



2024 Science and Nature Recap

This year marks the Science and Nature Conference's 30th year of bringing students together to learn, experience and enhance their excitement about these topics. Over 930 students, grades kindergarten through eighth, gathered at the Southwest Minnesota State University campus in Marshall, Minnesota on May 7, 2024, to participate in this year's conference. The conference kicked off with the National Eagle Center Keynote and continued with a variety of sessions students could select three from to attend.

Students Sessions at the 30th Science and Nature Conference

Growing Your Green Thumb

Students of all ages took a magical journey through the SMSU greenhouse to see all the shapes, colors, and smells. Students learned about plants and what they need to grow. They got to dig in the dirt and pot their very own plant. Each student planted a succulent and a native plant to grow at home! This session was presented by Kirsten Brichler, [SMSU](#).

Nursing 411 & Health Careers

K-8 students learned about the ins and outs of nursing and other health related fields. They experienced multiple hands-on activities that a nurse may run into while working in the line of duty. Attendees had hands-on experiences with checking a pretend baby's vitals, checking ears for ear infections, visually impaired simulation with glasses, germs experiment and more! This session was presented by Toni Brouillet, [MN West](#).

Animals Around the World

A zoo educator took K-8 students on a trip around the world to meet animals such as a ball python, large tortoise and a lizard from four different continents. They learned about their defenses, habitat, diet and more! This session was presented by Katy Carchedi, [Great Plains Zoo](#).

Airplane & Space Starfighter Fun

Students 3-5 grade experienced a hands-on, airplane wing construction class. They learned about the theoretical basis of lift created via Bernoulli's law and had fun flying the creations that they assembled and took home! This session was presented by Dr. Tyronne Carter, [America's Fun Science](#).

Water Bug Discovery

Students grades 3-8 learned about macroinvertebrates. In the session's investigation of live macroinvertebrates, they learned why these 'water bugs' are critical to the survival of other animals, and how they can tell us about pollution and environmental health. Attendees got their



hands wet, and dialed in with microscopes to learn all about these incredible critters! This session was presented by Katie Chapman, Shetek.

Virtual Cadaver & Human Anatomy

Students in grades 6-8 got to explore the virtual cadaver at SMSU. They then explored human anatomy, case studies of things like fractures, tumors, etc. This session was presented by Kris Cleveland, [SMSU](#).

Super Tall Straw Structure

Students K-8 learned some engineering skills and challenged themselves by building the tallest straw structure! Together as a team they worked to build the tallest tower out of a few simple materials you can find around the house. This session was presented by Liz Deen, SWWC.

The Shocking Truth about Electricity

Students, grades 3-8, learned many ways electricity is used and the fundamentals of generating electricity. They learned the movement of electricity; what it travels through and what it won't travel through. Using a Van de Graaff generator and a bicycle students generated electricity and showed how electricity travels. This session was presented by Jennifer Gross, [East River Electric Power Cooperative](#).

Oh Knots!

Students in 3-8 learned about the importance of knots. In this presentation, students were taught how to tie handy knots and were able to take home a knot tying kit. This session was presented by Kylie Holdorf, [Prairie Ecology Bus Center](#).

Rubber Rotor Ruckus

Students of all ages got to learn about the 'Rubber Rotor Ruckus' helicopter program! Their hands-on experience resulted in students creating their very own rubber band helicopters. In this session, students learned about aerodynamics, creativity, and teamwork for budding aviators! This session was presented by Sam Jens, Lyon County Extension.

Zodiac Sign Paper Circuit

Students in grades 3-8 illuminated the stars in your zodiac sign. The paper circuits functioned as simple low-voltage electronic circuits made by using LED lights, a type of conductive tape and a small battery. This session was presented by Stacy Johnson, Redwood County 4-H.



How thick is your shell? Bald Eagles and DDT

Students in grades 3-8 learned through interaction the history of Bald Eagles and the pesticide DDT. They participated in an experiment to see how much weight a chicken egg can hold before it breaks and how DDT affected our national symbol. This session was presented by Jarod Lueck, [National Eagle Center](#).

