

Weldon Spring Site
INTERPRETIVE CENTER

FIELD TRIPS AND OUTREACH PROGRAMS

School Year 2019–2020 and Summer 2020



WELDON SPRING SITE
A Legacy of Service



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

About Our Staff

The Weldon Spring Site interpretive staff is proud to have achieved the Certified Interpretive Guide professional level certification through the National Association for Interpretation (NAI).



Field Trips and Outreach Program Requests

- Requests may begin as soon as current school year information is posted.
- Confirmation Schedule:
 - School Year 2019–2020 [Beginning August 1, 2019](#)
 - Summer 2020 [Beginning March 1, 2020](#)
- Scheduling priority is given for groups requesting on-site field trips. Outreach programs may be requested, but will only be filled pending staff availability.
- All reservations will be confirmed by staff and supplemented with an agenda, logistics, and any special instructions.
- Groups may request up to three separate field trips and/or program experiences in a single school year. Simply include the details of each in the Field Trip and Program Request Form.
- Times are flexible depending on your travel needs and class times.
- High school and college-level field trips and programs are available. We'll work directly with you to cater a field trip or program specific to your needs.
- All of our field trips and programs are provided at no cost thanks to support from U.S. Department of Energy Office of Legacy Management.

Request Process

- Complete the **Field Trip/Outreach Program Request Form:**
<https://www.lm.doe.gov/Weldon/Programs.aspx>
- Submit via email, phone, or mail:
- Email: WSInterpretiveCenter@lm.doe.gov
- Phone: (636) 300-2601
- Fax: (636) 300-2626
- Mail: 7295 Highway 94 South, St. Charles, MO 63304



Legacy Management

The Weldon Spring Site is managed by the U.S. Department of Energy Office of Legacy Management



Field Trips to the Weldon Spring Site

- We recommend that every field trip include a hike up the disposal cell to fully appreciate the past, present, and future of the site.
- Scheduling priority is given for on-site field trips.
- Groups must provide their own transportation to and from the Weldon Spring Site.
- Field trip group sizes from 10 to 130 (students and parents total) are allowed each day. Consecutive days may be scheduled to serve larger groups.
- Large groups are split into two or three smaller groups that rotate through each activity. Group numbers will be indicated in your agenda.
- Indoor and outdoor lunch space is available (e.g., picnic tables and grass lawn).
- Please ensure students are prepared with appropriate clothing, shoes, sunscreen, and bug spray especially for outdoor programming.

Outreach Programs

- Outreach program staff will travel to your location at no cost.
- Outreach programs can be requested, but will only be filled pending staff availability.
- Best outreach scheduling opportunities are August, December, January, and February.
- Outreach programs will be confirmed a minimum of two weeks prior to the event.
- Please indicate your ability to provide a projector and/or computer on your request form. We are able to bring our own if necessary.
- Classes are encouraged to combine into larger groups. Programs are able to accommodate approximately 60 students per session.

Driving Directions

- The Weldon Spring Site is located in St. Charles County, Missouri, approximately 35 miles west of St. Louis. From I-64/Highway 40/61, or I-70, exit at Highway 94 and continue south toward Defiance.



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Field Trips and Outreach Programs

Each of the following Weldon Spring Site presentations typically last 40 minutes depending on your needs. Select up to three presentations for a customized field trip to our site. Only one presentation is provided for outreach programming.

Butterfly Life Cycles

Grades: K-3
Setting: Indoor and Outdoor
Key Content: Butterflies, metamorphosis, life cycles
Available as Outreach: Yes – indoor only

Discover the challenging life cycles of butterflies as they change from egg to adult through metamorphosis. Butterflies need healthy habitats for survival through all stages of their lives. Observe native butterflies, indoors and outdoors when visiting as a field trip (depending on the season and weather conditions).



Wild Life Cycles

Grades: K-3
Setting: Indoor
Key Content: Metamorphosis, life cycles, habitat
Available as Outreach: Yes

Discover the exciting life cycles of insects, amphibians, mammals, and birds that call the Howell Prairie home. Explore and compare different life cycles with animal artifacts like skulls, pelts, and feathers.

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Recycling Works!

Grades: K-1
Setting: Indoor
Key Content: Sorting, environment, trash, recycle, reuse
Available as Outreach: Yes

Recycling and protecting nature are life skills. Students will be challenged in a fun, interactive game to creatively keep things they use out of the trash.

Rocks

Grades: K-5
Setting: Indoor
Key Content: Rock types (igneous, metamorphic, sedimentary), rock cycle, rock uses

Available as Outreach: Yes

The landscape of our planet is constantly changing, eroding, and forming beneath our feet. Students will make observations to compare and contrast types of rocks. Students will explore the rock cycle, rock uses, and discover how Missouri rocks play a crucial role in the design and safety of the site's disposal cell. Fourth and fifth grade field trip students will perform hands-on tests to determine rock types and identify unique characteristics, just like geologists.

