

## 2018 Intel NWSE Middle School Awards

April 13, 2018

In the new Viking Pavilion at Portland State University, middle school students presented 346 science and engineering projects to judges and peers. Two Best of Fair projects were selected.

- Audrey Johnson, 14, in grade 8 from Summa Whitford won Best of Fair in the middle school division with a project titled, "The Effect of Urban Development on Turbidity In Fanno Creek".
- Rubaba Amyeen, 12, in grade 6 from Summa Stoller won Best of Fair in the middle school division for her project titled, "Patterns for Protection".

### Special Awards

Special Award	Award Sponsor	Title	Student List	Organization	Adult Sponsor
6th Grade Special Awards	Alpha Delta Kappa	Medicinal Value of Natural Herbs and Spices in Eliminating Bacterial Infection	Ekansh Mittal	Meadow Park Middle School	Susan Duncan
6th Grade Special Awards	Alpha Delta Kappa	Rewarding Recycling	Renee Flavell	Summa Whitford	Carolee Dearborn
6th Grade Special Awards	Alpha Delta Kappa	Gender Stereotypes	Chloe Harris, Louisa Lamarre	Cascades Academy of Central Oregon	Anne-Marie Eklund
6th Grade Special Awards	Alpha Delta Kappa	Methods of proportional stringing of tennis raquets	Nikita Istratov	Summa Cedar	Winter Chung
6th Grade Special Awards	Alpha Delta Kappa	Patterns for Protection	Rubaba Amyeen	Summa Stoller	Pam Svenson
6th Grade Special Awards	Alpha Delta Kappa	Detective Milligauss on the Case!	Khadija Reda	Islamic School of Portland	Nura Elmagbari
6th Grade Special Awards	Alpha Delta Kappa	See without Eyes	Malaika Gomes	Valley Catholic Middle School	Sarah Zinzer
6th Grade Special Awards	Alpha Delta Kappa	Effects of wetland mitigation on waterfowl at Oaks Bottom	Bronwyn Allabastro	Hosford Middle School	Pia Allabastro
6th Grade Special Awards	Alpha Delta Kappa	Antioxidants in Food	Mitali Chaudhari	Stoller Middle School	Pamela Svenson

6th Grade Special Awards	Alpha Delta Kappa	You're going to throw that away?	Allie Dills, Lucy Abrahams-Wise	Laurelhurst School	Morgan Dill
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	How Does Air Quality Affect Rainwater Quality?	Leo Marchyok, Maxwell Jesme	ACCESS	Alfonso Garcia Arriola
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Outstanding Project in an Atmospheric Science Exhibit	American Meteorological Society	The Effects of Heat Exposure on Gases in Earth's Atmosphere	Ave Gray	Whitford Middle School	Tim Livingston
Outstanding Research in Psychology	American Psychological Association	Babies and Gender Roles	Alison Kang	Summa Whitford	Carolee Dearborn
Outstanding Research in Psychology	American Psychological Association	Faceless photos that show emotions	Mariah Byhre, Ava Bush	Silverton Middle School	Daniel Jamsa
Outstanding Research in Psychology	American Psychological Association	Real news vs Fake news can you tell the difference?	Aadil Mohamed	Islamic School of Portland	Nura Elmagbari

Outstanding Geoscience Project	Association Of Women Geoscientists	Natural Landslide Prevention Alternatives: Exploring the Effects of Root Structures on Preventing Soil Erosion	Sequoia Dearborn	Rachel Carson Environmental Middle School	Rebecca Hall
Outstanding Geoscience Project	Association Of Women Geoscientists	The Affect of Wood Ash on Plant Growth	Ruby Jewett	Summa Whitford	Carolee Dearborn
Outstanding Geoscience Project	Association Of Women Geoscientists	The Effects of Heat Exposure on Gases in Earth's Atmosphere	Ave Gray	Whitford Middle School	Tim Livingston
IEEE Special Awards	IEEE Oregon	THE SMART CANE - RESOURCE FOR VISUALLY IMPAIRED	Aadya Bhat	Meadow Park Middle School	Susan Duncan
IEEE Special Awards	IEEE Oregon	Building a solar panel, small wind turbine, and small hydro turbine	Benjamin Gillette	Summa Cedar	Winter Chung
IEEE Special Awards	IEEE Oregon	Electromagnetic Rocket	Tanner Hawley	Silverton Middle School	Daniel Jamsa
IEEE Special Awards	IEEE Oregon	Prosthetic Hand that doesn't cost an arm and a leg!!!	Maansi Singh, Jacob Strayer	Valley Catholic Middle School	Sarah Zinzer
IEEE Special Awards	IEEE Oregon	Electromagnetism on Pins and Needles	Annika Sadowski	St. Cecilia School	Amy Stephen
IEEE Special Awards	IEEE Oregon	Temp Check	Samuel Hertel, Nik Vidmantas	St. Francis School	Alison Green
IEEE Special Awards	IEEE Oregon	HARVESTING RENEWABLE ENERGY USING PIEZOELECTRICITY	Arjun Malpani, Shreyan Paliwal	Carden Cascade Academy	Steve Page

Outstanding Aquatic Related Environmental Science Project	Lake Oswego Corporation	The Effect of Urban Development on Turbidity In Fanno Creek	Audrey Johnson	Summa Whitford	Carolee Dearborn
Mu Alpha Theta Award	Mu Alpha Theta	An exploration of Goldbach's conjecture	Suyash Pandit	Summa Cedar	Winter Chung
Mu Alpha Theta Award	Mu Alpha Theta	Number of odd entries in the rows of Pascal's triangle	Ram Goel	Krishna Homeschool	Gunjan Tiwari
NASA Earth System Science Award	NASA	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Taking the Pulse of the Planet	National Oceanic and Atmospheric Administration	Harnessing Phytoplankton To Reduce Industrial CO2 Emissions	Nishaant Sistla	ACCESS	Alfonso Garcia Arriola
Taking the Pulse of the Planet	National Oceanic and Atmospheric Administration	Spilling, Plunging, Surging	Calvin Beall	Winterhaven Middle School	Jason Giles
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Flashlight Gloves	Ashton Guvenir	Rosemont Ridge Middle School	Jessamyn Van Hook

Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	Handy Hovercrafts	Rowan Daugherty	St. Cecilia School	Amy Stephen
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	PUMP IT UP	Lina Norris	Winterhaven Middle School	Brian Jay Dyer
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	A Novel Way to Prevent Cars from Slipping and Crashing in Different Weather Conditions	Ishan Ahluwalia	Stoller Middle School	Pamela Svenson
Naval Excellence in Science and Engineering Award	Office of Naval Research, US Navy and Marine Corps	The Future of Efficient, Clean, and Indefinite Flight	Marvin Lin	Stoller Middle School	Pamela Svenson
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	The Novel Implementation of Biochar in Lead Filtration System	Dev Udata	Valley Catholic Middle School	Sarah Zinzer
Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	PANCREATIC CANCER DEEP LEARNING SYSTEM: Improved Image-Guided Radiotherapy (IGRT) through Automated Pancreatic Cancer Segmentation	Rishab Jain	Stoller Middle School	Pamela Svenson

Tom Owen Award for Excellence in Statistics	Oregon Chapter of the American Statistical Association	A Novel General Purpose Machine Learning Approach for Effective Targeted Drug Prescription for Cancer Based on Genetic Mutations	Darsh Mandera	Stoller Middle School	Pamela Svenson
Outstanding Natural Resources Science Project	Pacific NW Research Station, USDA Forest Service	Fire and Ice: Does Black Soot Produced by the Eagle Creek Forest Fire Affect the Melting Rate of Mount Hood's	Cole Pitzer	Bridlemile Elementary School	Larry Sherman
Outstanding Project by a 5th Grade Student	Pacific NW Society for Coating Technology	Vacuum Engine	Owen Warren	Bridlemile Elementary School	Larry Sherman
Outstanding Project by a 5th Grade Student	Pacific NW Society for Coating Technology	The Effect of Temperature on Electromagnets	Sumiko Paulin	Bridlemile Elementary School	Larry Sherman
Outstanding Project by a 5th Grade Student	Pacific NW Society for Coating Technology	Magnetic Exploration of BZ Reaction Rings	Tia Wisco	Bend Science Station	Danny Martin
Outstanding Project by a 5th Grade Student	Pacific NW Society for Coating Technology	How does global warming affect plant growth?	Ella Kim	Class Academy	Jaime Mitchell
Ricoh Sustainable Development Award	Ricoh Corporation	How different levels of Carbon dioxide affect the amount of Solar Energy Produced	Yusuf Arifin	Summa Cedar	Winter Chung

Ricoh Sustainable Development Award	Ricoh Corporation	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Ricoh Sustainable Development Award	Ricoh Corporation	The Novel Implementation of Biochar in Lead Filtration System	Dev Udata	Valley Catholic Middle School	Sarah Zinzer
Broadcom MASTERS nomination	Society for Science and the Public	An Analysis of First Impressions	Kassandra Wiersma	Rachel Carson Environmental Middle School	Rebecca Hall
Broadcom MASTERS nomination	Society for Science and the Public	Wildfires and their Effect on the Regrowth of Lupinus oregonus	Dylan Podrabsky, Julia Pinnell	Rachel Carson Environmental Middle School	Rebecca Hall
Broadcom MASTERS nomination	Society for Science and the Public	Medicinal Value of Natural Herbs and Spices in Eliminating Bacterial Infection	Ekansh Mittal	Meadow Park Middle School	Susan Duncan
Broadcom MASTERS nomination	Society for Science and the Public	THE SMART CANE - RESOURCE FOR VISUALLY IMPAIRED	Aadya Bhat	Meadow Park Middle School	Susan Duncan
Broadcom MASTERS nomination	Society for Science and the Public	Harnessing Phytoplankton To Reduce Industrial CO2 Emissions	Nishaant Sistla	ACCESS	Alfonso Garcia Arriola
Broadcom MASTERS nomination	Society for Science and the Public	The Effects of Cell Phone Radio Frequency Waves on the Regeneration of Brown Planaria	Aidan Sheeran-Hahnel	ACCESS	Alfonso Garcia Arriola

Broadcom MASTERS nomination	Society for Science and the Public	Controlling Slugs	Michael Hart, Simon Carter	ACCESS	Alfonso Garcia Arriola
Broadcom MASTERS nomination	Society for Science and the Public	The Speed Of The WiFi (MBps) Based Upon The focal width Of The Parabolic Reflector	Ayan Kirby	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	Wave Energy Converter	Karina Gadbow	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	Yeast Antagonism and Biocontrol	Jonah Paterson, Valerie Tran	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	Antimicrobial Resistance: How Long Does It Take?	Patrick Moret	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	Rewarding Recycling	Renee Flavell	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	The Effect of Urban Development on Turbidity In Fanno Creek	Audrey Johnson	Summa Whitford	Carolee Dearborn
Broadcom MASTERS nomination	Society for Science and the Public	Magnetic Exploration of BZ Reaction Rings	Tia Wisco	Bend Science Station	Danny Martin
Broadcom MASTERS nomination	Society for Science and the Public	Increasing the speed of olivine weathering as a means of sequestering carbon dioxide	Teaghan Knox	Bend Science Station	Danny Martin
Broadcom MASTERS nomination	Society for Science and the Public	Worming a Solution to Plastic Pollution	Quincey Smith	Bend Science Station	Danny Martin
Broadcom MASTERS nomination	Society for Science and the Public	The Effect Of Vertical Movement On Weight	Ayla Shores	Whitford Middle School	Robin Schroeder

