



**PennState**  
Eberly College  
of Science

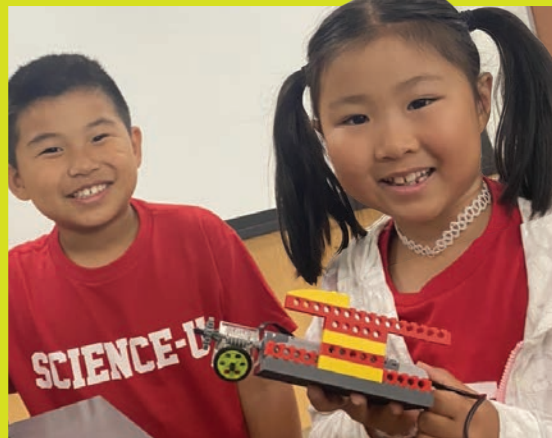
2023 **Day and Residential Camps**  
for Students Entering Grades 2-12

# SCIENCE-U

2023  
REGISTRATION  
OPENS  
**FEBRUARY 7**  
at noon

**Penn State Summer Science Camps**

[www.ScienceCamps.psu.edu](http://www.ScienceCamps.psu.edu)



**DISCOVERY HAPPENS HERE!**

# Welcome to Science-U!

Dear Science-U Campers and Parents,

Welcome to the 2023 Science-U camp season!

We're excited to invite you back for a **fantastic summer of unforgettable science experiences** here at Penn State's University Park campus! Each of our Science-U camps is designed to take campers through a one-week journey that investigates an area of STEM (science, technology, engineering, and math) in a fascinating and meaningful way. Guided by our **passionate staff**, Science-U campers are **encouraged to ask questions, think critically, and explore** all the ways that science can captivate them and make a difference in their everyday lives. Our sincere hope is that every camper comes out of their Science-U experience **inspired to stay curious and keep learning** about the world around them!

For more information about Science-U and our 2023 camps, please visit [www.ScienceCamps.psu.edu](http://www.ScienceCamps.psu.edu). Please also feel free to reach out to us at [sciencecamps@science.psu.edu](mailto:sciencecamps@science.psu.edu) or 814-865-0083 with any questions. We look forward to seeing you this summer!

—The Penn State Science Outreach Team



"My children loved their week at Science U! The hands-on exploration, encouraging staff team, and playful learning make us eager to sign up again!"  
—2022 Science-U Parent

"Science-U camp was very awesome, and I would like to come again!"  
—2022 Science-U Camper

"I liked the hands-on activities that allowed me to better understand science and biology."  
—2022 Science-U Camper

# CAMPS FOR KIDS ENTERING GRADES 2-5 IN FALL 2023



## NittanyBots: LEGO® Robotics— The Journey to Master Builder

JUNE 20-23 • DAY CAMP • GRADES 2-3  
JULY 5-7 • DAY CAMP • GRADES 4-5

Science-U's partnership with Way Cool STEM Education enters its 11th year with the NittanyBots camp! This camp will give kids the chance to use LEGO Mindstorm kits to build, program, and test robotics technology. Campers will learn how to use drag-and-drop computer programming to incorporate motors and sensors into their LEGO designs and will also have a blast developing their teamwork skills and creativity! By the end of camp, students will have the skills to build cool things from their imaginations, without instructions! Space is limited, so register early. We look forward to working with you on your journey to becoming a master builder!

## Nature Explorers: Cycles Galore!

JULY 17-21 • DAY CAMP • GRADES 2-4  
JULY 24-28 • DAY CAMP • GRADES 2-4



How do caterpillars turn into butterflies? Why do trees lose their leaves each year? Where does water go after it rains? What do plants need in order to grow? By exploring the cycles of nature, campers will unlock mysteries of the world around them. Campers will get the chance to dive into lab experiments to discover the science behind natural phenomena, and they'll also get hands-on experience as they search for these phenomena in the great outdoors. Come and explore with us!



