



GREATER NEBRASKA

Science and Engineering Fair

54th Greater Nebraska Science and Engineering Fair

Held Virtually – March 2021

JUNIOR DIVISION CATEGORY WINNERS

100 ANIMAL SCIENCES (ANIM)

1st 151 Sadie Larkin McMillian Magnet Center Grade 7
Big Worm Theory

2nd 150 Reaghan Wilhelm Syracuse Middle School Grade 7
Buggy Buffet

200 BEHAVIORAL AND HEALTH SCIENCES (BEHA)

2nd 250 Susan Kincaid Lourdes Central Catholic Grade 7
Sweet Dreams: The Effect Electronics Have on Sleep

400 BIOMEDICAL AND HEALTH SCIENCES (BMED)

1st 453 Anuj Singh Peter Kiewit Middle School Grade 8
The Role of Oxidative Stress in Mediating the Effects on Gut Dysbiosis on Host Health

3rd 451 Josephine Bennett Lourdes Central Catholic Grade 7
Battle of the Senses: Is taste or smell stronger?

HM 450 Lucas Walker Walker Home School Grade 6
Healthy Cookies

HM 452 Alea Kinney McMillan Magnet Center Grade 7
Splatter Matters

600 CELLULAR AND MOLECULAR BIOLOGY (CELL)

2nd 650 Maxim Bolouvi McMillan Magnet Center Grade 8

Using Ultraviolet light to kill mold.

700 CHEMISTRY (CHEM)

1st 751 Naomi Long McMillan Magnet Center Grade 8

Which fruit has the most vitamin C

1000 EMBEDDED SYSTEMS (EBED)

1st 1050 Daniel Ramos McMillan Magnet Center Grade 8

A Helping Hand

1100 ENERGY: SUSTAINABLE MATERIALS AND DESIGN (EGSD)

2nd 1151 Amelia White Lourdes Central Catholic Grade 7

Chill Out: Examining the Melting Rate of Different Shaped Ice

HM 1152 Brayden McCorkindale Allen Consolidated Schools Grade 8

Small Scale Turbines

1300 ENGINEERING MECHANICS (ENMC)

2nd 1350 Bryce Kunz Central City Public Schools Grade 8

The Effect of High-end and Low-end Fans on Computer Temperature

1700 MICROBIOLOGY (MCRO)

2nd 1751 Rylin Hall Wayne Junior High School Grade 8
Gross Germs

3rd 1750 Kaden Knake Syracuse Middle School Grade 7
Bitter Cold or Boiling Hot

1800 PHYSICS AND ASTRONOMY (PHYS)

2nd 1851 Miles Rogers McMillan Magnet Center Grade 8
The Long Question

3rd 1850 Reed Hamling Lourdes Central Catholic Grade 7
Slugging It Out: Which baseball bat has the best trampoline effect?

1900 PLANT SCIENCES (PLNT)

1st 1950 Trent Detlefsen Central City Public Schools Grade 7
The Effect of Packaging on Banana Ripeness

2nd 1952 Ellis Yamamoto McMillan Magnet Center Grade 8
Will it vine

3rd 1951 Drew Paulsen SDA Schools Grade 7
When The Time is Ripe

2100 SYSTEMS SOFTWARE (SOFT)

3rd 2150 Zareena Abdessalam McMillan Magnet Center Grade 7
Cracking the Code

SENIOR DIVISION CATEGORY WINNERS

100 ANIMAL SCIENCES (ANIM)

1 st	108	Sabrina Delaney	Zoo Academy	Grade 12
<i>The Effect of Weather Conditions on Zalophus californianus Activity</i>				
2 nd	104	Sienna Fowler	Zoo Academy	Grade 11
<i>The effect of light on Aurelia aurita</i>				
3 rd	113	Alyssa Williams	Zoo Academy	Grade 12
<i>The Effect of Coral Choice on Zebrasoma flavescens Behavior</i>				
4 th	102	Cole Brandes	Central City High School	Grade 10
<i>Pelvic Measurements in Simmental Heifers for Reducing Calving Difficulty</i>				

300 BIOCHEMISTRY (BCHM)

3 rd	301	Matilda Loftus	Zoo Academy	Grade 12
<i>The Effects of Fire and Herbivore Disturbance on Soil Chemistry</i>				