Broadcom MASTERS nomination	Society for Science and the Public	Impact of Fertilizer on Plants	Arunima Deval	Summa Cedar	Winter Chung
Broadcom MASTERS nomination	Society for Science and the Public	Methods of proportional stringing of tennis raquets	Nikita Istratov	Summa Cedar	Winter Chung
Broadcom MASTERS nomination	Society for Science and the Public	Asthma Monster: an asthma tracking app	Hannah Worden	Robert Gray Middle School	David Wages
Broadcom MASTERS nomination	Society for Science and the Public	The Effect of soap Concentrations And Ring Size on Bubbles	Petra Schuster	Robert Gray Middle School	David Wages
Broadcom MASTERS nomination	Society for Science and the Public	Testing solar panels as an indoor source of energy recapture	Connor Petersen	Robert Gray Middle School	David Wages
Broadcom MASTERS nomination	Society for Science and the Public	Ameliorating acute respiratory infections from solid biomass fuel combustion and empowering rural kitchens with a sustainable, cost-effective ventilation solution	Pratik Vangal	Summa Stoller	Pam Svenson
Broadcom MASTERS nomination	Society for Science and the Public	Preventing Wildlife Collisions and Collecting Big Data to Analyze Migration Patterns	Alan Ma	Summa Stoller	Pam Svenson

Broadcom MASTERS nomination	Society for Science and the Public	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Broadcom MASTERS nomination	Society for Science and the Public	Patterns for Protection	Rubaba Amyeen	Summa Stoller	Pam Svenson
Broadcom MASTERS nomination	Society for Science and the Public	The Role of Methyl Jasmonate On Plant Cellular Repair	Fadel Barhum	Islamic School of Portland	Nura Elmagbari
Broadcom MASTERS nomination	Society for Science and the Public	The Novel Implementation of Biochar in Lead Filtration System	Dev Udata	Valley Catholic Middle School	Sarah Zinzer
Broadcom MASTERS nomination	Society for Science and the Public	Terella Aurora Model: A Demonstration of Charged Particle Shielding for Space Exploration	John Madland, Mihir Joshi	Leslie Middle School	Mark Madland
Broadcom MASTERS nomination	Society for Science and the Public	How does the thickness of the epidermis and the temperature of the sub-epidermis contribute to unique identity of the Apple	Andrew Wong	Lake Oswego Junior High	Joe Godfrey
Broadcom MASTERS nomination	Society for Science and the Public	Spilling, Plunging, Surging	Calvin Beall	Winterhaven Middle School	Jason Giles

Broadcom MASTERS nomination	Society for Science and the Public	A Novel General Purpose Machine Learning Approach for Effective Targeted Drug Prescription for Cancer Based on Genetic Mutations	Darsh Mandera	Stoller Middle School	Pamela Svenson
Broadcom MASTERS nomination	Society for Science and the Public	PANCREATIC CANCER DEEP LEARNING SYSTEM: Improved Image-Guided Radiotherapy (IGRT) through Automated Pancreatic Cancer Segmentation	Rishab Jain	Stoller Middle School	Pamela Svenson
Broadcom MASTERS nomination	Society for Science and the Public	A Novel Way to Prevent Cars from Slipping and Crashing in Different Weather Conditions	Ishan Ahluwalia	Stoller Middle School	Pamela Svenson
Broadcom MASTERS nomination	Society for Science and the Public	The Effects of Heat Exposure on Gases in Earth's Atmosphere	Ave Gray	Whitford Middle School	Tim Livingston
Broadcom MASTERS nomination	Society for Science and the Public	Number of odd entries in the rows of Pascal's triangle	Ram Goel	Krishna Homeschool (Middle school)	Gunjan Tiwari
Broadcom MASTERS nomination	Society for Science and the Public	Designing a Non-Electric Solar Tracker	Emma Iwaniec	Meadow Park Middle School	Morgan Stone
Broadcom MASTERS nomination	Society for Science and the Public	Hand Heated Flashlight	Sahith Chandra	International School of Beaverton Middle School	Jaimie Yee

Outstanding Air Quality Project	Southwest Clean Air Agency	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Outstanding Science or Engineering Project	U.S. Air Force	Solar Powered Airplane	Zachary Fox, Andre Gilila, Luis Ramos-Rocha	Waldo Middle School	Sarah Forbes
Outstanding Project in Water Quality	U.S. Geological Survey, Oregon Water Science Center	The Novel Implementation of Biochar in Lead Filtration System	Dev Udata	Valley Catholic Middle School	Sarah Zinzer
Outstanding Project in Water Quality	U.S. Geological Survey, Oregon Water Science Center	Filtering Motor Oil From Runoff Water in Stormdrains	Nikita Sastry, Sophia Foerster	Metro Montessori Middle School	Jonathan Erickson
Outstanding Use of the International System of Units	U.S. Metric Association	How Effective is Duckweed at Removing Copper Sulfate From Water?	Sophia Wang, Sarah Yu, Lucia Zhang	Lake Oswego Junior High	Joe Godfrey
Surgeon Generals Special Science Award	U.S. Public Health Service	PANCREATIC CANCER DEEP LEARNING SYSTEM: Improved Image-Guided Radiotherapy (IGRT) through Automated Pancreatic Cancer Segmentation	Rishab Jain	Stoller Middle School	Pamela Svenson

