



Hosted and Sponsored by

**The School of Natural Sciences and
Mathematics**

and

Stockton University





101 Vera King Farris Drive | Galloway NJ 08205-9441
stockton.edu

Date: March 16, 2019
To: Participants in the 44th Annual Jersey Shore Science Fair
From: Peter Straub, Dean
Natural Sciences and Mathematics
Subject: Welcome to Stockton University

On behalf of President Harvey Kesselman, Provost and Academic Vice President Lori Vermeulen and the faculty, staff and students of Stockton University, I welcome you to our campus. As for many years, the Jersey Shore Science Fair will be one of the largest in the Delaware Valley region with over 600 registered participants.

It has been said that our future depends on a robust innovation economy. Innovation, as defined in Merriam-Webster's dictionary is the "introduction of something new, a new idea, method or device." Science and innovation go hand in hand. Science is a method to frame and test ideas and to generate educated guesses (hypothesis) as to how things work. Experimental design, collection and interpretation of data allow you to reach an informed conclusion. Understanding how things work leads to predictions that if correct can support the initial guesses and move both understanding and technology forward. Developing skills such as critical thinking, writing and quantitative analysis (mathematics and statistics) will position you to take advantage of an economy based on new ideas, new technologies and new applications.

I would like to invite you back to visit Stockton University as you plan for your future education. Stockton is a nationally ranked comprehensive University of Liberal Arts, Sciences and Professions and a state-wide leader in STEM education (Science, Technology, Engineering and Mathematics). Stockton offers undergraduate degree programs in Biology, Biochemistry, Chemistry, Computer Science, Environmental Science, Geology, Health Science, Marine Science, Mathematics, Nursing, Public Health, Physics and Sustainability as well as dual degrees in engineering, pharmacy and medicine with our university partners (Rutgers, Rowan and NJIT). On the graduate level, we offer Masters Degrees in: Communications Disorders, Data Science and Strategic Analytics, Nursing, Occupational Therapy; and a Professional Science Masters degree in Environmental Science. Doctoral degrees are offered in Physical Therapy, Educational Leadership and Nursing Practice. Our Unified Science Center-Quad project, adjacent to the sports arena, has recently been expanded to provide new physics, chemistry, sustainability and biology laboratories as well as animal and plant growth support. In addition, we also support a campus farm, arboretum, pinelands research reserve and an active waterfront Marine Field Station with a fleet of coastal oceanographic vessels.

Please feel free to contact the admissions office and also see our student life and undergraduate and graduate programs on the web at www.stockton.edu.

Enjoy the day and congratulations on your accomplishments.

A handwritten signature in black ink that reads "Peter F. Straub".

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All food Service and most appropriate areas for visitors to pass time during the 9:00 am to 12:00 pm judging sessions will be in the Campus Center.

All lunchtime Food Service will take place in the Campus Center.

Interested in what Stockton has to offer? Then visit our tables in the Coffee House...

The Admissions Office is closed during spring break but will offer a staffed table in the Coffee House area and information on self-touring of our campus. Our next open House Date is **Sunday April 7, 2019**. We are also available during the week for guided tours. Call Admissions to schedule a tour 609-652-4261.

Please also visit the School of Natural Sciences and Mathematics the Atlantic Cape Community College information tables in the Coffee House area.

Jersey Shore Science Fair Program

March 16, 2019

7:45 – 8:45 am

Project Registration – no earlier please

7:45 – 9:00 am

Safety inspection. **Displays must comply with ISEF regulations.**

Students, please wear registration badges and remain by your displays

8:00 – 9:00 am

Judges will meet in the Campus Center Event Room

9:00 – 12:00 pm

Project judging. Students must wear registration badges and remain by their projects until 12 noon. Judges have until noon to visit and/or revisit projects. In order to be evaluated, students must be present. If a student leaves to use the restroom, please tell the person next to you in case judges come by at that time.

12:00 – 1:00 pm

Project area opens to the public. **Student, please leave projects on display until 1:00 p.m.**

1:00 – 1:15 pm

Students may take down displays

1:30 pm

Awards Ceremony – All ages and categories, Sports Center

Code of Conduct

For teachers, relatives and friends of the participants and other guests:

The Science Fair provides an opportunity for students to talk with judges about their science projects. For this to occur without distraction, it is important that, during the judging period, the judges and students be left undisturbed. Therefore, between 9:00 am and noon, while judging is taking place, everyone except the judges and the students are asked to leave the immediate judging area. Individuals having questions about the judging process are asked to bring those questions to the Judging Center in West Quad Building Room 103.

Students must wear registration badges and remain by their projects until 12 noon. Judges have until 12 noon to visit and/or revisit projects – in order to be evaluated students must be present. If a student leaves to use the restroom, please tell the person next to you in case judges come by at that time.

Thank you for your cooperation.

JSSF Acknowledgments

Dr. Peter Straub – Dean, School of Natural Sciences and Mathematics, Stockton University

Cathy Jaggard – JSSF Director, Digital Management, Inc. (DMI) “Diving Mobile Innovation”

Ed Jaggard – Safety Officer and former JSSF database developer/manager. Retired.

Rosanne Weiss – Chief Judge, Retired FAA

Steve Evert – NAMS Representative & Logistical Management, Stockton University

Adriane Sicknick – Web and Publication Specialist, Stockton University

Lou Regan – Web Developer, Stockton University

Nick Hitzel – Web Developer, Stockton University

Marie Jelinski – Special awards and business operations

Christine Schairer – Registration team leader

Special Awards

The Jersey Shore Science Fair Committee and the School of Natural Sciences and Mathematics would like to acknowledge the following groups for providing special awards to the participants of the 44th annual Jersey Shore Science Fair:

DOW Chemistry Awards – The Dow Chemical Company has provided generous support for the operations of the JSSF as well as special awards in the Chemistry category for student participants. This year Dow Chemical Awards will be provided for the Chemistry category: Upper level, \$250; Intermediate level, \$150 and Junior level \$100 awards.

The Natural Science and Mathematics Department – The NAMS Department awards gift certificates to the 1st place projects in the Upper level divisions.

Institute of Electronics and Electrical Engineers – The IEEE and Women in Engineering (WIE) award special prizes to the top projects in computer science and/or engineering.

The Paul Saraduke, Jr. Award – The top upper level physics project will receive an award made possible through a generous gift from the Saraduke family as a living memorial to Paul Saraduke, Jr. Paul was a member of the Stockton NAMS staff, and served regularly as a judge. This award is given in hopes that those that receive it will be encouraged to further pursue their interest in physics.

NJ Water Environment Association (NJWEA) and the State Chapter of the Water Environment Federation (WEF) - Award for the best (as judged by them) water resource/environment project. The selected winner will be reviewed with winners from three other science fairs and invited to the Student Session of the NJWEA Annual Conference and presented a plaque, a cash award of \$500. The selected FINAL winner will be asked to represent the *NJWEA at the WEF National Competition for the Stockholm Junior Water Prize*. Please see www.wef.org and www.sjwp.org for more information.

American Chemical Society – Awards two prizes to the projects in upper and intermediate chemistry divisions.

Atlantic Cape Community College – Provides an award to the top projects for Junior math and biochemistry categories.

West Nottingham Academy – Awards 1st place winners in the Junior and Intermediate level for Engineering and Environmental Science categories. Winners are invited to the Academy in Colora, MD for an additional competition on April 13, 2019.

Save Barnegat Bay organization will present an award for the top project representing Barnegat Bay. Save Barnegat Bay is a 45-year old grassroots organization whose mission is to restore and protect the Barnegat Bay Ecosystem. Their environmental education programs strive to teach about Barnegat Bay and its conservation. Their campaigns engage everyone without the watershed to be more conscientious of how they are affecting the bay and its wildlife for the future.

Schools in JSSF 2019

Academy of Allied Health and Science	Richard Tempsick Anagha Thorat
Alder Avenue Middle School	Jeffrey Warner
Assumption Regional Catholic School	Sheryl Cordivari Patricia Naples
Belhaven Avenue School	Carmen Faia Raquel Law
Biotechnology High School	Jurgen Brojatsch Michael Chin Anne MacLean Julie Nowicki
Bishop McHugh Regional Catholic School	Diane Bruesehoff
Brigantine North Middle School	Maria DiDomenico
Cedar Creek High School	Ian Griffin
Chelsea Heights Elementary	Paul Polinski
Colts Neck High School	Michael Roche
Crest Memorial School - Wildwood Crest	Matthew Fritz
Dr. Martin Luther King Jr. School Complex	Lakeshia Taylor
Egg Harbor Township High School	Etzel Brower
Eugene Tighe School	Chelsi Crompton
Fernwood Avenue Middle School	Jeffrey Warner
Folsom Elementary School	Chris Roth Christopher Roth
Galloway Township Middle School	Debra Sommers
High Technology High School	Aimee Babbin Michael Roche
Holmdel High School	Josephine Blaha Sanu Daf
Howell Middle School South	Michael Roche
Jordan Road Elementary School	Liz Lichtenstein

School in JSSF 2019 Continued

Lacey Township High School

Philip Conklin
Marti Helmick
John Kuzan
Alexandra York

Manalapan High School

Barathi Srinivas

Manalapan-Englishtown Middle School

Marie Behnke
Dawn Danza
Kathleen Whitney

Marine Academy of Technology & Environmental
Sciences (MATES)

John Wnek

Middle Township High School

Anne Berkey
Timothy Moore
Angela Quintana

Monmouth Beach elementary

Micheal Roche

Ocean City High School

Robert Citta

Pilgrim Academy

Ruth Blouch
Chris Walden

Red Bank Charter School

Michael Roche

Red Bank Middle School

Michael Roche

Richmond Avenue Elementary School

James McGinn

Sovereign Avenue School

Dione Tsoplakis

St. Vincent de Paul Regional School

Eileen Mullin

Home School

Susan Sheehan

The Marine Academy of Science and Technology
(MAST-Sandy Hook)

