

We hope you will join us for The 6th Annual...
Women in Science Day 2012



At Washburn University

October 9th, 8:30 to 1:30 (Registration 8 – 8:30am)

This event is FREE to registered area 7th grade girls
Lunch is provided!

Please call to see if space is available:

(785) 832-3570 (Donita)

If space is available, please fill out and return the following registration form to the U.S. Geological Survey in Lawrence, KS no later than **September 17th, 2012**

By Fax:
(785) 832-3500

By Mail:
U.S. Geological Survey
ATTN: Women in Science Day
4821 Quail Crest Place
Lawrence, KS 66049

Email:
dmturk@usgs.gov

Our Guest Speakers!



Teresa MacDonald is the Director of Education at the University of Kansas Natural History Museum. She was born and grew up in Winnipeg, Canada and earned a Bachelor of Arts honors in physical anthropology, later moving to western Canada to pursue a Master of Science in vertebrate paleontology. From there, she taught science at a rural high school in northern Ghana (West Africa), then onto the United Kingdom where she worked in a university, museum and science center before moving to Lawrence, KS. More than twenty years experience teaching science in five countries and on three continents—has given her an opportunity to work in varied settings with diverse groups from Kindergarten to college level. Teresa is also involved in several National Science Foundation grants, including *Adventures at Nanoscale: Superconductivity* and *Quarked! Adventures in the Subatomic Universe* which includes a website that features online games, animated videos and more.

Bekkah Lampe is the Museum Educator and summer camp lead at the University of Kansas Natural History Museum. Born and raised in Maryland—famous for its blue crabs—she holds a Bachelor of Science in biology from the University of Maryland Baltimore County and a Master of Arts in ecology, evolution and marine biology from the University of California, Santa Barbara. Bekkah has conducted fieldwork in Puerto Rico, Santa Barbara, and San Diego, and worked for the education departments of the Carolina Raptor Center in North Carolina, the Maryland Science Center and the Ty Warner Sea Center in California. Since coming to Kansas, Bekkah has taught hands-on science workshops for schools, written science poems to explore the museum and created a series of short animated online videos to explore science topics.

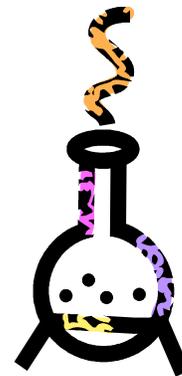


Hayley Lanier is a mammalogist – she studies the evolution and ecology of mammals – and Postdoctoral Fellow at the University of Michigan. She grew up in Emporia and participated in the same type of program you are at today, when she was in middle school. She loves teaching about biology of animals – from her days in high school as a volunteer at the Emporia Zoo to sharing stories about mammals with visitors at the natural history museum where she works now. She graduated from the University of Kansas in 2004 with her bachelor’s degree in Ecology and Evolutionary Biology. She then moved to Fairbanks, Alaska, to get her PhD at the University of Alaska where she studied pikas (rock rabbits) and other mountain mammals. Her studies have taken her from the furthest Islands of the Aleutian chain, to isolated mountains in Northern Canada and Alaska, to the cloud forests of Guatemala and the lowland rainforests of Costa Rica.

Lab Descriptions

Women in Science Day

Tuesday October 9th, 2011



Lab 1: Who Dunit?



Who Dunit? That is the question our budding forensic chemists will answer using and viewing analytical techniques used in actual crime laboratories. The hands-on laboratory will allow our future forensic scientists to run two types of chromatography. The demonstrations will include identification of a white powder by Infrared Spectroscopy (IR), differentiating various clear liquids by color change using Atomic Absorption Spectrophotometry (AAS), and – the ultimate crime solving tool – DNA analysis.

Lab 2: Volcanoes!

This lab will delve into all aspects of volcanoes - some of the most feared and awe-inspiring structures in the natural world. The lab will be divided into four stations that will cover everything from how volcanoes are formed to the history and dangers of volcanic eruptions. You will be able to build your own volcanoes and watch them explode, play with edible magmas and lavas, and model the formation of magma deep within the Earth's crust.



Lab 3: Am I Related to THAT? *Tracing our evolutionary history in the fossil record*

Where did modern humans come from and how did we get here? We will uncover our evolutionary history through an interactive lab using casts of our earliest ancestors. Students will compare key anatomical features and discover what makes us human. Is it a larger brain, a bipedal gait, or the ability to talk? The fossils have the answer.

Lab 4: What's In That Dirty Mouth?