Water Prize Award of Excellence	Water Environment Federation	How safe is your water?	Aditya Vishwa	Meadow Park Middle School	Susan Duncan
Water Prize Award of Excellence	Water Environment Federation	The Effects of Water Purification on Turbidity and pH Levels	Janani Maheswaran, Srinidhi Gubba	Meadow Park Middle School	Susan Duncan
Water Prize Award of Excellence	Water Environment Federation	The Effect of Urban Development on Turbidity In Fanno Creek	Audrey Johnson	Summa Whitford	Carolee Dearborn
Water Prize Award of Excellence	Water Environment Federation	Water Desalination	Anna Soose	Rosemont Ridge Middle School	Jessamyn Van Hook
Water Prize Award of Excellence	Water Environment Federation	Filtering Water After an Earthquake	Emma Hayes	Robert Gray Middle School	David Wages
Water Prize Award of Excellence	Water Environment Federation	Effects of wetland mitigation on waterfowl at Oaks Bottom	Bronwyn Allabastro	Hosford Middle School	Pia Allabastro

Category	Place	Title	Student List	Organization	Adult Sponsor
Animal Sciences	First Place	Worming a Solution to Plastic Pollution	Quincey Smith	Bend Science Station	Danny Martin
Animal Sciences	Second Place	The Effects of Cell Phone Radio Frequency Waves on the Regeneration of Brown Planaria	Aidan Sheeran-Hahnel	ACCESS	Alfonso Garcia Arriola
Animal Sciences	Third Place	Is My Bird Really Dancing?	Rose Farrens	ACCESS	Alfonso Garcia Arriola
Animal Sciences	Third Place	Effects of wetland mitigation on waterfowl at Oaks Bottom	Bronwyn Allabastro	Hosford Middle School	Pia Allabastro
Animal Sciences	Honorable Mention	How Taste is Connected to Your Other Senses	Sarah Hudson, Hunter VandenBosch	Cascades Academy of Central Oregon	Anne-Marie Eklund
Animal Sciences	Honorable Mention	Shine The Light On The Darkside	Izziddin Khamis	Islamic School of Portland	Nura Elmagbari
Animal Sciences	Honorable Mention	Heat to Eat	Denavae Randall	Blanchet Catholic School	Gail Armstrong
Animal Sciences	Honorable Mention	Light Effects on Daphnia	Mithun Karthikeyan	Athey Creek Middle School	Ian Stober
Behavioral and Social Science	First Place	Growth Mindset Game	Madeline Santoso	Athey Creek Middle School	Ian Stober
Behavioral and Social Science	Second Place	An Analysis of First Impressions	Kassandra Wiersma	Rachel Carson Environmental Middle School	Rebecca Hall
Behavioral and Social Science	Third Place	Family Structures and the Development of Self Confidence	Erica Frainey	Rachel Carson Environmental Middle School	Rebecca Hall
Behavioral and Social Science	Honorable Mention	The effect of Talking or Texting on Attention Span	Olivia McDonald, Julia Hernandez	Rosemont Ridge Middle School	Jessamyn Van Hook
Behavioral and Social Science	Honorable Mention	The Effect of Color on Short Term Memory	Elle Unflat	Robert Gray Middle School	David Wages
Behavioral and Social Science	Honorable Mention	Faceless photos that show emotions	Mariah Byhre, Ava Bush	Silverton Middle School	Daniel Jamsa
Behavioral and Social Science	Honorable Mention	Perception or Misconception? Who do Elementary Aged Students Think is More Successful	Nura Salah	Islamic School of Portland	Nura Elmagbari
Behavioral and Social Science	Honorable Mention	Reading with Aixelsyd	Clara Michaux	Abiqua Academy	David Dittman
Behavioral and Social Science	Honorable Mention	The Effect of music on Visual Memory	Matthew Tiffany, Jack Magnuson	Abiqua Academy	David Dittman
Chemistry	First Place	The Novel Implementation of Biochar in Lead Filtration System	Dev Udata	Valley Catholic Middle School	Sarah Zinzer

Chemistry	Second Place	Magnetic Exploration of BZ Reaction Rings	Tia Wisco	Bend Science Station	Danny Martin
Chemistry	Second Place	Four Green Eyes	Sammy Hopkins	Winterhaven Middle School	William Thompson
Chemistry	Third Place	How safe is your water?	Aditya Vishwa	Meadow Park Middle School	Susan Duncan
Chemistry	Third Place	Chemical and physical fungicidal treatment	Alex Plekhanov	Summa Stoller	Pam Svenson
Chemistry	Third Place	The Science Of Bubbleology	Sophia Levesque, Cassidy Young	Wood Middle School	Sarah Haefner
Chemistry	Third Place	LET IT GLOW	Tanveer Singh	Blanchet Catholic School	Gail Armstrong
Chemistry	Honorable Mention	Turn Milk Into Plastic	Cynthia Ruiz, Adrianah Webb	Whitford Middle School	Robin Schroeder
Chemistry	Honorable Mention	Bio-diesel For The Future? - A Study Of Problems And Solutions For Bio-diesel	Matthew Cummings, Carter Doud, Joseph Haugen	Silverton Middle School	Daniel Jamsa
Chemistry	Honorable Mention	Now You See It, Now You Don't!	Julia Seiple	Class Academy	Jaime Mitchell
Chemistry	Honorable Mention	Rice Extravaganza	Briana Titular, Cecelia Petraitis	Yamhill Carlton School District	Lisa Jacobs
Chemistry	Honorable Mention	Liquidization Station	Max Quintero	Blanchet Catholic School	Gail Armstrong
Chemistry	Honorable Mention	How does the amount of water added to hydrochloric acid affect the rate of corrosion?	Linc Buckner, Gavin Redpath, Nui Tovey	Lake Oswego Junior High	Joe Godfrey
Consumer Products Testing	First Place	How does the thickness of the epidermis and the temperature of the sub-epidermis contribute to unique identity of the Apple	Andrew Wong	Lake Oswego Junior High	Joe Godfrey
Consumer Products Testing	Second Place	Controlling Slugs	Michael Hart, Simon Carter	ACCESS	Alfonso Garcia Arriola
Consumer Products Testing	Second Place	Testing solar panels as an indoor source of energy recapture	Connor Petersen	Robert Gray Middle School	David Wages
Consumer Products Testing	Third Place	Think Before You Drink: The Truth about how much Artificial Food Dye is in our Drinks	Nabila Maazouz	Oregon Islamic Academy	Susan/Balal Eslami/Rahim