Lisa Baskin
John Wnek

Toms River High School North

Christine Girtain

Toms River High School South

Christine Girtain

Toms River Intermediate East

Katie Keller
Sylvia Piznik

Toms River Intermediate North

Katie Keller

Toms River Intermediate South

Kayley Pagano

Uptown School Complex

Clarissa Rodriguez

JSSF 2019 Judges and Affiliations

Name	Affiliation
Prof. Adam A. Aguiar	Stockton University
Isaiah L. Ailes	Stockton University
Miss Farrah Alkhaleel	National Institutes of Health
Mr. Armen R. Amirian	NAVSEA
Debbie A. Armiger	(No Affiliation)
Mr. Robert A. Bastholm	SAIC (Science Applications International Corporation)
Mr. Willard E. Beall	Retired
William C. Beard	Federal Aviation Administration (FAA)
Delores S. Beard	Retired
Freeholder Ashley Bennett	Atlantic County
Prof. Michael . Bolicki	Atlantic Cape Community College
Robin J. Breder	Atlantic Cape Community College
Dr. Gail D. Brooks	Education Consultant
Mr. Etzel C. Brower	Egg Harbor Township High School
Joseph F. Burns	Federal Aviation Administration (FAA)
James E. Caccese	New Jersey Water Environment Association (NJWEA)
Dr. Eamon S. Caddigan	Federal Aviation Administration (FAA)
Prof. Melissa B. Castone	Atlantic Cape Community College
Eric Chai	High Technology High School
Mr. Usama Chaudhri	Stockton University
Dr. Yuanguo Chen	General Dynamics Information Technology (GDIT)
Mr. Melba C. Christy	(No Affiliation)
Melba C. Christy	(No Affiliation)
Michael J. Clarson	PARSONS Corporation
Judith Coburn	ACITech
Prof. Dick . Colby	Stockton University
Ed Conover	State of New Jersey
Felix G. Contreras-Castro	Atlantic Cape Community College
Dr. Denise Coulter	Atlantic Cape Community College
Eileen Curristine	Atlantic Cape Community College
Tim Cwik	Atlantic Cape Community College
Ms. Holly M. Cyrus	Federal Aviation Administration (FAA)
Charles M. Dell'Orto	Stockton University
Nicole M. DeSimone	Stockton University
Rachel A. Dieterly	Atlantic Cape Community College
Dr. Jill Dobrowansky	State of New Jersey
James Eberwine	Atlantic Cape Community College
Mr. Timothy P. Fisher	New Jersey Water Environment Association (NJWEA)
Michelle L. Fitzgerald	Egg Harbor Township High School
Ms. Caren R. Fitzpatrick	Atlantic County Freeholder
Meredith N. Flamensfeld	Federal Aviation Administration (FAA)
Mr. Michael P. Flynn	MAST
Miss Agnes A. Galiano	Atlantic Cape Community College
Mr. Joe A. Giraldo	(No Affiliation)
Darrell Gray	ISS Solutions
Dr. Loretta M. Grisi-Dicker	Atlantic Cape Community College
Michael Hackett	Community College of Philadelphia
Ms. Rosemary A. Hill	Retired
Dennis Hill	Retired
Scott Howard	Thunderbolt Software

Thomas J. Hurst	Stockton University
Ms. Jasmine Jariwala	(No Affiliation)
Dr. Steven E. Kalman	Stockton University
Ms. Irsa Khan	Stockton University
Mr. Kenneth J. Knopp	Federal Aviation Administration (FAA)
Alex G. Konkell	Federal Aviation Administration (FAA)
Mr. Alan J. Kopala	FAA Tech Center AvSTEM
Ms. Susan M. Korngut	NA
Lauren Kott	NAVSUP WSS
Alex. Kuprianov	TD Bank
Dr. Michael J. Law	Stockton University
John E. Livezey	Atlantic Cape Community College
Dr. Richard E. Lyon	Federal Aviation Administration (FAA)
Ms. Laura E. MacConnell	Greater Egg Harbor School District
Ed Mack	FAA Tech Center, retired
Dr. Srinu Mandalapu	Federal Aviation Administration (FAA)
Prof. Ravi C. Manimaran	Atlantic Cape Community College
Mr. Neil R. McCreesh	Galloway Township Middle School
Curtis McKittrick	Solanum, LLC
Jennifer Mohr-Murphy	Galloway Township Middle School
Marilyn A. Moore	Galloway Township Middle School
Hazel A. Mueller	Stockton University
Mr. Dennis Munoz	Stockton University
Mr. William J. Murphy	Stockton University
Matthew M. Myles	ACITech
Mr. Kim A. Myles	None
Stephen D. Nagiewicz	Stockton University
James Neville	New Jersey Water Environment Association (NJWEA)
Prof. Stacy L. Onofrietti	Rowan University
Prof. Judith H. Otterburn-Martinez	Atlantic Cape Community College
Mr. Mark Palmer	Palmer Atlantic Properties LLC
Rachael Park	Federal Aviation Administration (FAA)
Prof. Denise M. Petro	Atlantic Cape Community College
Prof. Erin Podlesny	Stockton University
Dr. Joseph I. Pollara	Cologne Animal Hospital
Prof. Elizabeth . Pollock	Stockton University
Prof. Marc Richard	Stockton University
Trevor L. Robbins	Stockton University
Ms. Martine R. Robinson	ATLANTIC CITY SCHOOL DISTRICT
Catherine A. Rosenberg	Rutgers University
Cassandra Runko	MAST
Mr. Jason M. Sass	Stockton University
Dr. Christina G. Savich	Atlantic Cape Community College
Dr. Kimberly A. Scata	AlphaBioCom
Rachel J. Schlachta	Atlantic Cape Community College
Mrs. Tammy Schroer	Retired
Melanie Schroer	Stockton University
Dr. David Seitman	Retired
Mr. Somil R. Shah	Federal Aviation Administration (FAA)
Mr. John G. Sherfey	Stockton University
Nandini Singh	Kuman Math and Reading Center
Mrs. Kelly M. Slingerland	Atlantic Cape Community College
Debra A. Sommers	Galloway Township Middle School
Prof. Valerie A. Stirm	Atlantic Cape Community College
Michael H. Suleiman	Atlantic County Democratic Committee

Scott Summerill
Mrs. Roxanne E. Terramagra
Mr. Jerry Terramagra
Joan B. Vicari
Ms. Benita P. Villar
Ms. Rosanne M. Weiss
Mr. Everett L. Williams
David Woldow
Beverly Woldow
Mr. Brion R. Woroch
Zhe Xu
Eric Zheng
Prof. Bojan Zilovic
Jan Zimmerman
Elizabeth Zimmermann

Advanced Sciences and Technologies
(No Affiliation)
(No Affiliation)
Ocean City High School
Stockton University
FAA Retired/Atlantic Cape Community College
Federal Aviation Administration (FAA)
Acuity specialty hospital
AtlantiCare Regional Medical Cener
Federal Aviation Administration (FAA)
Atlantic Cape Community College
High Technology High School
Atlantic Cape Community College
Pfizer
Stockton University

Jersey Shore Science Fair 2019

Participants & Projects

Delaware Valley Science Fair Eligibility

The following winners of the Jersey Shore Science Fair will be eligible to attend the Delaware Valley Science Fair (DVSF) **Tuesday, April 2 through Thursday, April 4:**

Delaware Valley Science Fair (DVSF)
Drexel University
236 Randall Hal
3141 Chestnut Street, Philadelphia, PA 19104
www.dvsf.org

The following awarded projects are eligible to attend DVSF:

Juniors – 6-8 Grade

1st and 2nd place only, all categories including teams

Intermediate – 9-10 Grade

1st, 2nd and 3rd place except Team category 1st place only

Upper – 11-12 Grade

1st, 2nd and 3rd place except Team category 1st place only

Set-up and event detail for the DVSF can be found on the JSSF webpage

EXIT TO PARKING LOT

MAT

Loc # 377 - 386

MED

Loc# 387 - 441

MIC

Loc # 412 - 476

PHY

Loc # 477 - 528

ZOO

Loc # 529 - 568

TMP

Loc # 569 - 607

EXIT TO CAMPUS

EXIT TO PARKING LOT

CSC

Loc # 211 - 237

COM

Loc# 186 - 210

CHM

Loc #149 - 185

BOT

Loc # 108 - 148

BCH

Loc # 77 - 107

BSS

Loc # 1 - 76

MAIN ENTRANCE

ENV
Loc # 318
- 376

ENG
Loc #265
- 317

ESS
Loc # 238
- 264



PLEASE READ THIS

1. Students have a *project ID* and a *location number*
2. Use your **location number (Loc #)** to find your spot
3. There is no power available to any projects
4. Projects must comply with ISEF rules



JSSF 2019 Participating Projects

Behavioral and Social Sciences - BSS

Junior BSS

J BSS 1 Loc. 1	Julia M Latham	A Rainbow of Flavors! Or so You Think...
J BSS 2 Loc. 2	Heaven L Werleman	Test Your Stress
J BSS 3 Loc. 3	Skylar J Davidson	How To Not Forgetica
J BSS 4 Loc. 4	Caitlin Eye	Is Laughing Contagious?
J BSS 5 Loc. 5	Lia M Carroll	Music To My Grades
J BSS 6 Loc. 6	Desmond R Whalen	It's Gonna Take a Lot of Volume to Drag me Away from Work!
J BSS 7 Loc. 7	Michael M Do	May The Time Be With You
J BSS 8 Loc. 8	Aaron R Wagner	How does your handedness affect your memory?
J BSS 9 Loc. 9	Matthew Garland	Is Yawning Contagious?
J BSS 10 Loc. 10	Demi Lu	We'll Taste the Lot
J BSS 11 Loc. 11	Ashley V Cheng	How does an Unappetizing Video Affect Candy's Rating?
J BSS 12 Loc. 12	Lyla G Brown	How Does Age Affect the Imaginary Audience?
J BSS 13 Loc. 13	Victor D Nguyen	The Effect of Age on Loss Aversion
J BSS 14 Loc. 14	Jordan J Fernandez	Will Reaction Time Differ When Testing Gamers Who Play More or Less?
J BSS 15 Loc. 15	Carrie Chen	What is the effect of learning with songs and music?
J BSS 16 Loc. 16	Harwin W Bernard	Brain Focusers!
J BSS 17 Loc. 17	Christopher J Ford	How Does Pressure Affect Test Scores?
J BSS 18 Loc. 18	Ivanna L Martinez	You have been STEREOTYPED
J BSS 19 Loc. 19	Joshua L Singh	Who Wants to Fit In: Testing Conformity in Different Age Groups
J BSS 20 Loc. 21	Jack C Rodgers	Mashed Potato Brains
J BSS 21 Loc. 22	Nicholas G Hoyer	The Bouba Kiki Effect
J BSS 22 Loc. 23	Aidan Henbest	The effect paper color has on student's scores on math exams
J BSS 23 Loc. 24	Ryan Svenson	Gender vs. Short Term Memory
J BSS 24 Loc. 25	Claudia Garcia	Comparing Basketball Scoring Statistics
J BSS 25 Loc. 26	Rubi Reyes	How accurate are astrological predictions?
J BSS 26 Loc. 27	Mariana Kaiafas	Does Gender Affect the Results of the Stroop Effect Test?
J BSS 27 Loc. 28	Adrian Goley	Do Video Games Really Rot Your Brain?
J BSS 28 Loc. 29	Regina Messenger	How Can a Person's Concentration be Affected by Listening to Different Types of Music?
J BSS 29 Loc. 30	Daniel Detore	How Does the Key of a Song Affect Its Mood?
J BSS 30 Loc. 31	Arliana H Torres	If students do not know the answer on a multiple choice test, which letter answer are they most likely to guess?
J BSS 31 Loc. 32	Lauren Vaughn	Can You Hear The Mosquito Sound?
J BSS 32 Loc. 33	Morgan N Rodemann	Does gender affect a person's ability to read scrambled words?
J BSS 33 Loc. 34	Fiona R Burns	Will Boys Or Girls Get A Higher Score On A Test Based On Optical Illusions?
J BSS 34 Loc. 35	Thomas Liston	Vintage Cartoons vs. Modern Cartoons
J BSS 35 Loc. 36	David Del Conte	The Mandela Effect
J BSS 36 Loc. 37	Jacob Craig	The Mandela Effect
J BSS 37 Loc. 38	Gwen M Amalfitano	Can You Sense Your Scents?
J BSS 38 Loc. 39	Jack K O'brien	wheres waldo
J BSS 39 Loc. 41	Charley K Phy	The Melody In Memory