400 BIOMEDICAL AND HEALTH SCIENCES (BMED)

1 st	402	Charlie Lorkovic	Zoo Academy	Grade 12
<i>The Effect of Carbohydrate Consumption on Resistance Exercise Performance Following Endurance Exercise</i>				
2 nd	401	Derek Pfeifer	Central City High School	Grade 10
<i>The Effect of the Amount of Saliva on the Number of Cavities</i>				
3 rd	403	Ved Vasishtha Pendyala	Westside High School	Grade 9
<i>Double Trouble: How prenatal prescription opioid exposure and mild traumatic injury during early life impacts adulthood.</i>				

800 COMPUTATIONAL BIOLOGY AND BIOINFORMATICS (CBIO)

1st 801 Reema Guda Millard North High School Grade 9

COVID-19: In-depth analysis of coronavirus mutations and their implications for future outbreaks

900 EARTH AND ENVIRONMENTAL SCIENCES (EAEV)

1st 901 Jenna Box Lourdes Central Catholic Grade 9

An Examination of Water Conservation Through Greywater Utilization: Can This Recycled Water Not Only Sustain But Promote Grass Growth?

1st 904 Breanna Vaughan Central City High School Grade 10

The Effect of Biochar on Phosphorus Losses in Chicken Manure

1st 907 Alex Foulger Zoo Academy Grade 12

The use of Essential oils on Apis Mellifera

2nd 905 Collin Nguyen Zoo Academy Grade 11

Brita Vs. Tap

2nd 906 Annie Feden Zoo Academy Grade 12

The Effect of Prairie Treatments on the Biodiversity of Native Mammals

3rd 902 Maleyna Navarrette Omaha Central High Grade 10

Effect of Acid Rain on Spinacia Oleracea's Growth and Nutrients

3rd 903 Elaina McHargue Central City High School Grade 10

An Analysis of the Effects of Wetland Area on Algal Growth in Nearby Lakes in Eastern Nebraska

1100 ENERGY: SUSTAINABLE MATERIALS AND DESIGN (EGSD)

2nd 1101 Cole Woodward Allen Consolidated Schools Grade 12

Heat to Electricity: Thermoelectric Conversion

1400 ENVIRONMENTAL ENGINEERING (ENEV)

1st 1401 Samantha Chavira Lyons-Decatur Northeast Grade 11

Differentiation and Quantification of Microplastic Polymers in Water through the Use of Spectrophotometry and Fluorometry

1500 MATERIALS SCIENCE (MATS)

2nd 1501 Mercedes Renken Harry A. Burke High School Grade 9

Masks are Precautions to be Taken: Experiments representing the efficiency of face coverings srelating to the SARS-CoV-2 pandemic.

1700 MICROBIOLOGY (MCRO)

1st 1701 Ella Buhlke Central City High School Grade 11

Characterization of Nora virus infection in Drosophila melanogaster pupa and larva and the effect on geotaxis

1st 1703 Ashley Kraemer Allen Consolidated Schools Grade 12

Oregano Essential Oil vs. Sclerotinia sclerotiorum

3rd 1702 Claire Bingaman Zoo Academy Grade 12

Comparing the Efficacy of Paper Towels and Electric Air Dryers on Hand Hygiene

1800 PHYSICS AND ASTRONOMY (PHYS)

1 st	1802	Aden Mercer	Central City High School	Grade 10
				<i>The Effectiveness of Lights and Running Gear on the Conspicuity of a Runner at Night</i>
2 nd	1801	Dylan Pfeifer	Central City High School	Grade 10
				<i>The Effect of Ankle Braces on Mobility and Balance</i>
3 rd	1803	Joshua Janssen	Lakeview High School	Grade 11
				<i>Electromagnetic Shielding From Space Radiation</i>

1900 PLANT SCIENCES (PLNT)

2 nd	1903	Claire Nalty	Zoo Academy	Grade 12
				<i>The Effect of Burning, Grazing and Fire Frequency on Prairie Grass</i>
2 nd	1901	Brianna Mundorf	Central City High School	Grade 10
				<i>Will it vine</i>
3 rd	1902	Wilhelmina Dodenhof	Central High School	Grade 11
				<i>When The Time is Ripe</i>

SPECIAL AWARDS AND CERTIFICATES

American Meteorological Society

Award for Outstanding Projects on Atmospheric and Related Oceanic and Hydrologic Sciences