Consumer Products Testing	Third Place	How Different Thicknesses of Sponges on a Ping-Pong Paddle Affect How High a Ping-Pong Ball Bounces	Brinnan Smith	Robert Gray Middle School	David Wages
Consumer Products Testing	Third Place	Green Wrapping for Chocolates - A sweet alternative to save planet	Shriya Myneni	Valley Catholic Middle School	BharathiDevi Myneni
Consumer Products Testing	Third Place	Woof is in my Food?	Peter Coakley, Brian Atiniramit	Meadow Park Middle School	Morgan Stone
Consumer Products Testing	Honorable Mention	Dawn Saves Wildlife: A Slick Campaign? Testing The Effectiveness Of Dishwashing Liquids On Cleaning Feathers Soaked In Motor Oil.	David Foster-Nakamura	Meadow Park Middle School	Susan Duncan
Consumer Products Testing	Honorable Mention	Can aloe vera gel save strawberries from mold	Riley Foersterling, Emmy Monnie, Maya Alvarez	Whitford Middle School	Robin Schroeder
Consumer Products Testing	Honorable Mention	Water Balming	Adonia Weis	St. Francis School	Alison Green
Consumer Products Testing	Honorable Mention	Wood Vs. Metal	Max Eaton	St. Mary Catholic School	Michelle Heuberger
Consumer Products Testing	Honorable Mention	Flammable Fabrics	Leo Klotz, Felix Samiee	Abiqua Academy	David Dittman
Consumer Products Testing	Honorable Mention	Master Shuffle	Joseph Hsin	International School of Beaverton Middle School	Jaimie Yee
Earth Science	First Place	Arctic Methane Risk: Remote sensing and quantifying permafrost melt in circumpolar regions by performing fractal analysis to establish temperature correlations	Mithra Karamchedu	Summa Stoller	Pam Svenson
Earth Science	Second Place	Spilling, Plunging, Surging	Calvin Beall	Winterhaven Middle School	Jason Giles
Earth Science	Second Place	The Effects of Heat Exposure on Gases in Earth's Atmosphere	Ave Gray	Whitford Middle School	Tim Livingston

Earth Science	Third Place	Natural Landslide Prevention Alternatives: Exploring the Effects of Root Structures on Preventing Soil Erosion	Sequoia Dearborn	Rachel Carson Environmental Middle School	Rebecca Hall
Earth Science	Third Place	Flood prevention	Uma Grover	Rosemont Ridge Middle School	Jessamyn Van Hook
Earth Science	Third Place	Water Desalination	Anna Soose	Rosemont Ridge Middle School	Jessamyn Van Hook
Earth Science	Third Place	The Effect of Cloud Seeding Materials on Plants	Westin Boyd	Meadow Park Middle School	Morgan Stone
Earth Science	Honorable Mention	How Does Air Quality Affect Rainwater Quality?	Leo Marchyok, Maxwell Jesme	ACCESS	Alfonso Garcia Arriola
Earth Science	Honorable Mention	Super Soils Soak	Maya Miller, Elisa Song	Rosemont Ridge Middle School	Jessamyn Van Hook
Earth Science	Honorable Mention	How to turn salt water into fresh water	Kenley Whittaker, Lorianne Servignat	Wood Middle School	Sarah Haefner
Earth Science	Honorable Mention	Effect of Temperature on Air Quality	Aadihi Sivakumar	Cedar Park Middle School	Winter Chung
Earth Science	Honorable Mention	Filtering Dirty Water	Avery Sheffer, Laura Lopez	Whitford Middle School	Steve Cantor
Earth Science	Honorable Mention	NASA Asteroid Database Analysis: Asteroid Orbit	Charlotte Olds	International School of Beaverton Middle School	Jaimie Yee
Energy	First Place	Ameliorating acute respiratory infections from solid biomass fuel combustion and empowering rural kitchens with a sustainable, cost-effective ventilation solution	Pratik Vangal	Summa Stoller	Pam Svenson
Energy	Second Place	Wave Energy Converter	Karina Gadbaw	Summa Whitford	Carolee Dearborn
Energy	Second Place	Designing a Non-Electric Solar Tracker	Emma Iwaniec	Meadow Park Middle School	Morgan Stone
Energy	Third Place	How different levels of Carbon dioxide affect the amount of Solar Energy Produced	Yusuf Arifin	Summa Cedar	Winter Chung
Energy	Third Place	The Scorch Trials: Seeking Superior	Lorenzo Segura	Winterhaven Middle School	Brian Jay Dyer