J BSS 40 Loc. 42	Samantha M D'Arcangelo	The Stroop Effect
J BSS 41 Loc. 43	Charles Sturgis	The Four Types of Comedy
J BSS 42 Loc. 44	Gillian Lovett	Does having a cell phone within arm's length affect your concentration when completing a simple task?
J BSS 43 Loc. 45	Johanna Schwachter	Read Between the Lines
J BSS 44 Loc. 46	Angelina States	Quick as a Wink, How Fast Are You?
J BSS 45 Loc. 47	Julia Saiter	Who's Lying?
J BSS 46 Loc. 48	Vincent C DeGennaro	Spending Habits of Adults
J BSS 47 Loc. 49	Nicolas B Vivero	How Do Competitive Video Games Affect the Person Who Plays Them?
J BSS 48 Loc. 50	Christopher A Garrabrant	Effect of Sound on Reaction Time
J BSS 49 Loc. 51	Jayla A Bussey	Music vs Volleyball
J BSS 50 Loc. 52	Matthew Switzer	The Colorful Art of Psychology

Intermediate BSS

I BSS 1 Loc. 53	Eileen Liang	Testing the Productivity of different Brainstorming Methods
I BSS 2 Loc. 54	Mia Ladolcetta	The Effect of Differently Tempoed Music on Productivity
I BSS 3 Loc. 55	Caleb P Seavey	Reading V.S. Auditory Processing
I BSS 4 Loc. 56	Franchesca N Fornarotto	What Genre of Music is the Most Neurologically Effective
I BSS 5 Loc. 57	Bill Zhang	Effects of Exercise on the Cognitive Functions of Alzheimer's Patients
I BSS 6 Loc. 58	Victoria M Farley	Exploring the Effects of Visual, Auditory, and Tactile Learning Styles on Different Age Groups
I BSS 7 Loc. 59	Ryan D Schager	Comparison of Student Testing Anxiety: Computerized vs. Written
I BSS 8 Loc. 61	Grace Pluemacher	Analyzing Circadian Disruption When Reading a Book on a Blue Light-Emitting Device vs. Reading a Paper Book Before Bedtime
I BSS 9 Loc. 62	Hannah Poulos	Generational Perceptions of Technology-Related Companies
I BSS 10 Loc. 63	Kellie E Cochran	How Human Behaviors Are Altered By Refraining From Social Media For A Week
I BSS 11 Loc. 64	Zachary T Todd	The Effect Music Subconsciously has on Walking Patterns and How It Relates the Presence of Music in One's life

Upper BSS

U BSS 1 Loc. 65	Thomas Apostolico	The Effect Color Has On Perceived Tastes In Human Participants
U BSS 2 Loc. 66	Sunny Liang	Tackling Future Female Underrepresentation in STEM: The Effect of STEM-focused High School Environments on the Gender-Science Bias of High Schoolers
U BSS 3 Loc. 67	Maggie R Murphy	Effect of Hurricane Sandy on New Jersey Citizen's Opinions on Taxation Compared to Improved Coastal Protection
U BSS 4 Loc. 68	Theodore H Nguyen	The Effect of Ethanol Pre-exposure on Ethanol Preference in <i>C. elegans</i>
U BSS 5 Loc. 69	Alyssa M Thomas	The Effects of Caffeine and Whey Protein on Alcohol-Induced Impairment in <i>C. elegans</i>

U BSS 6 Loc. 70	Maria V Downey	The Effect of an Increased Proficiency in the English Language on a Non-Native English Speaking Country's Economy through the Lens of Globalization
U BSS 7 Loc. 71	Daniel Yuan	The Effect of Word Choice on the Outcome of Online Arguments
U BSS 8 Loc. 72	Sarah L Quigley	The Analysis of the Effectiveness of the Marketing Strategy of Colleges on High School Students
U BSS 9 Loc. 73	Matthew A Rondinella	Effects of L-Tyrosine and Exercise on Parkinson's Disease (PD) Locomotory Symptoms in Mutant WLZ1 <i>Caenorhabditis Elegans</i>
U BSS 10 Loc. 74	Angelina S King	The Role of Dopamine in the Behavior of <i>C. elegans</i> and the Efficacy of Levodopa as a Treatment
U BSS 11 Loc. 75	Emily A Brennan	To What Extent do Phonemes Differ Within the Lacey Township High School Community?
U BSS 12 Loc. 76	Abigail C Smith	Warped Words and the Stroop Effect

Biochemistry - BCH

Junior BCH

J BCH 1 Loc. 77	Alexandru Constantinescu	Does The pH of Foods Change When Ingested?
J BCH 2 Loc. 78	Jadyn S Buccilli	Pill Power! Dissolving Pills in Different Beverages
J BCH 3 Loc. 79	Lily R Ferriola	Under the Sea: Effects from Ocean Acidification on Brine Shrimp Population
J BCH 4 Loc. 81	Ethan A Dustman	Mummy Jerky
J BCH 5 Loc. 82	Hansika H Dorai	How Does the Temperature Affect the Reaction of Luminol for the Amount of Light Produced?
J BCH 6 Loc. 83	Cristina L Flatley	Does the Strength of the Acidity Affect the Decalcification of an Egg Shell?
J BCH 7 Loc. 84	Gi Shomali	Which Food Stores The Most Chemical Energy?
J BCH 8 Loc. 85		Does the type and amount of light affect the rate at which mold grows?
J BCH 9 Loc. 86	Mollie M Prokop	Do Different Types Of Water-Based Mixtures Affect How Long Cut Flowers Stay Fresh?
J BCH 10 Loc. 87	Meaghan E Weatherstone	Does the type and amount of light affect the rate at which mold grows?
J BCH 11 Loc. 88	Kaitlyn N Culbert	Can Aloe Vera Juice Save Your Berries From Molding?
J BCH 12 Loc. 89	Megan E Maguire	The Nature of Paper Chromatography
J BCH 13 Loc. 90	Analise I Myles	How to Remove the Smell of Pepe Le Pew Odor
J BCH 14 Loc. 91	Bill P Beyers	Fat in your Food
J BCH 15 Loc. 92	Benjamin J Lord	The Biogas Race

Intermediate BCH

I BCH 1 Loc. 93	Deepak Gopalakrishnan	Exploring the Effect of Stereoisomeric Identity on the Insulin Receptor Binding Affinity of Chaetochromin
I BCH 2 Loc. 94	Abhay V Rao	The Effects of Beetroots on Oxygenation in Living Organisms.
I BCH 3 Loc. 95	Diya Jariwala	A Novel approach to the modification of dinoflagellates' ability to produce bioluminescence.
I BCH 4 Loc. 96	Angelina M Maffei	The Effects of Hydrogen Peroxide Concentrates on the Reaction Rate of Catalase
I BCH 5 Loc. 97	Gwen V Ericson	Synergistic Effects of Essential Oils and Olfactory Lures as Attractive Toxic Sugar Baits (ATSBs) on <i>Culex</i> and <i>Aedes</i> Species

Upper BCH

U BCH 1 Loc. 98	Daniel B Tobengauz	Effects of Vitamin K1 on the Dissolution of Bone Enamel
U BCH 2 Loc. 99	Marissa Frusteri	The Effects of Higher Levels of GABA on the Local Motion and Activity and Female Fertility, of Drosophila with and without the Bacteria Wolbachia aft
U BCH 3 Loc. 101	Annika Agarwal	A Novel Method: Sunscreen Infused with Phenolic Compounds derived from Fruit Sources as a Protectant from Ultraviolet Radiation in C. elegans
U BCH 4 Loc. 102	Cameron H Jengo	The Promotion of Longevity Through the Influence of Nicotinamide Riboside and Resveratrol in D. melanogaster in Discovering an Alternative to the Eff
U BCH 5 Loc. 103	Sharon Xu	A Comparative Analysis of DPPH Radical Scavenging Activity in Enzymatic and Nonenzymatic Antioxidants
U BCH 6 Loc. 104	Rebecca Mastrola	Mosquito Attraction to Apocrine and Endocrine Gland Secretions
U BCH 7 Loc. 105	Emily Liu	Click Capture: Synthesizing Magnetic Bead and Probe Sets To Optimize Hybridization Capture Using Click Chemistry for Next Generation Sequencing
U BCH 8 Loc. 106	Ryan D McCarthy	Relationship of pollutant levels in organisms versus organism size
U BCH 9 Loc. 107	Yaseen Zaky	Mercury analysis for sediments along the transect for the proposed Transco Pipeline

Botany - BOT

Junior BOT

J BOT 1 Loc. 108	Caroline I Bruno	How Does Fertilizer Affect Plant Weight?
J BOT 2 Loc. 109	Jasmine Chen	How do Different Composts Affect Plants?
J BOT 3 Loc. 110	Kylie M Ciccozzi	What Liquid do Plants Grow Best in?
J BOT 4 Loc. 111	Timothy H Le	Different Lights, Different Heights
J BOT 5 Loc. 112	Maximilian K Smilevski	What is the effect of different soils on plants?
J BOT 6 Loc. 113	Macyn E Hattman	Effect of Zinc on Pea Plants
J BOT 7 Loc. 114	Faith J Pacquing	The Effect of Earthworms On Plant Growth
J BOT 8 Loc. 115	Thomas R Easterday	What Is The Effect Of Gravity on Root Growth?
J BOT 9 Loc. 116	Lauren D Piskun	Let it Grow
J BOT 10 Loc. 117	Austin R Fisher	Sour Soil
J BOT 11 Loc. 118	Naren R Pedirappa	What is the Effect of Cellphone Radiation on the Germination and Growth of Watercress Seeds?
J BOT 12 Loc. 119	Sydney Thomas	The affects of homemade compost vs. fertilizer on grass height
J BOT 13 Loc. 121	Iris Dyczok	Soil affects the growth rate of grass
J BOT 14 Loc. 122	Gianna Mirto	Which Have More of an Effect on Plant Growth - Coffee, Caffein Tablets, or Fertilizer
J BOT 15 Loc. 123	Madolyn Hay	What Liquids Keeps Cut White Daisies Healthy for the Longest?
J BOT 16 Loc. 124	Lindsey Weppler	How Does the Level of Chlorine in Water Affect the Rate or Percentage of Seed Germination?
J BOT 17 Loc. 125	Reed E Loney	Does a pineapple grow best in sand, soil, or water?
J BOT 18 Loc. 126	Aashka Patel	Does The pH Level Of Water Affect The Growth Of a Bush Bean?
J BOT 19 Loc. 127	Lea V Gatpolintan	Does Adding Sugar to a Plant Affect its Growth?
J BOT 20 Loc. 128	Lidhu S Arakkal	The Effect of Substrates in a Nutrient Film Hydroponic System
J BOT 21 Loc. 129	Caitlin E Houck	21st century horticulture
J BOT 22 Loc. 130	Julia E Brown	Viva La Soil

