

2024 High Plains Regional Science & Engineering Fair Award Winners

Sixth Grade Biological Sciences Category

- 1st What material is best for scoliosis bracing?
By: Kaitlyn Shallue from STM Middle School
- 2nd What is a rabbits favorite snack?
By: Violet Rausch from STM Middle School
- 3rd Soil and Oats
By: Kathryn Scott from Spearfish Middle School
- 4th How does squinting your eyes affect how far you can see and how clear?
By: Catherine Haugo from STM Middle School
- 5th What liquid makes bean seeds germinate the best?
By: Blakesley Schleiffarth from STM Middle School

Sixth Grade Engineering Category

- 1st Project fast and long distance
By: Mason Murphy from STM Middle School
- 2nd Invisible Carbon Material: Why not save the world?
By: Neha Sriveda Gadhamshetty from Southwest Middle School
- 3rd Testing 3D Printed Cubes Strengths
By: Anthony Stevens from Spearfish Middle School
- 4th PIEZOS GOING CRAZY
By: Wayne Sander from Spearfish Middle School
- 5th Which material for building towers is best: Wood, Legos, Popsicle Sticks, or Cardboard
By: Vihaan Purushottam from STM Middle School

Sixth Grade Physical Sciences Category

- 1st Take Flight
By: Hope Herweh from Spearfish Middle School
- 2nd Mother Mulcher
By: Jessi Bachman from Newell
- 3rd Does Bubble Bath Serve as an Insulator?
By: Grace Carriveau from Spearfish Middle School
- 4th Which Material of Parachute is Best?
By: Andrew O'Bryan from Black Hills Christian Academy
- 5th The science behind your shot
By: Amara Usera from STM Middle School

Sixth Grade Social Sciences Category

- 1st What role does neuroplasticity play in the phantom limb experience?
By: Quorra Carlson from Spearfish Middle School
- 2nd Does color effect the taste in liquid?
By: Eira Scott from Spearfish Middle School
- 3rd The Taste Test
By: Dakota Baker from Spearfish Middle School
- 4th Crying From Onions
By: Lauryn Donovan from Spearfish Middle School
- 5th Does Noise Affect Your Concentration
By: Genevieve Pearson from STM Middle School

Seventh Grade Biological Sciences Category

- 1st Winding Down: How Screen Time Affects Sleep
By: Natalie Schutz from Spearfish Middle School
- 2nd Nasty foods
By: Rylan Vandeest and Luke Jarvis from Spearfish Middle School
- 3rd Will an Animal Gain More Weight on Corn or Oats?
By: Kasey Dobesh from Belle Fourche Middle School
- 4th Flower Power
By: Brinley Walsh from Spearfish Middle School
- 5th The Grooming Effect
By: Regan Miller from Spearfish Middle School

Seventh Grade Engineering Category

- 1st Quaking Shapes
By: Taylor Wiles from Spearfish Middle School
- 2nd Which synarthrosis is the strongest to make an economical prosthetic limb?
By: Mehcaid Carlson from Spearfish Middle School
- 3rd Put your water to work
By: Hattie Ewert and Madison Stohrer from Spearfish Middle School
- 4th Do You 'Truss' The Truss Bridge
By: Grace Bordewyk from Spearfish Middle School
- 5th What insulation actually works best
By: Cash Jaskela from Spearfish Middle School

Seventh Grade Physical Sciences Category

- 1st Golf Ball Factors Affect Flight Distance
By: Brady Sage from STM Middle School
- 2nd Molten Metal
By: Jackson Minor from Spearfish Middle School
- 3rd All Out of Knots
By: Ella Roberts and Remi Crago from Spearfish Middle School
- 4th Power of Produce
By: Owynn Meredith and Carson Wood from Spearfish Middle School
- 5th Electric Cars?
By: Luke Pedersen from Spearfish Middle School

Seventh Grade Social Sciences Category

- 1st Personality Pandemonium
By: Brodie Pleinis from Spearfish Middle School
- 2nd Do You See What I See?
By: Kinsley Hall from Spearfish Middle School
- 3rd Super Hearing
By: McKenzie Rans from Newell
- 4th Is It AI?
By: Marley Mosset from Spearfish Middle School
- 5th Do You Eat With Your eyes?
By: Rebecca Van Osdol from Spearfish Middle School