		systems to seize suns strength			
Energy	Third Place	Should the Dinosaurs Keep Driving Your Car?	Asmita Narayanan	Stoller Middle School	Pamela Svenson
Energy	Third Place	The Whale's effect on Wind Power	Bridgette Herd	Whitford Middle School	Steve Cantor
Energy	Honorable Mention	Geothermal Energy Power Plants	Malak Shams	Oregon Islamic Academy	Susan/Balal Eslami/Rahim
Energy	Honorable Mention	Water temperature and energy production	Inbaa Chennai	Summa Cedar	Winter Chung
Energy	Honorable Mention	How Does Color Affect Heating by Absorption of Light	Logan Connor	St. Paul Parochial School	Jonathon Williams
Energy	Honorable Mention	Solar Water Heaters	Brooke Foresee, Aidan Ayres, Brooklyn Buchheit	Blanchet Catholic School	Gail Armstrong
Energy	Honorable Mention	The Future of Efficient, Clean, and Indefinite Flight	Marvin Lin	Stoller Middle School	Pamela Svenson
Energy	Honorable Mention	HARVESTING RENEWABLE ENERGY USING PIEZOELECTRICITY	Arjun Malpani, Shreyan Paliwal	Carden Cascade Academy	Steve Page
Engineering	First Place	Preventing Wildlife Collisions and Collecting Big Data to Analyze Migration Patterns	Alan Ma	Summa Stoller	Pam Svenson
Engineering	Second Place	THE SMART CANE - RESOURCE FOR VISUALLY IMPAIRED	Aadya Bhat	Meadow Park Middle School	Susan Duncan
Engineering	Third Place	The Efficiency of Ground Effect Vehicles	Ben Amos	Summa Whitford	Carolee Dearborn
Engineering	Third Place	PUMP IT UP	Lina Norris	Winterhaven Middle School	Brian Jay Dyer
Engineering	Third Place	Origami Architecture	Anna Olson	Athey Creek Middle School	Ian Stober
Engineering	Honorable Mention	Building a solar panel, small wind turbine, and small hydro turbine	Benjamin Gillette	Summa Cedar	Winter Chung
Engineering	Honorable Mention	The one and only biodegradable, energy saving, and strong potato peel bottle	Vibha Addala	Summa Stoller	Pam Svenson

Engineering	Honorable Mention	Desalination	Tanner Rozendal, Rishi Sastry, Nathaniel Baird	Meadow Park Middle School	Morgan Stone
Engineering: Mechanical	First Place	Rewarding Recycling	Renee Flavell	Summa Whitford	Carolee Dearborn
Engineering: Mechanical	Second Place	The Effect of soap Concentrations And Ring Size on Bubbles	Petra Schuster	Robert Gray Middle School	David Wages
Engineering: Mechanical	Second Place	A Novel Way to Prevent Cars from Slipping and Crashing in Different Weather Conditions	Ishan Ahluwalia	Stoller Middle School	Pamela Svenson
Engineering: Mechanical	Third Place	The Effects of Water Purification on Turbidity and pH Levels	Janani Maheswaran, Srinidhi Gubba	Meadow Park Middle School	Susan Duncan
Engineering: Mechanical	Third Place	Effectiveness of Faraday Cages	Emily Bugbee	ACCESS	Alfonso Garcia Arriola
Engineering: Mechanical	Third Place	Pressure Sores - An Automated Way to Prevent Them	Arnav Sreenivasan	Summa Stoller	Pam Svenson
Engineering: Mechanical	Third Place	Novel Idea for Preventing Muscle Loss and Sarcopenia	Rhea Wagh	Stoller Middle School	Pamela Svenson
Engineering: Mechanical	Honorable Mention	Building a volleyball machine	Brooke Dieker	Leslie Middle School	Michael Rockow
Engineering: Mechanical	Honorable Mention	Helping hands hydraulic arm	Peyton Moussavi	Rosemont Ridge Middle School	Jessamyn Van Hook
Engineering: Mechanical	Honorable Mention	Flashlight Gloves	Ashton Guvenir	Rosemont Ridge Middle School	Jessamyn Van Hook
Engineering: Mechanical	Honorable Mention	Prosthetic Hand that doesn't cost an arm and a leg!!!	Maansi Singh, Jacob Strayer	Valley Catholic Middle School	Sarah Zinzer
Engineering: Mechanical	Honorable Mention	Fishing Lures	Dominic Harris, Allen Sitton	Yamhill Carlton School District	Lisa Jacobs
Engineering: Mechanical	Honorable Mention	How does the length of a trebuchet's sling affect the distance it can launch a projectile?	Stephen Lines	Lake Oswego Junior High	Joe Godfrey
Environmental Science	First Place	The Effect of Urban Development on Turbidity In Fanno Creek	Audrey Johnson	Summa Whitford	Carolee Dearborn
Environmental Science	Second Place	Harnessing Phytoplankton To	Nishaant Sistla	ACCESS	Alfonso Garcia Arriola

		Reduce Industrial CO2 Emissions			
Environmental Science	Second Place	Increasing the speed of olivine weathering as a means of sequestering carbon dioxide	Teaghan Knox	Bend Science Station	Danny Martin
Environmental Science	Third Place	Fire and Ice: Does Black Soot Produced by the Eagle Creek Forest Fire Affect the Melting Rate of Mount Hood's	Cole Pitzer	Bridlemile Elementary School	Larry Sherman
Environmental Science	Third Place	What is the Most Effective Material for Cleaning Up Oil Spills?	Rohan Varma	St. Pius X School	Teresa Sebert
Environmental Science	Third Place	Smoked Salmon	Elizabeth Hetzler	Yamhill Carlton School District	Lisa Jacobs
Environmental Science	Third Place	Filtering Motor Oil From Runoff Water in Stormdrains	Nikita Sastry, Sophia Foerster	Metro Montessori Middle School	Jonathan Erickson
Environmental Science	Honorable Mention	The Naturalist	Lucas Blank	Rachel Carson Environmental Middle School	Rebecca Hall
Environmental Science	Honorable Mention	Willamette vs. Metolius	Louisa Mansberger	Bridlemile Elementary School	Larry Sherman
Environmental Science	Honorable Mention	Filtering Water After an Earthquake	Emma Hayes	Robert Gray Middle School	David Wages
Environmental Science	Honorable Mention	Organic vs Synthetic - Which type of fertilizer has the greatest effect on Daphnia?	Yasmine Taha, Riham Mohamed	Islamic School of Portland	Nura Elmagbari
Environmental Science	Honorable Mention	How Effective is Duckweed at Removing Copper Sulfate From Water?	Sophia Wang, Sarah Yu, Lucia Zhang	Lake Oswego Junior High	Joe Godfrey
Environmental Science	Honorable Mention	The Effect of Filters on Greywater's Turbidity	Zane Whitney, Graham Blechschmidt	Whitford Middle School	Tim Livingston
Mathematics and Computer Science	First Place	Patterns for Protection	Rubaba Amyeen	Summa Stoller	Pam Svenson
Mathematics and Computer Science	Second Place	Number of odd entries in the rows of Pascal's triangle	Ram Goel	Krishna Homeschool	Gunjan Tiwari
Mathematics and Computer Science	Third Place	Computer Assisted Basketball	Roshan Ramakrishnan	St. Pius X School	Teresa Sebert