# CAMPS FOR KIDS ENTERING GRADES 5-8 IN FALL 2023

## Life...in Space!

JUNE 20-23 • DAY CAMP • GRADES 5-7  
JULY 31-AUGUST 4 • DAY CAMP • GRADES 5-7

Until a few years ago, anyone who mentioned aliens as a reality would have been laughed at. But now, astrobiology (the study of life in space) has started to take off! If there is life out there, would we recognize it? Where should we look? What are the chances of finding intelligent life? To answer these questions, campers will peer through telescopes, build rockets, and learn how to analyze alien atmospheres for signs of life. Join this camp if you're interested in answering the biggest question of all: Are we alone in the universe?



## Finding Your Roots

JUNE 26-30 • DAY CAMP • GRADES 6-8

This camp is designed to get campers up close and personal with their own DNA so that they can explore the questions of where they come from and what makes them who they are. Campers will complete a DNA test before camp (secure DNA kits will be sent from Science-U) and will use information from their DNA test to talk about their traits like hair/eye/skin color, smell/taste perception, lactose intolerance, and caffeine metabolism with other campers. During camp, campers will discuss several topics, including inherited traits, evolution, and anthropology. Campers will also conduct genealogical research to learn about family members, their traits, and traditions. This camp is a place where the science is all about you!



## Ecology Camp: The Wild Wonders of Your Own Backyard

JULY 10-14 • DAY CAMP • GRADES 6-8

Ecologists-in-training will spend a week traveling to ecologically important locations in Centre County, exploring unique water resources and ecosystems, and learning about the flora and fauna of our region. Daily, hands-on "Creature Features" will give campers the opportunity to learn to identify fish, amphibians, and reptiles. Campers will also use kick seines and hand nets in streams and ponds to sample, identify, and access invertebrate life as bioindicators of water quality. During the week, campers will paddle a canoe in our watershed, hike in ecologically significant areas, tour a fish hatchery, identify important trees, learn about acid mine damage to streams, build water filters, and gain awareness, understanding, and appreciation for the wild wonders of Centre County. *Please note: Our camp is instructed in local and sometimes remote outdoor environments, including mountain tops, rocky trails, swamps, streams, and lake shore locations. Our activities will include several hikes of 2-3 miles, wading in swamps and streams, and participating in a guided 3.7-mile canoe trip on Bald Eagle Creek from Milesburg to Curtin Village.*



## Designing the Future

JULY 24-28 • DAY CAMP • GRADES 5-6

Come help us design the car of the future! Together, we'll discover the physics concepts that we'll need for the car of the future, learn how to take an idea that's in your head and put it into a Computer-Aided Design (CAD) program, test your design ideas, and then use a 3D printer to turn your design into an actual object you can hold in your hand! We'll also look at how scientists, engineers, and even artists combine physics concepts with design and additive manufacturing techniques, such as 3D printing, to design and build the future! If you have lots of ideas for cool objects and want to learn how to make them a reality, this is the camp for you!



# CAMPS FOR KIDS ENTERING GRADES 9-12 IN FALL 2023

## Ecology Expeditions New!

JUNE 25-30 • DAY AND RESIDENTIAL SPOTS AVAILABLE • GRADES 9-12

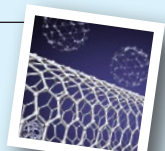
Do you love the outdoors? Have you ever wanted to get more experience in nature? If so, this camp is for you! Visit locations throughout the areas surrounding State College to learn about the natural and human history of central Pennsylvania, how humans affect our environment, and how scientists are making efforts to repair and protect our natural world. Activities include a canoe trip, day hikes, and lab tours. (Note: the first full day of camp is Monday, June 26, but residential campers will move in the evening of Sunday, June 25. All activities will take place rain or shine. No experience is necessary, but proper footwear and a can-do attitude are a must!)



