



The annual **Wisconsin Heights Summer Science Camp** will be held **Monday, June 9- Friday, June 13, 2025** at the Wisconsin Heights Middle/High School. This opportunity is for students entering grades 4-12 in the fall of 2025.

Camp theme: How do we know what we know in science? How do scientists discover new things?

The Overall Camp Goal: Students participating in the Wisconsin Heights Summer Science Camp will do authentic science as they design, carry out, and communicate their own research project in teams of 2-4 students. In doing so, they will be able to answer the two "camp theme" questions above.

This camp includes instructors from the UW-Madison Biology Core Curriculum (Biocore), Biocore Outreach Ambassadors, Biochemistry Department, and Integrative Biology Department. The Biocore Outreach Ambassadors have been working with Wisconsin Heights teachers and students since 2006, and have run the After School Science Club since 2010. To find out more about the Biocore program, please visit our website: <http://biocore.wisc.edu/>

Please complete pages 4-6 of this form. Return the materials to Nikki Klepper (District Registrar).

Learning Goals

Students participating in Summer Science Camp will:

1. become familiar with the kinds of questions scientists investigate
2. learn a few common data collection methods in a specific research area
3. work with 1 - 3 teammates to pose a testable question and/or hypothesis
4. design an experiment to address their hypothesis/question
5. carry out their experiment, collect data, and then organize, analyze and graph their results
6. use their data as evidence to make logical conclusions about their hypothesis/original question
7. communicate their findings to instructors, family, friends, and peers

Note to families: We have found that students who particularly enjoy science and working with others gain the most from Summer Science Camp. We do expect our Science Camp students to work hard and support their peers as they carry out their investigations, but we have a lot of fun in the process! If you have any questions about our Science Camp curriculum, please email Dr. Daniel Parrell (dparrell@wisc.edu).

Enclosed, you will find:

- Research Topic Descriptions (p. 2 & 3)
- Camp Agenda and Supply Lists (p. 3)
- Registration form (p. 4-5)
- Release forms (p. 6)

Research Topic Descriptions

1. Anatomy & Physiology

Are you interested in understanding how animals, plants, and humans work? Join us in making observations about plants and animals (including humans!) and create your own experiment to learn how different systems function!

Physiology campers will:

- Spend time learning about how different animals and plants work (physiology).
- Learn how to investigate questions about physiology.
- Ask your own physiology question and do your own project to answer that question!

2. Genetics

Are you curious about how living things grow and develop in response to their surroundings (environment)? And how are our genes involved in this response? Or about how genetic mutations can affect behavior and health? We'll discover how tiny nematode worms are so useful for answering these questions and more. Previous research projects have asked: Do worms respond to heat or cold? Do certain foods attract or repel worms? Can worms find their food when it's hidden by an obstacle?

Genetics campers will:

- Observe living worms with microscopes & how they respond to touch, odors, and other changes in their environment.
- Learn about genetics and mutations.
- Learn about translating science in simple organisms to better understandings of human health.
- Ask your own question and do your own project to answer that question!

3. Insect Ecology

Do you find yourself noticing different bees on flowers every spring? Do you like looking under leaves for caterpillars and other bugs? Have you wondered how there are so many species of insects on earth (>1,000,000)? Then the Insect Ecology group, AKA Bug Squad, is right for you! We will learn to identify Wisconsin insects in the field, and figure out how habitat types and quality affect insect diversity. We will also learn about the incredible ways insects have adapted to survive in different conditions and their role in our environment.

Insect Ecology campers will:

- Learn to identify insects in the field
- Understand what factors contribute to insect diversity
- Learn about insect habitat types
- Learn about insect interactions with plants and other insects
- Ask questions about insects in our environment and design a project to answer your question!

4. Quantum Physics

Are you curious about how things work on the smallest scales? Join us this summer for a tour of quantum physics, where you'll have a chance to play with lasers, explore how light interacts with the smallest things in the Universe, and learn more about the new technologies made possible through quantum physics. Quantum science is the study of the smallest things in the Universe, such as atoms and the even smaller subatomic particles they're made of, and how they interact.

Quantum Physics campers will:

- Use what you've learned about quantum science to ask your own questions and create experiments to answer them.
- Collect your own data and present your findings at the end of the week.

5. Prairie Ecology

Are you interested in being outside, getting your hands dirty, observing plants, insects, and all sorts of organisms that live in and around a prairie? Previous campers have investigated many interesting questions, including 1.) Do spittlebugs prefer and produce more 'spittle' on goldenrod or aster plants?, 2.) Will we find more crickets in cool, moist, dense prairie vegetation than areas with sparse vegetation?, 3.) How does the aging of a purple coneflower influence the number and types of pollinating butterflies?