Intermediate BOT

I BOT 1 Loc. 131	Arsh Singhal	The Effect of Hydroponic Farming vs. Traditional Soil Systems on the Biomass of Lettuce Plants (<i>Lactuca sativa</i>)
I BOT 2 Loc. 132	Roy L Chen	The Effect of Different Methods of Irrigation on the Growth of <i>Brassica rapa</i>
I BOT 3 Loc. 133	Kayla N Myklebust	The Effects of Different Sound Frequencies on Germination of Lima Bean Seeds (<i>Phaeolus lunatus</i>)
I BOT 4 Loc. 134	Julia Wepler	The Effect of pH on the Photosynthetic Rates of <i>Zostera Marina</i>
I BOT 6 Loc. 135	Julietta M Onofrietti	The Effects of <i>Mangifera indica</i> and <i>Cinnamomum zeylanicum</i> Evergreen Tree Bark Extracts on Oral Bacteria Causing Caries and Periodontal Disease

Upper BOT

U BOT 1 Loc. 136	Claudia C Schreier	Demonstrating the Performance of Biofertilizer Derived from Algae Through an Analysis of Dune Grass Health
U BOT 2 Loc. 137	William T Davis	Correlation between <i>Carex kobomugi</i> and dune profiles and biodiversity at Sandy Hook, New Jersey
U BOT 3 Loc. 138	Luke J Grasso	Population assessment of Seabeach Amaranth on Sandy Hook, NJ in relation to human activity.
U BOT 4 Loc. 139	Jaime V Plumaker	Comparison of population of <i>Carex kobomugi</i> on Sandy Hook, NJ pre- and post-hurricane
U BOT 5 Loc. 141	Anisha Singh	Sandy Comparison of the Barcoded Sequences of Anthocyanin Induced by the CHS, F3H and DFR Genes in Eggplants
U BOT 6 Loc. 142	Annie Cao	Coagulative and Antibacterial Properties of <i>Moringa oleifera</i> for Sustainable Water Clarification
U BOT 7 Loc. 143	Reina M Samuel	The Effect of <i>Punica granatum</i> and <i>Melaleuca alternifolia</i> Oil on Wild-type and Mutant Strains of <i>Arabidopsis thaliana</i> Infected with <i>Fusarium oxysporum</i>
U BOT 8 Loc. 144	Carrie A Spexarth	Absorbtion Rates of Various <i>Lemna</i> Minor Controls
U BOT 9 Loc. 145	Erin O Quinn	The efficiency of <i>Aloe barbadensis miller</i> , <i>Cocos nucifera</i> , and <i>Sesamum indicum</i> in preventing root damage due to ultraviolet light in <i>A. thaliana</i>
U BOT 10 Loc. 146	Andrew M Beck	The Effect of Herbicides on the Barnegat Bay Ecosystem
U BOT 11 Loc. 147	Claudia Zhang	Production of Bioplastics from Duckweed
U BOT 12 Loc. 148	Eesha Balar	Determining the Effects of pH Levels on <i>S. capricornutum</i> Growth and Algae Concentrations on <i>A. thaliana</i> Root Length

Chemistry - CHM

Junior CHM

J CHM 1 Loc. 149	Madeleine R Stetser	What is the Effect of Water Temperature on Buoyancy
J CHM 2 Loc. 150	Connor A Nardiello	How Does the Salt Concentration Affect the Buoyancy of an Egg?
J CHM 3 Loc. 151	Khushi R Faldu	How Does the Temperature Affect the Reaction Rate of Alka- Seltzer?
J CHM 4 Loc. 152	Ian G Mendoza	Burn Baby Burn
J CHM 5 Loc. 153	Jack Harjes	Melting speeds of different common de-icing salts
J CHM 6 Loc. 154	Aidan Martenson	Does adding substance to diet coke increase reaction?
J CHM 7 Loc. 155	Jonalex Rios	Does temperature affect how long a battery will last?

J CHM 8 Loc. 156	Jenna Spadaro	Does the pH level of a liquid affect how long it takes for metal to rust?
J CHM 9 Loc. 157	Gianna M Schenck	Does the level of pH change if the source of water is changed?
J CHM 10 Loc. 158	Meghan Lord	How Does Surface Temperature Affect the Clarity of Fingerprints?
J CHM 11 Loc. 159	Anthony Billotti	Does Electricity Change the pH Level of Water?
J CHM 12 Loc. 161	Kristen Wepler	Which kind of Apples Changes Most in Beneficial or Non-beneficial Ways After Being Removed from Cold Storage?
J CHM 13 Loc. 162	Gemma N Modugno	Which Solution Will Allow a Bubble to Stay in the Air the Longest?
J CHM 14 Loc. 163	Alyanna Frias	Does the juice of different citrus fruits affect the speed of oxidation in apples?
J CHM 15 Loc. 164	Adrian Wil Perono	Does Storage Temperature Affect Orange Juice's Acidity?
J CHM 16 Loc. 165	Rayane Cherifi	Iron Oxidation: Measuring the Rate of Oxygen in Air
J CHM 17 Loc. 166	Lisa Cherifi	Separating Mixtures
J CHM 18 Loc. 167	Madden Fuscellaro	Do Mints Cool a Glass of Warm Water?
J CHM 19 Loc. 168	Makayla A Cummis	What Affects the way a Bath Bomb Fizzes
J CHM 20 Loc. 169	Selena Yee	Longest Lasting Nail Polish
J CHM 21 Loc. 170	Fay A DeBlasio	Staining Wood with Steel Wool and Vinegar
J CHM 22 Loc. 171	Zuzanna Turska	Does Freezing Fruit Affect How Much Juice You Get?

**Intermediate
CHM**

I CHM 1 Loc. 172	Nishtha Dandriyal	Testing a Low Cost, Student Built Calorimeter
I CHM 2 Loc. 173	Benjamin C Lin	Testing the Tensile Strength of Bioplastics Made from Varying Plant Starches
I CHM 3 Loc. 174	Mason J Melito	THE EFFECT WATER ELECTROLYSIS HAS ON ALUMINUM, STEEL, IRON, AND ZINC IN CORROSION
I CHM 4 Loc. 175	Emma G Cartnick	The Aftereffect of Carbon Dioxide Intake on the pH Level of the Ocean
I CHM 5 Loc. 176	Ava Kennedy	Will Promega Brand Diamond Nucleic Acid Dye Visualize Latent DNA?
I CHM 6 Loc. 177	Sarah J Flanagan	Chemistry behind baking
I CHM 7 Loc. 178	Aidan E Beelitz	The Effect of Temperature over an Extended period of time
I CHM 8 Loc. 179	Ishika Patel	Is there a relation between specific heat and density?
I CHM 9 Loc. 181	Elise Fitzpatrick	Which athletic fabric will allow the most evaporation of moisture?

Upper CHM

U CHM 1 Loc. 182	Jara P Seavey	Coca-cola as a cleaner
U CHM 2 Loc. 183	Sourish Jasti	Low-Cost And Effective Wastewater Purification: Removal of Heavy Metal Ions In Wastewater Using Waste Biosorbents
U CHM 3 Loc. 184	Kate E Killian	The Effect of Hydrophobic Coatings on Saltwater Corrosion Prevention Techniques
U CHM 4 Loc. 185	Erin T Murphey	Feasibility of Desalination using an Electrodialysis Filter

Computer - COM

Junior COM

J COM 1 Loc. 186	Adrian E Limowski	The Smartest Tool in the Shed: Programming an Arduino Microcontroller to Control Heat and Humidity
J COM 2 Loc. 187	Daisy J Loges	Coding a Game for the Blind
J COM 3 Loc. 188	Charles R Tees	How Do Different Building Materials Affect Wireless Connectivity Strength?
J COM 4 Loc. 189	Ryan N Vanderhoff	PING pong
J COM 5 Loc. 190	Vaughn Dowdy	PICK3R UPP3R
J COM 6 Loc. 191	Olivia Fraticelli	What Method of Digital Compression Takes Up the Least Amount of Space on the Hard Drive?
J COM 7 Loc. 192	Nathanael Gaw	Music Box
J COM 8 Loc. 193	Jatin R Punjabi	Is your password strong?
J COM 9 Loc. 194	Ben R Capp	Materials That Block Wifi Signals

Intermediate COM

I COM 1 Loc. 195	Arya K Tschand	Effectiveness of Micro-Irrigation Controlled by Artificial Intelligence Software Vs. Human Watering on Spinacia oleracea Growth
I COM 2 Loc. 196	Bradley Xu	Comparing the room navigation capabilities of simulated robots
I COM 3 Loc. 197	Thomas J Makin	An Analysis of the Differences in Electronic Device Geolocation Accuracy Using Network Ping vs. Global Positioning System
I COM 4 Loc. 198	Isaac Buckman	Using Information Set Monte Carlo Tree Search (ISMCTS) to Play the Imperfect Information Game of 4-Player Dominoes

Upper COM

U COM 1 Loc. 199	Jack C Kelly	Predictive Habitat Modelling of Illex illecebrosus
U COM 2 Loc. 201	Len G Huang	Sentiment Analysis of Text Reviews Compared to Respective Star Ratings
U COM 3 Loc. 202	Rohan Agarwal	Computer Vision and Artificial Intelligence Integrated Eye Glasses to Aid the Memory and Visually Impaired
U COM 4 Loc. 203	Michael G Dasaro	Remediating FTP Security Gap on Windows 10 by Scanning Files with Windows Defender Immediately Following Download
U COM 5 Loc. 204	Charles D Roth	Analysis of the Effects of Network Encryption on Performance
U COM 6 Loc. 205	Aparna Kumar	Insta-Graph: Predicting the Optimal Type of Graphic for Data Using Machine Learning
U COM 7 Loc. 206	Jonathan N Marty	Using Variational Autoencoders for Image Search on Ancient Roman Coins
U COM 8 Loc. 207	Ananth Y Koppol	Developing a Computationally Efficient Model for Real-Time Emotion Detection
U COM 9 Loc. 208	Isaac G Edelhauser	Traffic Simulator
U COM 10 Loc. 209	Joey G Sabarese	Demonstrating Harmonic Motion
U COM 11 Loc. 210	Cyrus Majd	Investigating the Robustness of Synchronous and Asynchronous Software Systems with Denial of Service Buffer Overflow Attacks

Consumer Science - CSC

Junior CSC

J CSC 1 Loc. 211	Rachel E Martucci	Store Brand vs. Name Brand Taste Off
J CSC 2 Loc. 212	Kalel A Mercado	Which brand of hand sanitizer is more effective?
J CSC 3 Loc. 213	Mark A Ware	How Does Price Affect Perception of the Product?
J CSC 4 Loc. 214	Adrianna A Geraci	Marketing With Some Sense
J CSC 5 Loc. 215	Zachary Borden	Absorbency 101: Which Brand of Paper Towels Absorbs The Best?
J CSC 6 Loc. 216	Danay C Woods	Testing the pH level of different brands of water
J CSC 7 Loc. 217	Nicholas Mueller	Does a sea sponge absorb a greater amount of water than a manufactured sponge?
J CSC 8 Loc. 218	Shealyn Anderson	Does the brand of sponge affect amount of water absorbed?
J CSC 9 Loc. 219	Venisse Rae A Mandanas	Are environmentally-friendly cleaning products as effective as commercial cleaning products?
J CSC 10 Loc. 221	Mason Clinton	Does Expired Sunblock Still Work?
J CSC 11 Loc. 222	Emma Klina	Which Brand of Surfboard Wax Has the Most Grip?
J CSC 12 Loc. 223	Andrew Cagliostro	Which Brand of Egg Has the Strongest Shell?
J CSC 13 Loc. 224	Steven M Flynn	Eat or Retreat
J CSC 14 Loc. 225	Jack A Marro	Does the brand of vanilla ice cream affect its melting time?
J CSC 15 Loc. 226	Iliana M Vasslides	Do Different Brands of Popcorn Leave Different Amounts of Unpopped Kernels?
J CSC 16 Loc. 227	Madison C Fossa	Which brand of toilet paper will be the strongest out of the brands Scott, Charmin, and Stop and Shop?
J CSC 17 Loc. 228	Justin T Orlando	Which Commercial Water Filter Filters Dissolved Solids the Best?
J CSC 18 Loc. 229	James Haney	Which Potato Chip Brand is the Greasiest
J CSC 19 Loc. 230	Brendan Bradley	Which Takes Better Photos: iPhone Vs. Nikon
J CSC 20 Loc. 231	Gabriel Queen	Which Paper Towel is the Most Absorbent?
J CSC 21 Loc. 232	Jaxon Grauel	Most Flammable Cloth
J CSC 22 Loc. 233	Maggie Donahue	Which Hair Spray Holds up Better?
J CSC 23 Loc. 234	Ryan McGrath	Which Hand Sanitizer Kills the Most Bacteria
J CSC 24 Loc. 235	Riley J Kott	specialty coffee a glucose crime
J CSC 25 Loc. 236	Emily M Brittin	Does One Rotten Banana Ruin the Whole Bunch?
J CSC 26 Loc. 237	Asliah Nobah	What happens when sodium polyacrylate contacts with water, and how would different amounts affect the viscosity?