Eighth Grade Biological Sciences Category

- 1st Salted Sprouts
By: Peyton White from STM Middle School
- 2nd Under Pressure
By: Jace Hamilton from Spearfish Middle School
- 3rd Strawberry Extravagansa
By: Ailis Fischer from Spearfish Middle School
- 4th Salty Sickness. Does Salinity affect cattle drinking water.
By: Tiernan Frederickson from Spearfish Middle School
- 5th Calorie Chaos
By: Marlee Heltzel from Spearfish Middle School

Eighth Grade Engineering Category

- 1st Thermoacoustic Flute: Creating Sound with Heat
By: Viana Shahbazi and Leila Riker-Acevedo from STM Middle School
- 2nd Solar Powered Water Purification
By: Lava Coin from Spearfish Middle School
- 3rd Wind Turbine Blades
By: Makayla Bensen from Spearfish Middle School
- 4th A Tale of 12 Towers
By: Elijah Nies from Spearfish Middle School
- 5th Solving Renewable Energy's Biggest Problem
By: Lauren Poeppel from STM Middle School

Eighth Grade Physical Sciences Category

- 1st Will it Biodegrade?
By: Brianne Katzenstein from STM Middle School
- 2nd Deadly Waters
By: Taylor Tennant from Spearfish Middle School
- 3rd What Kind of Biodegradable Hydrogels Help Best to Conserve Water?
By: Charleigh Silvernagel from Belle Fourche Middle School
- 4th A Sticky Situation
By: Caydence Lester and Temperance Pesek from STM Middle School
- 5th Which Plant-Based Oil Works Best in the Production of Biodiesel?
By: Brahnson Brink from Belle Fourche Middle School

Eighth Grade Social Sciences Category

- 1st Real vs. AI
By: Ella Schirber and Kaitlin Strain from STM Middle School
- 2nd Fears
By: Taylor Brownell and Taylor English from Spearfish Middle School
- 3rd Music and Concentration
By: Demetria Black from Spearfish Middle School
- 4th Free Throws? Music or No Music?
By: Avery Rauterkus from Spearfish Middle School
- 5th Does the Lighting in a Room Affect Human Behavior?
By: Alexa Stone from Belle Fourche Middle School

High School Biological Sciences Category

- 1st How Sugary Drinks Affect Teeth
By: Arianna Bieber and Gailup Bollinger from Timber Lake High School
- 2nd How Corn can Affect the Average Daily Gain of Steer Calves.
By: Holden Gill and Gavin White from Timber Lake High School
- 3rd Which floor in school has the most germs?
By: Jesse Ridl and Maria Scherer from Timber Lake High School

High School Engineering Category

- 1st Ultrasonic Haptic Awareness: Phase 2
By: Shawn Quinn from Timber Lake High School

High School Physical Sciences Category

- 1st Stick Welding in Different Conditions
By: Molly Miller from Timber Lake High School

High School Social Sciences Category

- 1st Students Retaining Information Via Educational Games
By: Gabriel Keller and Jordan Jones from Timber Lake High School
- 2nd Are Veterinarians Influential in the Adoption of Electronic Record Keeping in Beef Herds?
By: Atlee Olson from Belle Fourche High School
- 3rd How Different Personalities Affect What You Eat
By: Peyton Keller and Joie Lebeau from Timber Lake High School

Special Awards

The American Psychological Association Award recognizes outstanding research in psychology science under the category of behavior and social sciences or any category related to psychology sciences, biochemistry, computer science, environmental science, mathematical science, medicine, and health.

- Winner: Turner Williams, *Can the McGurk Effect Change One's Life?*, Belle Fourche Middle School

The Association of Women Geoscientists Award is given to a female student whose project exemplifies high standards of innovativeness and scientific excellence in the geosciences.

- Winner: Cora Mehlhoff, *Tsunami Velocity and Depth*, STM Middle School

The Environmental Protection Agency Award is presented to the project which best applies Science, Technology, Engineering, and Mathematics (STEM) to research and solutions that aim to protect the environment and human health.