Prairie Ecology Campers will:

- Get familiar with two different prairie ecosystems
- Examine and ask questions about the soil, plants, insects, birds, and other animals that live in a prairie
- Learn how to measure elements of the prairie environment
- Develop your own research project about prairie ecology that interests you

Please keep this page for your own information.

Camp Agenda

We will meet in the Wisconsin Heights Middle School Step Room each morning at 8:30 am.

Day	Monday (6/9)	Tuesday (6/10)	Wednesday (6/11)	Thursday* (6/12)	Friday** (6/13)
Time	8:30am-12pm	8:30am-12pm	8:30am-12pm	8:30- 3:00pm *	8:30am-12:30pm**
Theme	<i>How do we know what we know?</i>	<i>What would you like to investigate?</i>	<i>Data collection</i>	<i>Conclusions based on evidence</i>	<i>Sharing what we learned</i>
Activities	- Meet instructors and group members -Camp overview and site visits -Brainstorm questions you'd like to investigate	-Exploring your research interests -Work with groups to identify your research focus -Use a computer to find information	-Think about the best way to investigate your questions and make a plan -Collect data	-Finish collecting data -Inspect data to find patterns; find more information -Make graphs to explain your results -Construct a group poster	-Present your research findings -Celebrate your success at the all-camp party!

* **Note:** On Thursday, June 12, the students will work on their presentation posters. We ask that students stay later on Thursday (until 3:00 pm) to complete their work. **Please pack a sack lunch for your camper on Thursday.**

Please have your camper bring the following supplies to camp each day:

☆ **SNACK!!! (individual)**

☆ water bottle

☆ notebook/pencil

☆ bug spray

☆ sunscreen

☆ a good attitude!

☆ hat

Registration Form - Wisconsin Heights Summer Science Camp

Camp hours: 8:30am – 12:00pm (M, Tu, W, F) and 8:30am – 3:00pm (Thursday)
June 9-13, 2025

Student name _____ Parent/guardian name _____

Address _____

Telephone number(s): cell _____ work _____

Email address _____ Grade your child will enter in **fall 2025** _____

How did you hear about our science camp? _____

School district your child attends: _____

Item	Fee <i>Covered by CARES Act \$</i>	Number	T-Shirt size(s) (circle)	Subtotal
Registration	\$0.00			\$0.00
T-Shirt (1 per participant)	\$0.00		Child S M L XL Adult S M L XL	\$0.00

Total Enclosed: \$0.00

If your child participated in previous Summer Science Camps, what topic area(s) did they do research in?

2018 Camp - _____

2021 Camp - _____

2022 Camp - _____

2023 Camp - _____

2024 Camp - _____

Please rank your child's interest in our research topic areas (1 = most favorite to 4= least favorite):

_____ Anatomy & Physiology

_____ Quantum Physics

_____ Genetics

_____ Insect Ecology

_____ Prairie Ecology

Please attach a brief paragraph or two (written by your child) that describes why they are interested in the topics ranked “1” and “2.” Submit it with your application. Completed forms can be mailed to: WHSD, 10173 US Hwy 14, Mazomanie, WI 53560

Release Form for Media Recording

I, the undersigned, do hereby grant or deny permission to Wisconsin Heights Summer Science Camp to use the image of my child, _____, as marked by my selection(s) below. Such use includes the display, distribution, publication, transmission, or otherwise use of photographs, images, and/or video taken of my child for use in materials that include, but may not be limited to, printed materials such as brochures and newsletters, videos, and digital images.

I Grant permission to use my child's image in the following way: (please check one)

☐ **Unrestricted usage:** I understand that my child's name will not be used in conjunction with any video or digital images with the exception of the local newspaper. I give unrestricted permission for my child's image to be used in print, video, and digital media. I agree that these images may be used by Mazomanie Outreach Outpost and Biocore Outreach Ambassadors for a variety of purposes and that these images may be used without further notifying me.

☐ I deny permission for the use of my child's image at all.

Parent/guardian signature: _____

Date: _____

Release Form for Emergency Treatment & Camp Transportation

I authorize all medical and surgical treatment, X-ray, laboratory, anesthesia, and other medical and/or hospital procedures as may be performed or prescribed by the attending physician and/or paramedics for my child and waive my right to informed consent of treatment. This waiver applies only in the event that neither parent/guardian can be reached in the case of an emergency.

Parent's/Guardian's Signature

Date

I give permission for my child to attend the Wisconsin Heights Summer Science Camp and travel to local field sites either by walking or riding in instructor's vehicles. I release the Wisconsin Heights School District and Wisconsin Heights Summer Science Camp instructors, assistants, and individuals from liability in case of accident during activities related to Wisconsin Heights Summer Science Camp, as long as normal safety procedures have been taken.

Parent's/Guardian's Signature

Date