Food Chains and Food Webs of the Howell Prairie

Grades: 2-6
Setting: Indoor
Key Content: Energy transfer, predator/prey, herbivore, omnivore, carnivore

Available as Outreach: Yes

Learn about the Howell Prairie and the struggle for survival between predator and prey. Students will observe animal skulls and evaluate adaptations for survival in a food web and food chain.



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Soil Science

Grades: 2–5
Setting: Indoor
Key Content: Clay, silt, sand, loam, texture, color

Available as Outreach: No

Mucky, dirty, and cool! We need soil for prairies, forests, and to grow food. Dig in and get your hands dirty to learn about different soil types and how we use healthy soils every day. Students will compare soil samples to describe soil types, textures, and color match to a Munsell Soil Color Chart, just like real soil scientists.



Water Cycle

Grades: 2–4
Setting: Indoor
Key Content: Evaporation, transpiration, precipitation

Available as Outreach: No

Water is essential to everything. Students will explore all stages of the water cycle through an interactive game and discussion. They will learn how water cycles affect every aspect of our daily lives.



Solids, Liquids, and Gases

Grades: 2–5
Setting: Indoor
Key Content: States of matter, volume, mixtures, solutions
Available as Outreach: Yes

States of matter ... matter! Chemists, engineers, and environmental scientists all need to understand how molecules are arranged, how they behave, change, and combine. Explore the physical properties of solids, liquids, and gases during an exciting scientific exploration.

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Renewable Energy

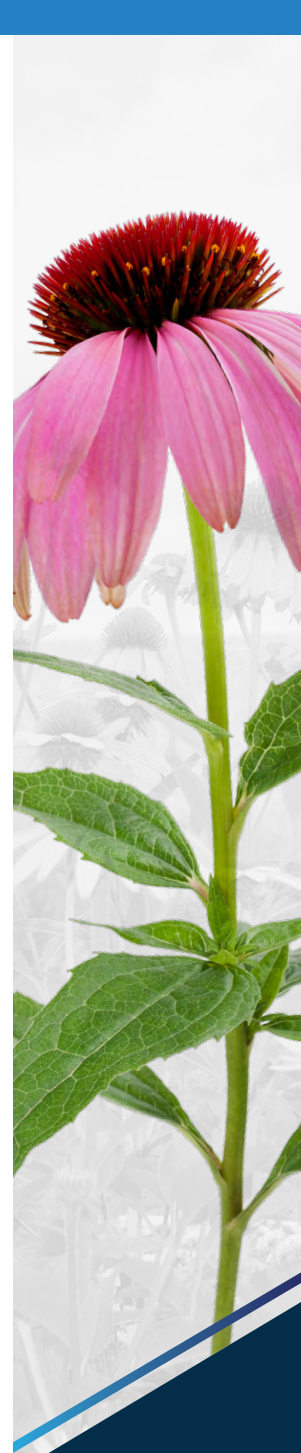
Grades: 5–8
Setting: Outdoor
Key Content: Renewable resources, fossil fuels, electricity
Available as Outreach: No

Fossil fuels heat our homes and run our cars, but what about a future with all renewable energy sources? Experiment with solar panels and wind turbines to compare the power they can generate.

Water Chemistry

Grades: 5–8, HS
Setting: Indoor
Key Content: Tests, pH, nitrogen, phosphorus, dissolved oxygen
Available as Outreach: No

We all need quality water. Students will learn about pH, nitrogen, and other elements of water found in nature and drinking water. Students will test natural sources of water and drinking water for pH and chemical content. They will evaluate how these measures impact the health of the environment, wildlife, and people. This program closely represents the work our scientists do at the Weldon Spring Site to continually monitor groundwater as part of our Long-Term Surveillance and Maintenance Plan.



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Subsurface Investigations

Grades: 5–8, HS

Setting: Indoor

Key Content: Groundwater, aquifers, contamination, monitoring

Available as Outreach: No

Groundwater is constantly flowing beneath our feet through soil and bedrock. Peoples' actions and natural events greatly impact groundwater flow and potentially cause contamination. Learn about our site's groundwater monitoring program and the tests performed.

Weldon Spring Site History and Cleanup

Grades: 5–8, HS

Setting: Indoor

Key Content: WW II, Cold War, contamination, cleanup, radiation

Available as Outreach: Yes

The Weldon Spring Site story began over 100 years ago. Prairies, farmland, and three towns were acquired in the 1940s in the name of national defense. A TNT/DNT munitions plant was first constructed to support America's World War II efforts, and later, a uranium production plant operated during the Cold War. Learn about the site's contamination history and environmental cleanup.



