



Kopernik Observatory & Science Center

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**Link Summer STEM
Explorations 2024**
Entering Grades 5 -12

For the 32nd summer, the Kopernik Observatory & Science Center in Vestal, NY is offering weeklong camps for students entering grades 2-12 for the 2024/25 school year. Sponsored by the Link Foundation, in memory of inventor/explorer Edwin A. Link, the Link Summer STEM Exploration camps offer hands-on, high-tech adventures in science, technology, engineering, and math (STEM) in a fun and nurturing environment. Camps run Monday to Friday from 9 a.m. to 3 p.m. Early drop-off and late pick-up options are available.



Welcome Aboard the International Space Station (STEM, students entering grades 5 & 6)

7/29 – 8/2

What is it like to become an astronaut and work on the ISS? What training is required to work out of this world? Students will spend the week exploring what Astronauts do in this orbiting laboratory and learn about the science and engineering research on the ISS. This week of exploration and engineering includes training in radio transmission and reception of voice, data, and images. The students will learn radio language protocols and how to track and map satellites which will be useful as **students will speak live, by Ham Radio, with an astronaut currently aboard the ISS.** Tuition includes \$25 materials fee.

Virtual Universe (Engineering, students entering grades 6-8)

6/24 – 6/28 (A) and 7/22 – 7/26 (B)

Students will take their first steps into a larger, virtual world where anything is possible! They will learn about the past, present, and future of augmented and virtual reality (AR & VR) while discovering how the technologies work. Students will receive a VR headset which they can decorate and make their own. Using an AR/VR creation tool, campers will design a virtual environment that they can explore up close using a Kopernik iPad (AR) or their VR headset. Altogether, they will gain programming and 3-D modeling experience as they build this virtual world—one limited only by what can be imagined! Each day of camp will also offer the chance to test out a state-of-the-art AR or VR experience including a flight aboard the ISS and even a trip to the Moon! Tuition includes a \$20 materials fee.

Rocket Design (Engineering, students entering grades 6-8)

7/8 – 7/12

This five-day camp is an introductory exploration of rocket science. Students will start by learning about the history of the space program, from the earliest rockets to the latest missions. Students will study the principles of rocket science and how private companies like SpaceX and Boeing are advancing the field. Then students will construct their own simple, single-stage rockets. As the week progresses, they will be equipped to build more complex designs with multi-stage engines, special recovery systems, and more. Rockets will be tested for flight worthiness before launch! Tuition includes a \$25 materials fee.

Creative Construction (Engineering, students entering grades 6 -8)

8/5 – 8/9

In this camp students will exercise their creativity and explore engineering as they learn how to design and build a variety of things including model buildings, weight-bearing structures, and powered vehicles. Students will start by learning how to read a blueprint and then construct a 3-D scale model of a structure of their choice. Next, they will learn about designing structures that have to carry loads and construct a bridge from wooden craft sticks that will compete in a competition to see which design carries the most weight. They will also learn about energy conversion and build a powered vehicle of their own design. Finally, students will be introduced to additive manufacturing and how 3-D printing can be used at large-scale. This will be a great opportunity to test out the design process and turn ideas into reality. Tuition includes a \$20 materials fee.

Return to the Edge of Space (STEM, students entering grades 8-12)

8/12 – 8/16

For six of the past seven summers, Kopernik students have designed, built, launched, and recovered a weather balloon that reached altitudes of over 100,000 feet (nearly 20 miles). In the videos they recovered, they saw the sky turn black and water boil at temperatures below freezing in the near-vacuum conditions of maximum altitude. This summer, students will have the opportunity to build on the experience of previous camp years and add new experiments using Raspberry Pi computers and GoPro video cameras. The payload will include a slow scan TV experiment to transmit pictures back to earth during the flight. Students will track the balloon's flight path in real-time, using a beacon equipped with a GPS receiver. When they retrieve the payload the students will analyze the data and video and compare it to what was predicted.

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Link Summer STEM Exploration Camps 2024

For students entering grades 5-12 during the 2024/25 school year

The Kopernik Observatory & Science Center is a great place for students to explore the world around them. Kopernik's STEM-themed summer camps are hands-on and high-tech, while also fun and safe! Students will have their eyes opened and may get their hands wet and feet muddy as they spend time outdoors each day for field exploration and playtime. They will make friends and lasting memories, too!

Camps have a maximum enrollment and many fill quickly each year. Register early to avoid disappointment. Early drop off and late pick up are available for a modest fee.

**Register for camps online at www.kopernik.org or fill out and return this form (online is preferred).
Early Bird Tuition cost good through May 31. Add \$20 when registering after May 31.**

Please check the session(s) for each camp your child will attend:

----- LSSE Camp (focus, 2024/25 grades) -----	Dates of the Camp -----	Member / Non-Member Tuition
Welcome Aboard the ISS (STEM, 5-6)	<input type="checkbox"/> 7/29 – 8/2	\$225 \$265
Virtual Universe (Engineering, 6-8)	<input type="checkbox"/> 6/24 – 6/28 <input type="checkbox"/> 7/22 – 7/26	\$220 \$260
Rocket Design (Engineering, 6-8)	<input type="checkbox"/> 7/8 – 7/12	\$225 \$265
Creative Construction (Engineering, 6-8)	<input type="checkbox"/> 8/5 – 8/9	\$220 \$260
Return to the Edge of Space (STEM, 8-12)	<input type="checkbox"/> 8/12 – 8/16	\$200 \$240

Student name: _____ Grade in 2024/25: _____

Parent/Guardian/Grandparent name: _____ Student's Birthdate: _____

Address: _____ City/St/ZIP: _____

Phone: _____ Email Address: _____

(please print)

Enclosed is: \$ _____ (checks payable to "Kopernik Observatory") KOSC Member Yes No (* add \$75 to join)

Credit Card # _____ Visa MasterCard Discover

Name on Credit Card: _____ CVV code (3 digit code) _____ Expiration Date: _____

Address of Credit Card Holder _____ Phone: _____
(if different than above address)

Request Financial Aid – please see website for a Financial Aid form. Aid offered on a financial need basis.

Each student receives a Link Summer STEM Exploration T-Shirt (included in the tuition). Please indicate shirt size:

Youth Small Youth Medium Youth Large Adult Small Adult Medium Adult Large Adult X-Large

Check this box if you **do not** want to your child to be photographed during the camp

**For more information call (607)748-3685 x 308, visit our website at www.kopernik.org,
or email: registration@kopernik.org**

Students must register and pay in full on or before May 31, 2024 to get the Early Bird Tuition rate. If registering after May 31 add \$20 to the above stated tuition. Refunds are available (less a \$15 administration fee) if a student withdraws 14 days prior to the start of camp. In case of cancellation due to insufficient enrollment, participants will be notified one week in advance and will receive a full refund.

Complete this registration form and mail it to: LSSE2024 KOSC, 698 Underwood Rd, Vestal, NY 13850
or email it to: registration@kopernik.org or fax it to: (607)748-3222

Please describe on a separate page if student has an IEP or needs any special educational, behavioral, or physical accommodations.

Date _____ DB _____