You probably know that the mouths of cats and dogs have lots of bacteria living inside of them. What you may or may not know is that human mouths also contain a wide variety of microorganisms. Are you curious about what kinds of bacteria you can find in your mouth? Come search your own saliva samples for bacteria that live inside the human mouth and discuss some of the positive and negative impacts these microbes have on your lives.

Lab 5: What Lies Beneath?



Everyone enjoys spending time at the lake. Have you ever looked out over the water and wondered what goes on beneath the lake surface? There are a lot of things going on down there! The unique physical properties of water allow lakes to separate into distinct layers during warm summer months. This process is called thermal stratification. During this laboratory you will construct a model lake, create thermally distinct layers, explore how storms affect these layers, and discuss the influence these layers have on water quality and aquatic organisms.

Lab 6: Would You Drink That Water?

The chemical properties of water tell a story about where it came from. Learning about what's in water and its watershed can be a great adventure! During this lab, students will test water from several sources. The test results will give clues about where the water came from and whether or not students would want to drink it. Students will have the opportunity to use leading edge technology to test for chemical properties such as dissolved oxygen, nutrients, and pH.

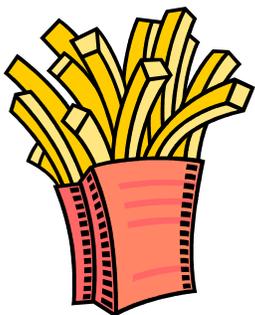


Lab 7: Everyday Super Powers!



We all know that if you touch something hot, you will pull back quickly, or if you start running, your heart beats faster and harder. Have you ever thought about how that happens? Come investigate your amazing "Superbody" and see how your body is able to respond to different circumstances. Then test the speed and strength of some of your own responses.

Lab 8: What's the Fate of that French Fry?



Have you ever wondered what happens to a French Fry after you eat it? In this lab, we will learn about the human digestion process and specifically the digestion of starch. You may know that starch and sugars are carbohydrates, but have you wondered what a "carb" is exactly? Did you know that your body makes an enzyme called amylase that is able to digest starch? Have you ever wondered what enzymes actually are and how they work? In this lab, we will answer all these questions. We will also conduct experiments to determine the kinds of conditions under which amylase works best.

Lab 9: Synthesis of a Frozen Colloid (or, Making Ice Cream!)

Did you know that chemistry is one of the most important ingredients in the kitchen? Home cooks and chefs use chemistry every time they make a meal. In this lab you will get a brief introduction into the world of kitchen chemistry. Then you can use your new chemistry knowledge to make your own frozen treats to eat!



Lab 10: Game Show Math



Deal or no deal? Which door is hiding a car, and which a goat? Where should you drop the Plinko disk for the best chance to win a good prize? Come to this workshop to explore the math behind game shows. Who knows? It might just help you win the grand prize one day!

Lab 11: Why Do You Run So Fast?

Have you ever wondered why some people can run faster, longer, better than others? How fit do you think you are? The Physical Therapy Department at Washburn University will give you an hour full of fitness testing and training tips for fitness and fun. Bring your workout clothes, running shoes, a willingness to test your fitness level, and all the questions you have about physical therapy and becoming involved in your own fitness as well as a career that focuses on helping others do the same.



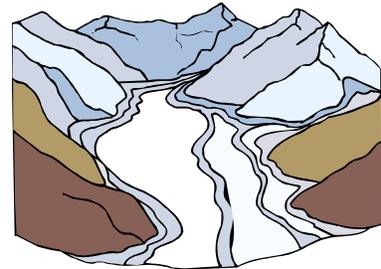
Lab 12: Backward Archaeology



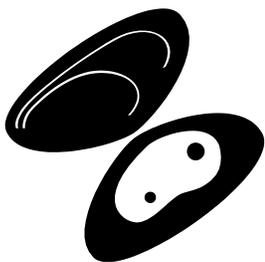
In this activity, students will simulate placing artifacts back in an excavated site. Mock artifacts, grid information, and other material will be explained during the activity. Students will have to evaluate the scene and determine who lived there, what they were doing, and other information about the inhabitants.

Lab 13: Brr... It's Cold Outside!

Did you know that glaciers covered large parts of North America only 20,000 years ago? Have you ever wondered what life was like during the last ice age? In this lab, we will learn about the animals and plants that lived during the last ice age, and explore how the world has changed over the past 20,000 years using real fossils and scientific evidence. Don't forget to bring your hat and gloves because, "Brr...it's cold outside!"



Lab 14: Mussel Power!