Mission Radiation

Grades: 5–8, HS

Setting: Indoor

Key Content: Alpha, beta, gamma, nucleus, protons, neutrons, fission

Available as Outreach: No

Radiation is all around us, all the time, from natural and man-made sources. Radiation is used in modern medicine, energy production, and nuclear weapons. Students will use Geiger counters to find and document natural sources of radiation in a mock scene of the former Weldon Spring Uranium Feed Materials Plant.

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Disposal Cell Hike – Recommended for every field trip!

Grades: K–8, HS
Setting: Outdoor
Key Content: History, engineering, environmental cleanup, design, safety

Available as Outreach: No

Connect to lessons from the past and explore a modern engineering marvel. The 41-acre disposal cell hosts a 75-foot stairway to a viewing platform with panoramic views of the surrounding area. Discover why the disposal cell was constructed, the contents stored within, and learn about the long-term monitoring of the site.



Secret Spy Scavenger Hunt

Grades: 3–8
Setting: Indoor
Key Content: History, environmental impacts, nature, engineering, design

Available as Outreach: No

Secrets, spies, and classified material! The former Weldon Spring Uranium Feed Materials Plant operated during the Cold War, a time of secrets and covert operations. Students will step back in time as top secret agents in a race to decode clues and open a spy case before their adversary does. Clues will guide students through the exhibit hall to discover the site's history, cleanup, and restoration of the natural environment.

Mapping Adventure

Grades: 3–8
Setting: Outdoor
Key Content: Map reading, navigation, teamwork
Available as Outreach: No

Build teamwork skills. Students are challenged with an outdoor, mapping scavenger hunt. Teams will interpret maps, symbols, and directions to locate checkpoints around the Interpretive Center's native garden.



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Prairie Study

Grades: K–8, HS
Setting: Outdoor
Key Content: Prairie, plants, birds, wildlife, insects
Available as Outreach: No

Explore the Howell Prairie. Search for wildlife, identify plants, catch insects, and use field guides. Each experience in the outdoors will follow the seasons based on blooming plants and viewable wildlife. NOTE: Students will remain on designated trails. Please ensure they are wearing appropriate clothing, shoes, sunscreen, and bug spray.

Next Generation Science Standards

Two new field trips are available to meet Next Generation Science Standards (NGSS). These field trips will fuse crosscutting concepts, practices, and core ideas to challenge your students in new ways. Minimum three hours with students rotating through different activities. NGSS programs cannot be combined with other programs and are not available as outreach programming. **All NGSS programs include a disposal cell hike.**

Seed Dispersal Exploration

Grades: 2–4
Setting: Indoor and Outdoor
NGSS: 2.LS2.A.2
Available as Outreach: No

How do plants move from one area to another? What adaptations and natural forces enable their movement? Students will explore the Howell Prairie and the diversity of plants within it. They will test different seed types and physical dispersal methods.

Survival in the Howell Prairie

Grades: 3–5
Setting: Indoor and Outdoor
NGSS: 3.LS1.A.1
Available as Outreach: No

Where and how do animals survive in the prairie? What adaptations allow them to compete for limited resources? Students will learn about the balance between an animal's characteristics, behaviors, and habitat in this hands-on exploration.



Field Trips and Outreach Programs at a Glance

Field Trips and Programs	Grade Level											Indoor	Outdoor	Outreach Program
	K	1	2	3	4	5	6	7	8	HS				
Butterfly Life Cycles	✓	✓	✓	✓								✓	✓	✓
Wild Life Cycles	✓	✓	✓	✓								✓		✓
Recycling Works	✓	✓										✓		✓
Rocks	✓	✓	✓	✓	✓	✓						✓		✓
Food Chains and Food Webs of the Howell Prairie			✓	✓	✓	✓	✓					✓		✓
Soil Science			✓	✓	✓							✓		
Water Cycle			✓	✓	✓							✓		
Solids, Liquids, and Gases			✓	✓	✓	✓						✓		✓
Renewable Energy						✓	✓	✓	✓			✓	✓	
Water Chemistry						✓	✓	✓	✓	✓		✓		
Subsurface Investigations						✓	✓	✓	✓	✓		✓		
Weldon Spring Site History and Cleanup						✓	✓	✓	✓	✓		✓		✓
Mission Radiation						✓	✓	✓	✓	✓		✓		
Disposal Cell Hike	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Secret Spy Scavenger Hunt				✓	✓	✓	✓	✓	✓			✓		
Mapping Adventure				✓	✓	✓	✓	✓	✓				✓	
Prairie Study	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
(NGSS) Seed Dispersal Exploration			✓	✓	✓							✓	✓	
(NGSS) Survival in the Howell Prairie				✓	✓	✓						✓	✓	





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