Earth and Space Science - ESS

Junior ESS

J ESS 1 Loc. 238	Ericka N Lorenzo	How does the amount of salt in water affect buoyancy?
J ESS 2 Loc. 239	Andrea L Loayza	To erode or not to erode
J ESS 3 Loc. 241	Jazmin M Lugo	Curiosity In Porosity: The Affect Of Rock Types On Porosity
J ESS 4 Loc. 242	Arushi S Patel	How Does Water Depth Affect Wave Velocity?
J ESS 5 Loc. 243	Nicholas G Cunha	Telescope Design
J ESS 6 Loc. 244	Athena Emnace	How Does A Comet's Size Affect How Fast It Melts?
J ESS 7 Loc. 245	Chrisie C Stankowitz	Which Ground Material Will Hold A Structure Best During An Earthquake?
J ESS 8 Loc. 246	Skylar Warren	Making Crystals Out of Salt
J ESS 9 Loc. 247	Alex Newby	It's All Downhill From Here

J ESS 10 Loc. 248	Sierra R Nanfara	How Does the Size of a Meteorite Affect the Impact it Leaves Behind?
J ESS 11 Loc. 249	Debra A Sommers	How Does the Size of a Comet Affect How it Melts?

Intermediate ESS

I ESS 1 Loc. 250	Emily G Baubinas	The Effects of Seasonal Changes on Soil in the Pine Barrens
I ESS 2 Loc. 251	Juliet E Slota	The Effect of Composition, Iron, Organics, and pH on Moisture Potential and Soil Conductivity
I ESS 3 Loc. 252	Ethan J Kerr	Accurately Predicting the Short-Term Intensity of Tropical Cyclones
I ESS 4 Loc. 253	Emily E Byrne	The Effect Of Sea Spray On Precipitation Amounts Throughout Central New Jersey
I ESS 5 Loc. 254	Madison Surette	The Effects of Beach Erosion Observed Through Profiling
I ESS 6 Loc. 255	Autumn J Newman	An improved method for determining percent coverage using imaging software
I ESS 7 Loc. 256	Todd W Ferry	The Effect of Eisenia Fetidas' Diet on the Nutrients They Release Into the Soil

Upper ESS

U ESS 1 Loc. 257	Lea E Burton	The Erosion of Sedge Island: Plant Density and Elevation
U ESS 2 Loc. 258	Sameer V Erramilli	Speeding Up the Planet Search: A Comparison of Optimization Methods in Exoplanet Detection
U ESS 3 Loc. 259	Jay I Holland	Alternate Materials Demonstrating Cerenkov Radiation
U ESS 4 Loc. 261	Matthew N Brodsky	Analysis of Hurricane Generated Storm Surge
U ESS 5 Loc. 262	Amy R Fullington	The Chemical Composition of Cedar Bonnet Island Soil
U ESS 6 Loc. 263	Justin A Zhang	Building With Nature (BwN): Analyzing the Effect of Street Trees on Net Vehicle CO2 Emissions in Urban Areas
U ESS 7 Loc. 264	Emma M Riley	SUCCESS RATE OF MALACLEMYS TERRAPIN TERRAPIN NESTS BASED ON SOIL COMPOSITION, MOISTURE, AND ORGANIC CONTENT AT BARNEGAT BAY, NJ

Engineering - ENG

Junior ENG

J ENG 1 Loc. 265	Marc A Levine	Water Will Light Up Your Day!
J ENG 2 Loc. 266	Nevaeh Y Blocker	In A Galaxy Far, Far Away
J ENG 3 Loc. 267	Giavanna M Cortese	This Drain is Meant for Rain
J ENG 4 Loc. 268	Raegan A Simon	Build a Bridge and Get Over It!!!
J ENG 5 Loc. 269	Vincent C Alley	We're Going to Need A Better Boat
J ENG 6 Loc. 270	Tyler Lam	The Battery Died AGAIN.
J ENG 7 Loc. 271	Kaitlin S Riley	Nike's Victory
J ENG 8 Loc. 272	Jonathan Joseph	Making a Water Filter out of Everyday Items
J ENG 9 Loc. 273	Salaar Iftikhar	Electro-magnet-tricity
J ENG 10 Loc. 274	Marcus A Sarao	Clean H2O Is The Way To Go!
J ENG 11 Loc. 275	Eva Kuri	The effects of dam sizes on number of turbine rotations
J ENG 12 Loc. 276	Joshua Rhine	Do axles affect the speed of a pinewood derby car?
J ENG 13 Loc. 277	Rebecca Foytlin	The arm lengths affect on a projectiles distance using a trebuchet
J ENG 14 Loc. 278		Does the shape of a blade on a wind turbine affect how much electricity it generates?

J ENG 15 Loc. 279	Jericho R Lagayada	Does the shape of a blade on a wind turbine affect how much electricity it generates?
J ENG 16 Loc. 281	Isabella Chiaravallo	Which Type of Insulation is the Most Affected By Water?
J ENG 17 Loc. 282	Blake A Jankowski	What materials will block a RFID signal?
J ENG 18 Loc. 283	Christopher E Thomas	Magnet Braking
J ENG 19 Loc. 284	Vansh Kumar	Does A Parabolic Reflector Help Focus WiFi Signal Strength?
J ENG 20 Loc. 285	Chaily E Burgis	Solar Powered Phone Charger
J ENG 21 Loc. 286	Daniele Sanzone	Rube Goldberg Machine
J ENG 22 Loc. 287	Dane A Yanusz	Crazy Cat Launchers
J ENG 23 Loc. 288	Clara Brust	Hamster Power
J ENG 24 Loc. 289	Kaden Boyle	Awesome Aerodynamics
J ENG 25 Loc. 290	Saanvi E Mehta	Cellphone Anti-Radiation Case
J ENG 26 Loc. 291	Nola Lookenbill	Cymatics and the Science Behind It
J ENG 27 Loc. 292	Allison Amadio	Makeshift Movie Theater
J ENG 28 Loc. 293	Chloe J Arnold	Which of These Low Cost Materials Will Block Out Sound Most Efficiently?
J ENG 29 Loc. 294	Blanca Rivera	Skippy
Intermediate ENG		
I ENG 1 Loc. 295	Grace K Thompson	Designing And Constructing A Solar Powered Irrigation System For Environmental Sustainability
I ENG 2 Loc. 296	Marissa P Teitelbaum	Alteration of Bicycle Handlebar Grip Design to Decrease Impact Force as Measured by Depth of Penetration into Home-Made Ballistic Gel
I ENG 3 Loc. 297	Suhani Balachandran	Comparing the Effectiveness of a Lab-Grade Shaker to a Student-Built Device
I ENG 4 Loc. 298	Lasya A Balachandran	The Effect of Silicone Skin on Prosthetic Hand Sensation
I ENG 5 Loc. 299	Natalie L Radu	Correlation Between Material Integrated in the Tailplane of Rubber Band Powered Free Flight Glider and Endurance Time
I ENG 6 Loc. 301	Abigail E Gredell	Amount of Force Different Airplane Wing Spar Designs Can Withstand
I ENG 7 Loc. 302	Jeffrey Z Min	Building and Testing a Lego Polymerase Chain Reaction Thermal Cyclor
I ENG 8 Loc. 303	Faith E Schmidt	Oil Based Vs. Water Based
I ENG 9 Loc. 304	Abigail A McIntyre	better equipment = better batters?
I ENG 10 Loc. 305	Adam G Goos	What Packaging Materials do the Best in Protecting Glass?
I ENG 11 Loc. 306	Joseph T Marchese	What types of sole materials and patterns are the most efficient when preventing slippage on a wet surface?
I ENG 12 Loc. 307	Sophia Grace A Capili	Simulating Red and White Muscles Using Networks of Identical, Linear Artificial Muscle Units
Upper ENG		
U ENG 1 Loc. 308	Amanda S Ahteck	"A Novel Low Cost Resistive Soft Crochet Stretch Sensor As Applied to a Wearable Bluetooth Keyboard Text Input Device - midiKEY"
U ENG 2 Loc. 309	Alec B Goldberg	Renewable Energy: Fabrication and Efficiency
U ENG 3 Loc. 310	Kelly V Qiang	Determination of a Heliotropic Solar Panel Modeling the Motion of a Multi-Segmented Caterpillar Model Using Soft Robotics

U ENG 4 Loc. 311	Leonora M Krajewski	The feasibility of a wind powered kite sail on reducing cargo ship fuel consumption on a voyage from shanghai to LA
U ENG 5 Loc. 312	Thomas E Petr	An Electromagnetic Safety System to Prevent Semi-Truck Rollovers
U ENG 6 Loc. 313	David S Wu	New Braced Frames for the Future of Construction
U ENG 7 Loc. 314	Dalton Kaye	Piezoelectric Stair Tread
U ENG 8 Loc. 315	Dung Nguyen	Fabrication and Evaluation of a Nanocellulose-based Film for Food Packaging and Preservation
U ENG 9 Loc. 316	Shannon A Culbert	The Development and Characterization of Polystyrene-High Density Polyethylene Polymer Composites
U ENG 10 Loc. 317	Jake P Findlow	Possible Solutions To Plastic Pollution Through ROVs