- Winner: Taylor Tennant, *Deadly Waters*, Spearfish Middle School

The Lemelson Early Inventor Prize is presented to the middle school student who created an invention that represents a promising solution to a real-world problem.

- Winner: Tristan Limbo, *Harvesting Water*, Spearfish Middle School

The NASA Earth System Science Award is presented to the student who exhibited

outstanding efforts with a project relating to earth systems.

- Winner: Gabriel George, *How does water contamination of Rapid and Spring Creek change after passing through Cities and Reservoirs*, STM Middle School

The NASA South Dakota Space Grant Award is given to the top space-related project.

- Winner: Teagan Babb and Lance Nelson, *Testing A Solar Oven*, Spearfish Middle School

The National Oceanic and Atmospheric Administration Taking the Pulse of the Planet Award goes to an individual whose research emphasizes NOAA's mission of science, service, and stewardship: to understand and predict change in climate, weather, oceans, and coasts; to share that knowledge and information with others; and to conserve and manage coastal and marine ecosystems and resources.

- Winner: Charleigh Silvernagel, *What kind of Biodegradable Hydrogels Help Best to Conserve Water?*, Belle Fourche Middle School

The Office of Naval Research is committed to supporting science, technology, engineering, and math initiatives and programs for our nation's young people and recognizes one senior and one junior division winner.

- Junior Division Winner: Quorra Carlson, *What role does neuroplasticity play in the phantom limb experience?*, Spearfish Middle School
- Senior Division Winner: Atlee Olson, *Are Veterinarians Influential in the Adoption of Electronic Record Keeping in Beef Herds?*, Belle Fourche High School

The Regeneron Biomedical Science Award is presented to an exceptional student scientist who not only demonstrates an impressive command of biomedical sciences but also embodies Regeneron's core values.

- Winner: Jesse Ridl and Maria Scherer, *Which floor in school has the most germs?*, Timber Lake High School

Ricoh Americas Corporation recognizes outstanding efforts in addressing issues of environmental responsibly and sustainable development in their science and engineering project with the Sustainable Development Award.

- Winner: Lauren Poeppel, *Solving Renewable Energy's Biggest Problem*, STM Middle School

The South Dakota Mines MME Dept Glass and Ceramics Award is presented to the student who's project involves ceramic, glass, or glaze to explore performance and chemistry of the materials.

- Winner: Ryland Moore, *What composts Decompose the Fastest?*, Spearfish Middle School

The South Dakota Science Teachers Association Award is presented for excellence in the field of scientific research.

- Winner: Natalie Schutz, *Winding Down: How Screen Time Affects Sleep*, Spearfish Middle School

The United States Air Force Research Laboratory is proud to support science, technology, engineering, and math initiatives for our nation's youth and recognizes one senior division winner.

- Winner: Shawn Quinn, *Ultrasonic Haptic Awareness: Phase 2*, Timber Lake High School

The U.S. Metric Association sponsors the SI Metric Award for a project that involves scientific measurements, and expresses those measurements consistently and correctly in SI metric.

- Winner: Tiernan Frederickson, *Salty Sickness: Does Salinity affect cattle drinking water?*, Spearfish Middle School

The Yale Science & Engineering Association, Inc., Award recognizes an outstanding 11th grade project exhibiting in the areas of Science, Technology, Engineering, and Mathematics.

- Winner: Kiya Mowrer, *Freeze-dried vs. Dehydrated Strawberries (Vitamin C)* Timber Lake High School

The runner-up qualifier for the Regeneron International Science and Engineering Fair was selected from the

top-scoring projects in the senior division and will replace the first-place qualifier if for any reason the qualifier cannot attend the International Fair.

- Runner-up qualifier: Gabriel Keller and Jordan Jones, *Students Retaining Information Via Electronic Games*, Timber Lake High School

The first-place qualifier for the Regeneron International Science and Engineering Fair is the student was chosen from the top-scoring projects in the senior division and will represent the High Plains Region on an all-expense paid trip to the international fair in Los Angeles, California, in May.

- First place qualifier: Shawn Quinn, *Ultrasonic Haptic Awareness: Phase 2*, Timber Lake High School