## Make It Matter

JULY 9-14 • DAY AND RESIDENTIAL SPOTS AVAILABLE! • GRADES 9-12

Have you ever wondered how materials and the science surrounding them can help change the world? Creating a sustainable world for ourselves and for future generations really matters! Scientists and engineers have a huge role to play in building a sustainable future, and in this camp you'll see how researchers in fields ranging from materials science to chemistry and biology make a difference by designing new materials, inventing new ways to create and store energy, studying how to protect our ecosystems, and much more! Through lab visits, field trips, demonstrations, leadership activities, and hands-on science challenges, you will be inspired to think about how you can harness the world-changing possibilities of science and engineering in entirely new ways! Join us for an unforgettable experience focused on making sustainability matter! (Note: the first full day of camp is Monday, July 10, but residential campers will check in for an opening ceremony the evening of Sunday, July 9.)



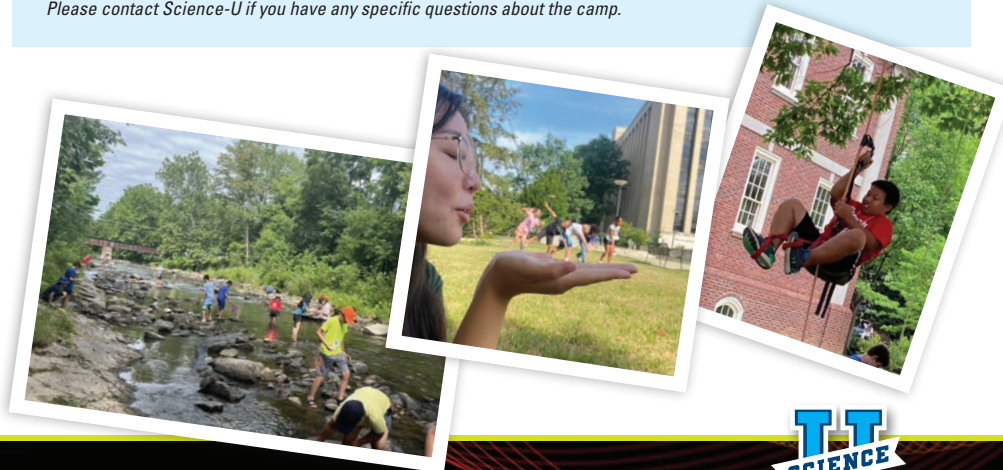
## Penn State Premed Academy

JULY 16-21 • DAY AND RESIDENTIAL SPOTS AVAILABLE • GRADES 9-12

Explore the human body and the limitless options within the medical field at Penn State Premed Academy! Together, we will navigate through the wonderful world of the human body to learn important anatomical and physiological structures. We won't just learn WHAT is inside your body, but WHY it is there and HOW it works (and how it can malfunction)! Our journey into the health field will include performing our own dissections using animal tissue. You'll have the opportunity to learn medical techniques, use medical equipment, and gain exposure to the amazing specialties and career possibilities that await in the medical field! (Hint: Being a doctor is not the only option!) So, what are you waiting for? Join us for our encore Penn State Premed Academy for high school students! (Note: the first full day of camp is Monday July 17, but all residential campers will move in the evening of Sunday, July 16.)



**\*Please also note that campers will be working with preserved and/or fresh (nonpreserved) animal tissue on a daily basis.\*** As a result, we recommend this experience only for students who are comfortable working with animal tissue. Please contact Science-U if you have any specific questions about the camp.



# SPECIAL OPPORTUNITIES FOR STUDENTS ENTERING GRADES 9-12 IN FALL 2023



## Gravitational Waves and Multimessenger Astrophysics Camp

JUNE 20-22 • DAY CAMP • GRADES 10-12

Come join us in exploring some of the most extreme objects in our universe! In this three-day camp, you will get to work directly with researchers in physics and astronomy who wake up every day to answer a mind-bending question: What happens when stars collide? Not only will you learn how to use gravitational-wave astronomy to detect and characterize black holes and neutron stars, you will also get hands-on experience with data analysis tools and methods including high-performance computing and machine learning. A short application will be available on our website in March 2023. Registration is free for accepted applicants, but only a limited number of spots are available. Please reach out to us at [sciencecamps@science.psu.edu](mailto:sciencecamps@science.psu.edu) with any questions or if you would prefer to receive the application information via email.