Environmental Science – ENV

Junior ENV

J ENV 1 Loc. 318	Evan Uriel S Solomon	Dioxide Defender
J ENV 2 Loc. 319	Isabella M DeCosta	Decomposing Straws in Soil
J ENV 3 Loc. 321	Rebecca Shin	How Does the Environment Affect the Amount of Surviving Daphnia?
J ENV 4 Loc. 322	Rylee Hussey	Grass Height Affected by Acid Rain in Ocean County, NJ
J ENV 5 Loc. 323	Brady Krohn	Does the rate at which water evaporates change when mixed with different soil types?
J ENV 6 Loc. 324	Ava McNabb	What effect will different metal pipes have on water?
J ENV 7 Loc. 325	Priyanka Gupta	Can solids flow like liquids?
J ENV 8 Loc. 326	Jordan Motyka	Do Hurricanes Cool Oceans?
J ENV 9 Loc. 327	George I Nammour	Dancing Balls
J ENV 10 Loc. 328	Sean Boag	Can Sand Be Arranged to Make Bay Shores Last Longer?
J ENV 11 Loc. 329	Tommy Pham	Can solar energy desalinate saltwater?
J ENV 12 Loc. 330	Puja R Gandhi	Save While You Shop!
J ENV 13 Loc. 331	Angelina J Tadros	Plastic Ain't So Fantastic
J ENV 14 Loc. 332		water filter
J ENV 15 Loc. 333	Dayna N Steinman	Will Dawn Save Our Oceans?
J ENV 16 Loc. 334	Neha R Patel	Water Filter
J ENV 17 Loc. 335	Samantha M Irwin	The Florida Red Tide
J ENV 18 Loc. 336	Alexandra N Lopez-Diaz	Homemade Water Filter

Intermediate ENV

I ENV 1 Loc. 337	Alyssa C Costello	Effects of Oyster Creek Nuclear Generating Station Shutdown on Inflow and Outflow
I ENV 2 Loc. 338	Fiona Cheng	The Effect Of Active Ingredients In Sunscreen On Amphidinium Dinoflagellate Mortality
I ENV 3 Loc. 339	Eric F VonColln	Can 40 Aluminum Cans Heat A Room
I ENV 4 Loc. 341	Daniel E Wang	Utilizing Flocculated Hair in the Remediation of Oil Spills
I ENV 5 Loc. 342	Annabel S Bornebusch	The Effects of Rain Storms on the Water Quality of a Stream in a Coastal Environment
I ENV 6 Loc. 343	Michael J Hudak	Analysis Of Pine Lake's Tributaries And How They Affect Its Water Quality
I ENV 7 Loc. 344	Kayla L Murdock	Humans, Swimming, and Bacteria in Harry Wright Lake, Whiting, NJ
I ENV 8 Loc. 345	Isabella G Cozzone	The Testing of Barnegat Bay Lagoons for Water Quality and Bacteria
I ENV 9 Loc. 346	Jillian M Peslak	Determining the Effects of the Canada Goose, Branta Canadensis, on Pine Lake

I ENV 10 Loc. 347	William T Zylinski	Utilizing Escherichia coli to Predict Storm Drain Runoff in a Marine Environment
I ENV 11 Loc. 348	Makana R Steinmetz	Using Aquaponics to Determine the Most Effective Biological Filter
I ENV 12 Loc. 349	Charlotte S Selover	The Effects of Salinity on Tomato Plant Growth
I ENV 13 Loc. 350	Elise M Davis	Comparing the Nutrient Runoff of Chemical and Organic Fertilizers
I ENV 14 Loc. 351	Giovanna M Onofrietti	Bioengineering E. coli to produce safer dyes

Upper ENV

U ENV 1 Loc. 352	Eric J McGivney	Study of the Rate of Degradation of Crab Pot Bycatch Reduction Devices
U ENV 2 Loc. 353	William P Perry	New Jersey Horseshoe Crab Population Analysis
U ENV 3 Loc. 354	Aidan J Raheb	The fluctuation in population of bluefish, Pomotamous saltatrix, and varying cohort prevalence with relation to estuary conditions.
U ENV 4 Loc. 355	Hayley R Flanagan	The effect of the presence of oyster castles on biodiversity and abundance in a local estuary
U ENV 5 Loc. 356	Elizabeth J Callahan	Ocean Acidification Effects on Larval Limulus Polyphemus
U ENV 6 Loc. 357	Carlee S Dunn	Assessing the Relationship Between Fiddler Crabs and Marsh Grasses
U ENV 7 Loc. 358	Trent W Algayer	The Correlation Between Recycling Legislation/Available Programs, and Measured Marine Litter
U ENV 8 Loc. 359	Astrid E D'Andrea	The correlation between habitat type and Piping Plover (Charadrius melodus) reproductive success
U ENV 9 Loc. 361		The effect of using hand sanitizer after drying hands with a hand dryer
U ENV 10 Loc. 362	Anika Patel	Sunscreen vs. Sunblock, how UVA vs. UVB rays affect tanning patterns and skin cancer protection
U ENV 11 Loc. 363	Gad E Raganas	Microplastics and the Microbiome
U ENV 12 Loc. 364	Steven J Holmberg	The Effectiveness of Bycatch Reduction Devices (BRDs) on Reducing Bycatch Without Reducing Crab Pot Efficiency
U ENV 13 Loc. 365	Teresa M Brostow	Analysis of Effects of Location and Weight of Crab Pot Movement in Barnegat Bay
U ENV 14 Loc. 366	Sanjit Basker	The Ability of Aquatic Plants to Bioremediate Excess Nutrients from Water, as Measured by the Effect on Heart Rate on Daphnia magna
U ENV 15 Loc. 367	Kate M LaVallee	Comparison of Estuarine Habitat Types and Species Size in Barnegat Bay
U ENV 16 Loc. 368	Daphne Yang	Optimizing a DIY Ant Bait
U ENV 17 Loc. 369	Bella J Yedman	An Analysis of Dune Composition from Ammophila b. and Carex k. Locations
U ENV 18 Loc. 370	Kristal R Stahler	Location, Weather and Air Pollution
U ENV 19 Loc. 371	Alaina A Young	Do Plants Stop Soil Erosion?
U ENV 20 Loc. 372	Margaret S Patterson	Hydroponic Water Filtration
U ENV 22 Loc. 373	Riley Plosica	Degradation of environmental DNA of Black Sea Bass (Centropristus strata)
U ENV 23 Loc. 374	Mia Stapleton	Methylmercury analysis of Weakfish caught in Sandy Hook Bay
U ENV 24 Loc. 375	Jacob Sorrentino	Seasonal variation of Atlantic Silversides and relationship to egg size
U ENV 25 Loc. 376	John Lavelle	Comparing abiotic water quality measurements to E. coli counts and areas in the Navesink River

Mathematics - MAT

Junior MAT

J MAT 1 Loc. 377	Jack T Atwood	The Brachistochrone Does the angle of a drop of fake blood affect the shape of it's spatter?
J MAT 2 Loc. 378		Does a Single Letter Have the Potential to be the Best Letter to Guess with Based on its Statistical Occurrence in a Test?
J MAT 3 Loc. 379	Dhruv Parikh	Is there a Difference in the Distribution of Colors Between Different Types of M&M's?
J MAT 4 Loc. 381	Devon Safeer	The Natural Beauty of Math
J MAT 5 Loc. 382	Krishna v Patel	The Birthday Paradox
J MAT 6 Loc. 383	Colin Morrissey	

Intermediate MAT

I MAT 1 Loc. 384	Sheikh Mahmud	Developmental Mathematics: Can It Be Used To Acquire A Better Understanding of Specific Problems In Arithmetic?
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Upper MAT

U MAT 1 Loc. 385	Jason H Yan	A Mathematical Model Predicting The Outcome of the 2020 Electoral College
U MAT 2 Loc. 386	Frank A D'Agostino	Modeling the Barnegat Bay Utilizing Hydrodynamic Programs and Algorithms

Medicine and Health - MED

Junior MED

J MED 1 Loc. 387	Haylee Cass-Adams-Johnson	How's Your Hearing?
J MED 2 Loc. 388	Jonathan J Lopez	How do Warm-ups Affect Physical Performance?
J MED 3 Loc. 389	Ava E Carroll	The Effect of Vision on Balance
J MED 4 Loc. 390	Liam T Bridgeman	Does your nose help you taste?
J MED 5 Loc. 391	Liliana A Ortiz	The Effect Of Playing In The Orchestra On Hand Asymmetry
J MED 6 Loc. 392	Rachel A Yushan	Eyes or Ears: Does Age Affect Visual and Audio Reaction Time?
J MED 7 Loc. 393	Osariemen O Unuigbo	Peripheral Vision: Losing Degrees as You Age?
J MED 8 Loc. 394	Jacob K Wood	I Feel Your Heart Beat Beat To The Beat Of The Drums
J MED 9 Loc. 395	Dennis K Williams	The Distraction Action: Taking Your Mind Off Pain
J MED 10 Loc. 396	Samantha Morey	The effect of glucose in juice on blood sugar levels
J MED 11 Loc. 397	James Alexander	Does the repeated exposure of antibiotics affect bacterial resistance
J MED 12 Loc. 398	Jacob Ritacco	The effect of dipping chips on the quantity of bacteria growth.
J MED 13 Loc. 399	Olivia M Sullivan	How Does the Amount of Weight Affect How Much a Prosthetic Hand Can Lift and Hold?
J MED 14 Loc. 401	Anthony Ruggiero	Are Finger Print Patterns Inherited?
J MED 15 Loc. 402	Aliya Nagaria	Which Beverage Erodes Teeth The Most?
J MED 16 Loc. 403	Sofia Jurusz	Sugar, Sugar, Sugar!!
J MED 17 Loc. 404	ethan miral	Exercise vs. Blood Sugar
J MED 18 Loc. 405	Kiera Liu	Magnetic Healing
J MED 19 Loc. 406	Kayla B Cooper	Qualitative vs. Quantitative Investigations: Cranial and Pelvic Material

J MED 20 Loc. 407	Jared M Sheehan	Soluble Solution
J MED 21 Loc. 408	Brayden S Beloshapka	Fluoride: A Smoother Ride for your Teeth
J MED 22 Loc. 409	Shyna Kataria	How Much Sugar Do You Consume?
J MED 23 Loc. 410	Mia McColl	Women's Lacrosse Safety

Intermediate MED

I MED 1 Loc. 411	Nivedha Srinivasan	The Effect of Meditation on Concentration
I MED 2 Loc. 412		The Effect of Meditation on Concentration
I MED 3 Loc. 413	Emily Guan	The Effect of Aloe Vera Gel on the Strength of Human Scalp Hair
I MED 4 Loc. 414	Amisha Singh	The Effect of Turmeric, Black Pepper, and Fennel on the Bacterial Inhibition of Bacillus cereus
I MED 5 Loc. 415	Navya Malhotra	Inhibitory Capabilities of Natural Remedies for Halitosis: Cinnamon, Cardamom, and Fennel
I MED 6 Loc. 416	Abby L Stephens	The Effects of a Runner's Height on Certain Aspects of their Running Form
I MED 7 Loc. 417	Alexis Jankovich	Effective Ways to Diagnose Yellow Fever Prematurely Using Biomarkers
I MED 8 Loc. 418	Olivia M Takla	The Effect of Different Insole Cushioning Material on Posture and Gait
I MED 9 Loc. 419	Estelle R Balsirow	The Differences in Bacteria Between Woodwind Reeds
I MED 10 Loc. 421	Julianna Rose	The Efficiency of Varying Treatments for Bacterial Infections Caused by Escherichia coli
I MED 11 Loc. 422	Jeremy H Lesser	The Effectiveness of the Natural Proteases Papain, Bromelain, and Actinidin in DNA Extraction
I MED 12 Loc. 423	Emily I Jones	How Does Aerobic Exercise Effect the Short Term Memory of Middle School Students?
I MED 13 Loc. 424	Grace A Abbud	The Inhibition of Bell, Jalapeño, and Habanero Peppers on Bacillus cereus
I MED 14 Loc. 425	Lena C Dougherty	The Biochemistry of the Inner Ear as it Pertains to Meniere's Disease