Mathematics and Computer Science	Third Place	An exploration of Goldbach's conjecture	Suyash Pandit	Summa Cedar	Winter Chung
Mathematics and Computer Science	Third Place	Designing an Infrared Thermometer with Emissivity Calibration and Adjustment	Michael Kiselev	Summa Stoller	Pam Svenson
Mathematics and Computer Science	Third Place	Auto Waste Sorter - Image Recognition to Identify Waste	Shrey Goel	Stoller Middle School	Pamela Svenson
Mathematics and Computer Science	Honorable Mention	Raspberry Pi Automated Irrigation System	Eli Pulido	Meadow Park Middle School	Susan Duncan
Mathematics and Computer Science	Honorable Mention	Aspi Math	Ben Wieser	Valley Catholic Middle School	Sarah Zinzer
Medicine and Health Sciences	First Place	A Novel General Purpose Machine Learning Approach for Effective Targeted Drug Prescription for Cancer Based on Genetic Mutations	Darsh Mandera	Stoller Middle School	Pamela Svenson
Medicine and Health Sciences	Second Place	Asthma Monster: an asthma tracking app	Hannah Worden	Robert Gray Middle School	David Wages
Medicine and Health Sciences	Second Place	PANCREATIC CANCER DEEP LEARNING SYSTEM: Improved Image-Guided Radiotherapy (IGRT) through Automated Pancreatic Cancer Segmentation	Rishab Jain	Stoller Middle School	Pamela Svenson
Medicine and Health Sciences	Third Place	Early Detection of Lung Cancer	Avni Sharma	Meadow Park Middle School	Susan Duncan
Medicine and Health Sciences	Third Place	Just Breathe	Emerson Karl, Sienna Stevens	Rosemont Ridge Middle School	Jessamyn Van Hook
Medicine and Health Sciences	Third Place	Wearable Technology for Peanut Allergen Detection Inquiry Project	Evelyne Knight, Camryn Lau	Wood Middle School	Sarah Haefner
Medicine and Health Sciences	Third Place	Surviving Winter	Anja Jolin	Laurelhurst School	Morgan Dill
Medicine and Health Sciences	Honorable Mention	The proof is in the print	Evie Littrell	Bridlemile Elementary School	Larry Sherman

Medicine and Health Sciences	Honorable Mention	Harmful Effects of Electromagnetic Radiation	Medini Madhusudan	Summa Stoller	Pam Svenson
Medicine and Health Sciences	Honorable Mention	Gluten and Sugar Free x3	Sarah Jama, Sumaya Jama, Ibrahim Jama	Islamic School of Portland	Nura Elmagbari
Medicine and Health Sciences	Honorable Mention	Fruity Fact or Fiction? Does the Glycemic Index of a Fruit Accurately Predict Change in Blood Sugar Levels?	Asmaa Nuradin	Islamic School of Portland	Nura Elmagbari
Medicine and Health Sciences	Honorable Mention	Synthesis of Food Color Concentration in Store Bought Popsicles	Urvi Roy	Meadow Park Middle School	Morgan Stone
Microbiology	First Place	Yeast Antagonism and Biocontrol	Jonah Paterson, Valerie Tran	Summa Whitford	Carolee Dearborn
Microbiology	Second Place	Medicinal Value of Natural Herbs and Spices in Eliminating Bacterial Infection	Ekansh Mittal	Meadow Park Middle School	Susan Duncan
Microbiology	Second Place	Antimicrobial Resistance: How Long Does It Take?	Patrick Moret	Summa Whitford	Carolee Dearborn
Microbiology	Third Place	The Tiniest Chemists	Ana Tracy	Rachel Carson Environmental Middle School	Rebecca Hall
Microbiology	Third Place	The Effects of Microcurrent Application on the Growth Rate of Yeast Cells	Sage McCann	ACCESS	Alfonso Garcia Arriola
Microbiology	Third Place	Bacteria Bonanza	Ella Hayden	Bend Science Station	Danny Martin
Microbiology	Third Place	The Most Effective Cleaning Solution	Ethan Farrow	Cascades Academy of Central Oregon	Anne-Marie Eklund
Microbiology	Honorable Mention	The Five Second Rule	Lara Encinas, Emilia Heiser	Rachel Carson Environmental Middle School	Rebecca Hall
Microbiology	Honorable Mention	Hand Washing vs. Hand Sanitizer	Adin Lyders	Cascades Academy of Central Oregon	Anne-Marie Eklund
Microbiology	Honorable Mention	Is Garlic Worth the Stink?	Marie Papathanasopoulos	St. Mary Catholic School	Michelle Heuberger
Microbiology	Honorable Mention	Gram-positive vs. Gram-negative	Heba Bader	Abiqua Academy	David Dittman