## Biotechnology Mini Summer School

JULY 5-7 • DAY CAMP • GRADES 9-12

This is an opportunity for high school students who are fascinated by DNA and biotechnology and interested in learning more about cutting-edge research in biopharmaceutical, agricultural and environmental research areas. During this three-day program, participants will conduct wet lab experiments in the Penn State graduate student biotechnology training lab. Techniques like DNA cloning and polymerase chain reaction (PCR) amplification of DNA will be introduced. Participants will also hear from scientists and industry professionals in biopharmaceutical, agricultural, and environmental biotechnology careers. A short application, and more information, will be available on our website in March 2023. (The registration fee will be \$155 and does not include housing.) Please reach out to us at [sciencecamps@science.psu.edu](mailto:sciencecamps@science.psu.edu) with any questions or if you would like to receive the application information via email.



## STEM Camp for Students on the Autism Spectrum: CSinPA Brain Freeze!

JULY 31-AUGUST 3 • DAY CAMP • GRADES 9-12

I scream, you scream, we all scream for . . . computer science and ice cream! This camp will offer an exciting hands-on computer science (CS) experience. Campers will explore how CS is used by the people who make the food we eat (especially frozen treats), tour Penn State food science facilities, and engage in fun computer science activities! This three-and-a-half-day camp will take place at the Penn State Conference Center alongside the National Autism Conference and is designed for college-bound high school students who are on the autism spectrum. CSinPA Brain Freeze! is brought to you in partnership with the Pennsylvania Training and Technical Assistance Network (PaTTAN), a project of the Pennsylvania Department of Education's Bureau of Special Education. Camp staff are specially trained by PaTTAN experts on the unique needs of students with autism, and camp design will take into consideration camper's specific needs, such as closer supervision or sensory concerns. There is no cost to participate. Please reach out to us at [sciencecamps@science.psu.edu](mailto:sciencecamps@science.psu.edu) for more information!

"I love that my daughter was able to experience this camp on a college campus. She loves Penn State, and this was a very cool experience for her!"  
—2022 Science-U Parent



# 2023 Camp Prices

See the back for information about camp financial aid and scholarships!

CAMP NAME	DATES/TIMES	GRADE IN FALL	By March 19	After March 20
Life . . . in Space!	June 20-23 9 a.m.-4 p.m. **	5-7	\$295	\$325
NittanyBots: LEGO® Robotic—the Journey to Master Builder	June 20-23 9 a.m.-4 p.m. **	2-3	\$295	\$395
Ecology Expeditions Residential Camp	June 25-30 9 a.m.-4 p.m.*	9-12	\$815	\$845
Ecology Expeditions Day Camp	June 26-30 9 a.m.-4 p.m.*	9-12	\$365	\$395
Finding Your Roots	June 26-30 9 a.m.-4 p.m.	6-8	\$425	\$455
NittanyBots: LEGO® Robotic—the Journey to Master Builder	July 5-7 9 a.m.-4 p.m. **	4-5	\$220	\$250
Make It Matter Residential Camp	July 9-14 9 a.m.-4 p.m.*	9-12	\$815	\$845
Make It Matter Day Camp	July 10-14 9 a.m.-4 p.m.*	9-12	\$365	\$395
Ecology Camp: The Wild Wonders of Your Own Backyard	July 10-14 8:30 a.m.-4:45 p.m.	6-8	\$355	\$385
Penn State Premed Academy Residential	July 16-21 9 a.m.-4 p.m.*	9-12	\$825	\$855
Penn State Premed Academy Day	July 17-21 9 a.m.-4 p.m.*	9-12	\$375	\$405
Nature Explorers: Cycles Galore!	July 17-21 9 a.m.-4 p.m.	2-4	\$365	\$395
Designing the Future	July 24-28 9 a.m.-4 p.m.	5-6	\$365	\$395
Nature Explorers: Cycles Galore!	July 24-28 9 a.m.-4 p.m.	2-4	\$365	\$395
Life . . . in Space!	July 31-August 4 9 a.m.-4 p.m.	5-7	\$365	\$395