Did you know that oysters and clams have relatives in the Midwest? Learn all about freshwater mussels from the inside out – from anatomy and life history to amazing facts about their diversity and ecology – and then take a mussel shell home with you!

Women in Science Day, 2012

October 9, 2012

Registration Form

School _____

Teacher/Chaperone _____

Teacher/Chaperone Phone # _____

Email _____

Please print your name, and the number for the lab in which you would like to participate (number and lab description located on the next page). We will attempt to place participants into one of their top lab choices—but assignments are based on availability, so be sure to register as soon as possible!

Please use additional sheets for more students.

	Student Name	Lab Choice #1	Lab Choice #2	Lab Choice #3	Lab Choice #4
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Women In Science Day 2012



August 24, 2012

Dear 7th grade science teacher,

Enclosed is the registration and information packet for the fifth annual "Women in Science Day" to be held at Washburn University on **Tuesday, October 9th, 2012**. The event is sponsored by Washburn University, the U.S. Geological Survey, the National Weather Service, Zonta International, the Kansas Water Office, and the Kansas Department of Health and Environment. Special donations are made by Capital Federal and other local businesses, and the Washburn Foundation assists in helping secure the sponsorships for this event. The goal of Women in Science Day is to introduce female 7th grade students to various scientific fields and to professional women who have successfully pursued scientific careers.

The event is free! However, space is limited to 200 seventh grade students and **will be filled on a first come, first served basis**. We encourage you to call and register your school early because in previous years the space has filled up quickly! Registration will be coordinated through the Kansas Water Science Center of the U.S. Geological Survey. **Deadline for registration and information submittal is September 17th, 2012.**

This year we are pleased to offer transportation assistance to those schools in need. This generous donation is being made by Zonta International, through the Georgia Neese Grey Fund at Washburn University. If your school is in need to help defray the cost of transportation, the fund can provide \$75 towards the trip. *You will need to fill out the attached form, and provide an invoice from your school for the \$75, and return with your registration packet by **September 17.***

A list of the hands-on lab sessions is enclosed, and is also available for viewing online at <http://ks.water.usgs.gov/education/wis2012.html>. Please have your students select four that interest them. They will be placed in two labs. We try very hard to make sure that each student is placed in at least one of the labs they have selected; however it is very possible based on space availability, your students will be placed in another lab. The labs will allow them to explore topics such as physics, water quality, wildlife and ecology, medicine, physical therapy, microbiology, biology, entomology, earth science, math, and forensic science. Students will also have the opportunity to speak with women scientists and engineers about the careers they have chosen.

This year we are also asking that each parent sign the attached WIS Day Photo Release document. We would like the opportunity to take pictures of the events of the day, and need to have this document signed and in place prior to the event. If there are parents who do not consent, please let us know so we may make note for our photographers.

We are looking forward to Women in Science Day 2012! Do not hesitate to contact Donita with any questions or comments you may have about the event.

Sincerely,
The 2012 WIS Day Committee

For more information contact:
Donita Turk, Public Affairs Coordinator
USGS Kansas Water Science Center
785-832-3570
dmturk@usgs.gov

Enclosures: Registration Packet
WIS Day Photo Release Form
Transportation Reimbursement Request

Women in Science(WIS) Day Photo Release Form

I, _____, being lawful age, hereby freely and willingly give authorized agents and employees the absolute right and unrestricted permission for Washburn University of Topeka, along with the following entities involved with the Women in Science Day event (U.S. Geological Survey, National Weather Service, the Kansas Water Office, the Kansas Department of Health and Environment, Zonta International, and Capitol Federal) which takes place at Washburn University in Topeka, on October 9, 2012, to copyright, use and/or publish the photographic likeness of my child/ward in any form for the purpose of advertising, for endorsing or promoting such University or the Women in Science Day event, in any print or electronic media.

I waive any right that I may have to inspect and approve the finished product or the copy that may be used in connection with the likeness or the use to which it may be applied. It is understood that my child's/ward's name may or may not be used in conjunction with the photographic likeness.

It is understood that no compensation has been paid and that no fee or compensation shall be due to me for my giving permission to such University or above name entities for the use of the photographic likeness of my child/ward for the purpose stated above.

Childs' Name

Date

Parent/Guardian's Name

Witness

Street Address

City, State, and Zip Code

September 2012

TRANSPORTATION REIMBURSEMENT INFORMATION FOR WOMEN IN SCIENCE DAY

Make check payable to: _____

Mailing Address: _____

Contact Information: Name, Phone, and Email

Other: _____

IS YOUR INVOICE ATTACHED? Yes _____ No _____