Let's Play in the Sandbox

Students in grades 3-8 learned about the materials used in our Highways by using a virtual Augmented Reality (AR) Sandbox. They learned topography, geography, natural sciences, watershed, and computer sciences. This session was presented by Jeff Madsen of MnDOT.

Geocaching with GPS

Students in 3-8 learned how to utilize Global Positioning System (GPS) and follow it to the cache! They also learned to perform basic GPS functions and then put that knowledge to the test and see if they could find the hidden treasure! This session was presented by Andrew Mattox, [Prairie Ecology Bus Center](#).

Build a Bridge

Students of all ages worked in teams to build a 6-foot-long truss bridge. Each team had people acting in different roles, just like in a real construction project. They had to build the bridge, test it, crawl through it, and dismantle it! Students then learned about the different force's engineers must design for, and how they play out in a real bridge that carries traffic. This session was presented by Melissa Hjelle of MnDOT.

Pollinator Power

Students in grades 3-8 learned about the smallest critters that take on the big task of pollinating 75% of the world's plants. This session got to enjoy the beautiful day with an outdoor adventure. This was presented by Tiffany Muellner, Blue Mound State Park.

A-Z Astronomy

Students of all ages explored the depths of space in a wild ride through the universe! Appealing to all ages, this romp through the galaxies included a roller coaster ride on our dome, a strange stop at a black hole by Mr. Shakespeare, a talking letter with a jelly-bean universe, and a trip to Egypt to explore hieroglyphs- the origins of our letters. This session was presented by Ken Murphy and Gavin Rohner, SMSU Planetarium.



LEGO Robotics

Students in grades 3-5 got to build and experiment with engineering! Together in teams, they constructed LEGO models and programmed them to move. This session was presented by Crystal Reith, Cottonwood County 4-H.

Landsat Observation

Students of all ages learned how USGS EROS (Earth Resources Observation & Science) Center has used Landsat space-based Earth Observation Satellites for 40 years to track changes on Earth's surface. This session was presented by Nathan Roberts, [U.S. Geological Survey EROS Center](#).

SNAKES! SNAKES! SNAKES!

Students in grades 3-8 learned about some of the most common and the most dangerous snakes from around the world. They created snake art and completed a scavenger hunt around the classroom. This session was presented by Melanie Schmidt, Mankato Community Ed/Rec U.

Sunny Circuits

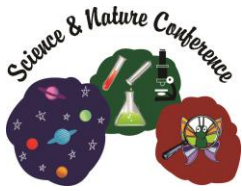
In this session, grades 6-8 students used small solar panels to build simple circuits to light LEDs and understand the science behind photovoltaic energy generation. They explored careers in green energy that are helping reach Minnesota's Carbon Free by 2040 goals. This was presented by Logan Schrader & Rose Patzer, MN State Energy Center.

Playing With Polymers

Students in grades 3-8 explored the wonderful world of polymers with the SMSU Chemistry Club! Students investigated the fascinating chemistry behind polymers as they created two take-home products - fluffy slime and edible gummy worms. This session was presented by the SMSU Chemistry Club.

Tagback: Recycle to Upcycle

Students in grades 3-8 learned about how Bedford Industries uses various materials to create product tags and ties for fruits, vegetables, breads, and even drinks. They learned how the engineering team is involved in the upcycle process and what it looks like to collect recycled materials. This session was presented to Maggie Steinkamp, [Bedford Industries](#).



Science and a Snack

All ages of students learned the science behind some of your favorite foods! During the session they discussed the science behind these questions and ran experiments to demonstrate them as well. Afterwards students snacked on their experiments! This session was presented to Ben Swanson, [AURI](#).

Future Student Enrichment Activities

SWWC hosts a variety of [student enrichment](#) activities such as Science and Nature Conference throughout the year. Learn more about these future events and how your students could benefit!