\*High school camps that have residential spots may have evening activities scheduled that are open to and recommended for all campers! These evening activities will be communicated to registered campers as soon as possible and flexible arrangements can be made for day campers if they are unable to stay for evening activities.

\*\*Please note that due to the Juneteenth and July 4 holidays, some camp weeks will be shortened, so check dates carefully.

### Registration Guideline

An Eberly College of Science guideline for Science-U camps authorizes only students attending school in the United States to register for camps. As in previous years, parents/guardians are required to identify their child's school/school district during registration. Registrations that do not identify a U.S. school or school district will not be accepted.

### Residential Program Information

Students entering grades 9-12 may choose to stay at Penn State for any camp that has a designated residential component. Campers stay in the University Residence Halls on campus from Sunday evening until Friday when camp closes (camp schedules vary). Evening mentors supervise activities and outings.



REGISTER ONLINE AT [www.ScienceCamps.psu.edu](http://www.ScienceCamps.psu.edu)

## Extended Care Option

Two sessions of extended care are offered for campers entering grades 2–8, and the cost is \$30/week for the morning (7:45 a.m.–9:00 a.m.) session, \$30/week for the afternoon (4:00 p.m.–5:15 p.m.) session, or \$50/week for both morning and afternoon extended care. Extended care is not offered the first morning or last afternoon sessions of camp.

## Financial Aid and Scholarships Available!

Financial aid and scholarships are available to help families cover the cost of a Science-U camp! For more information on how to apply for financial aid or for a scholarship to the Make It Matter camp, please visit <https://science.psu.edu/outreach/scienceu/scholarships> or call 814-865-0083.

## Commitment to Youth Safety

The Pennsylvania State University is committed to providing a safe environment for all youth participating in activities offered through the University. All Penn State youth programs have policies in place to ensure the safety of youth participating in our programs and to ensure safety is not compromised. All camp staff are trained in emergency protocols and all relevant internal, external, and parental requirements.

Parents are encouraged to notify the Eberly College of Science's outreach staff immediately at [sciencecamps@science.psu.edu](mailto:sciencecamps@science.psu.edu) or 814-865-0083 if they, or their child, are experiencing problems, difficulties, or concerns with the camp, other youth in the camp, and/or camp staff.

You may also contact Sandy Weaver, youth programs compliance specialist, at [stw126@psu.edu](mailto:stw126@psu.edu) or 814-865-8785, or call the University's Ethics Hotline at 1-800-560-1637.

Science-U is an outreach program of the Penn State Eberly College of Science.



# Connect with us!

Make science part of your everyday life and connect with us on social media! Follow us to hear about other amazing STEM programs at Penn State and get ideas for science activities!



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# Do It Yourself

ONLINE ACTIVITY RESOURCE CENTER

Science-U, the Eberly College of Science, and WPSU-TV have teamed up to help bring exciting science experiments straight to your home! Go to [science-u.org](https://science-u.org) to check out the videos, instructions, and pro tips. You don't know what you can discover until you try!



## 2023 Sponsors



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The Pennsylvania State University encourages qualified persons with disabilities to participate in its programs and activities. If you anticipate needing any type of accommodation or have questions about the physical access provided, please contact the Office of Science Outreach at 814-865-0083 in advance of your participation or visit.

MORE INFORMATION? CALL 814-865-0083 OR VISIT [www.ScienceCamps.psu.edu](https://www.ScienceCamps.psu.edu)