\$25 Cash Award and Certificate

902 Maleyna Navarrette Omaha Central High Grade 10

Effect of Acid Rain on Spinacia Oleracea's Growth and Nutrients

American Psychological Association

Outstanding research in psychological science under the category of behavior and social sciences

Certificate

250 Susan Kincaid Lourdes Central Catholic Grade 7

Sweet Dreams: The Effect Electronics Have on Sleep

National Oceanic and Atmospheric Administration (NOAA)

Awarded to the Project that Best Emphasizes NOAA's Mission: Understand and Predict Changes in Earth's Environment

901 Jenna Box Lourdes Central Catholic Grade 9

An Examination of Water Conservation Through Greywater Utilization: Can This Recycled Water Not Only Sustain But Promote Grass Growth?

United States Stockholm Junior Water Prize

For Best Water Related Project

Each Receive \$50 Cash Award

1401 Samantha Chavira Lyons-Decatur Northeast Grade 11

Differentiation and Quantification of Microplastic Polymers in Water through the Use of Spectrophotometry and Fluorometry

901 Jenna Box Lourdes Central Catholic Grade 9

An Examination of Water Conservation Through Greywater Utilization: Can This Recycled Water Not Only Sustain But Promote Grass Growth?

Yale Science and Engineering Association

Certificate Recognizing the Most Outstanding Senior Division Exhibit in Computer Science, Engineering, Physics or Chemistry

701 Kenzie Bram Central City High School Grade 12

Moisturizers: Are you getting what you pay for?

Mu Alpha Theta Award

Outstanding Project Demonstrating the Use of Numerical Analysis

1701 Ella Buhlke Central City High School Grade 11

Characterization of Nora virus infection in Drosophila melanogaster pupa and larva and the effect on geotaxis

Arbor Valley Animal Clinic Alfred O. Gigstad III DVM, James F. Gigstad DVM Award

Outstanding Project in Animal Science

151 Sadie Larkin McMillian Magnet Center Grade 7

Big Worm Theory

United States Navy, Office of Naval Research

Senior Division – Certificate of Achievement, Medallion, and \$50 Cash Award

1401 Samantha Chavira Lyons-Decatur Northeast Grade 11

Differentiation and Quantification of Microplastic Polymers in Water through the Use of Spectrophotometry and Fluorometry

901 Jenna Box Lourdes Central Catholic Grade 9

An Examination of Water Conservation Through Greywater Utilization: Can This Recycled Water Not Only Sustain But Promote Grass Growth?

Junior Division – Certificate of Achievement and Medallion

1350 Bryce Kunz Central City Public Schools Grade 8

The Effect of High-end and Low-end Fans on Computer Temperature

1351 Jay Anthony McMillan Magnet Center Grade 8

Watching background radiation with a cloud chamber

United Commercial Travelers of America

Top Project with Outstanding Use of Photography

1903 Claire Nalty Zoo Academy Grade 12

The Effect of Burning, Grazing and Fire Frequency on Prairie Grass

CHI St. Mary's Hospital Doctors

Top Senior Division Projects in the Field of Medicine and Health

\$200 Cash Award

502 Anvitha Boosani Millard North High School Grade 11

Epigenetic Engineering in Immune Cells Prevents Disease-Causing Mechanisms in Atherosclerosis

\$100 Cash Award

501 Arehant Arun Millard North High School Grade 9

An individualized risk prediction model for chronic kidney disease and its significance for bioengineering kidneys

Top Junior Division Project in the Field of Medicine and Health

\$200 Cash Award

453 Anuj Singh Peter Kiewit Middle School Grade 8

The Role of Oxidative Stress in Mediating the Effects on Gut Dysbiosis on Host Health

Charles and Suzan Holliday Award

Outstanding Senior Division Project in Environmental Science Research

\$300 Cash Award

1401 Samantha Chavira Lyons-Decatur Northeast Grade 11

Differentiation and Quantification of Microplastic Polymers in Water through the Use of Spectrophotometry and Fluorometry

GNSEF Statistical Analysis Award

Senior Division Project Best Use of Statistical Analysis

\$100 Cash Award

1701 Ella Buhlke Central City High School Grade 11

Characterization of Nora virus infection in Drosophila melanogaster pupa and larva and the effect on geotaxis