Upper MED

U MED 1 Loc. 426	Ashlesha Thorat	The Effect of PARP Inhibitor BGB-290 on Glioma Stem Cell Proliferation
U MED 2 Loc. 427	Riya D Shah	The Effects of Aspartame on the Neurological Systems of C. elegans
U MED 3 Loc. 428	Vahn Mouradian	The Effect of the Mediterranean Diet on the Longevity and Motility of N2 C. elegans
U MED 4 Loc. 429	Logan Figular	The Effect DNase1, Fibrinolytic Enzymes, and Helichrysum Have on Blood Clot Samples From Mice
U MED 5 Loc. 430	Rhea Arya	The Effect of Common Food Additives on the Heart Rate of Daphnia magna as an Indication of Toxicity
U MED 6 Loc. 431	Kevin M Carragher	The Effect of Conventional Drugs on the Number of Thrashes per Minute in Caenorhabditis elegans
U MED 7 Loc. 432	Benjamin A Swinchoski	The Effect of Coenzyme Q10 on Locomotion of C. elegans with Beta-Amyloid Plaques in their Neurons
U MED 8 Loc. 433	Nia D Mallangada	The Effect of Benzodiazepines on their Rate of Decay of Concentration Over Time.
U MED 9 Loc. 434	Katherine G Liu	Virtual Screening Chemical Compounds to Discover EAAT2 Agonists for Trigeminal Neuralgia
U MED 10 Loc. 435	Ariel M Baiano	Developing a Novel Non-Reliance Posture Trainer
U MED 11 Loc. 436	Anna Priborkina	The Antimicrobial Activity of Garlic Against E. coli and B. subtilis in Comparison to Antibiotics

U MED 12 Loc. 437	Anne Chu	The Effect of Magnesium Chloride, Capsaicin, Blueberries, and Aspirin on the Tachycardia Heart Rate of Danio rerio Embryos
U MED 13 Loc. 438	Erica L Yasharpour	The Effects of Chronic vs. Short Term Treatments of Various Sleep Aids on the Duration of Seizures in <i>Caenorhabditis elegans</i>
U MED 14 Loc. 439	Yug R Yadava	The Effects of Increasing Steps per Week
U MED 15 Loc. 441	Hailey D Carskaddan	Nutrition's Effects on the Relative Risk for Coronary Artery Disease

Microbiology - MIC

Junior MIC

J MIC 1 Loc. 442	Bithania Andemariam	Are you putting on makeup or millions of tiny bacteria?
J MIC 2 Loc. 443	Sean P Ryan	How Does the Temperature of Water Affect the Amount of Carbon Dioxide Produced by Yeast?
J MIC 3 Loc. 444	Alek P Stein	Which Essential Oil Kills the Most Bacteria?
J MIC 4 Loc. 445	Isabella M Rossi	Disinfectants Friend or Foe
J MIC 5 Loc. 446	Lilian Raccuia	What Can We Learn About the Effects of Caffeine on the Heart from Studying <i>Daphnia</i> ?
J MIC 7 Loc. 447	Joey Roselli	What kind of oil is most easily degraded by naturally occurring bacteria?
J MIC 8 Loc. 448	Vivianna Onofrietti	Cranberry and Blueberry Extracts Ability to Act as Natural Therapeutic Agents to Inhibit Periopathogenic Bacteria <i>F. nucleatum</i>
J MIC 9 Loc. 449	Jennette Ziemba	Where the Bacteria Grows
J MIC 10 Loc. 450	Brenden McGrath	Does the 5 Second Rule Exist?
J MIC 11 Loc. 451		Back Off, Bacteria!
J MIC 12 Loc. 452	Enoguese Okao	Back Off, Bacteria!
J MIC 13 Loc. 453	Ayden O'Keefe	The Impact of Atmospheric Composition and the Hue of Light on <i>Chlorella</i>

Intermediate MIC

I MIC 1 Loc. 454	Emily R Downs	The Effects of Seasonal and Temperature Changes on <i>Escherichia coli</i> (<i>E. coli</i>)
I MIC 2 Loc. 455	Joshua S Rakovitsky	Investigating Growth of <i>Physarum polycephalum</i>
I MIC 3 Loc. 456	Margie H Monroe	What age group will cause the most bacteria to grow based on their cell phones?
I MIC 4 Loc. 457	Alexander J Cullen	That's the Last Straw
I MIC 5 Loc. 458	Danielle M Murat	Bacterial Analysis of Circulated Paper Currency
I MIC 6 Loc. 459	Lakshmi S Yannam	<i>Escherichia Coli</i> and Its Reaction to Various Essential Oil Treatments
I MIC 7 Loc. 461	Lana Van Note	Implications of Poly(1-phenylethylene) upon Generational Biodegradation Rates of <i>Pseudomonas</i> sp. in vitro
I MIC 8 Loc. 462		An innovative assessment of antibiotic effects on radioactive strains of bacteria.
I MIC 9 Loc. 463		An innovative assessment of antioxidant effects on radioactive strains of bacteria.
I MIC 10 Loc. 464		Microbiome Regeneration: Treating Radiation-Induced Dysbiosis Through Vitamin B-12
I MIC 11 Loc. 465	Shreshth Rajan	Microbiome Regeneration: Treating Radiation-Induced Dysbiosis Through Vitamin B-12

Upper MIC

U MIC 1 Loc. 466	Paige M Tulenko	The effect of using hand sanitizer after drying hands with a hand dryer
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U MIC 2 Loc. 467	Samantha S Veith	Primer Comparison on the Efficiency of Detecting Wolbachia in Culex Salinarius
U MIC 3 Loc. 468	Tiffany Fang	Rapid Diagnosis of Infectious Bursal Disease with RNA Microarray and Machine Learning
U MIC 4 Loc. 469	Musa M Shaikh	Effects of Salvadora Persica On Bacterial Growth
U MIC 5 Loc. 470	Shreya Gupta	The Anthelmintic Effect of Natural Compounds on Adult and Dauer C. Elegans Longevity
U MIC 6 Loc. 471	Nikhil Kalyanraman	The Effect of Commercial Detergent on the Nervous Systems of C. elegans
U MIC 7 Loc. 472	Kush S Chaudhari	Understanding the Kinetics of Apparent Necrotic Cell Death to Induce Strengthened Antigen Presentation in JAWSII Cells
U MIC 8 Loc. 473	Allen Hong	Analysis of Air Dryers For The Presence of Fecal Coliform
U MIC 9 Loc. 474	Bridget A Corpus	Testing the effects of melatonin versus lavender essential oil on the locomotion of mutant Caenorhabditis elegans
U MIC 10 Loc. 475	Brady Nichols	Analysis of the Potential of Macroalgae as a Vector for Harmful Bacteria
U MIC 11 Loc. 476	Abbie Chan	Cytotoxicity and Efficacy of Fluorescent Carbon Dots on Buccal Epithelial Cells and C. elegans

Physics - PHY

Junior PHY

J PHY 1 Loc. 477	Brielle M Boutot	Pump It Up!: How do Under-Inflated Tires Affect the Difficulty of Riding a Bike?
J PHY 2 Loc. 478	Lily I Johansson	Let It Go!
J PHY 4 Loc. 479	Adriana E Allen	How Much UV Light can Penetrate Through Different Colors of Water?
J PHY 5 Loc. 481	Samantha G Passalacqua	Arrow Penetration with Different Broadheads
J PHY 6 Loc. 482	Cindy Z Lin	How Does the Temperature Affect the Elasticity of a Rubber Band?
J PHY 7 Loc. 483	Aleksander T Garbuz	What is the Effect of Different Objects on the Strength of a WiFi Signal?
J PHY 8 Loc. 484	Varun N Gabbita	How Do Different Surfaces Affect the Distance traveled by a balloon car?
J PHY 9 Loc. 485	Curren Thumm	Different surf wax brands are affected differently to force friction
J PHY 10 Loc. 486	Aydan Landau	Does type of cup material affect ability to keep liquid hot?
J PHY 11 Loc. 487	Chase Ford	Does the temperature of a tennis ball affect the bounce height?
J PHY 12 Loc. 488	Carly Helmstetter	Does the diameter of an aluminum sphere affect buoyancy?
J PHY 13 Loc. 489	Connor K Lesclinier	What Does The Gauss Cause?
J PHY 14 Loc. 490	William C Blake	Comparing Overtones and Pitches in Various Bass Instruments
J PHY 15 Loc. 491	Mackenzie Ade	Catapulting Airplanes
J PHY 16 Loc. 492	Kelly J Nide	What effect does phone temperature have on performance?
J PHY 17 Loc. 493	Michael J Pavao	WHAT KIND OF HUMAN POWERED ENERGY GENERATOR WORKS BEST?
J PHY 18 Loc. 494	Trey Scollan	Does the Type of Wood Affect the Amount of Hammer Strikes?
J PHY 19 Loc. 495	Adwaith Hariharan	How will the mean and standard deviation of the data change if the launch settings of the catapult are changed?

J PHY 20 Loc. 496	Owen Wright	Does Launch Angle Affect Distance Traveled?
J PHY 21 Loc. 497	Sarah N Nuber	Does the Temperature of a Magnet Affect the Amount of Mini Paper Clips It Can Attract?
J PHY 22 Loc. 498	Owen Nowalsky	Parabola Power - A Hot Day Equals A Hot Dog
J PHY 23 Loc. 499	Clifton C Nivison	Does temperature affect magnetism?
J PHY 24 Loc. 501	Chloe Uy	Does red or blue food coloring travel faster in tap water?
J PHY 25 Loc. 502	Adam Mekrami	Does the Temperature of a Battery Affect it's Voltage
		Does the Stored Temperature of Microwavable Popcorn Affect the Amount of Kernels Left Unpopped?
J PHY 26 Loc. 503	Alessandra S Regenye	Straight to the Point
J PHY 27 Loc. 504	Anthony J Smoaks	Fight Over Flight
J PHY 28 Loc. 505	Isabella S Haines	Magnetic Motors
J PHY 29 Loc. 506	Jake T Barnhart	Speed of Light
J PHY 30 Loc. 507	Richard Seavey	Battle Of The Bats
J PHY 31 Loc. 508	Carly M Angelo	A Battery That Makes Cents
J PHY 32 Loc. 509	John Hammer	Electricity
J PHY 33 Loc. 510	Travis Vennell	Arrow Dynamics
J PHY 34 Loc. 511	Melanie B Kerper	

