with a series of casts and braces.
  - Visitors can handle the model foot and the foot skeleton and see how doctors can manipulate the bones and tendons in a child’s foot to straighten it.
- Staying Healthy: This panel features material addressed in the Iowa CORE Educational standards aimed at personal health care, such as washing hands and using sunscreen.

After Your Mobile Museum Visit

The Mobile Museum Education staff has curated a series of additional activities that will enhance and reinforce your students’ understanding of the exhibits. This content will be available in May 2016. Most activities and lessons are organized by NGSS and Iowa Core standards. Curricula for Hawkeye Power exhibit was created by UI College of Education students and piloted by area educators.

Help us improve our educational materials! Fill out the online evaluation form sent to you by our education staff.

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