Lemelson Early Inventor Prize

Young Inventor Creating Promising Solutions to Real-world Problems

\$100 Cash Award and Certificate

1050 Daniel Ramos McMillan Magnet Center Grade 8

A Helping Hand

Dr. and Mrs. Dee Griffin Award

Outstanding Science Fair Project

\$250 Cash Award Each

1950 Trent Detlefsen Central City Public Schools Grade 7

The Effect of Packaging on Banana Ripeness

102 Cole Brandes Central City High School Grade 10

Pelvic Measurements in Simmental Heifers for Reducing Calving Difficulty

American Society of Mechanical Engineers (ASME)

Best Senior Division Engineering or Engineering-Related Project

\$70 Cash Award

1101 Cole Woodward Allen Consolidated Schools Grade 12

Heat to Electricity: Thermoelectric Conversion

Best Junior Division Engineering or Engineering-Related Project

\$30 Cash Award

1152 Brayden McCorkindale Allen Consolidated Schools Grade 8

Small Scale Turbines

United States Air Force, Research Laboratory

Certificate of Achievement, messenger bag, power bank charger, dog tag USB flash memory drive, and a dual USB car charger

903 Elaina McHargue Central City High School Grade 10

An Analysis of the Effects of Wetland Area on Algal Growth in Nearby Lakes in Eastern Nebraska

University of Nebraska-Lincoln Scholarship

Department of Food Science and Technology for Best Food-Related Project

\$750 Scholarship Award

1703 Ashley Kraemer Allen Consolidated Schools Grade 12

Oregano Essential Oil vs. Sclerotinia sclerotiorum

University of Nebraska-Lincoln Scholarship

College of Agricultural Sciences and Natural Resources

\$750 Scholarship Award Each

110 Chelsea Casart Zoo Academy Grade 12

The Effect of Pyric Herbivory on the Behaviors of Native Grassland Birds

111 Jayme Cox Zoo Academy Grade 12

Correlation of Site Location to Anuran Biodiversity

Kropp Foundation

Outstanding Project

\$500 Cash Award

1703 Ashley Kraemer Allen Consolidated Schools Grade 12

Oregano Essential Oil vs. Sclerotinia sclerotiorum

Nebraska City Rotary Scholarship

\$500 Scholarship Award

701 Kenzie Bram Central City High School Grade 12

Moisturizers: Are you getting what you pay for?

Steinhart Foundation Scholarship

Outstanding Project

\$500 Scholarship Award

502 Anvitha Boosani Millard North High School Grade 11

Epigenetic Engineering in Immune Cells Prevents Disease-Causing Mechanisms in Atherosclerosis

The Paul, John, Anton, and Doris Wirth Foundation Scholarship

Outstanding Project

\$1,000 Scholarship Award

801 Reema Guda Millard North High School Grade 9

COVID-19: In-depth analysis of coronavirus mutations and their implications for future outbreaks

Greater Nebraska Science and Engineering Fair Board

Top Five Junior Division Projects

453 Anuj Singh Peter Kiewit Middle School Grade 8

The Role of Oxidative Stress in Mediating the Effects on Gut Dysbiosis on Host Health

1950 Trent Detlefsen Central City Public Schools Grade 7

The Effect of Packaging on Banana Ripeness

151 Sadie Larkin McMillian Magnet Center Grade 7

Big Worm Theory

751 Naomi Long McMillan Magnet Center Grade 8

Which fruit has the most vitamin C

1151 Amelia White Lourdes Central Catholic Grade 7

Chill Out: Examining the Melting Rate of Different Shaped Ice

Greater Nebraska Science and Engineering Fair Board

Top Two Junior Division Projects

Nomination to Broadcom MASTERS Competition

\$250 Cash Award

453 Anuj Singh Peter Kiewit Middle School Grade 8

The Role of Oxidative Stress in Mediating the Effects on Gut Dysbiosis on Host Health

1950 Trent Detlefsen Central City Public Schools Grade 7

The Effect of Packaging on Banana Ripeness

Greater Nebraska Science and Engineering Fair Board

Top Two Senior Division Projects

Advancing to Compete in the International Science and Engineering Fair – To Be Held Virtually

\$1,000 Cash Award

1701 Ella Buhlke Central City High School Grade 11

Characterization of Nora virus infection in Drosophila melanogaster pupa and larva and the effect on geotaxis

904 Breanna Vaughan Central City High School Grade 10

The Effect of Biochar on Phosphorus Losses in Chicken Manure

----- END OF RESULTS -----