Intermediate PHY

I PHY 1 Loc. 512	Khushi D Sabuwala	The Effect of Pyrolytic Graphite Stabilizing Distance on the Diamagnetic Levitation Strength of Neodymium Iron Boron
I PHY 2 Loc. 513	Shubhum S Agrawal	The Effect of Pick Thickness on Musical Timbre, Measured by the Magnitude of Higher Harmonics
I PHY 3 Loc. 514	Kara A Lui	Comparison of the Sound Quality of Evah Pirazzi and Dominant Violin Strings
I PHY 4 Loc. 515	Katherine G Monroe	Comparison of Arrow Fletching Distance From Nock in Relation to Arrow Speed
I PHY 5 Loc. 516	Pranav S Gaka	Using Water Expansion to Harness Energy
I PHY 6 Loc. 517	Xavier L Etienne-Mcleod	Defining the Relationship Between Marketed wheel Durometer and Required Force to Slide
I PHY 7 Loc. 518	Adithya Balachandran	The Effect of Materials on the Obstruction of Wireless Signals
I PHY 8 Loc. 519	Oreoluwa Alao	The Effect of the Surface-Area-to-Volume Ratio of a Container on the Amount of Ultrasonic Cavitation Produced In It During Indirect Sonication
I PHY 9 Loc. 521	Nicole N Nguyen	MEASURING SOUND ABSORPTION PROPERTIES OF MARSH SEDIMENT VERSUS COASTAL SEDIMENT
I PHY 10 Loc. 522	Caitlin G Sia	The Effect of Gyroscopes on the Stability of a Water-borne Vessel
I PHY 11 Loc. 523	Cassandra A Vongrej	The Practicality and Effectiveness of Eelgrass Insulation Compared to Modern Day Insulators
I PHY 12 Loc. 524	Nina T Tripathi	Determining Effect of Sound Waves in Energy Produced by Flowing Water

Upper PHY

U PHY 1 Loc. 525	Ayush A Upadhyay	The Efficiency of Various Voltages in Prohibiting the Growth of Saccharomyces cerevisiae
U PHY 2 Loc. 526	Arielle J Touitou	The Efficiency of Recycled Materials Used as Insulation
U PHY 3 Loc. 527	Haley J Korwan	Alternative Materials in Nano-Materialized Field Hockey Sticks Based on Compatible Bending Moments, Deformation, and Young's Modulus Values

U PHY 4 Loc. 528 Alex E Nagy

How Does Atmospheric Pressure Affect Plant Growth?

Zoology - ZOO Junior ZOO

J ZOO 1 Loc. 529 Ethan C Lin
J ZOO 2 Loc. 530 Abigail A Piotrowski
J ZOO 3 Loc. 531 Birmingham Margaret
J ZOO 4 Loc. 532 Emma R Hardiman
J ZOO 5 Loc. 533 Logan Soltys
J ZOO 6 Loc. 534 Tomas Cervantes

J ZOO 7 Loc. 535 Lily S Towbin

The Effect of Different Amounts of Fertilizer in Soil on Red Worms
Can goldfish be trained to respond to stimulus?
Which Animal Class Camouflages Best?
A Dog's World
Tardigrades...How Tough Are They?
Cockatiel Food Color Preference
Put Your Best Paw Forward: Do Dogs Have Paw Preference

Intermediate ZOO

I ZOO 1 Loc. 536 Samantha J Glover
I ZOO 2 Loc. 537 Melanie Y Chen
I ZOO 3 Loc. 538 Shealyn A Lawless
I ZOO 4 Loc. 539 Cameron M Callis
I ZOO 5 Loc. 541 Rocco J Raimondi

I ZOO 6 Loc. 542 Sarah K Santos

I ZOO 7 Loc. 543 Mackenzie N Fries
I ZOO 8 Loc. 544 Kayla M Johns
I ZOO 9 Loc. 545 Maya E Quinn

Examining Shifts in Seasonal Diversity of Species of Zooplankton in the Northern and Southern Barnegat Bay
The Effect of a Enriched Environment on the Swimming Depth of Betta Splendens
The Effects of Various Deicing Agents on Shore Shrimp (*Palaemonetes vulgaris*)
How age affects learning ability in *Oryctolagus cuniculus*
Measuring the Increased Metabolic Rate in *Betta splendens* During Aggressive Behavior
The Effects of Temperature on the Bioluminescent Response of *Pyrocystis fusiformis* to Mechanical Stimulation
The Effect Various Bycatch Reduction Device Shapes have on the *Malaclemys terrapin* and *Callinectes sapidus*
How the Size of the *Callinectes sapidus*' Food Affects the Likelihood of its Consumption
Alternate Designs For Terrapin Fencing Along Roadways

Upper ZOO

U ZOO 1 Loc. 546 Belle M Weimer

U ZOO 2 Loc. 547 Penny H Demetriades

U ZOO 3 Loc. 548 Camille N Berg

U ZOO 4 Loc. 549 Maxwell A Pardon
U ZOO 5 Loc. 550 Zachary T Basile

Determination of the Dietary Habits of *Malaclemys terrapin* across the Barnegat and Great Bay Estuaries
A Comparative Analysis of the Prevalence of *Pleurogonius Malaclemys* Parasitic Infection of *Ilyanassa Obsoletea* in Barnegat Bay, New Jersey
Correlation Between Physicality of Spiny Dogfish and Methylmercury Levels
Population Assessment of Herons and Egrets in the Sandy Hook Unit of Gateway National Recreation Area
Pond Assessment

U ZOO 6 Loc. 551	Madeline E Homer	The Correlation Between Piping Plover Chick Survival Rate and a Least Tern Colony Being Present During Incubation
U ZOO 7 Loc. 552	Elizabeth A Dwyer	Horseshoe Crab Populations on Sandy Hook Bay
U ZOO 8 Loc. 553	Jonathon Lopes	Habitat Model for Loligo Pealeii
U ZOO 9 Loc. 554	Sara Timney	The Effects of Low pH on Juvenile Horseshoe Crabs
U ZOO 10 Loc. 555	Nicole Sportelli	How an Excess Amount of Sugar in a Snails Diet Affects its Memory
U ZOO 11 Loc. 556	Nicole Z Klein	The Effect of Different Sweeteners On the Reproduction Rates of Wild-Type and daf-2 C. elegans.
U ZOO 12 Loc. 557	Jonas P Simmons	The Effect of Tumor Presence on Immune Response in C. elegans Against Serratia marcescens
U ZOO 13 Loc. 558	Sarah A Valente	The Effect of Excess Nitrates on Mytilus edulis
U ZOO 14 Loc. 559	Ethan J Zheng	An analysis on the effects of CNS stimulants and Depressants on the heart rate and development of Zebrafish Embryos
U ZOO 15 Loc. 561	Alison Y Cheung	The Effect of Stress on Touch Receptors in Caenorhabditis elegans
U ZOO 16 Loc. 562	Jacob R Wellens	The Effect of Different Bacteria on the Chemorepulsion of Caenorhabditis elegans
U ZOO 17 Loc. 563	Sara Sarcona	Impacts of Sediment Characteristics on Emerita analoga Hibernation Location
U ZOO 18 Loc. 564	Marnie Reimer	Using Environmental Enrichment to Promote the Welfare of Captive African Dwarf Frogs (Hymenochirus)
U ZOO 19 Loc. 565	Danielle H Berger	Effect of Constant Temperature on the Early Life History Traits of Summer Flounder (Paralichthys dentatus)
U ZOO 20 Loc. 566	Isabella M Onofrietti	Extraction of DNA from ticks for the detection of bacterial and viral pathogens
U ZOO 21 Loc. 567	Shaena Harasty	Persistence of Winter Flounder environmental DNA in a recirculating system
U ZOO 22 Loc. 568	Tyler Polon	Preliminary assessment of microplastics present in Deep Sea Scallops

Team Project - TMP

Junior TMP

J TMP 1 Loc. 569	Alex Chen	Garduino: Automatic Gardening System
J TMP 2 Loc. 570	Lily Oliver	The affect of salinity on the growth rate of grass
J TMP 3 Loc. 571	Ava Pavero	Gender vs. Short Term Memory
J TMP 4 Loc. 572	Brianna M Suliguin	Do Sugar Alternatives Affect the Amount of Carbon Dioxide Yeast Releases?
J TMP 5 Loc. 573	Sophia M Merlino	Are Natural Remedial Antimicrobials More Effective in Treating Bacteria Than Pharmaceutical Antibiotics
J TMP 7 Loc. 574	Gianna DeJesus	Using the Susceptibility Test?
J TMP 8 Loc. 575	Charles Barksdale	Worms Matter
J TMP 9 Loc. 576	Tania Phillips	Is it Real?
J TMP 10 Loc. 577	Leah Hammill	Solar Surge
J TMP 11 Loc. 578	Katherine Klemm	Soil effect on PH of Water
J TMP 12 Loc. 579	Gigli Ripa	Oily Feathers Stick Together
J TMP 13 Loc. 581	Ella Feehan	Blinded by the 3rd Dimension
J TMP 14 Loc. 582	Brielle Hopkins	Soil Phun
J TMP 15 Loc. 583	Michael Varela	Will It Grow
J TMP 16 Loc. 584	Deklyn Passerini	Fast and Furious
J TMP 17 Loc. 585	Sara E Guitierrez Paramo	Popping Kernels
		Recycable Greenhouse

J TMP 18 Loc. 586	Mary-kate Oviedo	Which Material is Best Used to Increase friction?
J TMP 20 Loc. 587		Homemade Water Filter
J TMP 21 Loc. 588	Gary Williams	The Five Second Rule
J TMP 24 Loc. 589	Alexis Shanks	Is Black Ink Really Black?
J TMP 27 Loc. 590	Andrew Kachnic	Is Your Data Safe?
J TMP 28 Loc. 591	Kathleen D Martin	Homemade Water Filter
J TMP 29 Loc. 592	Nichole J Vazquez	Acne Attack
J TMP 30 Loc. 593	Kendra A Canale	Can You Use Gray Water to Effectively Water Flowers?
J TMP 31 Loc. 594	Luke J Gioconda	What Makes Food Last Longer?
J TMP 32 Loc. 595	Faizah Faroque	Bacterial Growth Exploration

Intermediate TMP

I TMP 1 Loc. 596	Winston Y Li	Utilization of Low Frequency Ultrasound to Minimize Risks of Robotic Assisted Surgery
I TMP 2 Loc. 597	Simren Shah	The Effect of Grape and Chocolate Polyphenolic Compounds on E. coli JM101
I TMP 3 Loc. 598	Zhixian C Liding	The Effect of Different Combinations of CaCl ₂ , MgCl ₂ , and NaCl on the Efficiency of Bacterial Transformation
I TMP 4 Loc. 599 Loc. 600	Sharanya Datta	The Effect of Natural Fruit Proteases - Bromelain, Actinidin, and Papain - on the Purity of DNA Solutions
I TMP 5 Loc. 601	Anisha Singh	Inhibition of S.epidermidis using Over-the-counter Medications and Medicinal Plant Extracts for Acne Treatment
I TMP 6 Loc. 602	Brooke Arend	Assessing the Antibacterial Properties of Coffee
I TMP 7 Loc. 603	Rhea Kripalani	Roast Levels on E. Coli Pulses

Upper TMP

U TMP 1 Loc. 604	Julia M Kuzan	Temporal Variations in Light Attenuation in Altered Coastal Estuarine Systems
U TMP 2 Loc. 605	Tyanna Spalding	How much malic acid is in your food
U TMP 3 Loc. 606	Grace E Moore	Enzyme Concentration and Liver Catalase
U TMP 4 Loc. 607	Isabella C Milano-Harrah	The Relationship Between Enzyme Activity and Various pH Levels



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