Microbiology	Honorable Mention	The Effects of Natural and Store-bought Antibiotics on E. coli	Christine Behunin, Anika Sharma	Meadow Park Middle School	Morgan Stone
Physics: Electromagnetic	First Place	Terella Aurora Model: A Demonstration of Charged Particle Shielding for Space Exploration	John Madland, Mihir Joshi	Leslie Middle School	Mark Madland
Physics: Electromagnetic	Second Place	The Speed Of The WiFi (Mbps) Based Upon The focal width Of The Parabolic Reflector	Ayan Kirby	Summa Whitford	Carolee Dearborn
Physics: Electromagnetic	Second Place	Hand Heated Flashlight	Sahith Chandra	International School of Beaverton Middle School	Jaimie Yee
Physics: Electromagnetic	Third Place	The Effects of Ballistic Coefficient on Projectile Velocity	Will LaDuca, Henry Kanaskie, Sean Grant	Leslie Middle School	Michael Rockow
Physics: Electromagnetic	Third Place	Why does static electricity occur and are there different materials that charge the most?	Lidya Harms	Wood Middle School	Sarah Haefner
Physics: Electromagnetic	Third Place	How Does the Concentration of Sugar Affect the Speed of Light Passing Through Water?	Devin VonArx, Ava Hilden	Lake Oswego Junior High	Joe Godfrey
Physics: Electromagnetic	Third Place	This Little Light of Mine	Eli Stabler	Winterhaven Middle School	Jason Giles
Physics: Electromagnetic	Honorable Mention	The Effect of Temperature on Electromagnets	Sumiko Paulin	Bridlemile Elementary School	Larry Sherman
Physics: Electromagnetic	Honorable Mention	How effective are different antennas per foot of wire used?	Yunyi Zhang	ACCESS	Alfonso Garcia Arriola
Physics: Electromagnetic	Honorable Mention	Designer Sunglasses - Do \$5 ones do the Same Job?	Kogen Brown	Rosemont Ridge Middle School	Jessamyn Van Hook
Physics: Electromagnetic	Honorable Mention	How different moisture conditions affect the quality of electrical grounding	Finn Suchara	Robert Gray Middle School	David Wages
Physics: Electromagnetic	Honorable Mention	Magnetic Rocket Launcher	Anish Lagudu	Summa Stoller	Pam Svenson

Physics: Electromagnetic	Honorable Mention	Maximizing Electricity Generation Using Principles of Faraday's Law	Praveer Sharan	Lake Oswego Junior High	Joe Godfrey
Physics: Mechanical	First Place	Methods of proportional stringing of tennis raquets	Nikita Istratov	Summa Cedar	Winter Chung
Physics: Mechanical	Second Place	Marble Loop Physics	Garrett Heaton	Rosemont Ridge Middle School	Jessamyn Van Hook
Physics: Mechanical	Second Place	The Effect Of Vertical Movement On Weight	Ayla Shores	Whitford Middle School	Robin Schroeder
Physics: Mechanical	Third Place	How Physics Affects Ballet	Jane Churchill, Madeline White	Leslie Middle School	Michael Rockow
Physics: Mechanical	Third Place	Medical Drones	Neil Surya	Meadow Park Middle School	Susan Duncan
Physics: Mechanical	Third Place	The Force Behind A Kick	Ronan Repasky	Class Academy	Jaime Mitchell
Physics: Mechanical	Third Place	Gauss Rifle	Dylan Gentry	St. Cecilia School	Amy Stephen
Physics: Mechanical	Honorable Mention	How Do Different Length Lacrosse Stick Shafts Affect The Distance The Ball Is Thrown?	Ava James	Whitford Middle School	Robin Schroeder
Physics: Mechanical	Honorable Mention	Which Cup?	John Ausmus	Yamhill Carlton School District	Lisa Jacobs
Physics: Mechanical	Honorable Mention	Do certain Lacrosse sticks increase the distance of your throw	Lucas Dieter	Metro Montessori Middle School	Jonathan Erickson
Physics: Mechanical	Honorable Mention	Egg Drop: Will it Last or Will it Blast?	Ava Wright	St. Cecilia School	Amy Stephen
Physics: Mechanical	Honorable Mention	PINNAE FOR YOUR THOUGHTS	Micah Powch	Winterhaven Middle School	Brian Jay Dyer
Physics: Mechanical	Honorable Mention	Bouncing Balls	Sam Even	Winterhaven Middle School	Jason Giles
Plant Sciences	First Place	Impact of Fertilizer on Plants	Arunima Deval	Summa Cedar	Winter Chung
Plant Sciences	Second Place	Wildfires and their Effect on the Regrowth of Lupinus oreganus	Dylan Podrabsky, Julia Pinnell	Rachel Carson Environmental Middle School	Rebecca Hall
Plant Sciences	Second Place	The Role of Methyl Jasmonate On Plant Cellular Repair	Fadel Barhum	Islamic School of Portland	Nura Elmagbari

Plant Sciences	Third Place	Mycorrhizal Relationships in sequoiadendron Giganteum	Leah Gulick	Rachel Carson Environmental Middle School	Rebecca Hall
Plant Sciences	Third Place	The Affect of Wood Ash on Plant Growth	Ruby Jewett	Summa Whitford	Carolee Dearborn
Plant Sciences	Third Place	Mimosa pudica growth in hydroponics, aquaponics and soil	Kaya Hoshi	Bend Science Station	Danny Martin
Plant Sciences	Third Place	Aqua-Plants	Adrian Bayu-Aji, Braeden Duffy, Sebastian Ramos	Blanchet Catholic School	Gail Armstrong
Plant Sciences	Honorable Mention	Which Water Do You Radish?	Caitlin Thomas	St. Pius X School	Teresa Sebert
Plant Sciences	Honorable Mention	The Effects of Anesthesia on Plant Action Potential	Andy Franck	Robert Gray Middle School	David Wages
Plant Sciences	Honorable Mention	The Effect of EMF Waves on the Growth and Development of Chia Seeds.	Rabha Reda	Islamic School of Portland	Nura Elmagbari
Plant Sciences	Honorable Mention	What Type Of Light Is Best For Photosynthesis	Natalee Rizzo	Banks Middle School	Tony Richeson
Plant Sciences	Honorable Mention	How does global warming affect plant growth?	Ella Kim	Class Academy	Jaime Mitchell
Plant Sciences	Honorable Mention	Crop Confusion	Seanna Sevey	St. Francis School	Alison Green

Category Awards